FLOOR DECK CATALOG

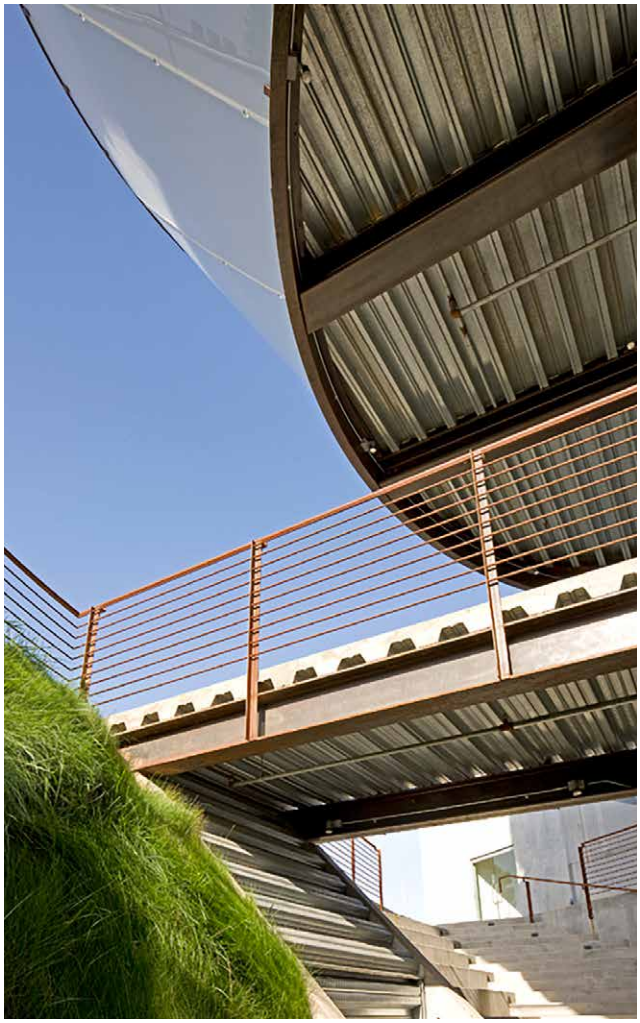
COMPOSITE DECK AND NON-COMPOSITE DECK FOR FLOOR AND ROOF DECK APPLICATIONS

Version 2.4

ASC Steel Deck is an industry leader offering products that meet the needs of the most complex conditions and demands for structural performance and design.

floor deck

ASC STEEL DECK®



Our Company

ASC Steel Deck is a structural steel deck manufacturer leading the way through an unmatched commitment to the success of our customers. ASC Steel Deck prides itself on delivering the best-in-class service experience, easily accessible technical data, and having to most knowledgeable and responsive team in the industry. Serving the Western United States since the 1970s, ASC Steel Deck has undergone a few ownership changes and operated under different business names (ASC Pacific, BHP Steel Building Products, and IMSA Building Products). Since 2002, we have operated as ASC Steel Deck, a division of ASC Profiles LLC. While the name of the company has changed over the years, our continuous dedication to product innovation, high-quality steel deck products, and exceptional customer service has positioned ASC Steel Deck as a trusted leader in the industry.

Industry Leadership Through Innovation

ASC Steel Deck has established itself as an industry leader having accomplished many industry-firsts. ASC Steel Deck was the first West Coast manufacturer to incorporate diaphragm shear and superimposed load tables based on ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs. This standard was adopted for inclusion in the 2015 IBC.

ASC Steel Deck has also led the way in providing innovative products which reduce installation costs at the highest level of performance. Several examples include:

- **Smooth Series™** rivet attachment for our portfolio of cellular deck products offers a blemish free attachment solution, eliminating the need for field touch up and saving on labor costs and time. **New to the West Coast.**
- **36/7/4 Attachment Pattern** - reduces attachment requirements for 1½" roof deck by up to 30%.
- **N-32® Roof Deck** - A 32" wide by 3" deep roof deck profile providing a 10% improvement in steel utilization and up to 20% reduction in installation costs as compared to the industry standard N-24 panel.

Table of Contents

ASC Steel Deck is leading the way in innovation with ongoing testing of our profiles. As a result, our printed catalogs may not contain/reflect the latest test results and values of our products. For the most current load tables, refer to our catalog online at **www.ascsd.com**.

Your Feedback is Welcome

Leading the way in steel deck innovation is dependent upon your feedback. We invite architects, engineers, building owners, and all members of the building design and construction industry to reach out to ASC Steel Deck with any comments, suggestions, or needs for a profile we currently do not offer

Email us at **info@ascsd.com**

1.0 GENERAL INFORMATION

1.1 **Panel Features and Benefits** 2-5
1.2 **Product Offer** 6-9
1.3 **Product Approvals** 9
1.4 **Fire Ratings** 10-21
1.5 **Steel Deck Section Properties** 22-23
1.6 **Web Crippling** 24-25
1.7 **Steel Deck at Concrete Form** 26-27
1.8 **Composite Deck-Slab Design** 28-30
1.9 **Non-Composite Deck-Slab Design** 31
1.10 **Penetrations and Openings** 32-35
1.11 **Composite and Non-Composite Diaphragm Shear** 36
1.12 **Composite Deck-Slab Tables** 38-39
1.13 **Support Fastening** 40-45
1.14 **Side Seam Fastening** 46-47
1.15 **Edge Form** 48-49
1.16 **Accessories** 50
1.17 **Typical Details** 51-54
1.18 **Composite Deck-Slab Tables General Requirements** 55-57

2.0 3Wx PANELS

2.1 **3WxH-36 Panel Properties** 58
2.2 **3WxHF-36 Panel Properties** 59
2.3 **3WxHF-36 Shoring Tables** 60-61
2.4 **3WxH-36 Composite Deck-Slab Capacity Tables** . . . 62-83

3.0 2W PANELS

3.1 **2WH-36 Panel Properties** 84
3.2 **2WHF-36 Panel Properties** 85
3.3 **2WHF-36 Shoring Tables** 86-87
3.4 **2WH-36 Composite Deck-Slab Capacity Tables** . . . 88-111

4.0 B PANELS

4.1 **BH-36 Panel Properties** 112
4.2 **BHF-36 Panel Properties** 113
4.3 **BHF-36 Shoring Tables** 114-115
4.4 **BH-36 Composite Deck-Slab Capacity Tables** . . . 116-126
4.5 **BHN-36R Panel Properties** 128
4.6 **BHN-36R Composite Deck-Slab Capacity Tables** 129

5.0 N PANELS

5.1 **NH-32 Panel Properties** 130
5.2 **NHF-32 Panel Properties** 131
5.3 **NHF-32 Shoring Tables** 132-133
5.4 **NH-32 Composite Deck-Slab Capacity Tables** . . . 134-144

6.0 C PANELS (FORM DECK - CF⅞ and CF1⅜)

6.1 **C0.9-32 Panel Properties** 146
6.2 **C0.9-32 Vertical Loads** 147
6.3 **C0.9-32 Shoring Tables** 148-149

6.5 **C1.4-32 Panel Properties** 150
6.6 **C1.4-32 Vertical Loads** 151
6.7 **C1.4-32 Shoring Tables** 152-153

7.0 ACUSTADEK®

7.1 **Introduction** 154
7.2 **Performance** 155

METRIC CONVERSION CHART 156

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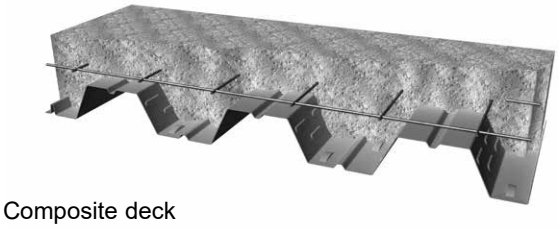
PNEUTEK is a registered trademark of Pneutek, 17 Friars Drive Hudson, NH

1.1 **Panel Features and Benefits**

3WxH-36 Hi Form®



Composite deck

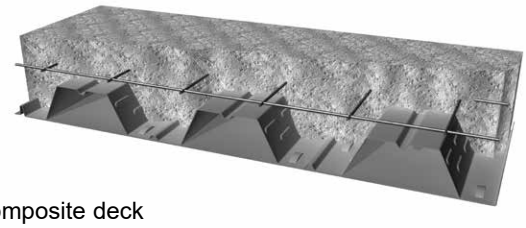
3 inch deep, 36 inch coverage,

10 foot to 14 foot Optimal Span Range

No Acustadek® Options

- Proven for 10 to 14 foot span conditions
- Meets SDI 3x12 inch standard profile requirements
- Longer unshored spans than 2WH-36 and BH-36
- Meets industry standard 4.5" min. flute width
- Compatible with all standard concrete anchors

3WxHF-36 Hi Form®



Composite deck

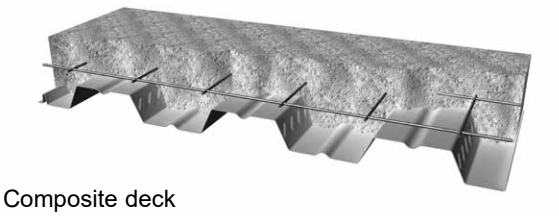
3 inch deep, 36 inch coverage,

11 foot to 15 foot Optimal Span Range

Pan Perforated Acustadek® Option (Available with Smooth Series™ rivet attachments or welded)

- Aesthetic flat pan underside
- Meets SDI 3x12 inch standard profile requirements
- Longer unshored spans than 2WH-36 and BH-36
- Meets industry standard 4.5" min. flute width
- Compatible with all standard concrete anchors

2WH-36 Hi Form®



Composite deck

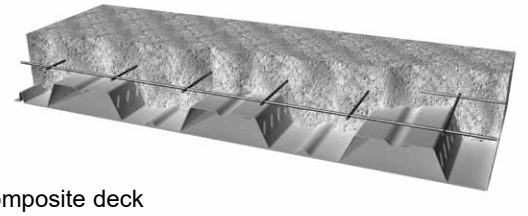
2 inch nominal depth, 36 inch coverage

7 foot to 12 foot Optimal Span Range

No Acustadek® Option

- Least steel weight per square foot floor deck
- Meets SDI 2x12 inch standard profile requirements
- Reduced composite slab depth compared to 3WxH-36 and NH-32

2WHF-36 Hi Form®



Composite deck

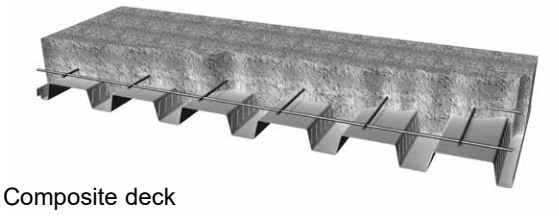
2 inch nominal depth, 36 inch coverage

9 foot to 13 foot Optimal Span Range

Pan Perforated Acustadek® Option (Available with Smooth Series™ rivet attachments or welded)

- Aesthetic flat pan underside
- Meets SDI 2x12 inch standard profile requirements
- Reduced composite slab depth compared to 3WxHF-36 and NHF-32

BH-36 Hi Form®



Composite deck

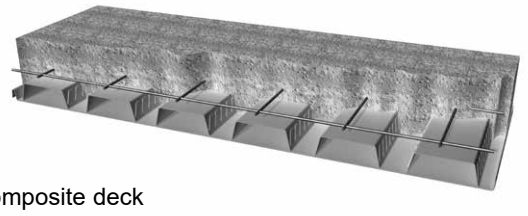
1½ inch depth, 36 inch coverage

7 foot to 10 foot Optimal Span Range

No Acustadek® Option

- Lowest composite deck-slab weight per square foot for the specified concrete thickness above the deck
- Meets SDI 1.5WR (wide rib) standard profile requirements

BHF-36 Hi Form®



Composite deck

1½ inch depth, 36 inch coverage

7 foot to 12 foot Optimal Span Range

Pan Perforated Acustadek® Option (Available with Smooth Series™ rivet attachments or welded)

- Aesthetic flat pan underside
- Meets SDI 1.5WR standard profile requirements

NH-32 Hi Form®

Composite deck

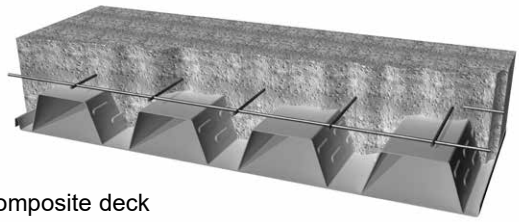
3 inch depth, 32 inch coverage

10 foot to 15 foot Optimal Span Range

No Acustadek® Options

- Longest unshored spans
- Excellent alternate to SDI DR (deep rib) profile
- Lower composite deck-slab weight than 3WxH-36 for the specified concrete thickness
- 8 inch on center low flute spacing to allow for bearing wall studs to be at 16 inches on center

NHF-32 Hi Form®



Composite deck

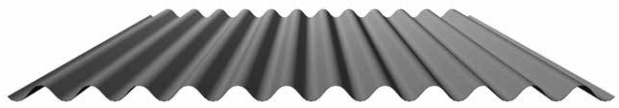
3 inch depth, 32 inch coverage

11 foot to 15 foot Optimal Span Range

Pan Perforated Acustadek® Option (Available with Smooth Series™ rivet attachments or welded)

- Aesthetic flat pan underside
- Excellent alternate to SDI DR (deep rib) profile
- 8 inch on center low flute spacing to allow for bearing wall studs to be at 16 inches on center

C0.9-32 (CF⅞)



Non-composite deck

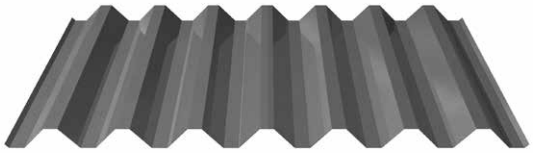
⅞ inch depth, 32 inch coverage

2 foot to 7 foot Span Range

No Acustadek® Options

- Good for short span conditions
- For use when metal deck is used as a leave in place form

C1.4-32 (CF1⅜)



Non-composite deck

1⅜ inch depth, 32 inch coverage

4 foot to 9 foot Span Range

No Acustadek® Options

- Good for intermediate span conditions
- For use when metal deck is used as a leave in place form

1.1 **Panel Features and Benefits**

4.5D-12

Non-composite deck

4½ inch depth, 12 inch coverage

12 foot to 21 foot Span Range

No Acustadek® Option

- Allows for longest unshored spans
- For use when metal deck is used as a leave in place form

4.5DF-24

Non-composite deck

4½ inch depth, 24 inch coverage

15 foot to 21 foot Span Range

Pan Perforated Acustadek® Option

- Aesthetic flat pan underside
- Allows for longer unshored span when metal deck is used as a leave in place form
- Longer unshored span than non-cellular profile
- For use when metal deck is used as a leave in place form

6D-12

Non-composite deck

6 inch depth, 12 inch coverage

14 foot to 25 foot Span Range

No Acustadek® Option

- Allows for longest unshored spans
- For use when metal deck is used as a leave in place form

6DF-24

Non-composite deck

6 inch depth, 24 inch coverage

15 foot to 25 foot Span Range

Pan Perforated Acustadek® Option

- Aesthetic flat pan underside
- Allows for longer unshored span when metal deck is used as a leave in place form
- Longer unshored span than non-cellular profile
- For use when metal deck is used as a leave in place form

7.5D-12

Non-composite deck

7½ inch depth, 12 inch coverage

16 foot to 26 foot Span Range

No Acustadek® Option

- Allows for longest unshored spans
- For use when metal deck is used as a leave in place form

7.5DF-24

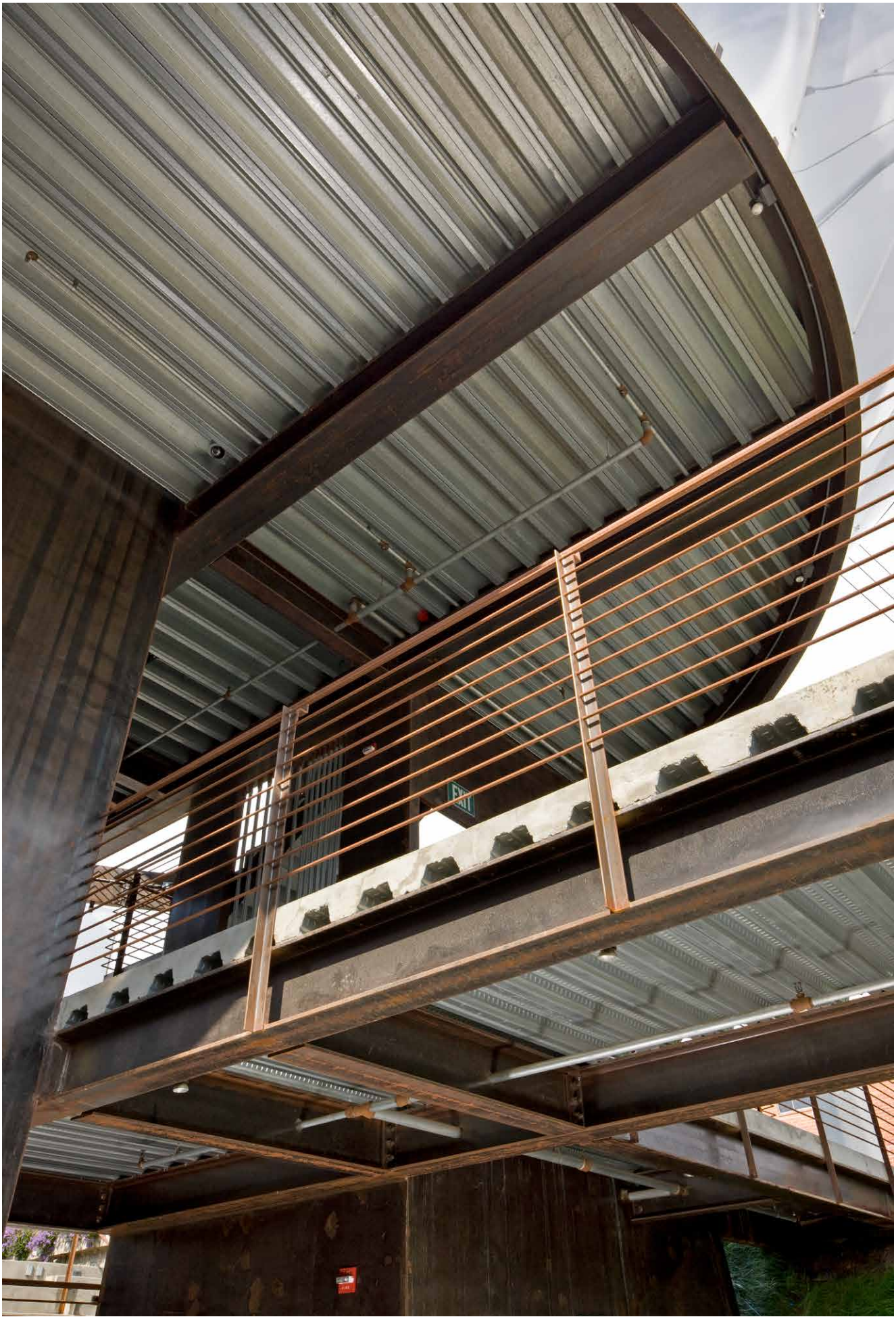
Non-composite deck

7½ inch depth, 24 inch coverage

16 foot to 27 foot Span Range

Pan Perforated Acustadek® Option

- Aesthetic flat pan underside
- Allows for longer unshored span when metal deck is used as a leave in place form
- Longer unshored span than non-cellular profile
- For use when metal deck is used as a leave in place form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1.2 **Product Offer**

ASC Steel Deck offers a robust selection of products. Our composite and non composite form steel deck profiles have depths that range from ⅞" to 3". Panel lengths range from 3'-6" to 45'. Steel deck panels are supplied with both galvanized and painted finishes to meet an array of project finish requirements.

Product Description

To assist designers with specifying the correct steel deck profile, see figure 1.2.3 which details how to specify the intended product. Following these guidelines will help to eliminate requests for information and change orders due to insufficient product descriptions in the plans and specifications. Designers can be assured that the product delivered is the product intended. Simply specify the gauge, panel profile, panel coverage, metallic/paint coating, and any modifiers appropriate for the desired product.

Deck Panel Lengths

All ASC Steel Deck products are manufactured to the specified length for the project. The following table summarizes the minimum and maximum lengths which can be manufactured for each profile.

Figure 1.2.1: **MANUFACTURED PANEL LENGTHS**

Profile		Factory Cut Length	
		Minimum	Maximum
Non-cellular	BH-36, NH-32, 2WH-36, 3WxH-36	3'-6"	45'-0"
	C0.9-32 & C1.4-32	4'-0"	45'-0"
	4.5D-12, 6D-12, 7.5D-12	6'-0"	32'-0"
Cellular	BHF-36, NHF-32, 2WHF-36, 3WxHF-36	5'-0"	40'-0"
	4.5DF-24, 6DF-24, 7.5DF-24	6'-0"	32'-0"

Tolerances

ASC Steel Deck manufactures to industry standard tolerances. The tolerances are summarized as follows:

Figure 1.2.2: **PANEL TOLERANCES**

Length	±½"
Coverage Width	-⅜" +¾"
Sweep	¼" in 10' length
Square	⅛" per foot width
Height	±1⁄16"

Finish Options

ASC Steel Deck offers several finish options that are appropriate for a variety of applications. Our standard G60 galvanized finish is suitable for most applications, offering excellent corrosion protection and compatibility with fire proofing when used in UL fire rated assemblies. We also offer Prime Shield®, an economical prime paint system over bare cold rolled steel. Prime Shield® offers the steel limited interim protection from rusting during transport and erection before the concrete topping is applied. Prime Shield® should not be used in high humidity or corrosive environments. Prime paint over galvanized steel deck can also be specified to obtain the benefit of the corrosion protection of galvanized steel deck with a factory applied prime paint substrate.

Galvanized

ASC Steel Deck offers steel deck products that are galvanized in accordance with ASTM A653. The standard galvanized coating is G60 (0.6 ounce per square foot). G-90 (0.9 ounce per square foot) is recommended for high humidity and corrosive conditions. G-40 (0.4 ounce per square foot) may also be specified for greater economy. Heavier galvanized finishes than G-90 can be specified for more severe environmental conditions and exposures. Inquire for product availability and minimum order sizes for G-40 or galvanizing heavier than G-90.

All ASC Steel Deck galvanized decks are manufactured from chemically treated steel coil in accordance with ASTM A653. Chemical treatment is often referred to as passivation. The chemical treatment protects the galvanized steel from developing white rust during storage and transport of both coil and finished product. Some field-applied paint systems may not be compatible with the chemical treatment. The paint manufacture should be consulted to determine how the deck should be prepared prior to painting. ASC Steel Deck is not responsible for the adhesion of field applied primers and paints.

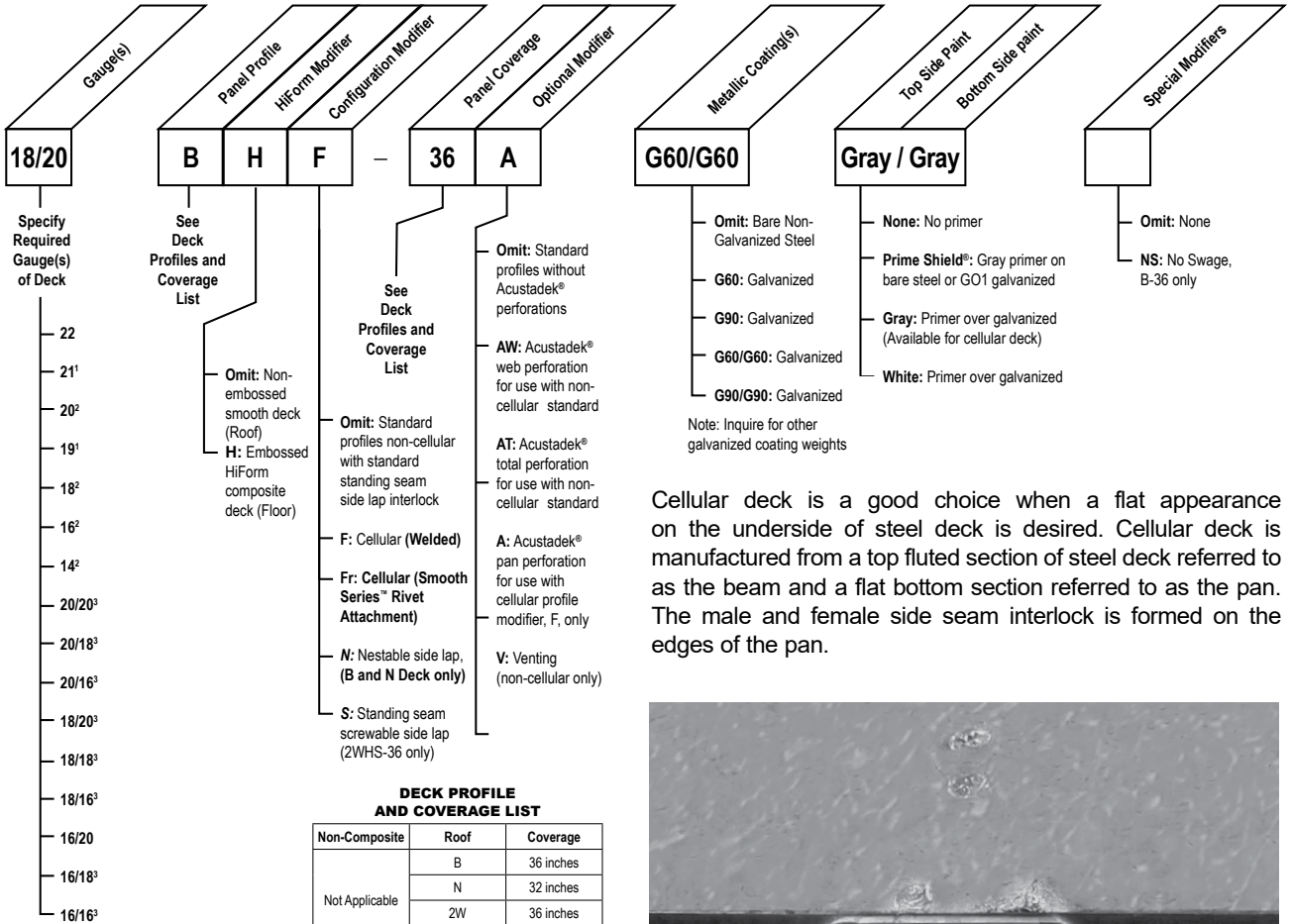
Galvanized with Prime Paint

ASC Steel Deck offers all of its standard galvanized options with factory applied prime paint on the underside of the deck. The prime paint is available in standard gray. White primer is also available. The standard 0.3mil water-based gray acrylic primer has been specially developed to provide superior adhesion to the galvanized steel deck and is suitable for use in many UL fire rated assemblies. Factory applied primer is an impermanent interim coating that is intended to have finish paint applied after the deck is installed. The galvanized with prime paint option may eliminate the need for any special surface preparation for field applied paint applications which is often a requirement for chemically treated bare galvanized steel deck panels. ASC Steel Deck is not responsible for the adhesion of paint systems applied in the field.

Cellular deck is offered with a galvanized steel pan or a prime paint over galvanized steel pan. This 0.3mil gray primer is applied to the underside of the pan prior to resistance welding or riveting the cellular deck beam to the pan. Our new Smooth Series™ rivet attachment is flush with the exposed bottom surface, omitting visible “bumps” and burn marks, eliminating the cost of touch-ups associated with resistance welded deck products. Resistance welded deck, the current industry standard, leaves burn marks on the pan which generally require cleaning and touch-up prior to the application of a finish paint system being applied. Touching up the burn marks is generally much more cost effective than preparing an unpainted, chemically treated surface for the application of a field primer. The prime painted galvanized pan provides a good substrate for the application of most field-applied paint systems. ASC Steel Deck is not responsible for the adhesion of paint systems applied in the field.

Prime Shield®

Figure 1.2.3: **PRODUCT OFFER DESCRIPTION**



[1] 2W & 3Wx only on special order

[2] D is only available in these gauges

[3] DF is only available in these gauges

DECK PROFILE AND COVERAGE LIST

Non-Composite	Roof	Coverage
Not Applicable	B	36 inches
	N	32 inches
	2W	36 inches
	3Wx	36 inches
C0.9-32	Not Applicable	32 inches
C1.4-32	CP-32	32 inches
Not Applicable	4.5D	12 inches
	4.5DF	24 inches
	6D	12 inches
	6DF	24 inches
	7.5D	12 inches
	7.5DF	24 inches

Prime Shield® is prime painted cold-rolled, ASTM 1008[1], steel deck. The standard gray primer is applied to the underside of the steel deck (as compared to both sides for roof deck) leaving the top side bare for concrete adhesion. The formation of light rust on the top side of the deck prior to concrete placement is common and does not adversely impact the deck or composite deck-slab assembly. This primer is suitable for use in many UL fire rated assemblies. The prime paint is intended to be an impermanent interim coating to protect the bare cold-rolled steel, for a short period, from ordinary atmospheric conditions prior to weathertighting the building. Prime Shield® should receive a finish paint system if left exposed in the interior of a building. This 0.3mil water-based acrylic primer provides a good base for most field-applied paint systems. ASC Steel Deck is not responsible for the adhesion of paint systems applied in the field.

[1]ASC Steel Deck may substitute ASTM A653 G01 galvanized steel deck for ASTM A1008.

Cellular Deck

Cellular deck is a good choice when a flat appearance on the underside of steel deck is desired. Cellular deck is manufactured from a top fluted section of steel deck referred to as the beam and a flat bottom section referred to as the pan. The male and female side seam interlock is formed on the edges of the pan.

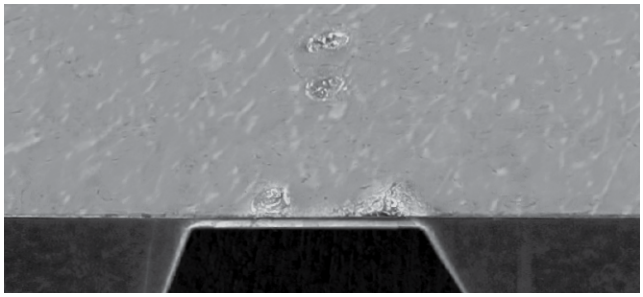


Figure 1.2.4: WELDED ATTACHMENT
(Pictured from bottomside)

The welded method offers resistance welds in accordance with UL 209. There is one row of resistance welds in each low flute of the beam.

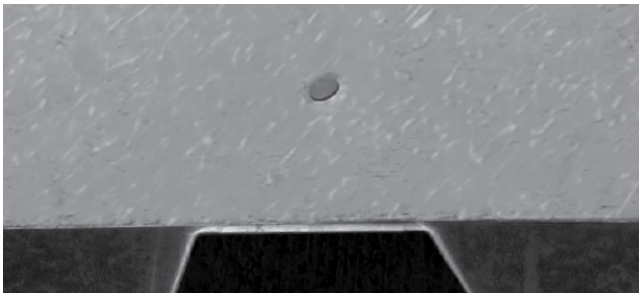


Figure 1.2.5: SMOOTH SERIES™ RIVET ATTACHMENT
(Pictured from bottomside)

The new Smooth Series™ rivet attachment is flush with the exposed bottom surface, eliminating “bumps” and burn marks and the need for touch-ups in the field. Smooth Series rivets are available in galvanized and white finish, complementing our factory applied Prime Shield® primer gray and white finish cellular deck. The high quality rivet attachments are uniformly repeated along the deck profile. This product should not be used in floor assemblies where

spray on fire proofing is to be applied to the bottom surface of the deck.

Cellular deck beam and pan may be manufactured out of the same gauge or out of different gauges. The following shows how to correctly specify the desired beam and pan gauge combination.

Specify Cellular Deck Gauge "xx/yy"
- The first (xx) is the gauge of the beam (top fluted section)
- The second number (yy) is the gauge of the pan (the bottom flat section with the side seam)

Venting

Some materials in building assemblies, including composite or non composite steel deck, may require the deck to be vented. Venting does not impact structural performance of steel deck and has no bearing on fire ratings. Venting does not influence the rate at which the concrete moisture content drops during curing of the slab on the deck.

Some materials that are bonded by adhesives to the surface of the concrete slab on the composite deck may be sensitive to the moisture content of the concrete. Venting is sometimes specified, with the intent of creating a route for moisture to escape from the bottom of the concrete through the steel deck vents. Research performed by the Expanded Shale Clay and Slate Institute, however, demonstrated that venting has no bearing on how quickly the moisture content of concrete on steel deck decreases (concrete drying time)[2].

Deck should not be specified as vented when it is not required by another materials' performance specification. The drawback of venting deck is when concrete is poured, the slurry drips through the vent tabs creating debris on the surface below. Cleaning up the slurry or protecting the surfaces underneath with plastic sheets adds cost to the project without providing any added value to the owner when venting is not required. The requirement for venting the deck should be clearly indicated in the specifications and be clearly stated in the deck schedule on the structural drawings to avoid confusion.

Note: *2. Craig, Peter A. (2011) Lightweight Concrete Drying Study. Chicago, IL: Expanded Shale Clay and Slate Institute*

Figure 1.2.7: **3WxH-36V WITH VENTING**
(Pictured from topside)

Vent Tabs

All ASC Steel Deck composite decks including; BH, NH, 2WH, and 3WxH deck, have upward protruding vent tabs which are factory punched in the low flutes of the steel deck when venting is specified. (See Figures 1.2.6, and 1.2.7) C0.9-32 and C1.4-32 do not have a venting option. CP-32 roof deck may be used as an alternate to C1.4-32 when venting is required. The CP-32 has embossments in the side lap that holds the side lap open creating a vent at each side.

Die Set Ends (Swage)

Die set ends allow for deck panels to be end lapped. This is not a common practice for composite deck but is common for roof decks. The die set swages the top flange and webs of the steel deck which allows the top sheet of end lapped deck to nest tightly over the bottom sheet. When deck is not die set, the installer may have to hammer the deck to get the ends to nest together tightly to ensure good quality connections. The die set ends are standard for BH-36. BH-36 is optionally available without die set ends. 2WH-36, 3WxH-36, NH-32, Deep Deck, and cellular profiles are not end lapped and do not have die set ends. Figure 1.2.8 shows a die-set end on BH-36 deck.

Die set ends affect detailing and layout of the steel deck. Deck

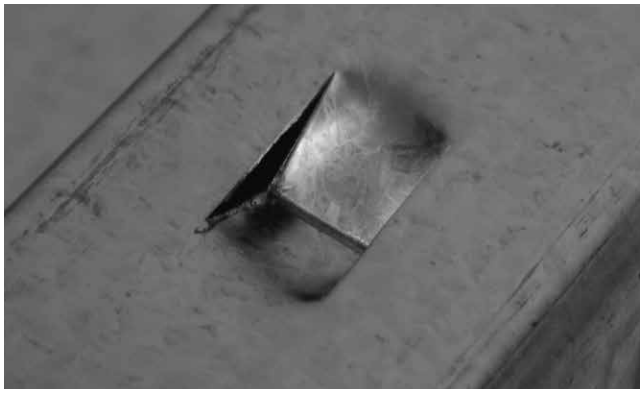


Figure 1.2.6: **BH-36V WITH VENTING**
(Pictured from topside)

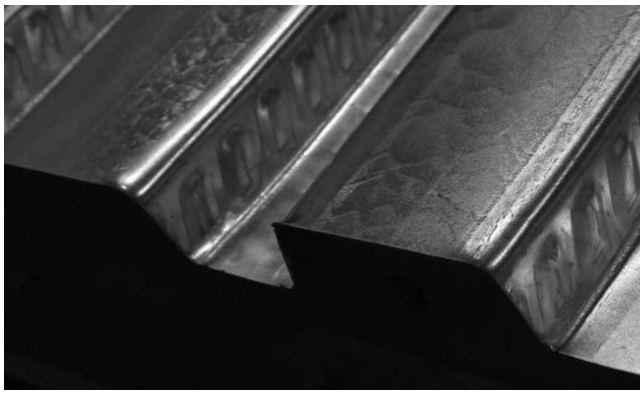


Figure 1.2.8 **BH-36 WITH DIE-SET (Swage)**

Product Approvals 1.3

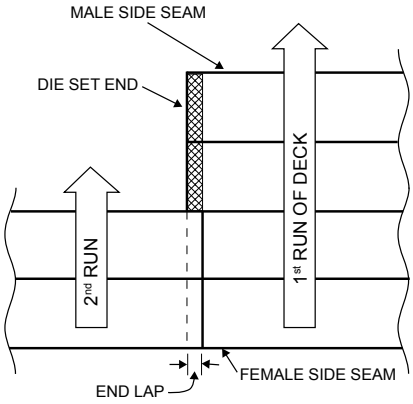


Figure 1.2.9: **DECK LAYOUT**

is spread in the direction of the male leg of the side seam. This allows the next sheet's female side seam to drop over the male side seam. The die set is on the left side relative to the direction of spreading deck. The next adjacent run of deck will be on the left side of the deck relative to the spreading direction to nest over the dies set ends. (See figure 1.2.9)

Exposed Deck

ASC Steel Deck roof and floor deck products are designed to be structural components for steel framed structures. As part of the normal manufacturing, handling, and transport procedures, it is common for the panel bundles to exhibit some degree of incidental scratching and denting. The surface defects are typically superficial and do not impact the structural capacity of the deck. On projects where the deck will be exposed to view after installation, it may be desirable to minimize the occurrence of these marks. In these cases, it is important for the designer specifying and the customer or contractor ordering the deck to request that the product be manufactured, handled, and transported for "EXPOSED" installation. This will result in modified handling and loading procedures designed to minimize (not eliminate) typical scratching and denting. Figure 1.2.10 and 1.2.11 shows typical handling marks from forklifts or dunnage.

Figure 1.2.10: **UNDERSIDE HANDLING MARKS**

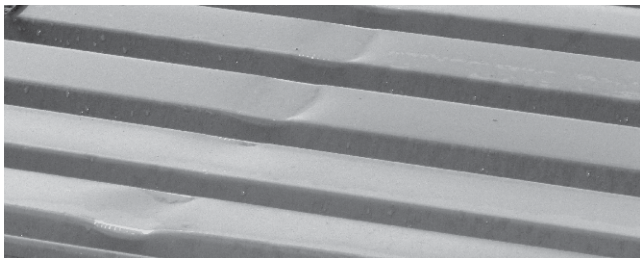


Figure 1.2.11: **TOPSIDE HANDLING MARKS**

ASC Steel Deck conducts extensive test and engineering programs with independent testing labs to ensure that our products comply with the stringent criteria of today's building codes. The structural performance of our composite and non-composite steel deck products have been verified and evaluated by reputable evaluation agencies, such as the International Association of Plumbing and Mechanics Officials Uniform Evaluation Services (IAPMO-ES), Los Angeles City Research Reports (LARR), and Underwriters Laboratory (UL).

IAPMO-ES

ASC Steel Deck's composite and non-composite steel deck panels are independently evaluated for conformance with the IBC by IAPMO-ES. IAPMO-ES is accredited by the American Standards Institute (ANSI) per ISO/IEC Guide 65 General Requirements for Bodies Operating Product Certification Systems. LA City Research Reports (LARR) for ASC composite and non-composite steel decks are derived from IAPMO-ES reports. The technical evaluation for conformance with the IBC is made available to code officials, contractors, specifiers, architects, engineers, and others. IAMPO-ES reports provide evidence that ASC Steel Deck products meet the most rigorous standards and are compliant under current code requirements.

Underwriters Laboratories UL-Fire Ratings

ASC Steel Deck products which bare the UL approved mark have been investigated for fire resistance. Underwriters Laboratories is an independent, product safety testing and certification organization. ASC Steel Deck has been evaluated for fire resistance per UL 263 Fire Tests of Building Construction and Materials. See UL directory for fire rated assemblies.

The **Fire Ratings** table (See figure 1.4.1) offers a quick reference summary of design numbers, fire ratings, deck type, SFRM Spray Applied Fire Resistive material listings and more. The details of each design assembly are listed on the UL Online Certification Directory ***www.ul.com***.

1.4 **Fire Ratings**

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

UL Design Number	Minimum Beam or Joist	Unrestrained Assembly Rating[8] hr	Minimum Concrete Reinforcing	Fire Proofing[2] On	
				Beam	Deck
D216	W8x15, 10J3, 12K1, 20LH with a minimum of 13 lbs per foot weight	1, 1½, 2, 3	6x6 W1.4xW1.4	None (ceiling system below)	none
D303	W8x28	1, 1½, 2	6x6 10x10 SWG	Mineral fiber board	Mineral fiber board
D502	W8x28, 20" Joist Girders at 20plf, 12K1, LH Series joists	1½, 2	6x6 W1.4xW1.4	none (ceiling system below)	none
D703	W8x20	1, 1½	6x6 W2.9xW2.9	SFRM	SFRM
D708	W10x17	1½,3	6x6 W2.9xW2.9	SFRM	SFRM
D712	W8x24	1½, 2	6x6, 10x10 SWG	SFRM	SFRM
D722	W6x12	1, 1½, 2	6x6 W1.4xW1.4	SFRM	SFRM
D739	W8x28, W6x12,OWSJ, Cast in place concrete beams	1, 1½, 2, 3, 4	6x6 W2.9xW2.9, Synthetic fibers	SFRM	SFRM
D740	W10x15	1	6x6 10x10 SWG	SFRM	SFRM
D743	W8x20, W8x28, W8x15, Cast in place concrete beams	1, 1½, 2, 3	6x6 W1.4xW1.4	SFRM	SFRM
D750	W8x21	1½, 2	6x6 W1.4xW1.4	SFRM	SFRM
D754	W8x28	1½, 2	6x6 W1.4xW1.4	SFRM	SFRM
D755	W8x24, W8x28, 10H3, 12J6	1, 1½, 2, 3	6x6 W1.4xW1.4	SFRM	SFRM

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

Restrained Assembly Rating[8]	Concrete			Deck[3]											Smooth Series™ Option	Note	UL Design Number
	Thickness	Type	CF 1⅜	BH-36	BHN-36	BHN-35¼	BHF-36	NH-32	NHN-32	NHF-32	2WH-36	2WHF-36	3WxH-36	3WxHF-36			
hr	in	pcf															
1, 1½, 2, 3	varies depending on accustic material, see UL listing	"147-153 NW 107-113 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y	3	D216
1	3½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		D303
1½	4	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
2	4½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
3	5¼	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
¾ or 1	2½	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
1½	3	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
2	3¼	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
2	3¼	107-116 LW						✓	✓	✓	✓	✓	✓	✓	N		
3	4 3/16	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
1	2 ⅝	107-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
2	3½	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
3	4 7/16	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
1½, 2	2½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y	3	D502
1, 1½, 2, 3	2½	"142-148 NW 105 LW"									✓	✓	✓	✓	N	3	D703
3	2½	"145-151 NW 109-115 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	3	D708
1, 1½, 2	2½	"147-153 NW 110 LW"						✓	✓	✓	✓	✓	✓	✓	N	3	D712
1, 1½, 2	2½	"142-148 NW 112 LW"						✓	✓	✓	✓	✓	✓	✓	N	3	D722
1, 1½, 2, 3, 4	2½	"142-148 NW 102-120 LW (110 LW with joists)"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	3	D739
2	2½	147-153 NW		✓	✓	✓	✓								N		D740
1, 1½, 2, 3	2	"147-153 NW 107-113 LW"									✓	✓	✓	✓	N	3	D743
2	2½	"142-148 NW 105-111 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		D750
3, 4	3¼	115-121 LW		✓	✓	✓		✓	✓		✓		✓		N/A		D754
2, 3	2½	"147-13 NW 109-115 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	3	D755

1.4 **Fire Ratings**

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

UL Design Number	Minimum Beam or Joist	Unrestrained Assembly Rating[8] hr	Minimum Concrete Reinforcing	Fire Proofing[2] On	
				Beam	Deck
D759	W8x28, 12K5, 12" deep OWSJ at 7.1plf	1, 1½, 2, 3	6x6 W1.4xW1.4 with beams, 6x6 W2.9xW2.9 with joists, Fiber reinforcement	SFRM	SFRM
D760	W8x28, OWSJ	1, 1½, 2, 3, 4	6x6 W1.4xW1.4	SFRM	SFRM
D764	W8x28, OWSJ	2	6x6, 6x6 SWG	SFRM	SFRM
D767	W8x28, W6x12,OWSJ, Cast in place concrete beams	1, 1½, 2, 3, 4	6x6 W1.4xW1.4 with beams, 6x6 W2.9xW2.9 with OWSJ	SFRM	SFRM
D768	W10x17	1½, 3	6x6 W2.9xW2.9	SFRM	SFRM
D775	W8x21	1½, 2	6x6 W1.4xW1.4	SFRM	SFRM
D779	W8x28, 8K1	1, 1½, 2, 3, 4	6x6 W1.4xW1.4, Synthetic fibers	SFRM	SFRM
D782	W8x28, 10" Deep OWSJ	1, 1½, 2, 3, 4	6x6 W1.4xW1.4	SFRM	SFRM
D788	W8x28, 10K1	1, 1½, 2, 3, 4	6x6 8x8 SWG	SFRM	SFRM
D794	W8x28, OWSJ	2	6x6 6x6 SWG	SFRM	SFRM
D795	W8x28, OWSJ	1, 1½, 2, 3	6x6 W1.4xW1.4 with beams, 6x6 W2.9xW2.9 with OWSJ	SFRM	SFRM
D798	W8x28, OWSJ	1, 1½, 2, 3, 4	6x6 10X10 with beams, 6x6 W1.4xW1.4 with OWSJ	SFRM	SFRM
D799	W8x28, 10K1	1, 1½, 2, 3	6x6 W1.4xW1.4 with beams, 6x6 W2.9xW2.9 with OWSJ	SFRM	SFRM
D825	W8x17	1, 1½, 2	6x6 W1.4xW1.4	SFRM	SFRM
D826	W8x20	0	6x6 W1.4xW1.4	SFRM	SFRM
D832	W8x24, W8x28	1, 1½, 2, 3	6x6 W1.4xW1.4	SFRM	SFRM
D833	W10x25	2, 3	WWF Optional	SFRM	SFRM
D840	W8x28	0	6x6 10x10 SWG	SFRM	SFRM
D858	W10x25, Concrete beam	1, 1½, 2, 3, 4	6x6 W1.4xW1.4	SFRM	SFRM
D859	W8x20	1, 1½, 2, 3	6x6 W1.4xW1.4	SFRM	SFRM

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

Restrained Assembly Rating[8]	Concrete			Deck[3]											Smooth Series™ Option	Note	UL Design Number
	Thickness	Type	CF 1⅜	BH-36	BHN-36	BHN-35¼	BHF-36	NH-32	NHN-32	NHF-32	2WH-36	2WHF-36	3WxH-36	3WxHF-36			
hr	in	pcf															
1, 1½, 2, 3	2½	"147-13 NW 109-115 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		D759
2, 3, 4	2½	"144-150 NW 107-113 LW"		✓	✓	✓					✓		✓		N		D760
2	2½	117 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		D764
1, 1½, 2, 3, 4	2½	"142-148 NW 102-120 LW (110 LW with joists)"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	3	D767
3	2½	"145-151 NW 109-115 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	3	D768
2	2½	"142-148 NW 105-111 LW"		✓	✓	✓		✓	✓				✓		N/A		D775
1, 1½, 2, 3, 4	2½	"142-148 NW 102-120 LW"		✓	✓	✓		✓	✓		✓		✓		N/A		D779
1, 1½, 2, 3, 4	3¼	115-121 LW		✓	✓	✓		✓	✓		✓		✓		N/A		D782
1, 1½, 2, 3, 4	2½	"NW LW"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		D788
2	2½	"147-153 NW 117 LW"		✓	✓	✓					✓	✓	✓	✓	N		D794
1, 1½, 2, 3	2½	"147-153 NW 109-115 LW"		✓							✓	✓	✓	✓	N		D795
1, 1½, 2, 3, 4	2½	"142-148 NW 107-113 LW"		✓	✓	✓		✓	✓		✓		✓		N/A		D798
1, 1½, 2, 3	2½	"147-153 NW 109-115 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		D799
2	2½	"147-153 NW 105-111 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	3	D825
2	3¼	108-114 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N	3	D826
1, 1½, 2, 3	2½	"147-153 NW 109-115 LW"		✓	✓	✓	✓	✓	✓	✓	✓		✓		N	3	D832
2, 3	2½	"147-153 NW 109-115 LW"									✓	✓	✓	✓	N	3	D833
2	3¼	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		D840
	3¼	107-116 LW						✓	✓	✓	✓	✓	✓	✓	N		
	3½	107-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		
1, 1½, 2, 3, 4	2½	"147-153 NW 108-115 LW"									✓		✓		N/A	3	D858
1, 1½, 2, 3	2	"142-148 NW 108-115 LW"									✓	✓	✓	✓	N	3	D859

1.4 **Fire Ratings**

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

UL Design Number	Minimum Beam or Joist	Unrestrained Assembly Rating[8]	Minimum Concrete Reinforcing	Fire Proofing[2] On	
		hr		Beam	Deck
D861	W8x15, W10x25	1½, 2	6x6 W1.4xW1.4	SFRM	SFRM
D862	W8x21	1	6x6 W1.4xW1.4	SFRM	SFRM
D867	W8x18	1½, 2	6x6 6x6 SWG	SFRM	SFRM
D871	W8x21, Concrete beam	1, 1½, 2, 3	6x6 W1.4xW1.4	SFRM	SFRM
D875	W8x20	1, 1½, 2, 3	6x6 W1.4xW1.4	SFRM	SFRM
D877	W8x17	1, 1½, 2	6x6 W1.4xW1.4	SFRM	SFRM
D878	W8x20	0	6x6 W1.4xW1.4	SFRM	SFRM
D883	W8x24, W8x28	1, 1½, 2, 3	6x6 W1.4xW1.4	SFRM	SFRM
D884	W10x25	2, 3	WWF Optional	SFRM	SFRM
D888	W8x28	0	6x6 10x10 SWG	SFRM	None
D891	W10x25, Concrete beam	1, 1½, 2, 3, 4	6x6 W1.4xW1.4	SFRM	SFRM
D892	W8x15, W10x25	1½, 2	6x6 W1.4xW1.4	SFRM	SFRM
D893	W8x21	1	6x6 W1.4xW1.4	SFRM	SFRM
D898	W8x21, Concrete beam	1, 1½, 2, 3	6x6 W1.4xW1.4	SFRM	SFRM
D902	W12x14, W8x28, W8x24, W6x21, 8K1, 12K5, OWSJ	1, 1½, 2, 3	6x6 10x10 SWG, Fiber reinforcement	SFRM	none

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

Restrained Assembly Rating[8]	Concrete			Deck[3]														
	Thickness	Type	CF 1⅜	BH-36	BHN-36	BHN-35¼	BHF-36	NH-32	NHN-32	NHF-32	2WH-36	2WHF-36	3WxH-36	3WxHF-36	Smooth Series™ Option	Note	UL Design Number
hr	in	pcf															
2	2½	"137-150 NW 107-115 LW"									✓		✓		N		D861
2	2½	99-105 LW						✓	✓		✓		✓		N/A		D862
3	-	"144-150 NW 107-113 LW"		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	N		D867
1, 1½, 2, 3	2½	"147-153 NW 108-115 LW"									✓		✓	✓	N	3	D871
1, 1½, 2, 3	2	"142-148 NW 108-115 LW"									✓		✓		N/A	3	D875
2	2½	"147-153 NW 105-111 LW"									✓		✓		N/A	3	D877
2	3¼	108-114 LW		✓	✓	✓					✓		✓		N/A	3	D878
1, 1½, 2, 3	2½	"147-153 NW 109-115 LW"									✓		✓		N/A	3	D883
2, 3	2½	"147-153 NW 107-115 LW"									✓				N/A	3	D884
2	3¼	107-113 LW		✓	✓	✓		✓	✓		✓		✓		N/A		D888
	3¼	107-116 LW						✓	✓		✓		✓				
	3½	107-120 LW	✓	✓	✓	✓		✓	✓		✓		✓				
1, 1½, 2, 3, 4	2½	"147-153 NW 108-115 LW"									✓		✓		N/A	3	D891
2	2½	"137-150 NW 107-115 LW"									✓				N/A	3	D892
2	2½	109-115 LW									✓		✓		N/A		D893
1, 1½, 2, 3	2½	"147-153 NW 108-115 LW"									✓		✓		N/A	3	D898
1	3½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		D902
1½	4	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	4½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	5¼	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1	2½	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1½	3	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-116 LW						✓	✓	✓	✓	✓	✓	✓	Y		
3	4³⁄₁₆	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1	2⅝	107-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3½	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	4⁷⁄₁₆	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

UL Design Number	Minimum Beam or Joist	Unrestrained Assembly Rating[8] hr	Minimum Concrete Reinforcing	Fire Proofing[2] On	
				Beam	Deck
D907	W8x17, W8x28	0	6x6 W1.4xW1.4	SFRM	none
D914	W8x28	0	6x6 W1.4xW1.4	SFRM	none
D916	W8x28, OWSJ	0	6x6 10x10 SWG	SFRM	none
D919	W8x28	0	6x6 W1.4xW1.4	SFRM	none
D920	W8x28	0	6x6 W1.4xW1.4	SFRM	none
D922	W8x28, OWSJ	0	6x6 10x10 SWG	SFRM	none
D923	W8x28	0	6x6 10x10 SWG	SFRM	none

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

Restrained Assembly Rating[8]	Concrete			Deck[3]											Smooth Series™ Option	Note	UL Design Number
	Thickness	Type	CF 1⅜	BH-36	BHN-36	BHN-35¼	BHF-36	NH-32	NHN-32	NHF-32	2WH-36	2WHF-36	3WxH-36	3WxHF-36			
hr	in	pcf															
2	3¼	110 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		D907
¾, 1	2½	110 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		D914
1	3½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		D916
1½	4	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	4½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	5¼	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
¾ or 1	2½	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1½	3	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-116 LW						✓	✓	✓	✓	✓	✓	✓	Y		
3	4³⁄₁₆	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1	2⅝	107-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3½	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	4⁷⁄₁₆	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1	3½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		D919
1½	4	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	4½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	5¼	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1	2½	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1½	3	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-116 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	4³⁄₁₆	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3½	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	4⁷⁄₁₆	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3¼	110-120 LW									✓	✓	✓	✓	Y		D920
Refer to D916 for these values.																	D922
1	3½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		D923
1½	4	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	4½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	5¼	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1	2½	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1½	3	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-116 LW						✓	✓	✓	✓	✓	✓	✓	Y		
3	4³⁄₁₆	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
1	2⅝	107-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
2	3½	107-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		
3	4⁷⁄₁₆	107-120 LW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Y		

1.4 **Fire Ratings**

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

UL Design Number	Minimum Beam or Joist	Unrestrained Assembly Rating[8] hr	Minimum Concrete Reinforcing	Fire Proofing[2] On	
				Beam	Deck
D924	W8x28	0	Synthetic fibers, negative reinforcing steel	SFRM	none
D925	W8x28, W8x16, 8K1 OWSJ	0	6x6 10x10 SWG or negative bending reinforcement with synthetic fibers	SFRM	none
D927	W8x28, OWSJ	0	6x6 10x10 SWG	SFRM	none
D929	W8x28	0	6x6 10x10 SWG	SFRM	none
D931	W8x28	0 or 1	6x6 10x10 SWG	SFRM	none
D949	W8x28	0	6x6 10x10 SWG	SFRM	none
D957	W12x14, W8x28, W8x24, W6x12, OWSJ	1, 1½, 2, 3	6x6 10x10 SWG		none
D967	W8x28	0	6x6 W1.4xW1.4	SFRM	none
D968	W8x28	0	6x6 W1.4xW1.4		none

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

Restrained Assembly Rating[8]	Concrete		CF 1⅜	Deck[3]											Smooth Series™ Option	Note	UL Design Number
	Thickness	Type		BH-36	BHN-36	BHN-35¼	BHF-36	NH-32	NHN-32	NHF-32	2WH-36	2WHF-36	3WxH-36	3WxHF-36			
hr	in	pcf															
2	4⅛	142-148 NW		✓	✓	✓					✓		✓		N/A	4	D924
2	4⅜	142-148 NW		✓	✓	✓					✓		✓		N/A	5	
2	3⅛	105-111 LW		✓	✓	✓					✓		✓		N/A		
3	5	142-148 NW		✓	✓	✓					✓		✓		N/A	4	
3	5⅜	142-148 NW		✓	✓	✓					✓		✓		N/A	5	
3	4	105-111 LW		✓	✓	✓					✓		✓		N/A		
Refer to D902 for these values.																	D925
Refer to D916 for these values.																	D927
Refer to D916 for these values.																	D929
Refer to D902 for these values.																	D931
Refer to D916 for these values.																	D949
1	3½	147-153 NW		✓	✓	✓	✓				✓	✓	✓	✓	Y		D957
1½	4	147-153 NW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
2	4½	147-153 NW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
3	5¼	147-153 NW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
1	2½	107-113 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
1½	3	107-113 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
2	3¼	107-113 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
2	3¼	107-116 LW									✓	✓	✓	✓	Y		
3	4 3/16	107-113 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
1	2⅝	107-120 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
2	3½	114-120 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
3	4 7/16	114-120 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
¾, 1	2½	110 LW		✓	✓	✓					✓		✓		N/A		D967
1	3½	147-153 NW		✓	✓	✓	✓				✓	✓	✓	✓	Y		D968
1½	4	147-153 NW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
2	4½	147-153 NW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
3	5¼	147-153 NW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
1	2½	107-113 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
1½	3	107-113 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
2	3¼	107-116 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
3	4 3/16	107-113 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
2	3½	114-120 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		
3	4 7/16	114-120 LW		✓	✓	✓	✓				✓	✓	✓	✓	Y		

1.4 **Fire Ratings**

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

UL Design Number	Minimum Beam or Joist	Unrestrained Assembly Rating[8]	Minimum Concrete Reinforcing	Fire Proofing[2] On	
		hr		Beam	Deck
D973	W8x28	0	Fiber - Ultra Fiber 500		none
D974	W8x28	1½	6x6 10x10 SWG		none
D975	W8x28, W8x24, W6x12	1, 1½, 2, 3	6x6 10x10 SWG		none
D976	W8x28 OWSJ	1, 1½, 2	6x6 8x8 SWG		none
D977	W8x28, OWSJ	1, 1½	6x6 8x8 SWG		none
D985	W8x28, 10K1	0	6x6 10x10 SWG		none
D988	W8x28, 10K1	1, 1½, 2, 3	6x6 W1.4xW1.4		none
D998	W8x28, W8x24, W6x12	0	6x6 10x10 SWG	SFRM	none

Table Notes:

1. This table summarizes ASC Steel Deck's UL fire listings. Refer to the UL website for the most accurate and up-to-date listings.
2. SFRM = Spray-Applied Fire Resistive Material.
3. ASC Steel Deck may be used as blend deck with other manufacturers electrified cellular deck or trench.
4. Carbonate Aggregate.
5. Siliceous Aggregate.
6. BK Holding Corp. Ultra Fiber 500®
7. Syntheon Inc. Elemix® XE and Grey XE concrete additive.
8. For restrained fire ratings see UL listng for additional requirements.

Figure 1.4.1: **ASC STEEL DECK- UNDERWRITERS LABORATORIES (UL) FIRE RESISTANCE**

Restrained Assembly Rating[8]	Concrete			Deck[3]															
	Thickness	Type	CF 1⅜	BH-36	BHN-36	BHN-35¼	BHF-36	NH-32	NHN-32	NHF-32	2WH-36	2WHF-36	3WxH-36	3WxHF-36	3WH-36	3WHF-36	Smooth Series™ Option	Note	UL Design Number
hr	in	pcf																	
2	3¾	142-148 NW									✓						N/A	6	D973
3	4½	114-120 NW						✓									N/A	7	D974
Refer to D957 for these values.																			D975
1, 1½, 2	3½	111-117 NW						✓									N/A	7	D976
1, 1½, 2	3½	112.5-106.5 LW						✓	✓								N/A	7	D977
1	3½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		D985
1½	4	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
2	4½	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
3	5¼	147-153 NW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
¾ or 1	2½	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
1½	3	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
2	3¼	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
2	3¼	107-116 LW						✓	✓	✓	✓		✓				N		
3	4 3/16	107-113 LW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
1	2⅝	107-120 LW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
2	3½	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
3	4 7/16	114-120 LW		✓	✓	✓	✓	✓	✓	✓	✓		✓				N		
Refer to D902 for these values.																			D988
2	4½	147-153 NW		✓	✓	✓					✓	✓	✓	✓	✓	✓	Y		D998
3	5¼	147-153 NW		✓	✓	✓					✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-113 LW		✓	✓	✓					✓	✓	✓	✓	✓	✓	Y		
2	3¼	107-116 LW									✓	✓	✓	✓	✓	✓	Y		
3	4 3/16	107-113 LW		✓	✓	✓					✓	✓	✓	✓	✓	✓	Y		
2	3½	114-120 LW		✓	✓	✓					✓	✓	✓	✓	✓	✓	Y		
3	4 7/16	114-120 LW		✓	✓	✓					✓	✓	✓	✓	✓	✓	Y		

1.5 **Steel Deck Section Properties**

Section Properties

All of ASC Steel Deck's section properties are calculated in accordance with the American Iron and Steel Institute Specification for the Design of Cold-Formed Steel Structural Members, AISI S100-2012, Section B. Section properties can be used to develop the bending capacity of the steel deck for out-of-plane loads, which are typically defined by gravity for composite decks carrying construction and fluid concrete loads.

The section properties for steel floor deck, like other cold-formed steel members such as Cee, Zee, hat-shaped purlins, studs, and track are based on post-buckling strength. Post-buckling strength is based on the concept that compression flanges and portions of webs will exhibit some local buckling prior to the load capacity of the member being reached. To account for this, the widths of the flat compression elements of the steel deck are reduced for the purpose of determining the section properties, excluding the portion that can no longer effectively carry compression loads. This reduction of the gross section properties results in the effective section properties.

Steel Thickness

The thickness of steel floor deck is typically specified by a gauge designation. The design of steel deck is dependent on the specified design base steel thickness in accordance with AISI S100-2012. The base steel thickness should not be confused with the total coated thickness, which is the combined thickness of the base steel, the optional galvanizing thickness, and any factory-applied paint system thickness.

The minimum acceptable base steel thickness to be supplied shall not be less than 95% of the design base steel thickness. This is specified in Section A2.4 Delivered Minimum Thickness of AISI S100-2012.

Some standards reference non-mandatory tables that list the thickness of sheet steel by gauge designation. These include the AISC Manual of Steel Construction in the Miscellaneous Information section of the appendix and AWS D1.3 in the Annex. Both references indicate that the values are non-mandatory and are for reference only. The nominal total coated thicknesses listed for each gauge in these sources should not be used to determine if the cold-formed steel structural member, including steel deck, meets the minimum thickness requirement for the specified gauge.

Effective Section Properties

Effective section properties for a steel deck panel are used to check for the maximum bending and axial load capacities.

The effective properties are determined at the full yield stress of the steel. As the grade of steel increases, the effective section properties decrease. The effective width of the compression elements decreases as the localized plate-like buckling increases. The bending capacity of the deck increases with the increase in the grade of steel even though the effective section properties are decreasing. The increasing strength of the steel outpaces the decrease in effective section properties leading to higher bending capacities. Steel deck cannot be compared based strictly on effective section properties without considering the grade of the steel because of the effect on the effective section properties by the grade of steel. Figure 1.5.1 demonstrates this for BH-36 steel deck.

20 Gauge BH-36 Steel Deck Panel

Yield ksi	I_e^+ (in^4/ft)	I_e^- (in^4/ft)	S_e^+ (in^3/ft)	S_e^- (in^3/ft)	M_n^+ (Kip-in/ft)
33	0.193	0.237	0.235	0.251	4.65
37	0.187	0.233	0.233	0.247	5.17
40	0.187	0.233	0.232	0.244	5.56
50	0.177	0.227	0.228	0.236	6.83
55	0.177	0.227	0.227	0.233	7.34
80	0.173	0.223	0.218	0.230	7.84

Figure 1.5.1: **EFFECTIVE SECTION PROPERTIES**

Many steel deck panels are not symmetric. In most cases, the top and bottom flange widths are not equivalent. The bending stress and location of the neutral axis is therefore different for positive and negative bending, resulting in different positive and negative section properties.

Gross Section Properties

The gross section properties of the steel deck are based on the entire cross section of the panel. Determination of gross section properties assumes that there is compression buckling of the compression flanges or web elements of the steel deck, therefore there are no ineffective elements. The gross section properties are used in combination with effective section properties to determine the deflection of the steel deck under uniform out-of-plane loads and for checking axial compression and bending.

Service Load Section Properties

The service load moment of inertia is used to determine the deflection of the steel deck for out-of-plane loads. The calculated moments of inertia are determined at a working stress level of 0.6Fy. Following accepted practice, the hybrid moment of inertia is based on the sum of two times the effective moment of inertia, and the gross moment of inertia divided by three, as follows:

$$I_d = \frac{2I_e + I_g}{3}$$

How to Read Section Properties Table

Weight of Panel Section Per SQFT

Gross Section Properties are Identified by the Subscript, g

Panel Gauge

Base Metal Thickness (without Coating)

Effective Section Properties are Identified by the Subscript, e

Panel Properties

Gage	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties: Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w	t	F_y	F_u	A_g	I_g	y_b	S_g	r
	psf	in	ksi	ksi	in^2/ft	in^4/ft	in	in^3/ft	in
22	1.70	0.029	50	65	0.474	0.687	1.45	0.473	1.205
21	1.92	0.033	50	65	0.539	0.783	1.46	0.538	1.205
20	2.03	0.035	50	65	0.571	0.830	1.46	0.570	1.025
19	2.40	0.042	50	65	0.685	0.997	1.46	0.681	1.206
18	2.68	0.047	50	65	0.766	1.113	1.46	0.761	1.206
16	3.35	0.059	50	65	0.959	1.397	1.47	0.950	1.207

Gage	Effective Section Modulus at F_y: Compression: Area	Bending: Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Effective Moment of Inertia for Deflection: Moment of Inertia	Moment of Inertia	Uniform Load Only: $I_d = (2I_e+I_g)/3$	
	A_e	S_e+	y_b	S_e-	y_b	I_e+	I_e-	I+	I-
	in^2/ft	in^3/ft	in	in^3/ft	in	in^4/ft	in^4/ft	in^4/ft	in^4/ft
22	0.289	0.368	1.35	0.400	1.56	0.677	0.667	0.680	0.673
21	0.355	0.449	1.39	0.477	1.53	0.783	0.773	0.783	0.777
20	0.389	0.487	1.41	0.516	1.52	0.830	0.823	0.830	0.826
[illegible]	[illegible]	0.622	1.45	0.627	1.47	0.997	0.993	0.997	0.994
[illegible]	[illegible]	[illegible]	1.46	0.702	1.47	1.113	1.113	1.113	1.113
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.397

Effective Net Area of Section

Positive and Negative Effective Moment of Inertia for Non-Uniform Load Conditions

Effective Section Properties at Service Load Conditions

Hybrid Moment of Inertia for Uniform Load Condition Only

Figure 1.5.2: **SAMPLE OF PANEL PROPERTIES TABLE**

This deflection equation for uniformly distributed loads takes into account that throughout the length of the span, portions of the steel deck will have low bending stress and others will have high bending stress. The areas with low bending stress exhibit behavior based on gross section properties because the stress is below the onset of localized compression buckling. The portions with high bending stress that are at or above the onset of localized compression buckling exhibit progressively lower effective section properties as the bending stress goes up. Using the weighted average of the gross and effective section properties is an effective method to address deflections in which section properties change depending on the bending stress.

Steel Deck Reactions at Supports

Steel deck reactions at supports are governed by the web crippling capacity of the steel deck webs on the supporting member. This is calculated in accordance with Section C3.4 of AISI S100-2012 for multi-web steel decks.

Reactions Due to Uniform Loads

The end and interior reactions listed in the tables in this catalog are for a uniformly distributed out-of-plane load applied to the deck (See figure 1.6.1 and 1.6.2).

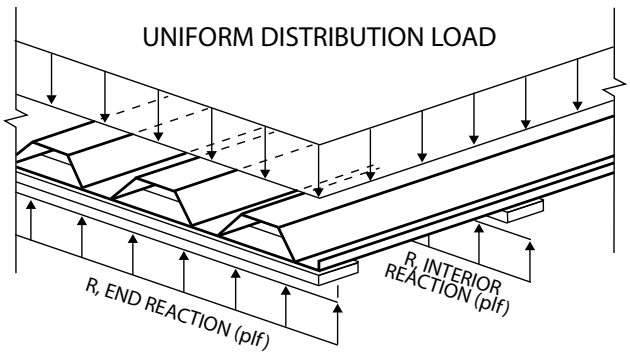


Figure 1.6.1: **UNIFORM DISTRIBUTED OUT-OF-PLANE LOAD**

The allowable R_n/Ω and factored ϕR_n reactions presented in the tables are in pounds per linear foot running axially along the support for a given deck-bearing length on the support (the support member width that the deck bears on). This is based on the web crippling capacity multiplied by the number of webs per foot. Figure 1.6.3 shows how to read the reaction tables in this catalog.

Panels must be attached to supports with fastener patterns not less than the minimum attachment patterns shown for the deck panel.

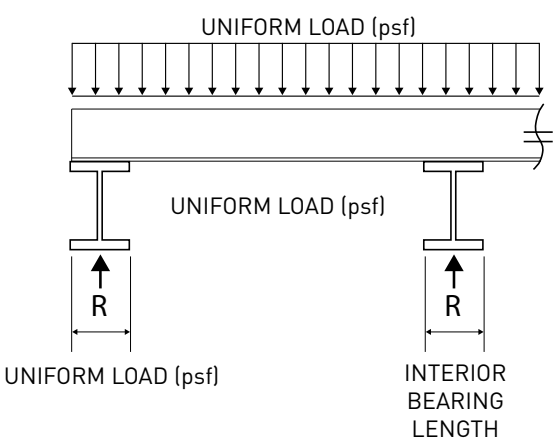


Figure 1.6.2: **SUPPORT REACTIONS**

Point or Line Load Reactions

For load conditions that exceed the uniform reaction capacity tables, including point loads and line loads on the steel deck panel, the maximum reaction capacity should be based on the web crippling capacity for the steel deck. For reactions exceeding the published values, or for conditions other than a uniformly distributed load, the maximum reaction capacity shall be determined by the designer in accordance with section C3.4 of the North American Specifications for the Design of Cold-Formed Steel Structural Members for multi-web steel panels and the geometric constants presented in the web crippling tables for the deck panel.

How to Read Web Crippling Table

Support Condition: Deck Panel End on Supports or Deck Panel Continuous Over Supports

ASD Design Basis

Panel Gauge

Bearing Length of Deck Panel Web on Support

LRFD Design Basis

Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs: Allowable (R_n/Ω) 1"	1.5"	2"	3"	Factored (ΦR_n) 1"	1.5"	2"	3"
22	End	264	329	421	492	404	580	644	753
	Interior	473	571	710	816	704	961	1056	1214
21	End	339	420	535	624	519	739	819	954
	Interior	605	726	898	1029	900	1219	1335	1531
20	End	380	470	597	694	581	824	913	1062
	Interior	677	810	999	1144	1007	1357	1486	1701
19	End	538	661	834	967	824	1155	1276	1480
	Interior	956	1136	1390	1585	1423	1895	2068	2358
18	End	667	815	1024	1185	1021	1421	1567	1813
	Interior	1184	1399	1704	1938	1761	2327	2535	2883
16	End	1028	1244	1549	1783	1572	2156	2370	2728
	Interior	1821	2132	2571	2908	2709	3526	3825	4326
Web Crippling Constraints		h=3.5"		r=0.125"		θ=54.4°			

Deck Panel Geometry

Allowable Reaction of Deck Panel on Interior Support with 2″ of bearing

Allowable Reaction of Deck Panel on End Support with 1.5 Bearing

Figure 1.6.3: **SAMPLE OF WEB CRIPPLING TABLE**

1.7 **Steel Deck as a Concrete Form**

Introduction

The design of deck as a form for concrete is based on ANSI/SDI C-2011 for composite deck and ANSI/SDI NC-2010 for non-composite deck. The deck acts as a permanent form for the concrete. In addition to providing formwork for the concrete, the deck provides the tension reinforcing for composite deck-slab systems. The deck also provides a safety floor for erection and a working platform for construction trades. It is critical that the deck be designed to carry these loads to meet the expected performance.

Maximum Unshored Span Tables

The maximum unshored spans for single and uniform double or triple deck span conditions are included in the load tables for the deck in this catalog. This provides an easy to use design aid to help select the appropriate deck type and gauge for a particular span. The maximum unshored spans are determined in accordance with ANSI/SDI C-2011. This design standard provides the minimum recommended loads the deck is required to support including the weight of the deck, concrete, and 20 psf uniform construction live load or 150 plf concentrated construction live load. These maximum unshored spans may not be appropriate for heavy construction live loads from concrete buggies, drive on deck laser screeds, or ride on power trowels. Maximum unshored spans for loading conditions and span conditions that exceed the load table should be determined by the designer of record for the project or the engineer responsible for the erection of the structure.

In addition to considering the loading used to develop the maximum unshored span in the tables, the definition of span and maximum reactions at supports need to be considered. It is appropriate to consider the span as clear span between supports when the supports have relatively ridged flanges as compared to the deflection of the deck. On supports without ridged flanges such as cold-formed Cees, Zees, open web steel joists, and thin ledger angles, center-to-center span is more appropriate.

The maximum spans may be governed by the maximum reaction capacity of the composite deck at supports. ASC Steel Deck does not specify a minimum bearing length of deck on a support, however, allowable and factored reaction tables are presented for each deck type. This provides the maximum reaction for the deck based on the bearing length of the deck on a support. This is limited by the web crippling capacity of the deck. The deck span may be limited by the maximum reactions for heavily loaded or long spanning deck. (See figure 1.6.2)

Design Loads for Steel Deck as a Form

Steel deck as a form should be designed to resist the anticipated construction loads applied to the steel deck. The design should meet the minimum design loads specified in ANSI/SDI C-2011 Standard for Composite Steel Floor Deck-Slabs. This standard provides the minimum recommended loads and load combinations for steel deck as a form. This includes the dead weight of concrete, and 20 psf uniform construction live load or 150 lbs concentrate load per foot width of deck. Heavy equipment loads from concrete buggies, drive on deck laser screeds, and ride-on power trowels exceed the minimum design loads. It is critical that the maximum unshored spans be checked by the designer of record or the engineer responsible for the erection for the structure for heavy equipment loads on deck used as a form.

ANSI/SDI C-2011 basic ASD combinations include the following used to develop the tables in this report.

$W_{dc}+w_{dd}+w_{lc}$	ANSI/SDI C-2011	Eq 2.4.1
$W_{dc}+w_{dd}+P_{lc}$	ANSI/SDI C-2011	Eq. 2.4.2
$W_{dd}+w_{cdl} \geq 50psf$	ANSI/SDI C-2011	Eq. 2.4.2

W_{dc} = dead weight of concrete[1]

W_{dd} = dead weight of the steel deck

W_{lc} = uniform construction live load (combined with fluid concrete) not less than 20psf

W_{cdl} = uniform construction live load (combined with bare deck) not less than 50psf

P_{lc} = concentrated construction live load per unit width of deck section; 150lbs on a one foot width

Loading Note:

1. *For form decks (non-composite), additional concrete dead load is required for single spans in accordance with ANSI/SDI NC-2010*

Design of Steel Deck as a Form

The design of deck as a form is a straight forward engineering exercise. The deck is no more than a cold–formed steel beam spanning between the support framing. The provision of AISI S100 should be used to determine the strength of the deck. The bending moment, web shear, and reactions are determined using engineering mechanics for slender beams. ANSI/SDI C-2011, Appendix 1, shows loading configurations that are typically used for steel deck as a form. These do not address unequal spans and unique loading conditions. The maximum moment, web shear, and reactions are then checked against the strength of the deck to determine the appropriate deck type and gauge for a project.

The bending strength of a cold-formed steel deck should be determined in accordance with AISI S100. Allowable stress design is commonly used for determining the bending capacity of the steel deck. Combined bending and web shear is often ignored because the web shear stress is relatively small compared to the bending stress. The section properties for steel deck are provided in this catalog to aid in the design of deck exceeding the scope of the maximum unshored span tables.

The reactions of the steel deck at supports should be checked to ensure that the webs of the steel deck do not buckle. The allowable web crippling of the deck may be taken directly from the web crippling tables in this catalog. For conditions exceeding the scope of the tables, the web crippling will need to be determined in accordance with AISI S100. To help the designer, the flat width of the web (h), bend radius (r), and angle relative to the support (Θ) are included in the tables.

It is important that deck used as a form does not over deflect. ANSI/SDI C-2011 limits deflection to L/180, but not to exceed ¾ inch. The deflection check is based on the weight of the deck and concrete using equations of engineering mechanics. Skip loading and constitution live loads are not considered because these loads are not present after the concrete is finished and during the curing time. For the maximum unshored span tables presented in this catalog, ASC Steel Deck allows for an additional 3 psf for normal weight concrete and 2 psf for lightweight concrete to account for added concrete due to deflection. ANSI/SDI C-2011, Appendix 1, has equations for deflection for common conditions. The actual deck deflection may vary from the predicted deflection, however, the predicted limits have proven to be reliable for the design of deck as a form.

Cantilevers

Cantilevering deck is an acceptable common solution to extending the composite deck-slab past a support and generally involves the use of a two piece pour stop as shown in figure 1.7.1. Cantilevers need to be designed by the engineer of record or the engineer responsible for the erection of the structure. The section properties included in this catalog provide the basic properties for this calculation. The cantilever should be designed in accordance with ANSI/SDI C-2011 section 2.4.

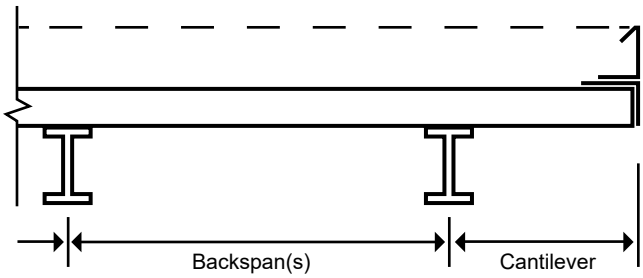


Figure 1.7.1: **Cantilevers**

1.8 **Composite Deck-Slab Design**

General Design Principles

The design of composite steel deck-slab systems reflect the basic engineering concepts used to design reinforced concrete beams. The concrete acts as the compression material, and the steel deck bonded to the bottom of the concrete acts as the tension steel. In this manner, the composite deck-slab behaves like a simple reinforced concrete beam in which the deck is the rebar.

A composite deck-slab is most commonly designed as a simple span beam. The deck only provides positive bending reinforcement. The minimum temperature and shrinkage reinforcing is not adequate to develop negative bending over supports. With out any significant negative bending reinforcement over supports, the concrete is assumed to crack and the deck yield in negative bending, creating a condition in which the composite deck-slab is treated as a simple beam. (See figure 1.8.1)

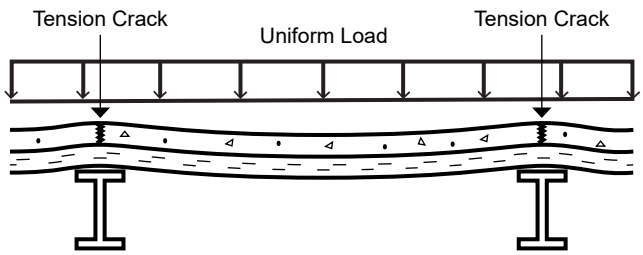


Figure 1.8.1: **Single Span**

The maximum load carrying capacity of a composite deck-slab system should be limited to the bending capacity, vertical shear, and maximum acceptable deflection. *ANSI/SDI C-2011* provides the design methods for composite steel deck-slab systems. The tables in this catalog provide an easy to use design aid following these methods.

Superimposed Load Capacity

The superimposed load that the composite deck-slab system carries are those loads that are in addition to the concrete and deck self-weight. These loads consist of out-of-plane dead and live loads. Most composite deck-slab systems are designed using Allowable Stress Design (ASD). This is a convenient method because either calculations or load tables can be developed based on service loads. ASD design does not take into account the different load factors for dead and live loads of 1.2 and 1.6 respectively. Most ASD superimposed load calculations and load tables assume that the entire superimposed load is a live load using a load factor of approximately 1.6, which heavily favors live loads and is therefore conservative for dead loads. ASD is best suited for applications for which the majority of the load is live load, which is typical for most commercial building floor applications.

Load and Resistance Factor Design (LRFD) is a more efficient method of design for superimposed loads that are primarily dead load. This method is more involved and is only warranted in conditions in which ASD is unfavorable. An example would be a case in which a large portion of the superimposed load is dead load. In these situations, a great portion of the load would use a 1.2 load factor for dead load, and a smaller portion of the load would use a 1.6 load factor for live load. In these cases, an LRFD approach will prove to be more efficient if the maximum superimposed load carrying capacity is governing the design. LRFD is a good choice for composite deck-slab systems supporting heavy loads such as equipment pads and heavy planting beds for green roof systems or patio decks.

Loading

Composite deck-slab systems are a very efficient way to support many design loads. The loads should be static or semi-static in nature. These are typical of dead loads and typical commercial building live loads. Live loads that are cyclic or vibratory in nature, however, may break down the bond between the deck and slab over time. These loads should not be applied to composite deck-slab systems without supplemental reinforcing. Loads to watch out for:

Vibratory or Cyclic Loads: Machinery that vibrates or applies a repetitive cyclic load should be avoided. This type of equipment may break down the bond between the concrete and deck due to vibration or high and localized bending and shear.

Forklift Loads: Forklifts tend to create very high localized wheel loads that apply significant localized bending and shear to the composite deck-slab system and should be avoided.

Hard Wheeled Loads: Heavily loaded hard wheeled carts may apply high localized bending and shear below the wheels that may approach the design capacity of the composite deck-slab system and should be avoided.

These types of cyclic or vibratory loads may be applied to composite deck-slab systems if supplemental reinforcing designed to carry the load is added to the concrete section. In this case, the deck is considered a stay in place form, similar to a form deck.

Parking Structures: Composite deck-slab systems have been used successfully for parking structures for many years. The combination of the relative light weight of automobiles with pneumatic tires that distribute the load and suspension, greatly reduce the effects of dynamic cyclic loading on the composite deck-slab system. For open parking structures, it is recommended that the slab be sealed to reduce possible corrosion of the steel deck from water penetrating cracks in the slab. Supplemental reinforcing in the slab is recommended in exposed conditions in which the deck could corrode over time.

Concrete

Composite steel deck utilizes structural concrete fill poured over the top of the steel deck. The design of the concrete should be in accordance with ACI 318 with a minimum compressive strength of 3000psi. ASC Steel Deck's load tables are based on either 145 pcf normal weight concrete or 110 pcf lightweight concrete. Composite deck systems can be designed with lower or higher density light weight concrete, but it is important that the effect on fire rating be considered if applicable to the project.

Temperature and Shrinkage Reinforcing

Reinforcing should be provided in the concrete to prevent temperature and shrinkage cracking. This can be accomplished with welded wire fabric, reinforcing steel, or fibers. The minimum steel reinforcing should not be less than 0.00075 times the area of the concrete, but not less than 6x6 WI.4xWI.4 welded wire fabric. Steel fibers may be used when the concrete is designed in accordance with ASTM C1116 type I with steel fibers per ASTM A820 type I, II or V, provided at the manufactures recommended dosage, but not less than 25lbs/cy. Macro synthetic fibers may be used when the concrete is designed in accordance with ASTM C 1116 type III, with fibers in accordance with ASTM D7508 provided at the manufacturers recommended dosage, but not less than 4lbs/cy. Other types of fibers that effectively resist temperature and shrinkage cracking may be used at the fiber manufactures recommended dosage. This is appropriate because any increase in concrete strength that may result from temperature and shrinkage control using fibers is not considered when developing the load carrying capacity of the composite deck-slab.

Composite Deck-Slab Section Properties

The development of section properties for composite deck-slab assemblies follows the engineering mechanics used to develop section properties for reinforced concrete design. The convention in design of composite deck-slab systems is to use the transformed section to convert the area of steel into an equivalent area of concrete. The transformed section properties are then used to determine the nominal bending moment and predicted deflections for the composite deck-slab section.

UnCracked Section

The uncracked section for composite steel deck-slab systems is analogues to reinforced concrete design. The uncracked section properties are determined at low bending stress, in which the concrete is still effective in tension. This is the condition in which the concrete in tension, has not cracked, and still contributes to the section properties. (See figure 1.8.2) The uncracked moment of inertia is presented in the composite deck tables in this report for common slab conditions. For conditions exceeding the scope of the table, the uncracked moment of inertia should be calculated in accordance with *ANSD/SDI* C-2011 Appendix 4.

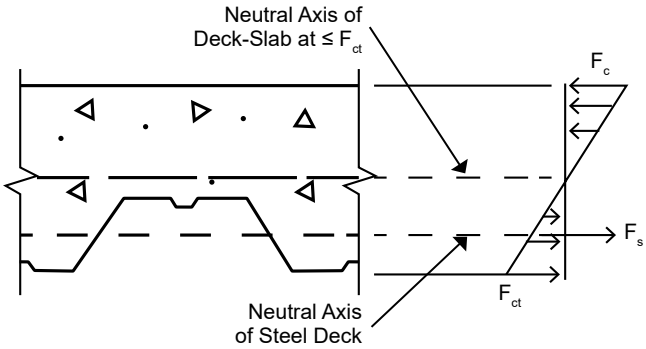


Figure 1.8.2: **Uncracked Section**

Cracked Section

The cracked section for composite deck-slab systems is determined using methods similar to reinforced concrete design. For composite deck-slab systems, this is determined at a compressive yield stress in the concrete in which the flexural stress is still assumed to be linear elastic and the concrete in tension is cracked and is no longer contributing to the section properties. (See figure 1.8.3) The cracked moment of inertia is presented in the composite deck tables in this catalog for common slab conditions. For conditions exceeding the scope of the tables, the cracked moment of inertia should be calculated in accordance with *ANSI/SDI* C-2011 Appendix 4.

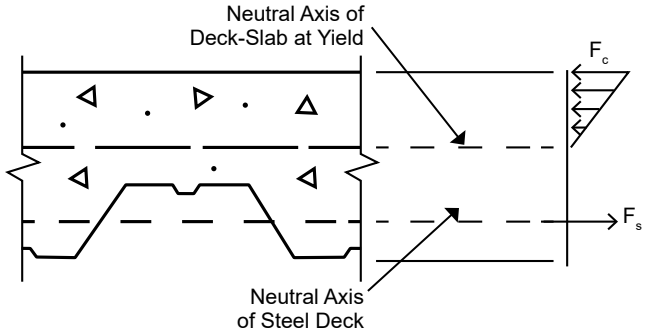


Figure 1.8.3: **Cracked Section**

Bending Capacity

The flexural capacity for composite steel deck-slab systems is determined using methods similar to reinforced concrete design. In this catalog, the nominal bending capacity for deck-slab systems that are not anchored to the structure with headed shear stud anchors are developed using the *ANSI/SDI* C-2011 prequalified method. This is referred to as the yield method in which the nominal bending moment is limited to the point at which the steel deck begins to yield. This is determined using the cracked moment of inertia and the yield strength of the steel deck. The factored and allowable bending moments for common composite steel deck-slab systems are listed in the tables in this catalog. For conditions exceeding the scope of the tables, the bending capacity should be calculated in accordance with *ANSI/SDI* C-2011 pre-qualified sections method.

The embossment factor (K) for this method is presented in General Note 7 of section 1.18, Composite Deck-Slab Table General Requirements along with the embossment geometry.

Vertical Shear

The vertical shear capacity for a composite deck-slab system is the combination of the shear contribution of the concrete and the steel deck. The factored and allowable vertical shears are presented in the tables in this catalog. For conditions that exceed the tables, the shear should be determined in accordance with *ANSI/SDI* C-2011.

Deflection

The deflection of a composite deck-slab system should be checked to ensure serviceability of the system for its intended use. The superimposed load tables in this catalog have been limited to strength or L/360 deflection limit. L/360 was chosen because it is the typical live load deflection limit for floor systems. Deflection was checked using the average of the cracked and uncracked section properties.

$$I_d = \frac{I_u + I_c}{2}$$

The average moment of inertia for deflection (I_d) is presented in the tables in this catalog for common conditions. This can be used to check the deflection for both lower and higher deflection limits.

Concentrated Load

Concentrated point loads and line loads should be checked using the composite deck properties including the maximum bending moment, vertical shear, and moment of inertia for the deflection check. *ANSI/SDI* C-2011 section 9 provides a general solution for concentrated loads on steel deck, including the design of load distribution reinforcing in the slab.

Non-Composite Deck-Slab Design 1.9

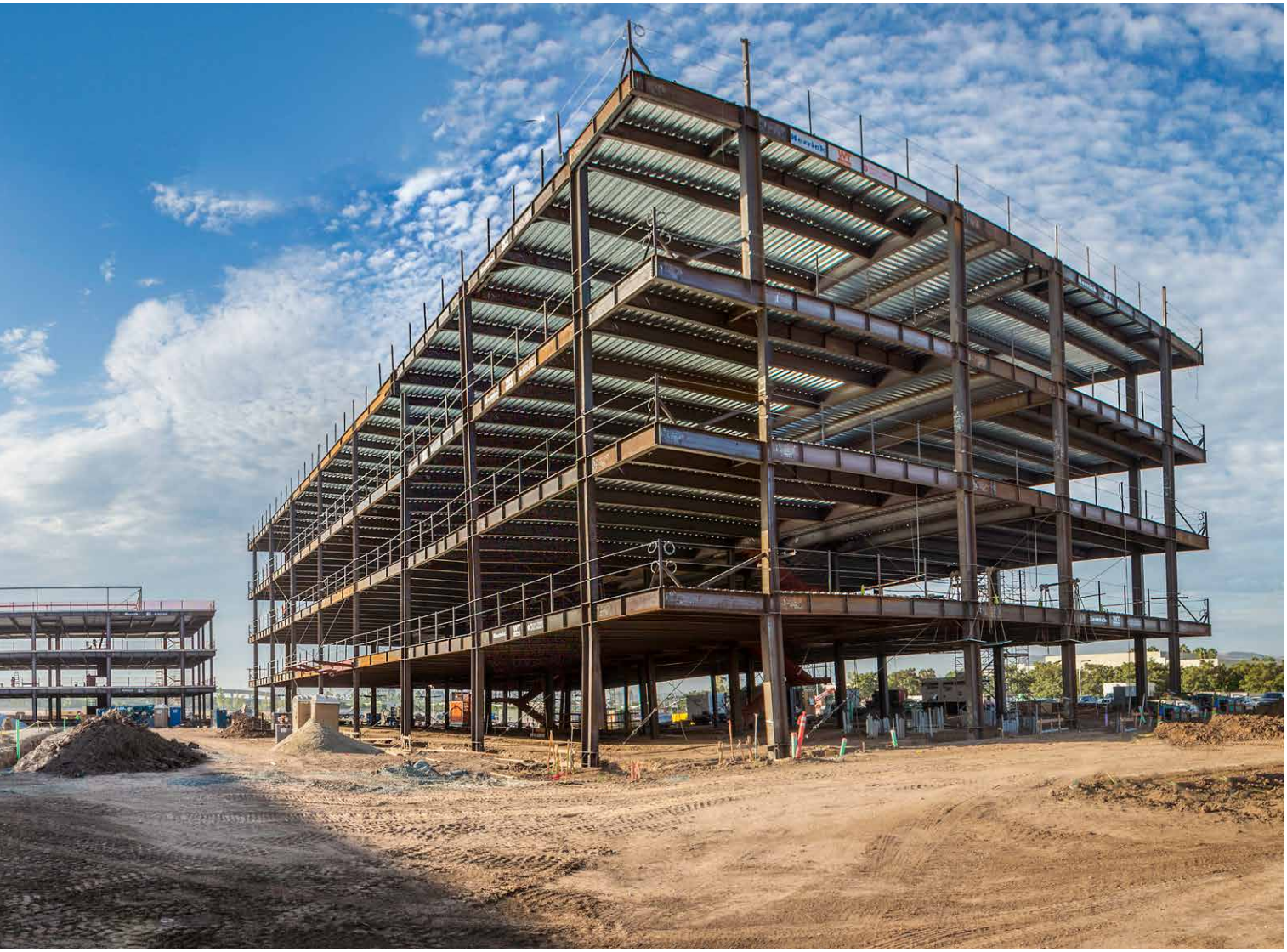
General
Non-composite steel deck design assumes that the steel deck and concrete do not interact to develop composite sections for bending. The design of non-composite deck should be done in accordance with ANSI/SDI NC-2010 Standard for Non-Composite Steel Floor Deck. The most common non-composite deck design is to use the deck as a permanent form and to design the reinforced concrete in accordance with ACI 318. Another less common option is to design the deck to carry all the design loads, including the weight of the unreinforced concrete. For this option, the design of the deck should follow the provisions of AISI S100 Specification for the Design of Cold-Formed Steel Structural Members.

Deck as a Form
The design of deck as a form shall be in accordance with ANSI/SDI NC-2010. Section 1.7 of this catalog discusses the design of deck as a form.

Concrete Slab Design
The design of a concrete slab above a non-composite deck should be in accordance with ACI 318. This includes bending capacity, vertical shear, and diaphragm shear. It is acceptable to ignore the contribution of the concrete in the flutes of the deck when designing the concrete section. For this method of design, the minimum thickness of concrete above the steel deck is 1½ inches.

Temperature and Shrinkage Reinforcement
The minimum reinforcing for temperature and shrinkage control should be in accordance with ACI 318.

Non-Composite Deck Load Tables
Non-composite deck uniform load tables are provided in this catalog. The tables include the maximum unshored span and the maximum uniform load capacity of the non-composite deck.



1.10 **Penetrations and Openings**

General

Openings and penetrations in composite deck-slab floor and roof structures are a normal part of every building. These can range from small pipe and conduit penetrations, to mid-sized openings for mechanical ductwork, to large openings for stair wells or elevator shafts. Small penetrations less than 12 inches across may not require much, if any, structural design consideration unless several are grouped closely together. Mid-sized openings up to 2 to 3 feet across most likely require design consideration to address the appropriate distribution of load around the opening for both deck as a form and the composite deck-slab system. Large openings are generally designed with support framing around the openings which is part of the overall framing for the composite deck-slab floor or roof system. It is difficult to have a "rule-of-thumb" for unscheduled openings because of the wide variety of building conditions. The information in this section should provide guidance toward addressing a wide range of penetrations and openings in the composite steel deck-slab system.

Deck-Over or Cut-Out?

The one major consideration which determines the complexity of designing penetrations or openings in the steel deck is whether to *Deck-Over* or *Cut-Out* the deck. This impacts how the penetration affects the deck as a form and what type of deck stiffeners or opening frames should be considered. For purposes of this catalog, when *Decked-Over* or *Cut-Out* are italicized they shall have the following definitions.

> *Decked-Over:* an opening or penetration through the deck-slab system in which the deck is placed, the penetration or opening is blocked out with formwork, Styrofoam, or edge form flashings without cutting the deck, the concrete is poured and allowed to adequately cure, then the deck is cut out when the opening is needed. (See figure 1.10.1)

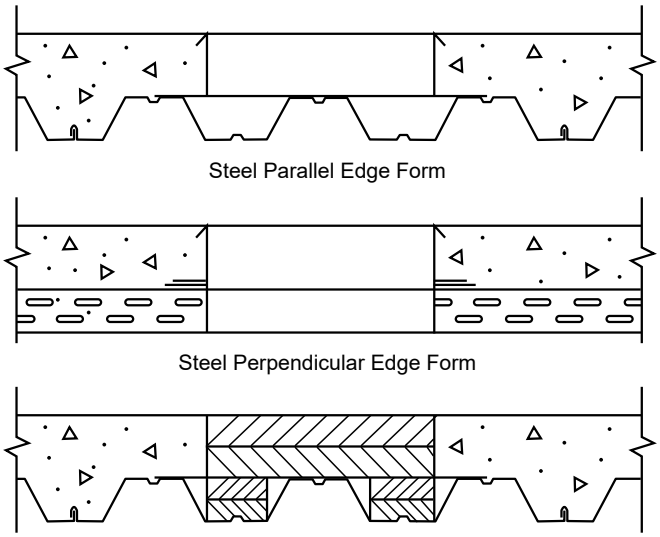


Figure 1.10.1: **DECKED-OVER OPENINGS**

> *Cut-Out:* an opening or penetration through the deck-slab system in which the deck is placed, the penetration or opening cut out, deck stiffeners or support frames are installed (if required), the opening is flashed with edge form or sleeving cans, then concrete is poured and allowed to cure.

Penetrations or openings that are *Decked-Over* have several key advantages, including simplifying the design of the deck as a form and providing fall-protection safety for mid-size and large openings. When the *Decked-Over* approach is used, the steel deck bending capacity and vertical shear capacity is not reduced from an opening being cut in the deck. In the *Decked-Over* case, no additional design effort needs to be considered because unshored spans do not change as the bending capacity and vertical shear capacity have not been reduced. Another advantage for mid-sized and larger openings is that the deck provides the fall protection, eliminating the need to plank over or put up handrails around the openings in accordance with OSHA regulations. The primary disadvantage of *Decked-Over* openings is that they cannot be cut out and utilized until after the concrete slab has been poured and had adequate time to cure.

Penetrations or openings that are *Cut-Out* have the advantage of being immediately available for use. The disadvantage of *Cut-Out* openings is that the opening in the deck is cut out, therefore compromising the bending capacity and the vertical shear of the deck in the area of the opening. For small openings in most common conditions, the amount the deck is compromised is insignificant and can typically be ignored. For mid-size openings, the amount the deck is compromised is significant and will most likely require stiffening or a structural support frame. Another disadvantage is that C*ut-Out* openings also require fall protection planking or hand rails to prevent injuries in accordance with OSHA regulations.

Small Size Penetrations

Small size penetrations of 12 inches or less often do not require any structural design or detailing. These penetrations are typically for pipes, conduits, or small ductwork. It is up to the designer of record to determine whether specific design and detailing is required for small size penetrations. The following are common examples of methods to stiffen the deck around small openings and penetrations which may be considered by the designer.

Decked-Over small penetrations is the recommended method because the designer does not need to consider whether the penetration will affect the capacity of the deck as a form, because the deck is not cut out. The only issue which may need to be considered is load distribution around the opening. If required, this can be accomplished by placing rebar to distribute the loads around the opening. For most common floor applications, this is not necessary for openings less than 12 inches unless several are grouped together.

Cut-Out small penetrations may require the stiffening of the

deck. Most small openings less than 6 inches which do not cut through more than 1 web of the deck does not require any reinforcing. Small *Cut-Out* penetrations less than 24 inches can be reinforced with stiffening angles, tube steel, or channels attached to the deck. (See figure 1.10.2) These details rely on the adjacent deck's reserve capacity to support the load distributed to those flutes due to the penetration *Cut-Out*. These distribution angles are an effective way to control localized deck deflection around the penetration *Cut-Out*. They do not, however, address possible overstress or over deflection of the adjacent flutes of the deck now carrying the load. Historically this type of detail has been demonstrated to be an effective solution for small penetrations.

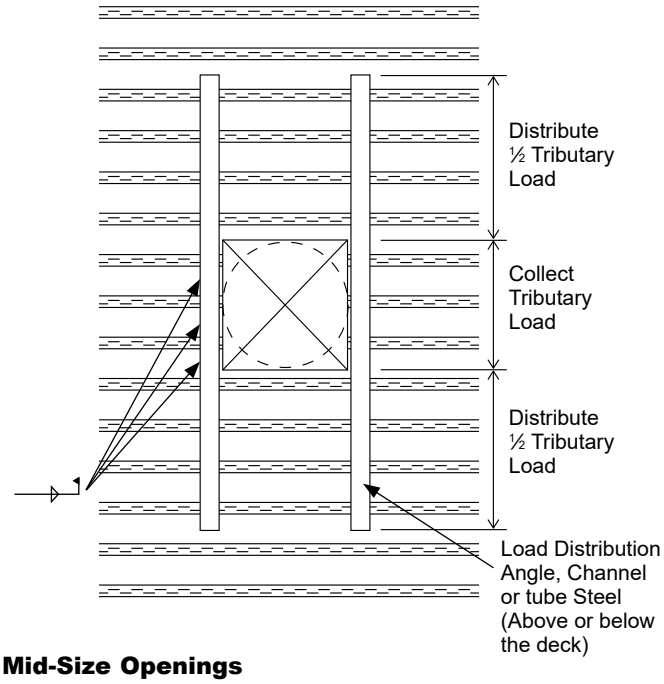


Figure 1.10.2: **DECK SUPPORT ANGLES**

Mid-Size Openings

Mid-sized openings typically require structural design and detailing consideration. These openings are typically for ductwork or other mechanical shafts. Mid-sized openings range from 1 foot to approximately 4 feet and cut through multiple webs of the composite steel deck. The following are common examples of how the design professional may address mid-size penetrations in their designs.

Decked-Over mid-sized openings require less structural design and detailing than *Cut-Out*. If the opening is *Decked-Over*, the deck as a form is not compromised therefore no stiffening angles or support frames are required. The design should consider the effect of load transfer around mid-size openings for the composite steel deck-slab design. The superimposed load and dead load of the deck-slab needs to be distributed around the opening. This can be accomplished by using rebar to distribute to the deck-slab adjacent to the openings. (See figure 1.10.3) Reinforced concrete design to distribute these loads perpendicular to the deck span should be done in accordance with ACI 318.

Cut-Out mid-sized openings require structural design and

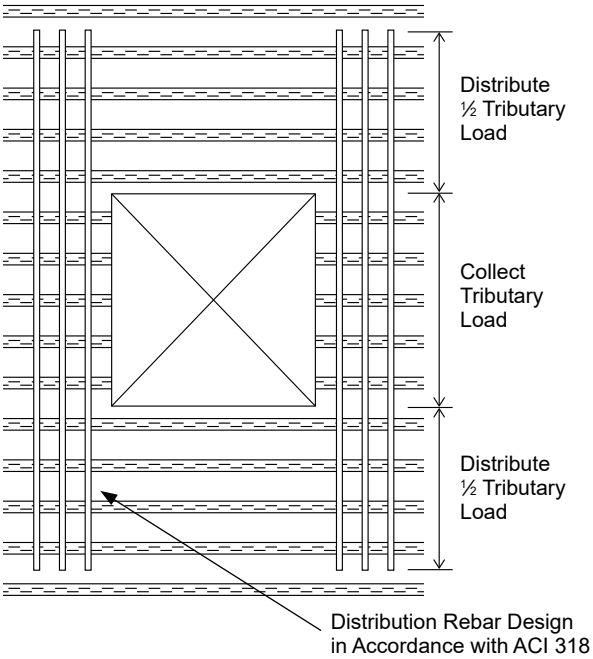


Figure 1.10.3: **REBAR DISTRIBUTION**

detailing of the deck as a form and the composite deck steel deck-slab. *Cut-Out* openings compromise the deck bending and shear capacity. For openings less than 2 feet, stiffener angles may be an acceptable solution similar to those used for small penetrations. The designer of record should verify the size of the stiffener and that the adjacent deck can support the concrete and construction loads. For all mid-sized openings, deck support frames may be a good option to support the deck for the concrete and construction loads. The designer of record should design and detail these frames around the mid-sized openings to transfer the loads back to the primary framing members supporting the composite steel deck. (See figure 1.10.4) Steel angles or channels are common framing materials for mid-sized openings.

Large Openings

Large openings for stair wells, elevator shafts, or large

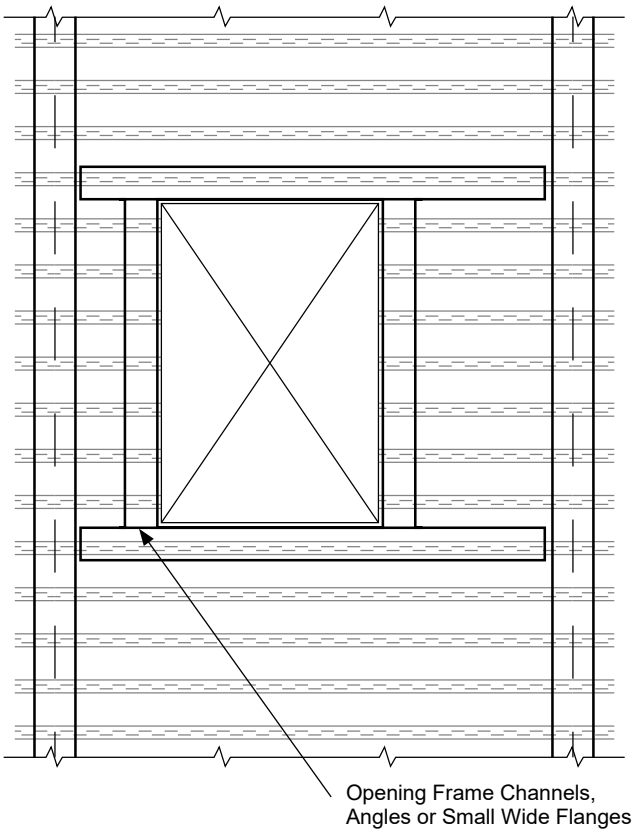


Figure 1.10.4: **DBL H OPENING FRAME**

mechanical shafts are typically supported by framing which is part of the primary building framing system supporting the composite steel deck-slab system. *Decked-Over* large openings are often not practical due to the large size of the opening. Most large openings do not fall into the *Cut-Out* category because the deck will be detailed around the opening with pour stops similar to edge of slab conditions.

Consideration for Groups of Openings

When small sized *Cut-Out* penetrations are grouped together, the effect of the grouping may need to be treated as a mid-sized or large sized opening. Groups of small penetrations running along the edge of a support beam can compromise a large portion of the vertical shear capacity of both the deck as a form and the composite steel deck-slab system. (See figure 1.10.5)

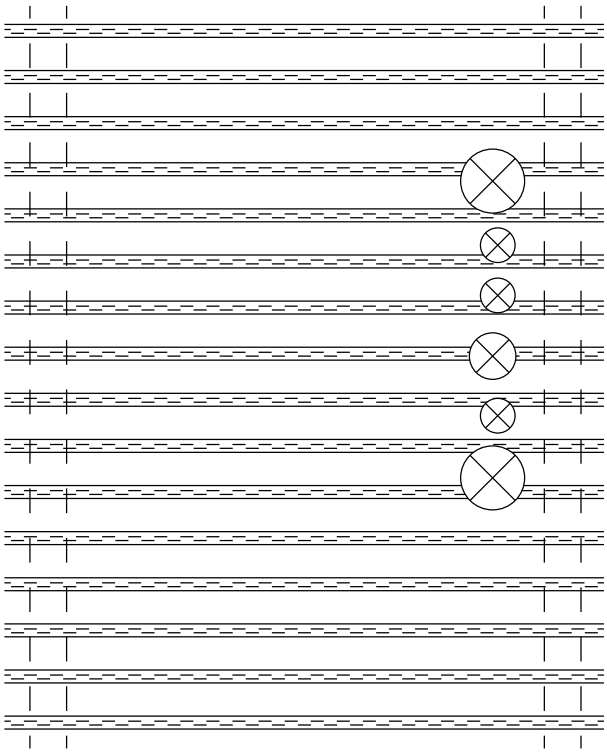


Figure 1.10.5: **ROW OF SMALL HOLES**

The effect of several small openings with stiffeners in proximity to each other may affect the overall capacity of the deck as a form or capacity of the composite deck-slab system. This may be an issue when the stiffening angles or penetrations overlap in a given span. The designer should consider the overlapping distribution of the load on the deck between openings to ensure the bending capacity of the deck is not exceeded (See figure 1.10.6)

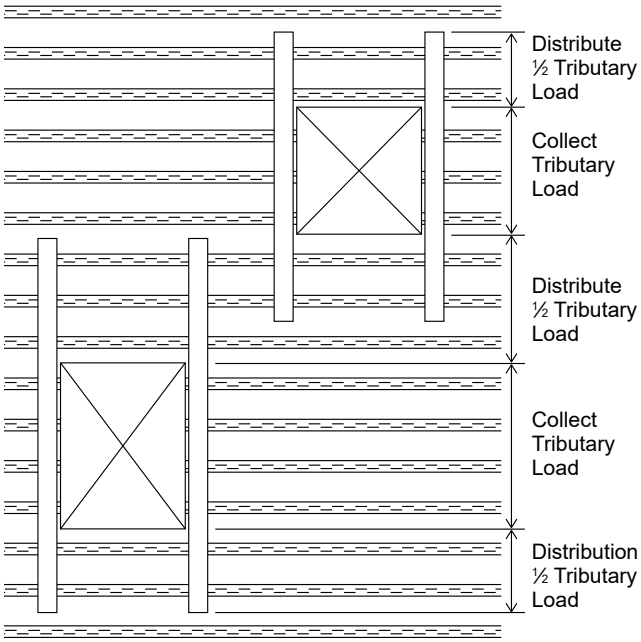


Figure 1.10.6: **OVERLAPPING HOLES**

The effect of two small holes in the same flute(s) of the deck panel may need no more consideration than a single penetration. The load from the flutes with the penetrations is distributed to the adjacent webs and is similar in magnitude to a single penetration. (See figure 1.10.7)

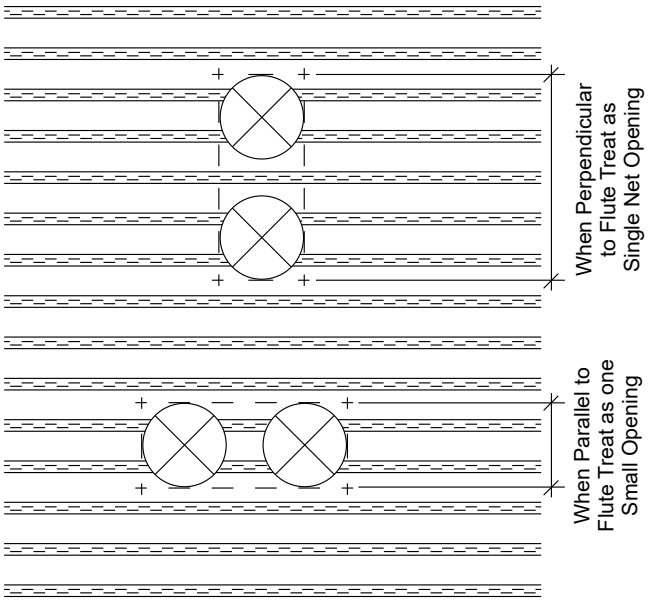


Figure 1.10.7: **SINGLE VS 2 PENETRATIONS**

1.11 Composite and Non-Composite Diaphragm Shear

General

A composite steel deck-slab is an integral part of a building's horizontal diaphragm system. The composite deck-slab acts as a shear resistant membrane supported by the steel framing supporting the diaphragm and providing the perimeter cords and collectors. The composite deck-slab tables in this catalog provide an easy to use design aid with factored diaphragm shears for common attachment types.

Shear Design of Diaphragms without Welded Shear Studs

The diaphragm shear design of composite deck-slab systems may be performed in accordance with the SDI Diaphragm Design Manual. This method is used for deck which is not attached with headed shear stud anchors. Common attachment methods include arc spot welds, power actuated fasteners, and self-drilling screws. The side laps of the steel deck should be connected together to prevent concrete leakage and provide some shear contribution. The minimum side lap connection should be button punches at 36 inches on center.

Diaphragm Boundary Fasteners to Supports

The diaphragm boundary connections to supports, perpendicular to the deck, should be the specified attachment pattern in the composite tables for the given deck gauge, concrete type, and slab thickness.

Diaphragm boundary fastener spacing, parallel with the ribs of the deck, shall not exceed the spacing determined by: dividing the fastener shear strength by the required shear demand. Connector shear strengths are presented in figures 1.13.11 and 1.13.12

$$Spacing(in) = \frac{Q_{fa}}{s_a}\left(\frac{12in}{ft}\right)$$

$$Spacing(in) = \frac{Q_{ff}}{s_f}\left(\frac{12in}{ft}\right)$$

Q_{fa} = Allowable fastener strength using the safety factor, Ω = 3.25, for composite deck-slab diaphragm shear in accordance with ANSI/SDI C-2011, lbs

Q_{ff} = Factored fastener strength using the safety factor, Φ = 0.5, for composite deck-slab diaphragm shear in accordance with *ANSI/SDI C-2011*, lbs

S_a = Allowable shear demand, lbs/ft

S_f = Factored shear demand, lbs/ft

Skew Cut Diaphragm

At skew cut conditions, the minimum number of fasteners is determined based on the location of the fasteners in the ribs per the perpendicular attachment schedule. The average spacing of the fasteners per sheet shall not be greater than the spacing of the parallel boundary fasteners. Fasteners may need to be doubled up in some flutes to achieve this.

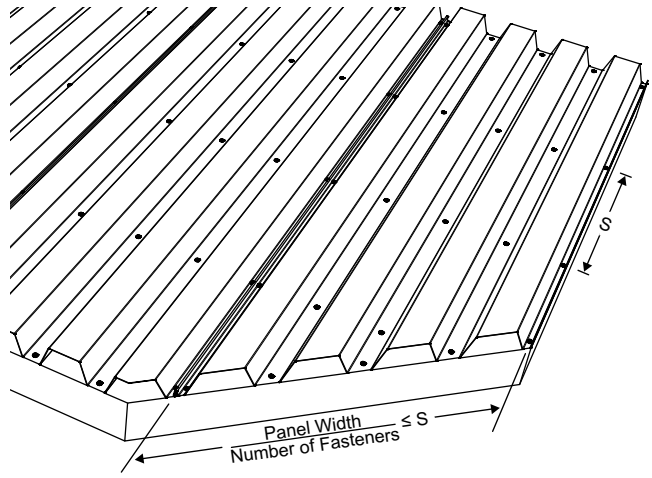


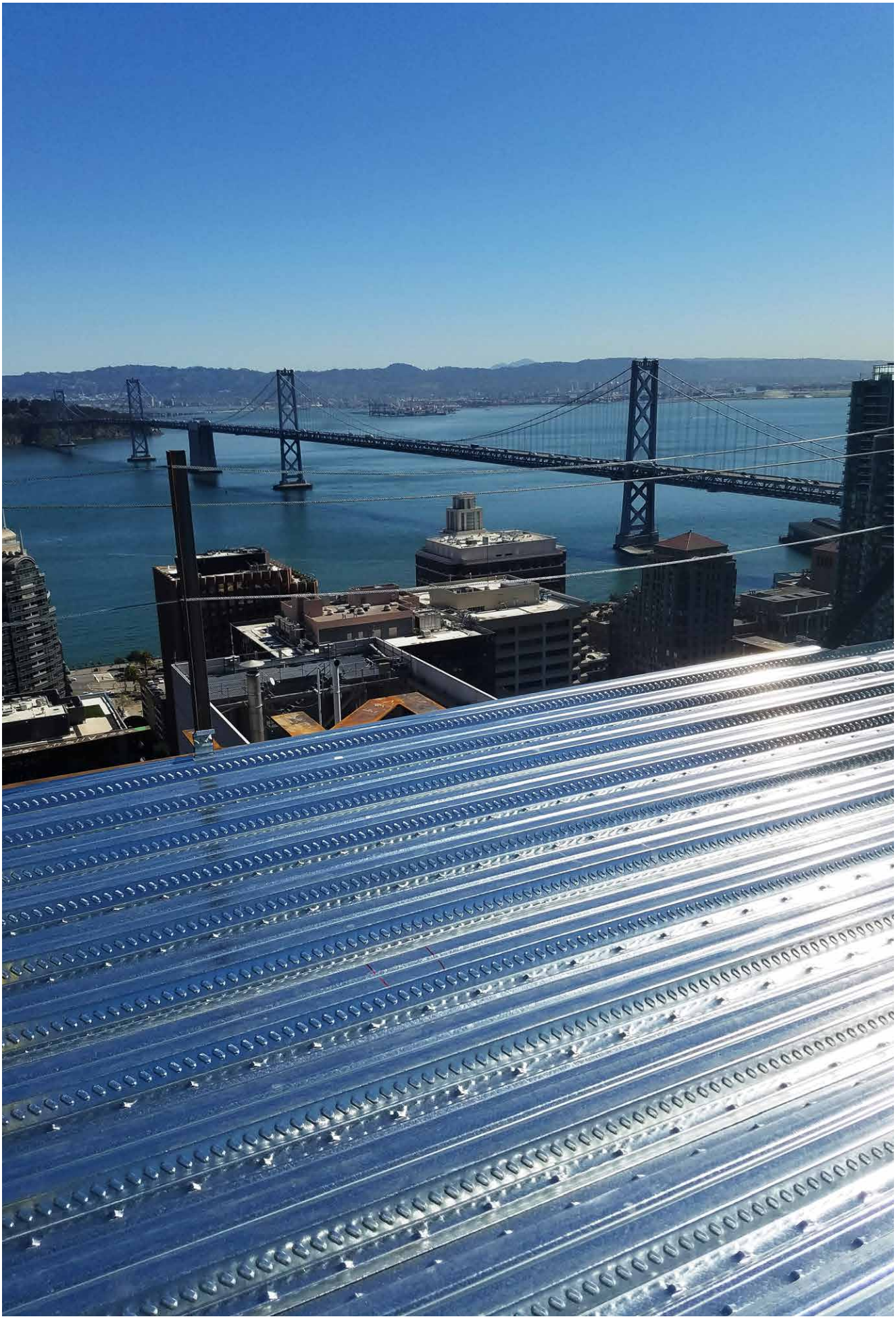
Figure 1.11.1: **SKEW DIAPHRAGM**

Diaphragm Deflection

Composite deck-slab diaphragms are very stiff with a flexibility factor, f<0.5micro inches/lbs (Shear stiffness, G' > 2000 kip/inch). The specific predicted shear stiffness (G') for a given composite deck-slab condition can be determined in accordance with the methods in ANSI/SDI C-2011. Due to the very stiff nature of these systems, checking the shear deflection of the diaphragm is often not necessary. There may be occasions, however, to check diaphragm shear deflections for diaphragms with large length to depth ratios. For these conditions, the methods and equations of engineering mechanics presented for diaphragm deflections in the ASC Steel Deck Roof Deck Catalog may be used.

Diaphragm Shear With Headed Shear Stud Anchors

Diaphragms requiring diaphragm shears that exceed the limits of the arc spot welds, power actuated fasteners, or self-drilling screws may be developed using headed shear stud anchors and supplemental shear reinforcing in the concrete slab above the deck. This design is based on the transfer of shear from the collector into the reinforced concrete slab above the deck using headed shear stud anchors. The capacity of the diaphragm is limited by this shear transfer, or the capacity of the reinforced concrete diaphragm above the deck. The capacity of the headed shear stud anchors should be determined in accordance with AISC 360 requirements for composite beam design. The in-plane shear capacity for the reinforced concrete diaphragm above the deck should be determined in accordance with ACI 318 requirements for reinforced concrete design. The composite deck-slab tables in this catalog provide factored diaphragm shear capacities for common reinforcing schedules with ¾ inch diameter headed stud anchors.



1.12 Composite Deck-Slab Tables

General

The composite deck-slab load tables are intended to provide a designer with easy to use design aids for common composite deck-slab conditions. The tables provide uniform load in both allowable and factored superimposed loads. Factored diaphragm shears are provided for composite deck-slab systems for lateral design. Diaphragms may be attached with a variety of attachments to supports including traditional arc spot welds, power actuated fasteners (PAF), and self-drilling screws. Factored shear tables for diaphragms with steel reinforcing and headed shear stud anchors are provided for high shear diaphragms. All of these tables are supported with complete composite deck-slab properties including bending moment, vertical shear, and section properties to aid in the design of conditions exceeding the scope of the tables.

Superimposed Uniform Load Tables

Uniform superimposed load is the load which the composite deck-slab can carry in addition to its self-weight. Both allowable and factored superimposed loads are provided. The superimposed load tables assume that the minimum temperature and shrinkage reinforcement is not adequate to develop negative bending resistance at supports, therefore all spans are treated as simple spans.

Most floor systems are designed using allowable stress design (ASD). The allowable superimposed load tables present the maximum uniform load based on the allowable bending strength, allowable vertical shear, and a deflection limit of L/360. ASD assumes that the superimposed load is primarily live load and is conservative for dead loads.

Load and Resistance Factor Design (LRFD) is recommended for conditions in which the majority of the superimposed load is dead load, and the maximum superimposed load is the limiting design criteria. The factored superimposed loads in the tables do not include a deflection check. The designer will have to check the service load deflection to ensure that the deflection meets the projects deflection serviceability requirements when using an LRFD approach.

Composite Deck-Slab Properties

For conditions exceeding the scope of the uniform load tables, composite deck-slab properties are provided in the tables. The properties can be utilized as part of the solution for concentrated loads, deflection limits, or spans not included in the superimposed load tables. The properties include both allowable and factored moments, and vertical shear for determining the capacity of the composite deck-slab system. Cracked, uncracked, and the average of cracked and uncracked moment of inertia are provided to assist in determining the deflection of the deck-slab system.

Factored Diaphragm Shear

This catalog presents composite steel deck-slab diaphragm shears using a load and resistance factor basis. The diaphragm shears presented are factored shears. Composite steel deck-slab systems have traditionally been designed using allowable stress design (ASD), in part because manufactures have presented allowable shears. These shears were based on research and engineering studies dating back to before LRFD was commonly used for steel design. The factored shears presented in this catalog work seamlessly with the design of the lateral force resting system for steel and concrete buildings designed using the LRFD approach. The designer does not have to convert the lateral forces to ASD when selecting a factored diaphragm from the shear tables.

Factored shears are provided for a variety of fastener types to supports. This range of fasteners reflects a full range of building types that composite deck-slab systems are used in.

Wide Flange Multi-Story Steel Construction: Arc spot welds are the traditional method for attaching composite deck to structural steel support members. This method provides good shear performance and is applicable to a wide variety of support steel, from heavy wide flange beams to light weight open web steel joists. Welded steel headed stud anchors are commonly used for composite beam design. They are also a good choice to transfer large diaphragm forces into the composite deck-slab system. This system is ideal for high shear diaphragms on wide flange beams and requires the use of welded wire fabric or reinforcing bars in the slab.

Open Web Steel Joist Mezzanine and Floor Systems: Composite steel deck-slab systems can be attached with arc spot welds, however, power actuated fasteners (PAF) are an ideal cost effective method of attachment to light structural angles used for open web steel joist framing. PAF selection is dependent on the support steel thickness. (See figure 1.13.12)

Cold-Formed Steel Mezzanine and Floor Systems: Self-drilling screws are the best choice for attaching composite steel deck to cold-formed steel framing. Common examples of this application include: cold-formed steel framed multi-story mini-storage buildings, mezzanines, and conventional cold-formed steel stud, and joist framed buildings.

Composite Deck-Slab with Cellular Deck

Cellular composite deck panels can be conservatively designed using the non-cellular deck-slab tables. The superimposed loads, vertical shear, and moment of inertia can be conservatively used for the design, based on the gauge of the beam section of the cellular profile. This ignores the contribution of the steel used for the bottom pan of the cellular deck. Maximum unshored spans for cellular deck-slab system are listed with the cellular deck section properties.

Allowable Stress Design

Historically, most composite steel deck-slab systems diaphragm shear tables have been presented using an allowable stress design basis. To compare composite steel deck-slabs designed using ASD basis, it is recommended that the ASD shear demand be converted back to an LRFD basis. This can be accomplished by dividing the required allowable shear by 0.7 ASD seismic factor, for seismic controlled designs, or 0.6 ASD wind factor for wind controlled designs.

How to Read Tables

3WxH-36 Composite Deck

5" Total Slab Depth
Normal Weight Concrete (145 pcf)
Concrete Volume 1.080yd³/100ft²

Theoretical concrete volume does not account for deflection

Maximum Clear Span without Shoring

Maximum Unshored Span (in)

Gauge	Single	Double	Triple
22	10' - 1"	11' - 0"	11' - 4"
21	11' - 0"	11' - 9"	12' - 2"
20	11' - 9"	12' - 6"	12' - 11"

Gauge	Single	Double	Triple
19	12' - 3"	13' - 10"	14' - 4"
18	12' - 7"	15' - 2"	14' - 9"
16	13' - 3"	16' - 7"	15' - 7"

GA	Vertical Load Span (in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Superimposed Load, W (psf)															
	ASD, W/Ω	282	246	216	190	169	150	134	119	107	96	86	78	70	63	57
	LRFD, ϕW	451	394	345	304	270	240	214	191	171	154	138	124	112	101	90
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Diaphragm Shear, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22	Arc Spot Weld ½" Effective Dia	2367	2342	2319	2309	2291	2274								2187	2178
	PAF Base Steel ≥ .25"	2178	2163	2151												
	M_{no}/Ω = 47.9 kip-in/ft; V_n/Ω = 3.82															
	I_u = 115.4 in⁴/ft; ϕM_{no} = 73.2 kip-in/ft; ϕV_n = 5.73 kip/ft															

GA	Vertical Load Span (in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Superimposed Load, W (psf)															
	ASD, W/Ω	546	480	424	377	337	303	273	247	224	204	186	170	155	142	129
	LRFD, ϕW	874	768	679	604	540	484	436	395	358	326	297	271	248	228	209
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	142	129
	LRFD - Diaphragm Shear, ϕS_n (plf / ft) 36/4 Attachment Pattern															
16	Arc Spot Weld ½" Effective Dia	2898	2840	2788	2786	2742	2702	2666	2633	2602	2609	2581	2556	2533	2511	2491
	PAF Base Steel ≥ .25"	2477	2443	2413	2431	2405	2381	2359	2339	2321	2339	2322	2307	2292	2279	2266
	PAF Base Steel ≥ 0.125"	2431	2400	2372	2393	2368	2346	2326	2308	2291	2310	2294	2279	2266	2253	2242
	#12 Screw Base Steel ≥ .0385"	2431	2400	2373	2393	2369	2346	2326	2308	2291	2310	2294	2280	2266	2254	2242
	Concrete + Deck = 45.7 psf; I_{cr} = 64.9 in⁴/ft; M_{no}/Ω = 58.3 kip-in/ft; V_n/Ω = 3.82 kip/ft															
	$(I_{cr}+I_u)/2$ = 92.8 in⁴/ft; I_u = 120.7 in⁴/ft; ϕM_{no} = 89.2 kip-in/ft; ϕV_n = 5.73 kip/ft															

	LRFD - Diaphragm Shear, ϕS_n (plf / ft) for all vertical load spans, WWF Designation or Area of Steel per foot width					
All Gauges	¾" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	3200	4550	5540	7340	10040
	24 in o.c.	3200	4550	5540	7340	7750
	36 in o.c.	3200	4550	5170	5170	5170

Callouts:

- Vertical load span of deck
- Allowable superimposed live load capacity
- Factored superimposed load
- Superimposed load that produces L/360 deflection
- No load shown when greater than allowable superimposed live load
- Factored diaphragm shear corresponding to type of fastener
- Attachment pattern for weld, PAFs of screws
- Allowable factored vertical shear of deck slab
- Attachment type to supports
- Allowable factored momentum of deck slab
- Weight of deck-slab
- Welded Wire reinforcing required to develop shear when studs are used
- Spacing of shear studs when used
- Combined moment of inertia of deck-slab
- Cracked & uncracked moment of inertia of deck-slab
- Factored diaphragm shear when studs are used on collectors
- Minimum area of 60ksi reinforcing as an alternative to WWF

Figure 1.12.1: **SAMPLE OF COMPOSITE DECK TABLE**

Support Fastening

A variety of fastening systems may be used to connect steel deck to the supporting steel members. The type of fastening system used depends on the required diaphragm shear capacity, uplift capacity, and the thickness of the supporting steel members. These fastening systems include arc spot welds, arc seam welds, headed stud anchors, self-drilling screws, and power-actuated fasteners (PAF). The strength of each fastener type is mathematically derived from specified standards and testing.

The shear strength for arc spot and arc seam welds is derived from the equations in Section E2.6 of AISI S100-2012. The strength for self-drilling screws and PAF is determined in accordance with the Steel Deck Institute Diaphragm Design Manual DDM03. The strengths for these fasteners are listed in the Weld and Shear Capacities Table (See figure 1.13.11 and Figure 1.13.12). The shear strength of steel headed stud anchors is determined in accordance with ASIC 360 Specification for Structural Steel Buildings.

The pull-out and pull-over capacities for fasteners are in accordance with Sections E4.4.1 and E4.4.2 of AISI S100-2012. The pull-out for PAF's should be obtained from the manufacturer's data for the selected fastener.

Fastener Selection

To ensure quality fastening to supports, the fastener (weld, screw, or PAF) must be compatible with the thickness of the steel support member. (See figure 1.13.1)

Arc spot and arc seam welds do not have a mandatory minimum support member thickness. Experience has shown that a support thickness as thin as 10 gauge is reasonable. Welders with light gauge welding experience can weld steel deck to thinner gauge supports.

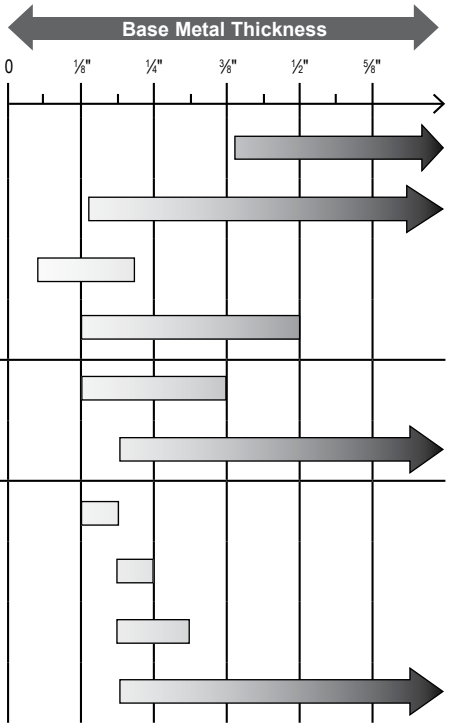
Steel headed stud anchors are subject to a minimum support member thickness in accordance with AISC 360. This requires that the headed stud anchor be a minimum of 2.5 times the thickness of the supporting beam flange unless the headed studs anchor is placed directly over the web. For ¾" diameter stud, the minimum flange thickness when the stud is not directly over the web is 0.3 inches.

Self-drilling screws are suitable for use with supporting members from 0.0385 inches to ½", depending on thread pitch and drill point configuration. The fastener manufacturer should be consulted to determine which screw is appropriate.

Power Actuated Fasteners (PAF) are selected based on a range of support thickness for a given fastener. Follow the PAF manufacturer's support thickness recommendations. The fastener selection chart (See figure 1.13.1) provides a quick and easy guide to help select the appropriate fastening system for the support member thickness.

Figure 1.13.1: **FASTENER SELECTION CHART**

Fastener	Base Metal Thickness Minimum	Base Metal Thickness Maximum
¾" ϕ Shear Stud	0.400" min when not over web	unlimited
Arc Spot Weld*	0.135"	unlimited
12-14 Self Drilling Screw**	0.0385"	0.210"
12-24 Self Drilling Screw**	0.125"*	0.500"
Hilti X-HSN-24 High Shear Nail	⅛"	⅜"
Hilti ENP19 L15 High Shear Nail	¼"	unlimited
Pneutek SDK61075 Fastener	0.113"	0.155"
Pneutex SDK63075 Fastener	0.155"	0.250"
Pneutek K64062 and K64075 Fastener	0.187"	0.312"
Pneutek K66062 and K66075 Fastener	0.312"	unlimited



*Below 10 gauge is not recommended due to the difficulty of producing a good quality weld. **Correct drill point must be selected for the base material thickness.

Minimum Fastener Edge Distance

The minimum edge distance for fasteners used with ASC Steel Deck profiles has been verified through full-scale diaphragm shear testing. The minimum edge distance for self-drilling screws and PAFs is ½". The minimum edge distance for arc spot and arc seam welds is ¾". Edge distance is measured from the center of the fastener or the center of the radius of an arc spot or seam weld. (See figure 1.13.2)

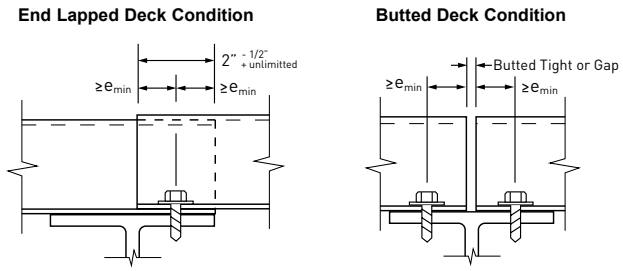
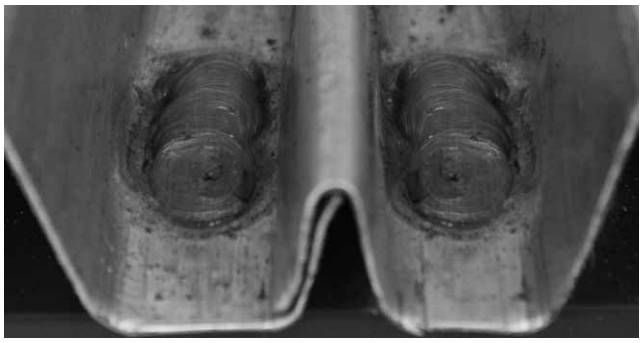


Figure 1.13.2: **END LAP AND BUTTED DECK**

Arc Spot and Arc Seam Welds

Traditionally, arc spot welds and arc seam welds are used to attach steel deck to supports. (See figures 1.13.3 and 1.13.4) Arc welds have high shear capacity, resulting in diaphragms with higher shear capacities than screws or power actuated fasteners (PAF).

Welded connections have some drawbacks compared to screws and PAF. Welds require skilled labor and have a relatively slow production rate. Additionally, welding cannot be performed in the rain or if standing water is present on the deck. Welding often results in burn marks visible from the underside of the deck and supporting members, which may be objectionable for some exposed deck conditions. Jobsite safety is of great concern as welding also creates a fire risk.



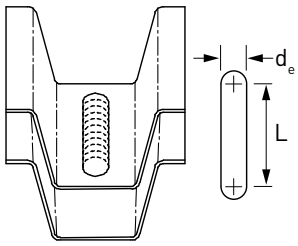
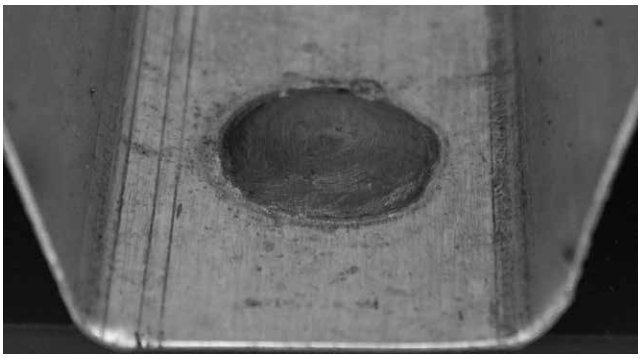


Figure 1.13.3: **ARC SEAM WELD** (weld to support)



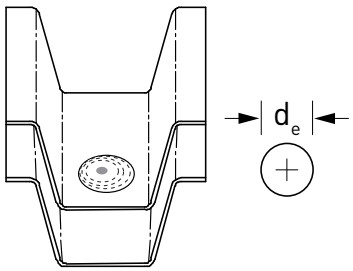


Figure 1.13.4: **ARC SPOT WELD** (weld to support)

Welds used for composite deck-slab or non-composite deck-slab applications do not require touch up painting. Specifications should not require the weld to receive touch-up paint for decks with concrete fill.

Arc spot and seam welds for ASC Steel Deck products are specified based on the effective diameter or length and width. This is approximately the diameter or width and length of a weld at the interface between the deck and supporting member. The effective weld size is less than the visible weld size and is verified through the development of weld qualifications and procedures. See AISI S100-2012 Section E2 for more information regarding weld design. Weld inspection, procedures, and qualifications should be in accordance with AWS D1.3

Arc spot welds connecting deck less than 0.028 inches thick require weld washers in accordance with AWS D1.3. Weld washers are not recommended for thicker decks. (See figure 1.13.5)

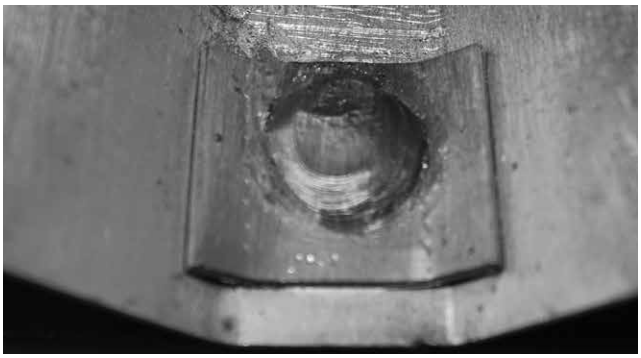


Figure 1.13.5: **WELD WASHER**

Power-Actuated Fasteners, PAF

Power-actuated fasteners (PAF) are an excellent fastening system. Commonly referred to as high shear nails or pins, they can be used to achieve mid to high range diaphragm shear capacities, depending on the fastener selected and the support thickness. The benefits of using PAFs is that they can be installed without skilled qualified welders, are efficient to install, do not pose a jobsite fire risk, and do not leave any burn marks associated with welding. This makes PAFs an attractive option for architecturally exposed steel deck.

A drawback of PAF systems is that it may be difficult for the design engineer to select the fastener size when designing with open-web steel joists because the thickness of the top chord may be unknown. Good practice would be to design the diaphragm with the minimum expected substrate steel thickness, and indicate a range of acceptable fasteners based on the thickness of the supporting steel member. The inspection process on the jobsite should be tasked with ensuring that the correct fastener is used based on the substrate thickness.

Pneutek

Pneutek's PAF system uses a pneumatic actuated tool. This system does not use a powder charge to drive the fastener. Contact Pneutek for fastener installation instructions and for additional technical support relating to their fastening systems. (See figure 1.13.6)
www.pneutek.com 800-431-8665

Pneutek Fasteners
SDK61075, SDK63075, K64062, K66075, K66056, K66062, K66075

Hilti, Inc.

Hilti, Inc.'s PAF system includes powder fired tools to install their high shear nails (HSN) and ENP fasteners. The operator of the powder-fired tools must have OSHA compliant safety training. Contact Hilti, Inc. for fastener installation instructions and for additional technical support relating to their fastening systems. (See figure 1.13.7 and 1.13.8)
www.us.hilti.com 800-879-8000

Hilti Inc. Fasteners
X-ENP-19 L15, X-HSN 24

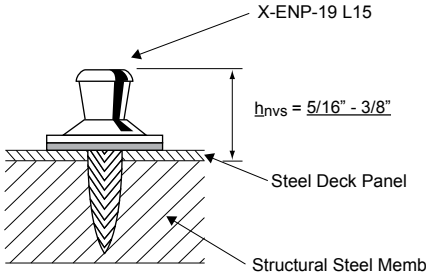


Figure 1.13.7: **HILTI X-ENP-19**

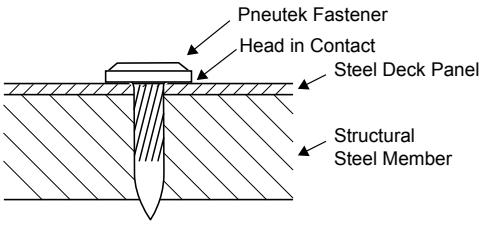


Figure 1.13.6: **PNEUTEK K64062**

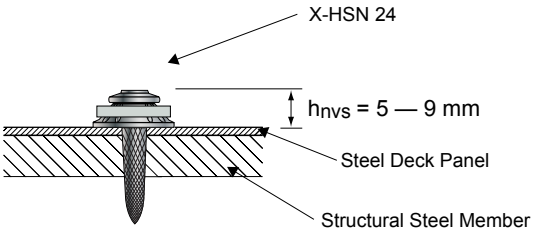


Figure 1.13.8: **HILTI X-HSN 24**

Headed Stud Anchor

The headed shear stud anchor is a traditional method of attaching metal deck to supporting steel beams. (See figure 1.13.9) Shear studs are commonly used to develop composite steel beams. Headed shear stud anchors are an excellent way of transferring diaphragm shear forces from a collector beam into the composite deck-slab system. Shear studs replace an arc spot weld, PAF, or screws on a one to one basis.

Figure 1.13.9: **HEADED STUD ANCHOR**

Self-Drilling Screws

Self-drilling screws are an excellent option for attaching deck to thin-gauge metal supporting members. (See figure 1.13.10) Although diaphragms which are attached with screws tend to have a lower shear capacity than other support fastening systems, screws install quickly with lower skilled labor and do not leave any burn marks on the deck or supporting members. This makes them an attractive option for architecturally exposed steel deck. Self drilling screws may not be practical on heavier structural steel support members because it can be time consuming to drill through the steel deck panel into the supporting member. When installed, the driven screw penetrates both the steel deck panel and the supporting member; as a result, the screw points are visible from the underside of the supporting structure.

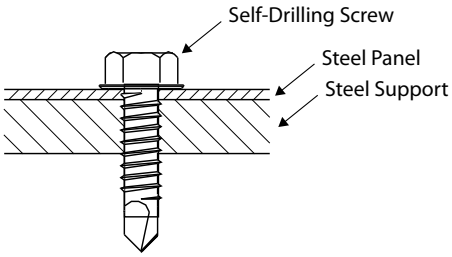


Figure 1.13.10: **#12-24R1-1/4 SCREW**

Figure 1.13.11

Nominal Strength **WELDING CAPACITIES**

Deck Panel	Gauge	Arc Spot (puddle) Weld (½ in effective diameter)		Arc Seam Weld (⅜ in x 1 in effective width & length)
		Shear (lbs)	Tensile (lbs)	Shear (lbs)
BH, NH	22	2416	2310	3873
	20	3364	2755	4688
	18	5701	3618	6344
	16	7263	4463	8065
2WH, 3WxH	22	2323	2243	3752
	21	2886	2541	4293
	20	3212	2689	4565
	19	4486	3200	5531
	18	5525	3561	6231
	16	7172	4408	7948
BHF, NHF	20/20	8608	5290	9851
	20/18	8836	6019	11521
	20/16	8836	6862	13392
	18/20	8836	6078	11660
	18/18	8836	6853	13376
	18/16	8836	7850	15298
	16/20	8836	6935	13534
	16/18	8836	7850	15298
	16/16	8836	8875	17271
2WHF, 3WxHF	20/20	8509	5229	9717
	20/18	8836	5960	11383
	20/16	8836	6788	13250
	18/20	8836	6026	11537
	18/18	8836	6788	13250
	18/16	8836	7782	15168
	16/20	8836	6870	13408
	16/18	8836	7782	15168
	16/16	8836	8805	17138

Safety and Resistance Factors for Welds
for Conditions other than Diaphragm Shear

	Shear		Tension	
	Ω	Φ	Ω	Φ
Arc Spot Weld	2.80	0.55	2.50	0.60
Arc Spot Weld	3.05	0.50		
Arc Spot Weld	2.55	0.60		
Arc Spot Weld	2.20	0.70		
Arc Seam Weld	2.55	0.60		

Calculated in Accordance with AISI S100-2012

Figure 1.13.12

Nominal Strength **MECHANICAL FASTENER CAPACITIES**

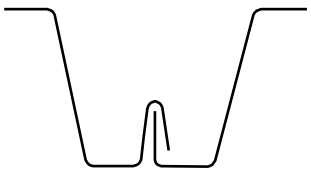
		Nominal Shear Strength (lbs)							
		Screws	Hilti			Pneutek			
Supporting Framing Steel Thickness (in)	Min	0.0385	0.250	0.125	0.125	0.125	0.312	0.232	0.155
	Max	unlimited	unlimited	0.375	0.375	0.250	unlimited	0.312	0.232
Deck Profile	**Deck Gauge**	**# 12, #14 Self Drill**	**X-ENP-19 L15**	**X-HSN 24**	**X-EDNK22 THQ12**	**K66062 K66075**	**K64062 K64075**	**SDK63075**	**SDK61075**
BH, NH	22	1402	1624	1508	1508	1841	1735	1728	1546
	20	1683	1938	1800	1800	2258	2216	1977	1833
	18	2241	2549	2367	2367	3132	3009	2417	2378
	16	2803	3149	2924	2924	4076	3686	2812	2896
2WH, 3WxH	22	1359	1577	1464	1464	1780	1655	1689	1502
	21	1547	1787	1659	1659	2055	1993	1860	1695
	20	1641	1891	1756	1756	2195	2149	1941	1790
	19	1969	2253	2092	2092	2698	2642	2210	2116
	18	2203	2508	2329	2329	3071	2960	2389	2342
	16	2766	3109	2887	2887	4011	3644	2787	2862
BHF, NHF	20/20	3370	3737	3470	3470	5092	4294	3176	3386
	20/18	3886	4258	3953	3953	6071	4800	3485	3804
	20/16	4448	4810	4466	4466	7201	5314	3801	4229
	18/20	3928	4300	3992	3992	6154	4840	3509	3837
	18/18	4444	4806	4462	4462	7191	5310	3799	4225
	18/16	5006	5342	4960	4960	8383	5793	4099	4619
	16/20	4491	4851	4504	4504	7288	5351	3824	4259
	16/18	5006	5342	4960	4960	8383	5793	4099	4619
	16/16	5569	5862	5444	5444	9639	6251	4385	4982
2WHF, 3WxHF	20/20	3328	3694	3430	3430	5014	4250	3150	3350
	20/18	3844	4215	3914	3914	5989	4760	3460	3770
	20/16	4406	4769	4429	4429	7114	5277	3778	4198
	18/20	3891	4262	3958	3958	6081	4804	3487	3807
	18/18	4406	4769	4429	4429	7114	5277	3778	4198
	18/16	4969	5307	4928	4928	8302	5762	4079	4594
	16/20	4453	4815	4471	4471	7211	5318	3804	4232
	16/18	4969	5307	4928	4928	8302	5762	4079	4594
	16/16	5531	5828	5412	5412	9553	6221	4367	4958

Calculated in Accordance with the SDI DDM03

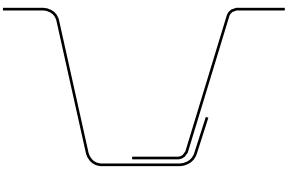
1.14 **Side Seam Fastening**

Side Seam Attachment

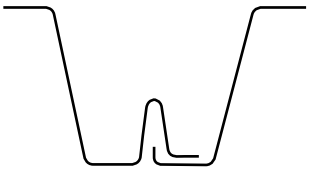
The side seam attachment for composite floor deck has a small influence on diaphragm shear capacity, but is critical for holding the seam together during the concrete pour. The side seam attachment creates a positive connection, limiting differential movement between the sheets of deck under out-of-plane loads during concrete placement. The common side seam attachment systems are the Triple Floor Connection™, traditional button punch and top seam weld for standing seam interlock side seams. Self-drilling screws are used for nestable side seams. The two common types of side seams are the standing seam interlock and the nestable side seam (See below).



STANDING SEAM (ALL)



NESTABLE (B & N)



STANDING SEAM SCREWABLE SIDELAP (2WH, 3WxH, BH)

ASC Steel Deck's Triple Floor Connection

ASC Steel Deck's Triple Floor Connection™ (also known as a Triple Button Punch) is an innovative solution for effective and efficient side seam connections developed exclusively for our composite steel floor deck panels. Installed with ASC's original DeltaGrip pneumatic tool, the Triple Floor Connection™ creates a clinched connection at the interlocking side laps to prevent deck panels from separating from one another under anticipated construction loading, including concrete placement. The use of the pneumatic tool produces consistent quality connections as a result of 17,000 pounds of clinching pressure. The Triple Floor Connection™ is also ideal for use on projects where the composite floor deck is to be architecturally exposed after installation. It eliminates unsightly burn marks and burn throughs associated with seam welding and does not create penetrating holes than can leak concrete and slurry. Triple Floor Connection™ is listed as a side lap connection option in our Current IAPMO 0329 Evaluation Report.

Figure 1.14.1: **PNUEMATIC TOOL INSTALLING TRIPLE FLOOR CONNECTION**

Figure 1.14.2: **TRIPLE FLOOR CONNECTION**

Traditional Button Punch

The traditional button punch attachment is used to connect standing seam side seams by creating a single dimpled clinch connection. (See figure 1.14.3) The quality of a button punch which has been installed with a hand-operated tool is dependent on the operator and the depth of the particular punching tool. A "good" button punch should not become disengauged when a person modestly jumps on the adjacent sheet of deck.

Figure 1.14.3: **BUTTON PUNCH SIDE LAPS**

Self-Drilling Screws

Self-drilling screws are used to attach standing seam screwable sidelap steel deck. (See figure 1.14.3) Screws can be easily installed with low-skill labor using screw guns that are readily available. Screws do not leave burn marks associated with welding, but the screw points do protrude through the underside of the steel deck. As a result, screws may not be acceptable for some architecturally exposed steel deck.

Figure 1.14.3: **SIDE SEAM SELF-DRILLING SCREW (Nestable Sidelap)**

Top Seam Weld

Top seam welds are the least desirable method to connect standing seam composite deck together. (See figure 1.14.4) The top seam welds are slow to install, require skilled welders, and contribute very little to the strength of the composite deck system. Top seam welds connect the standing seam deck side seams by welding the three layers of steel deck together. This is done after the hem is crimped using a hand or pneumatically operated crimping tool. Top seam welding is a slow process requiring skilled welders, leading to increased installation cost. The welding creates burn marks on the underside of the deck and occasional burn-through holes. Top seam welds are not recommended for architecturally exposed steel deck. Weld inspection, procedures, and qualifications should be in accordance with AWS D1.3.

Figure 1.14.4: **TOP SEAM WELD**

Screwable Sidelap

Self-drilling screws are used to attach standing seam screwable sidelap composite deck. (See figure 1.14.5) The screws can be easily installed with low-skill labor using screw guns that are readily available. The screws do not leave burn marks associated with welding, but the screw points do protrude through the underside of the steel deck. As a result, screws may not be acceptable for some architecturally exposed steel deck.

Figure 1.14.5: **SIDE SEAM SELF-DRILLING SCREW (Screwable Sidelap)**

1.15 **Edge Form**

Edge Form

Edge form is an integral part of a composite or non-composite deck installation. The edge form provides containment of the concrete at the perimeter of the composite deck-slab system and around openings. Edge form also provides a screed at the edge to help maintain slab thickness. Edge forms may be manufactured from bent plate, cold-formed sheet steel, and hot roll steel angles or channels. ASC Steel Deck manufactures cold-formed sheet steel flashings used for edge forms and other flashing conditions. Section 1.17 shows typical installation conditions for common flashing types.

Edge Form Flashings

Galvanized steel edge form flashings are custom manufactured by ASC Steel Deck to meet project requirements. The flashings are formed from ASTM A653 SS Grade 33 minimum galvanized steel sheets. Flashings are available in most common structural shapes in 7 gauges. (See figures 1.15.1 and 1.15.2) The standard length flashing is 10'-0", shorter lengths available upon request. The minimum width of any stiffener or flat cross section is ¾". For Hat and Channel shapes, the web width must be at least ¾" wider than the flange width.

Design of Edge Form

Edge forms may be rationally designed to support concrete and construction loads using the methods in the SDI Floor Deck Design Manual based on engineering mechanics and confirmatory testing. The SDI edge form table provided in figure 1.15.3 provides an easy to use design aid without the need to detailed calculations for common edge form conditions.

FLASHING THICKNESS BY Gauge	
Gauge	**Base Steel Thickness**
22	0.0290
20	0.0350
18	0.0470
16	0.0590
14	0.0700
12	0.1050
10	0.1350

Figure 1.15.1

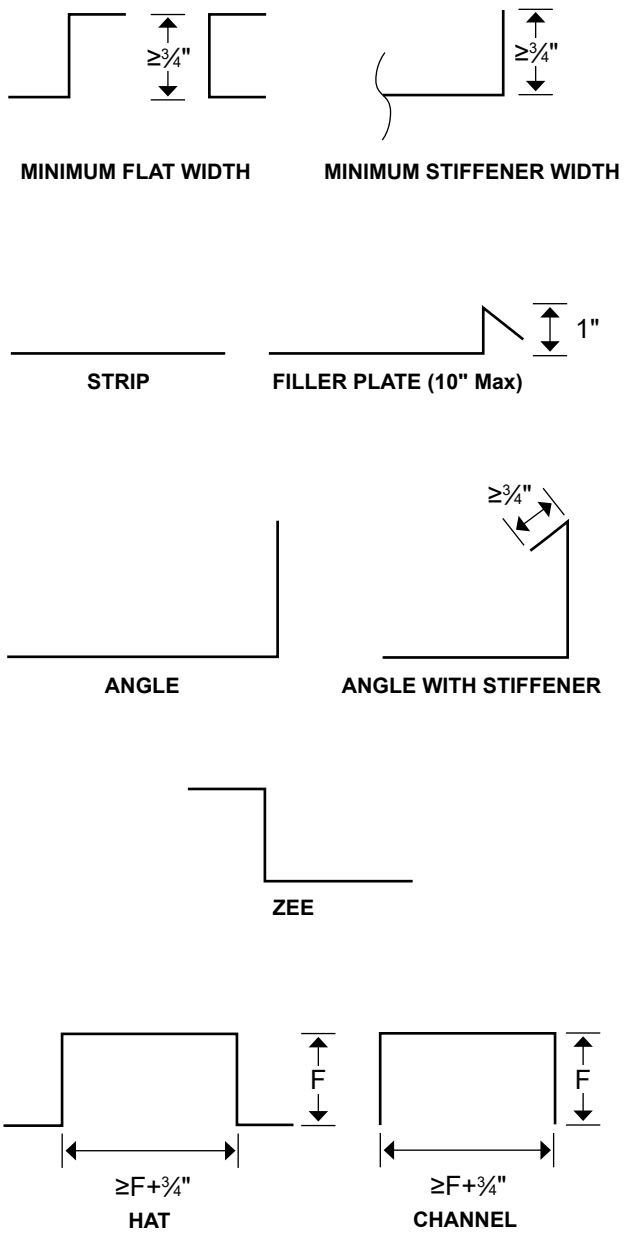
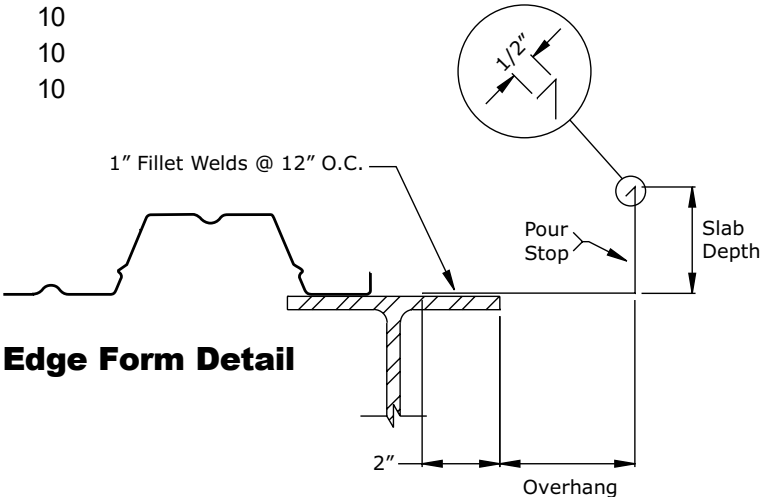


Figure 1.15.2

Figure 1.15.3: **Pour stop gauge selection table, based on overhang and slab depth. (as published in ANSI/SDI C-2011)**

Slab Depth	Pour Stop Overhang 0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"	12"
4.00	20	20	20	20	18	18	16	14	12	12	12	10	10
4.25	20	20	20	18	18	16	16	14	12	12	12	10	10
4.50	20	20	20	18	18	16	16	14	12	12	12	10	10
4.75	20	20	18	18	16	16	14	14	12	12	10	10	10
5.00	20	20	18	18	16	16	14	14	12	12	10	10	
5.25	20	18	18	16	16	14	14	12	12	12	10	10	
5.50	20	18	18	16	16	14	14	12	12	12	10	10	
5.75	20	18	16	16	14	14	12	12	12	12	10	10	
6.00	18	18	16	16	14	14	12	12	12	10	10	10	
6.25	18	18	16	14	14	12	12	12	12	10	10		
6.50	18	16	16	14	14	12	12	12	12	10	10		
6.75	18	16	14	14	14	12	12	12	10	10	10		
7.00	18	16	14	14	12	12	12	12	10	10	10		
7.25	16	16	14	14	12	12	12	10	10	10			
7.50	16	14	14	12	12	12	12	10	10	10			
7.75	16	14	14	12	12	12	10	10	10	10			
8.00	14	14	12	12	12	12	10	10	10				
8.25	14	14	12	12	12	10	10	10	10				
8.50	14	12	12	12	12	10	10	10					
8.75	14	12	12	12	12	10	10	10					
9.00	14	12	12	12	10	10	10						
9.25	12	12	12	12	10	10	10						
9.50	12	12	12	10	10	10							
9.75	12	12	12	10	10	10							
10.00	12	12	10	10	10	10							
10.25	12	12	10	10	10								
10.50	12	12	10	10	10								
10.75	12	10	10	10									
11.00	12	10	10	10									
11.25	12	10	10										
11.50	10	10	10										
11.75	10	10											
12.00	10	10											



Edge Form Detail

The above Selection Table is based on the following criteria:

1. Normal weight concrete (150 pcf).
2. Horizontal and vertical Deflection is limited to ¼" maximum for concrete dead load.
3. Design stress is limited to 20 ksi for concrete dead load temporarily increased by one-third for the construction live load of 20 psf.
4. Pour Stop Selection Table does not consider the effect of the performance, deflection, or rotation of the pour stop support which may include both the supporting composite deck and/or the frame.
5. Vertical leg return lip is recommended for all types (gauges).
6. This selection is not meant to replace the judgement of experienced Structural Engineers and shall be considered as a reference only.
7. SDI reserves the right to change any information in this section without notice.

1.16 **Accessories**

ASC Steel Deck offers a variety of accessories to complement our steel deck offer. These include flashings, weld washers, profile cut top (small void) and bottom (large void) neoprene foam, and galvanized steel closures.

When accessories are called for in the specifications, the location must be clearly shown on the structural and architectural drawings. Specifications which call for the use of profile cut closures where walls meet the metal deck may lead to unnecessary construction costs if they are only needed at exterior walls or specific interior locations.

B36 DECK NEOPRENE AND METAL CLOSURES

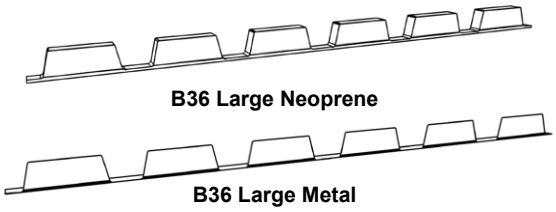


Figure 1.16.1

N32 DECK NEOPRENE AND METAL CLOSURES

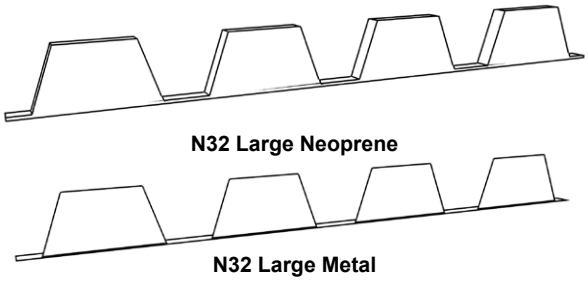
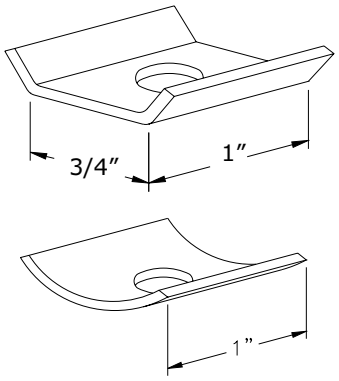


Figure 1.16.2

Weld Washers

14 gauge x ⅜" diameter hole for welded attachment of C1.4-32. Variable Gauge x ⅜" diameter hole for welded attachment of C0.9-32. Weld washers are for use with 26 and 24 gauge C1.4-32 and C0.9-32 only. Do not use weld washers on 22 gauge or heavier steel decks.



14 Gauge x ⅜" dia. hole for welded attachment of C1.4-32 (CF1⅜)

14 Gauge x ⅜" dia. hole for welded attachment of C0.9-32 (CF⅞)

Figure 1.16.3

Profile Cut Neoprene Closures

Neoprene closures may be used on the top and bottom of the steel deck to reduce vapor, moisture, and air from infiltrating into the building roof or floor assembly. These are die-cut from black closed cell neoprene foam. The foam is manufactured in accordance with ASTM D-1056 and passes the FM-VSS No. 302, UL 94HBF, and UL 94 HF1 flammability tests.

Profile Cut Metal Closures

Metal closures may be used to control animal nesting within the building structure. Metal closures may be used in combination with neoprene closures. Metal closures with calking can also be used to reduce noise infiltration as part of an acoustically engineered system. The metal closures are stamped out of minimum 22 gauge galvanized sheet steel.

2WH NEOPRENE AND METAL CLOSURES

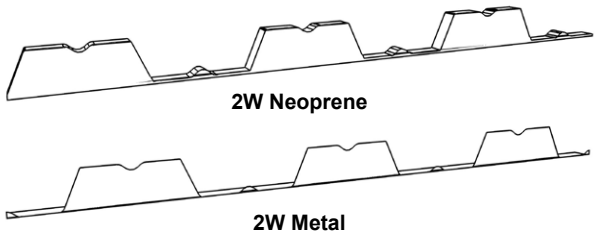


Figure 1.16.4

3WxH NEOPRENE AND METAL CLOSURES

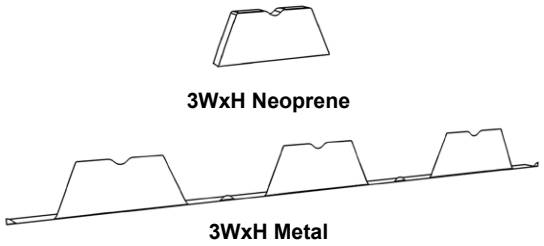


Figure 1.16.5

DEEP DECK NEOPRENE CLOSURES

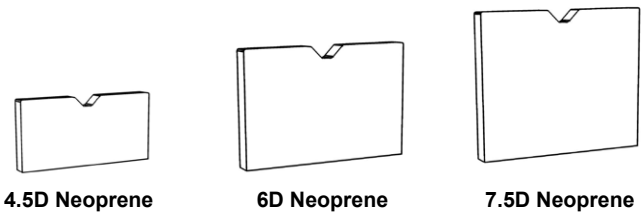


Figure 1.16.6

Details

Composite deck-slab systems are not complete without edge form and flashings to contain the concrete during the pour. These common details are an important part of the system. Edge forms provide both concrete containment and establish one point of depth control for the concrete.

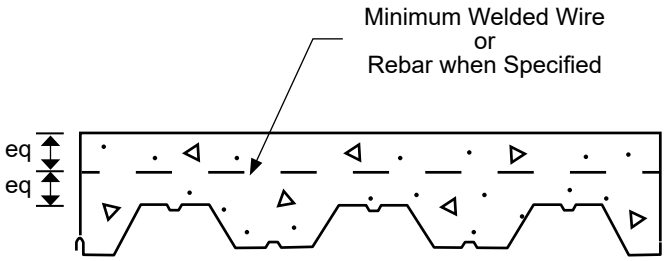


Figure 1.17.1: **TYPICAL PLACEMENT OF TEMPERATURE & SHRINKAGE REINFORCEMENT**

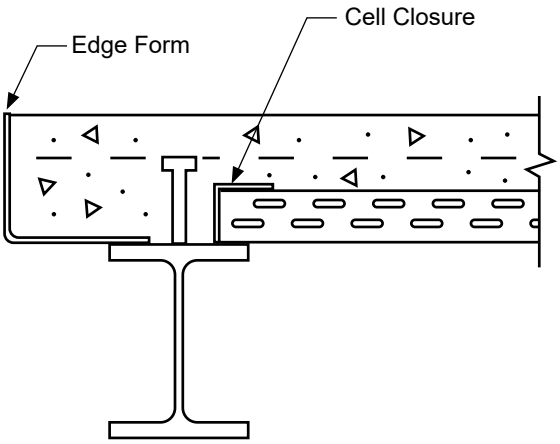


Figure 1.17.3: **SINGLE PIECE EDGE FROM PERPENDICULAR TO DECK ON WIDE FLANGE BEAM**

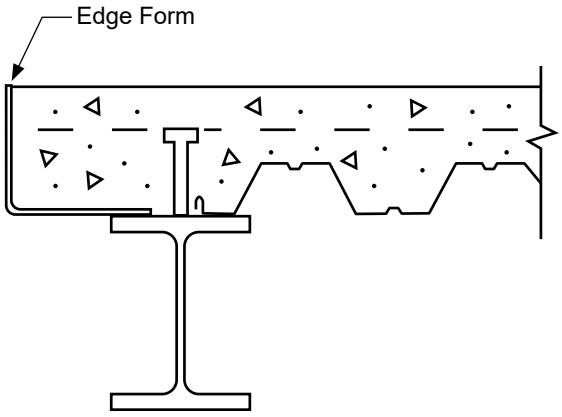


Figure 1.17.2: **SINGLE PIECE EDGE FROM PARALLEL TO DECK ON WIDE FLANGE BEAM**

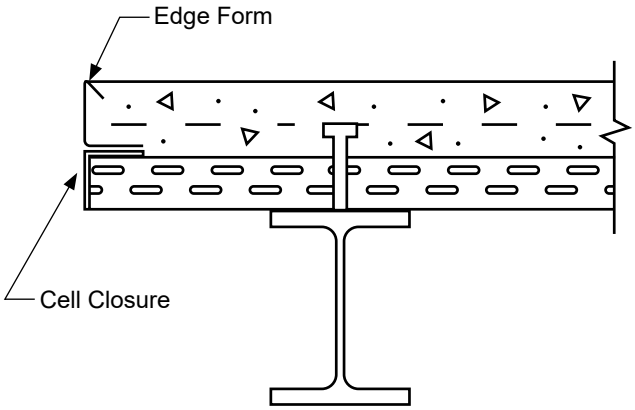


Figure 1.17.4: **TWO PIECE EDGE FORM WITH DECK CANTILEVER ON WIDE FLANGE BEAM**

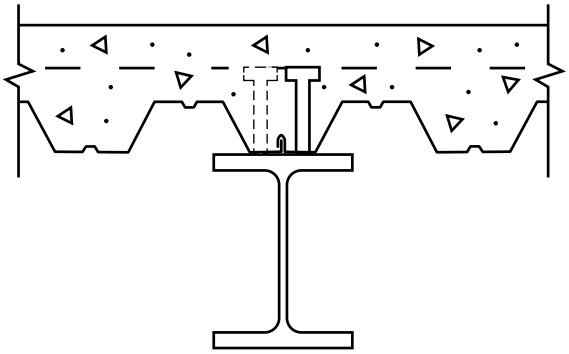


Figure 1.17.5: **DECK PARALLEL TO WIDE FLANGE BEAM**

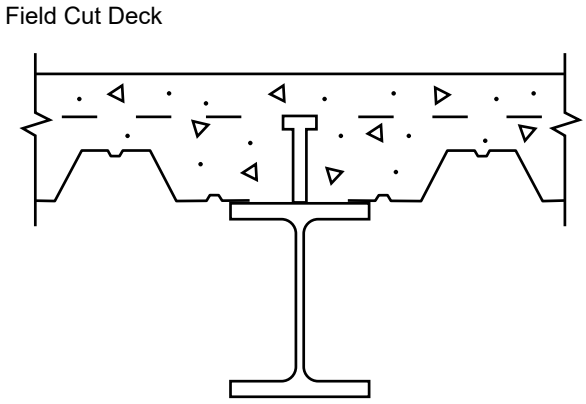


Figure 1.17.6: **DECK PARALLEL TO WIDE FLANGE BEAM CUT TO ACCOMMODATE DECK MODULE**

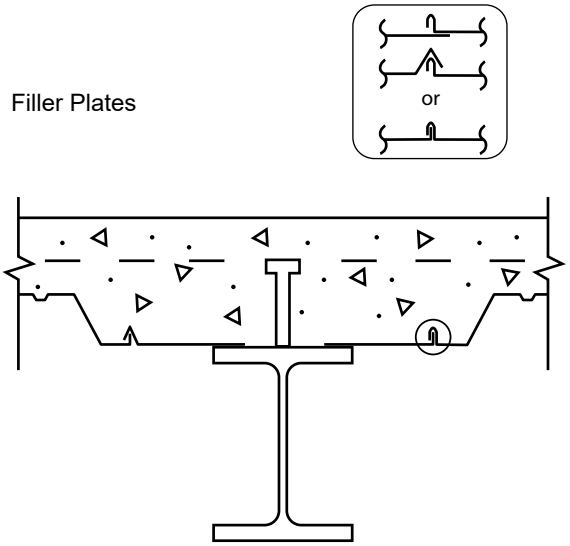


Figure 1.17.7: **DECK PARALLEL TO WIDE FLANGE BEAM WITH FILLER PLATES**

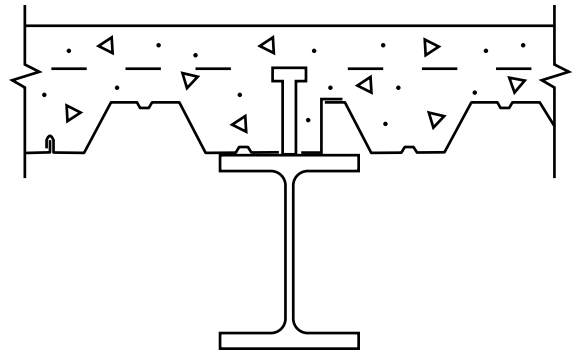


Figure 1.17.8: **DECK PARALLEL TO WIDE FLANGE BEAM CUT WITH ZEE FLASHING TO ACCOMMODATE DECK MODULE**

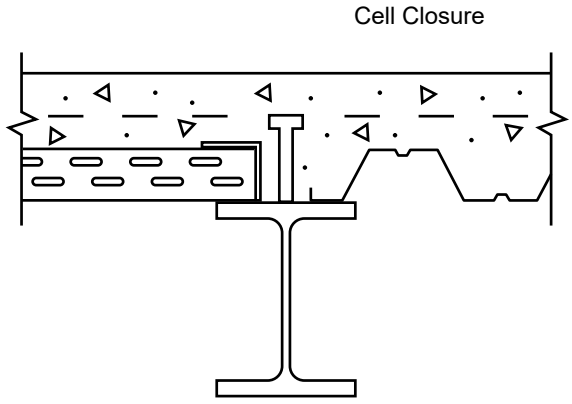


Figure 1.17.9: **DECK TRANSITION ON WIDE FLANGE BEAM**

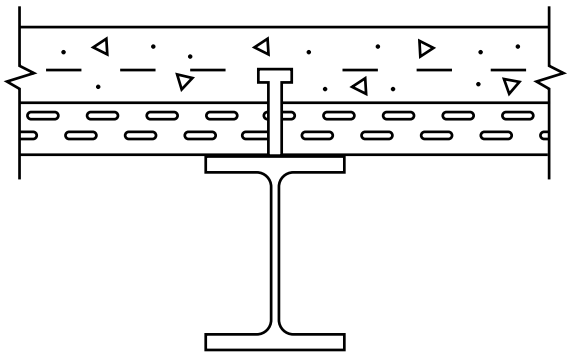


Figure 1.17.10: **DECK PERPENDICULAR TO WIDE FLANGE BEAM**

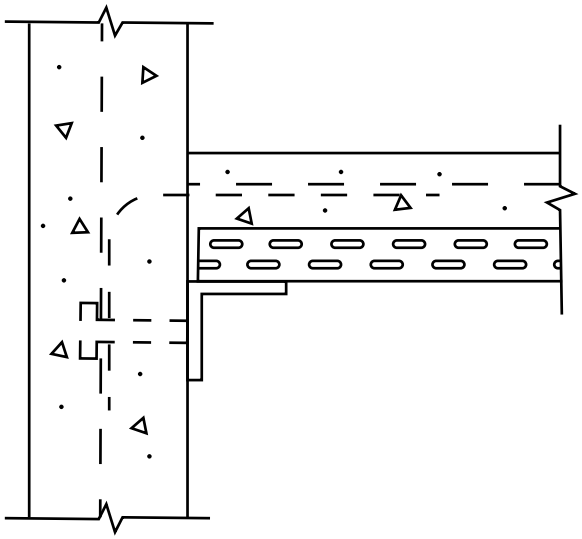


Figure 1.17.11: **CONCRETE OR CMU WALL LEGER DECK PERPENDICULAR**

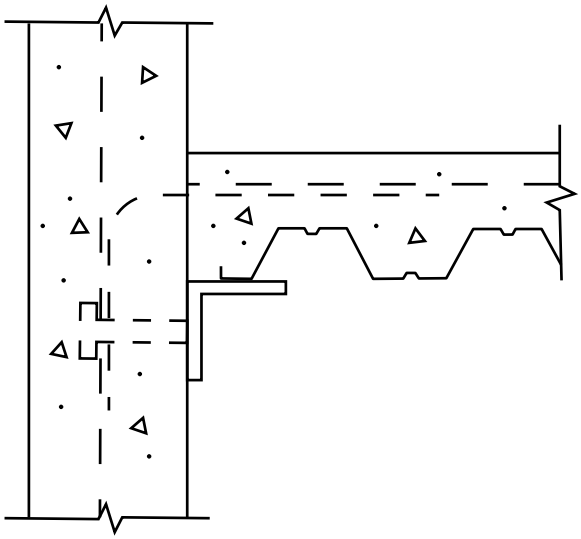


Figure 1.17.12: **CONCRETE OR CMU WALL LEGER DECK PARALLEL**

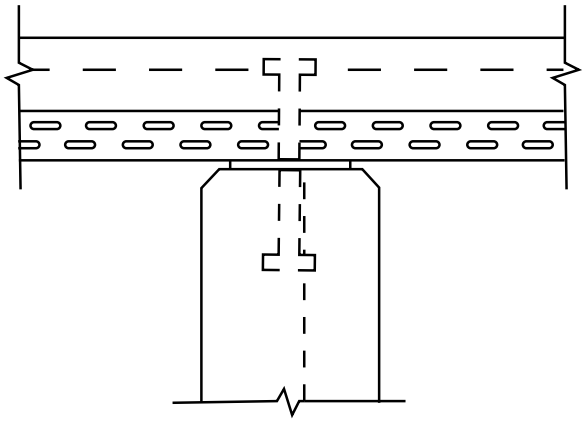


Figure 1.17.13: **CONCRETE OR CMU WALL WITH EMBED PERPENDICULAR**

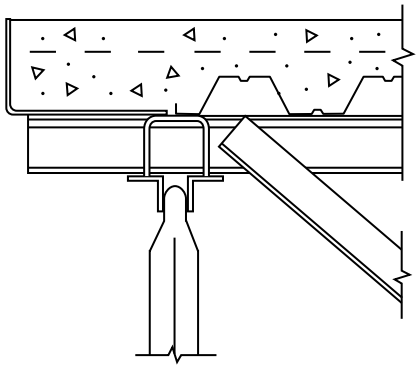


Figure 1.17.14: **SINGLE PIECE EDGE FROM PARALLEL TO DECK ON OPEN WEB JOIST GIRDER**

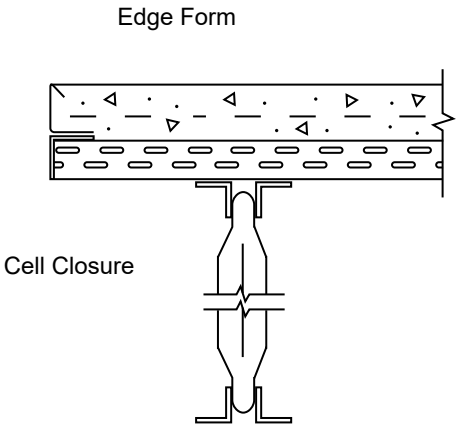


Figure 1.17.15: **TWO PIECE EDGE FORM WITH DECK CANTILEVER ON WIDE FLANGE BEAM**

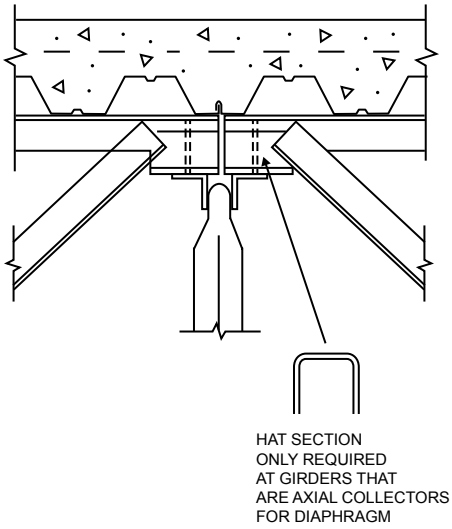
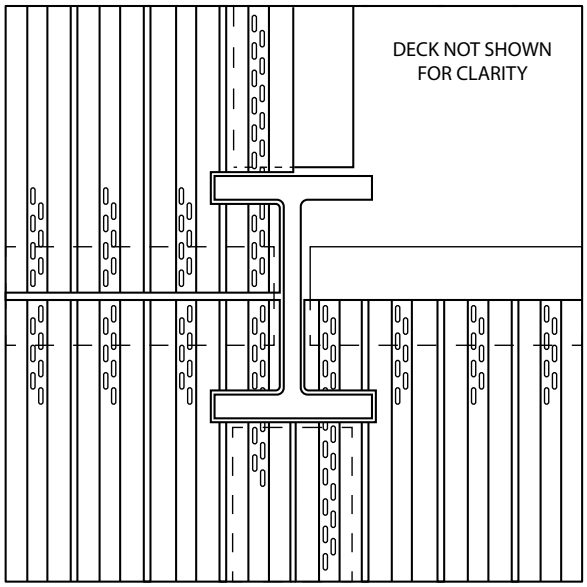


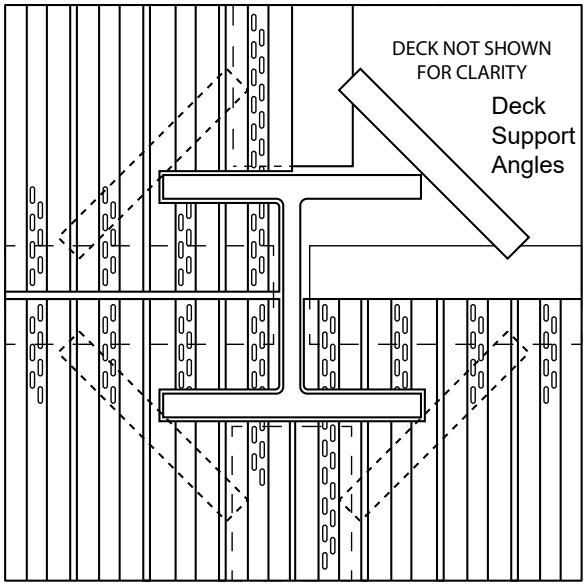
Figure 1.17.16: **DECK ON OPEN WEB STEEL JOISTS AND OPEN WEB STEEL JOIST GIRDER**

Column Flashings

Columns may require deck support angles depending on web support. Smaller columns often do not require deck support angles because there are no unsupported webs as shown in Figure 1.17.17. Large columns will create a condition in which one or more webs are unsupported, as shown in Figure 1.17.18. When the webs are unsupported, deck support angles are required to limit localized deflections during concrete placement. The Detail in Figure 1.17.18 is a common example of how deck may be supported when required. Using the thinnest support angles practical, when installed as shown, makes fitting and attaching the deck easier.



Deck Support
Not Required
When These Webs
are Supported
by Beams



Deck Support
Required
When These Webs
are Unsupported
by Beams

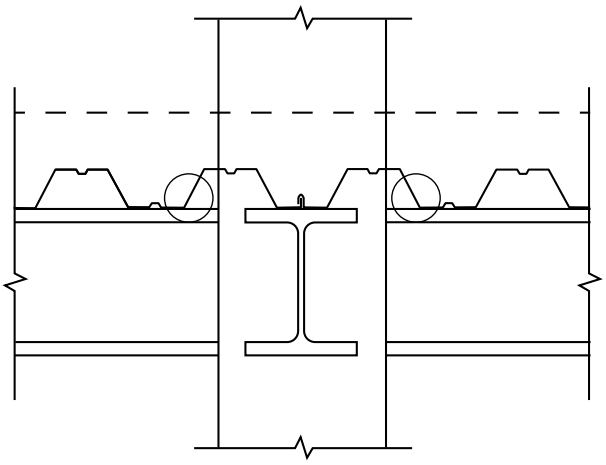


Figure 1.17.17: **COLUMN DETAIL NOT REQUIRING DECK SUPPORT ANGLES**

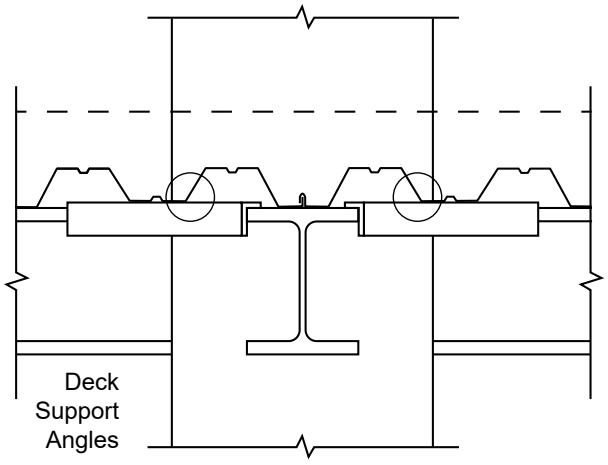


Figure 1.17.18: **COLUMN DETAIL REQUIRING DECK SUPPORT ANGLES**

General Notes

1. The general notes apply to the entire catalog.
2. Composite steel deck is manufactured from galvanized steel conforming to ASTM A653 SS grade 50 or bare steel conforming to ASTM A1008 SS grade 50.
3. The concrete slabs depth in the tables is measured for the bottom of deck to the top of concrete.
4. The vertical load span is the clear span between supporting members.
5. Superimposed load is the load which can be applied to the composite deck in addition to the weight of the steel deck and concrete.
6. No uniform service load, based on an L/360 deflection limit, is shown when the load is greater than the allowable superimposed load.
7. For composite steel deck assemblies which exceed the scope of the table, the performance may be determined in accordance with *ANSI/SDI C-2011*.
   a. For 2WH-36 and 2WHF-36 the embossment shape is Type 1 with an embossment factor, K = 1.0, reference Eq. A2-8 in *ANSI/SDI C-2011*
   b. For 3WxH-36 and 3WxHF-36 the embossment shape is Type 2 with an embossment factor, K = 1.0, reference Eq. A2-8 in *ANSI/SDI C-2011*
   c. For BH-36 and BHF-36 the embossment shape is Type 1 with an embossment factor, K = 1.0, reference Eq. A2-8 in *ANSI/SDI C-2011*
   d. For NH-32 and NHF-32 the embossment shape is Type 2 with an embossment factor, K = 1.0, reference Eq. A2-8 in *ANSI/SDI C-2011*
8. Load tables are based on non-cellular version of profile. The addition of the pan (bottom plate) of cellular deck increases steel area and inherently increases the performance of the composite deck assembly. Using non-cellular design values in tables is therefore conservative.
9. Definition of symbols for composite deck

A_s	Area of reinforcing steel
I_{cr}	Cracked moment of inertia
I_u	Un-cracked moment of inertia
$(I_{cr}+I_u)/2$	Moment of inertia for determining deflection under service load
L	Vertical load clear span
M_{no}/Ω	ASD available flexural moment
V_n/Ω	ASD available vertical shear
ϕM_{no}	LRFD available flexural moment
ϕV_n	LRFD available vertical shear
ϕS_n	LRFD available diaphragm shear
PAF	Power actuated fastener
W/Ω	ASD available superimposed load capacity
ϕW	LRFD available superimposed load capacity

10. Definition of symbols for panel properties

A_g	Gross Area of steel deck
t	Design base steel thickness of steel deck
F_y	Yield strength of steel
F_u	Tensile strength of steel
I_g	Moment of inertia of gross section
y_b	Distance form extreme bottom fiber to neutral axis of gross or effective section
s_g	Minimum section modulus for gross section
r	radius of gyration
A_e	Effective are for compression
s_e-	Negative effective section modulus
s_e+	Positive effective section modulus
I_e+	Positive effective moment of inertia
I_e-	Negative effective moment of inertia
I+	Positive effective moment of inertia for determining deflection
I-	Negative effective moment of inertia for determining deflection

11. Definition of symbols for reactions

h	Flat width of web
R/Ω	ASD available reaction capacity at support based on web crippling
ϕR	LRFD available reaction capacity at support based on web crippling
r	bend radius of web/flange transition
θ	angle relative to the support of the web

12. Definition for headed shear stud anchors

Q_n	Nominal shear capacity for one welded headed shear studs anchor
Q_n/Ω	ASD available shear capacity for one welded headed shear studs anchor
ϕQ_n	LRFD available shear capacity for one welded headed shear studs anchor

Deck as a form

1. Shoring spans are based on the load combinations and bending strength requirements of *ANSI/SDI C-2011,* which include the weight of the deck. The loading includes the weight of the deck, concrete and 20psf uniform construction load, or 150 lbs/ft line load at mid span. In addition to the loads in accordance with *ANSI/SDI C-2011*, 3psf is added for normal weight concrete, and 2 psf is added for light weight concrete to account for pounding due to deck deflection between supporting members.
2. The theoretical deflection is limited to L/180, but not to exceed ¾ inch for the weight of concrete and steel deck only.
3. Reactions at supports shall not be exceeded. The shoring span may be limited by the reactions at supports in some conditions. For support reactions exceeding the reaction tables, the reactions shall be based on the web crippling of the steel deck using the flat width (h), angle to support (θ) and bend radius (r) presented in the reactions tables in accordance with the provisions of AISI S100-2012.
4. Conditions exceeding the scope of the tables, such as cantilever spans, may be determined in accordance with *ANSI/SDI C-2011* and submitted to the building official for approval.

1.18 Composite Deck-Slab Tables General Requirements

Concrete and minimum reinforcing

1. The minimum 28-day compressive strength for structural concrete shall be 3,000 psi (20.68 MPa). The appropriate concrete density (normal weight or structural lightweight) is indicated in the tables.
2. Minimum reinforcing may be provided by reinforcing steel, welded wire fabric, or fibers in accordance with of the following:
   a. Minimum steel reinforcing shall be equal to 0.00075 times the area of the concrete above the steel deck, but not less than 6 x 6 W1.4 x W1.4 welded wire fabric with a 60,000psi minimum tensile strength complying with ASTM A1064.
   b. Concrete fibers in accordance with ANSI/SDI C-2011 section 13.a.1 or 13.a.2.

Attachment of composite steel deck to supports

1. To develop the shear capacity in the tables, the deck shall be attached to the supports with the specified fastener pattern.
2. Spacing of welds or fasteners running parallel with the deck shall not exceed 36 inches on center.
3. Power actuated fasteners shall be installed per manufacture's instructions.
4. Welds and fasteners to the supports shall be as follows:
   a. Welds:
      i. Welds shall be have a minimum of 60ksi filler metal. For shielded metal arc welding, a minimum E60xx electrode should be used.
      ii. Arc spot welds shall have a minimum ½ inch effective diameter and not less than a ⅝ inch visible diameter.
      iii. Arc seam welds shall have a minimum ⅜ inch x 1 inch effective size, and may be substituted for ½ inch effective diameter arc spot welds.
   b. Power actuated fasteners (PAF) in support steel ≥ .25 inch thick shall be:
      i. Hilti X-ENP19
      ii. Pneutek K64
      iii. Pneutek K66
   c. Power actuated fasteners (PAF) in support steel ≥ 0.109 inch thick shall be:
      i. Hilti X-HSN 24
      ii. Pneutek K63
      iii. Pneutek K61
   d. Self-drilling screws in support steel ≥ .034 inch thick shall be:
      i. #12 Self Drilling-Screw in accordance with SAE J78.
   e. Minimum Edge Distance
      i. Steel deck may be butted at supports or end lapped. The standard end lap is a 2 inch overlap with a tolerance of +/- ½ inch. The minimum 1½ inch overlap (2 inch standard less ½ inch tolerance) is required. Overlaps greater than 2½ inches do not affect diaphragm performance, but is more difficult to install.
      ii. The minimum edge distance for self-drilling screws and power driven fasteners (pins/nails) is ½ inch.
5. The minimum edge distance for welds is ¾ inch measured from the center of the arc spot weld and the center of the end radius of the arc seam weld.

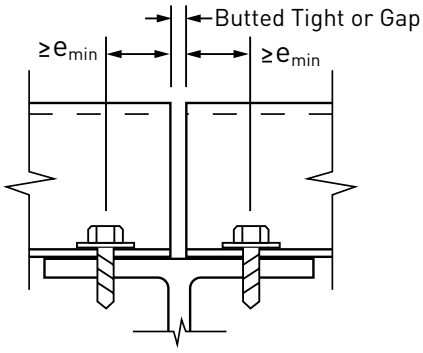


Figure 1.18.1: **BUTTED DECK CONDITION**

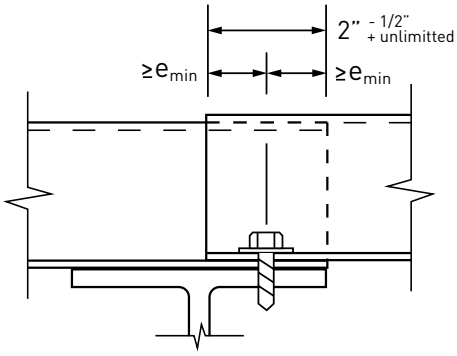


Figure 1.18.2: **END LAPPED DECK CONDITION**

Side seam attachment between deck panels

1. The minimum side seam attachment is a button punch at 36 inches on center.
2. Triple Floor Connectiones, arc top seam welds, or self-drilling screws may be substituted on a one to one basis for button punches.
3. The minimum edge distance for side lap screws is 1.5 times the nominal diameter of the screw.

Diaphragm shear attached with arc spot welds, power actuated fasteners, or self-drilling screws.

1. For composite steel deck assemblies which exceed the scope of the tables, the diaphragm shear performance may be determined in accordance with the SDI DDM03 referenced in *ANSI/SDI C-2011.*
2. Diaphragms with concrete fill have a flexibility factor, f < 0.5 micro inches per lb equal to a shear stiffness, G' > 2000kip/inch.
3. Spacing of welds or fasteners transferring shear between the composite steel deck and supporting

structures shall be based on the shear demand and the weld or fastener shear resistance.

fastener spacing (ft) = weld or fastener capacity (lbs) / shear demand (lbs/ft)

4. Resistance and safety factors for diaphragm shear, $\phi = 0.5$

Diaphragm shear with welded headed shear stud anchors

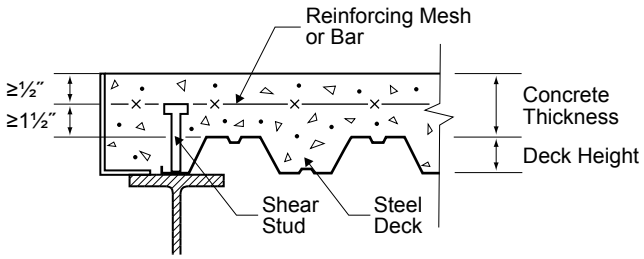
1. Concrete shear reinforcing steel shall be provided that meets the minimum specified reinforcing area, (A_s), in the table based on suggested welded wire reinforcing size. Reinforcing shall have minimum yield strength of 60,000psi and meet the requirements of ACI 318 for standard reinforcing bars or WRI standard welded wire reinforcement.
2. To achieve tabulated diaphragm shears, the welded stud shear connectors are only required at locations in which diaphragm shear is being transferred between the composite deck slab and supporting members. Intermediate support members may be attached with welds, screws or PAF's (power actuated fasteners).
3. Intermediate ribs of the steel deck not attached with welded stud shear connectors shall be fastened to the supporting member with arc spot welds, self-drilling screws, or power actuated fasteners.
4. The welded stud shear connector strength assumes the weak position in the deck flute. Reference AISC 360-10 Commentary and Figure C-I8.1.
5. Tabular values for shear strength of concrete diaphragm above deck is in accordance with ACI 318-14 based on a resistance factor $\phi = 0.75$. Refer to ACI 318 for additional requirements to be considered in seismic design.
6. Welded stud shear connectors shall extend 1½" above the top of the steel deck and shall have a minimum of ½" concrete cover above the top of the installed connector. Reference AISC 360-10 Section I3.2c.
7. The supporting member flange shall not be less than 0.3 inches thick unless the welded stud shear connector is welded over the web of the supporting member. Reference AISC 360-10 Section I8.1.
8. The maximum center-to-center spacing of welded stud shear connectors shall not exceed 8 times the depth of concrete above the deck or 36" per AISC 360-10 Section I8.2d.
9. Concrete reinforcement details shall be in accordance with ACI318.
10. For local shear transfer in the field of the diaphragm, ¾ inch diameter welded stud shear connectors shall be determined in accordance with AISC 360. The following shear capacities are for 2 inches of concrete cover above the steel deck and may be used conservatively for all thicknesses greater than 2 inches.
11. See figure 1.18.4 for typical details.
12. For diaphragm shear of composite steel deck assemblies attached with welded shear studs which exceed the scope of the tables, the diaphragm shear may be determined in accordance with the provision of ACI 318 and AISC 360 as follows.
    a. The diaphragm shear shall be the lesser of the capacity of the reinforced concrete and the capacity of the welded shear studs to transfer the shear from the supporting member to the reinforced concrete section.
    b. Reinforced concrete shear shall be determined in accordance with the requirements of ACI 318 using the concrete thickness above the steel deck.
    c. The welded shear stud strength shall be determined in accordance with AISC 360.

¾" Steel Headed Stud Anchors

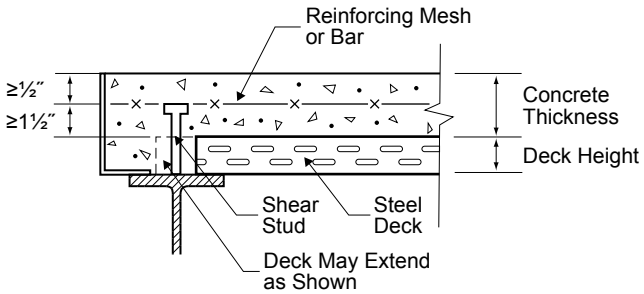
DECK TYPES	Shear Capacity[1] ASD Q_n/R	Shear Capacity[1] LRFD ϕQ_n
2WH-36, 2WHF-36, & 2WHF-36A, 3WxH-36, 3WxHF-36, & 3WxHF-36A	10.3 kips	15.5 kips
BH-36, BHF-36, & BHF-36A NH-32, NHF-32, & NHF-32A	8.8 kips	13.2 kips

[1]145 pcf Normal Weight Concrete and 110 pcf Light Weight Concrete

Figure 1.18.3



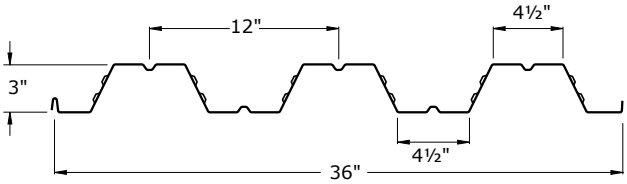
Deck Parallel to Beam



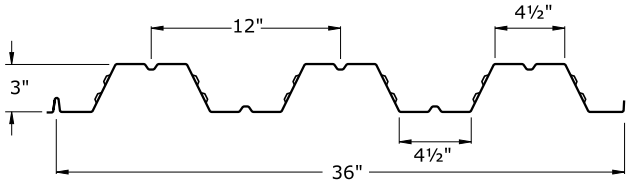
Deck Perpendicular to Beam

Figure 1.18.4

2.1 **3WxH-36**

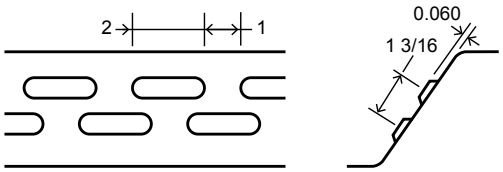


3WxH-36 Profile



3WxHS-36 Profile

36/4 Attachment Pattern



3Wx Series Embossment

Panel Properties

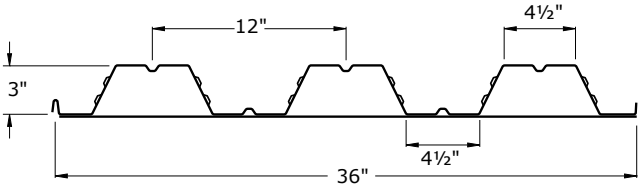
Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties: Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w	t	F_y	F_u	A_g	I_g	y_b	S_g	r
	psf	in	ksi	ksi	in^2/ft	in^4/ft	in	in^3/ft	in
22	1.70	0.0290	50	65	0.504	0.770	1.48	0.497	1.236
21	1.92	0.0330	50	65	0.556	0.850	1.48	0.548	1.236
20	2.09	0.0359	50	65	0.605	0.927	1.48	0.595	1.236
19	2.43	0.0420	50	65	0.708	1.083	1.48	0.695	1.236
18	2.76	0.0478	50	65	0.806	1.233	1.49	0.789	1.236
16	3.43	0.0598	50	65	1.008	1.540	1.49	0.984	1.236

Gauge	Effective Section Modulus at F_y: Compression: Area	Bending: Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Effective Moment of Inertia for Deflection: Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e	S_e+	y_b	S_e-	y_b	I_e+	I_e-	I+	I-
	in^2/ft	in^3/ft	in	in^3/ft	in	in^4/ft	in^4/ft	in^4/ft	in^4/ft
22	0.309	0.392	1.33	0.404	1.63	0.727	0.720	0.741	0.737
21	0.362	0.452	1.36	0.465	1.61	0.823	0.813	0.832	0.826
20	0.414	0.510	1.39	0.524	1.59	0.910	0.900	0.916	0.909
19	0.532	0.636	1.43	0.654	1.55	1.083	1.073	1.083	1.077
18	0.651	0.761	1.46	0.781	1.52	1.233	1.230	1.233	1.231
16	0.887	0.984	1.49	0.982	1.50	1.540	1.540	1.540	1.540

Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs: Allowable (R_n/Ω) 1"	2"	4"	6"	Factored (ΦR_n) 1"	2"	4"	6"
22	End	296	368	471	550	452	564	721	842
	Interior	522	630	783	900	776	937	1164	1338
21	End	379	470	598	697	580	719	915	1066
	Interior	667	801	990	1135	993	1191	1472	1688
20	End	424	524	666	775	649	802	1020	1186
	Interior	746	893	1101	1261	1110	1329	1638	1876
19	End	600	737	930	1078	918	1127	1423	1650
	Interior	1054	1252	1532	1747	1568	1863	2280	2599
18	End	743	908	1141	1320	1137	1389	1746	2020
	Interior	1305	1542	1878	2136	1941	2294	2794	3178
16	End	1143	1383	1723	1983	1749	2116	2636	3034
	Interior	2008	2350	2834	3206	2986	3495	4216	4768

Web Crippling Constraints h=3.2" r=0.125" θ=63.5°



3WxHF-36 Profile

36/4 Attachment Pattern

Panel Properties

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties: Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in²/ft	I_g in⁴/ft	y_b in	S_g in³/ft	r in
20/20	3.69	0.035 / 0.036	50	65	1.054	1.542	0.91	0.712	1.209
20/18	4.16	0.035 / 0.047	50	65	1.193	1.640	0.81	0.723	1.172
20/16	4.68	0.035 / 0.059	50	65	1.344	1.727	0.74	0.732	1.133
18/20	4.35	0.047 / 0.036	50	65	1.253	1.932	1.02	0.934	1.242
18/18	4.83	0.047 / 0.047	50	65	1.392	2.058	0.93	0.949	1.216
18/16	5.35	0.047 / 0.059	50	65	1.543	2.172	0.85	0.962	1.186
16/20	5.03	0.059 / 0.036	50	65	1.45	2.309	1.1	1.155	1.262
16/18	5.51	0.059 / 0.047	50	65	1.593	2.457	1.01	1.174	1.242
16/16	6.03	0.059 / 0.059	50	65	1.744	2.595	0.94	1.191	1.220

Gauge	Effective Section Modulus at F_y: Compression: Area	Bending: Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Effective Moment of Inertia for Deflection: Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e in²/ft	S_e+ in³/ft	y_b in	S_e- in³/ft	y_b in	I_e+ in⁴/ft	I_e- in⁴/ft	I+ in⁴/ft	I- in⁴/ft
20/20	0.481	0.538	0.75	0.645	1.42	1.506	1.186	1.518	1.305
20/18	0.551	0.540	0.66	0.674	1.23	1.582	1.363	1.601	1.455
20/16	0.650	0.562	0.61	0.701	1.04	1.640	1.512	1.669	1.584
18/20	0.691	0.875	0.98	0.844	1.49	1.930	1.484	1.931	1.633
18/18	0.761	0.878	0.88	0.879	1.34	2.056	1.693	2.057	1.815
18/16	0.860	0.875	0.80	0.910	1.19	2.170	1.868	2.171	1.969
16/20	0.923	1.175	1.11	1.047	1.53	2.306	1.790	2.307	1.963
16/18	0.997	1.194	1.02	1.084	1.40	2.454	2.012	2.455	2.160
16/16	1.095	1.211	0.95	1.119	1.28	2.592	2.214	2.593	2.341

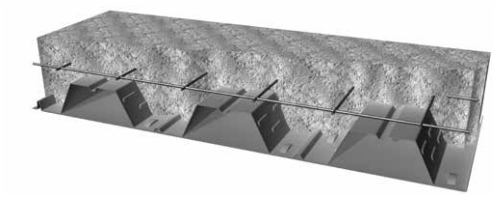
Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs: Allowable (R_n/Ω) 1"	2"	4"	6"	Factored (ΦR_n) 1"	2"	4"	6"
22	End	296	368	471	550	452	564	721	842
	Interior	522	630	783	900	776	937	1164	1338
21	End	379	470	598	697	580	719	915	1066
	Interior	667	801	990	1135	993	1191	1472	1688
20	End	424	524	666	775	649	802	1020	1186
	Interior	746	893	1101	1261	1110	1329	1638	1876
19	End	600	737	930	1078	918	1127	1423	1650
	Interior	1054	1252	1532	1747	1568	1863	2280	2599
18	End	743	908	1141	1320	1137	1389	1746	2020
	Interior	1305	1542	1878	2136	1941	2294	2794	3178
16	End	1143	1383	1723	1983	1749	2116	2636	3034
	Interior	2008	2350	2834	3206	2986	3495	4216	4768

Web Crippling Constraints h=3.2" r=0.125" θ=63.5°

2.3 3WxHF-36 Cellular Composite Deck

Normal Weight Concrete (145 pcf)
Maximum Unshored Spans



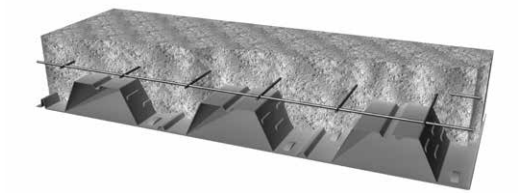
3WxHF-36 Cellular Shoring Table

Total Slab Depth (in)	145 pcf Normal Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
5	1.080	20/20	45.9	11'-11"	13'-6"	12'-9"
		20/18	46.4	11'-11"	13' - 10"	12'-9"
		20/16	46.9	12' - 3"	14' - 2"	13' - 1"
		18/20	46.6	13' - 11"	15' - 5"	13' - 4"
		18/18	47.0	14' - 2"	15' - 9"	13' - 4"
		18/16	47.6	14' - 5"	16' - 1"	13' - 4"
		16/20	47.2	14' - 10"	17' - 7"	13' - 4"
		16/18	47.7	14' - 7"	17' - 3"	13' - 4"
		16/16	48.2	15' - 0"	17' - 9"	13' - 4"
6	1.389	20/20	58.0	10' - 11"	12' - 5"	11' - 9"
		20/18	58.5	10' - 11"	12' - 9"	11' - 10"
		20/16	59.0	11' - 3"	13' - 1"	12' - 1"
		18/20	58.7	13' - 2"	14' - 3"	13' - 4"
		18/18	59.1	13' - 5"	14' - 7"	13' - 4"
		18/16	59.7	13' - 7"	14' - 10"	13' - 4"
		16/20	59.3	14' - 1"	16' - 3"	13' - 4"
		16/18	59.8	13' - 10"	15' - 11"	13' - 4"
		16/16	60.3	14' - 2"	16' - 5"	13' - 4"
6½ 1 Hour Fire Rating	1.543	20/20	64.0	10' - 6"	12' - 0"	11' - 4"
		20/18	64.5	10' - 6"	12' - 4"	11' - 5"
		20/16	65.0	10' - 10"	12' - 7"	11' - 8"
		18/20	64.7	12' - 11"	13' - 9"	13' - 4"
		18/18	65.2	13' - 1"	14' - 1"	13' - 4"
		18/16	65.7	13' - 4"	14' - 4"	13' - 4"
		16/20	65.4	13' - 9"	15' - 8"	13' - 4"
		16/18	65.8	13' - 6"	15' - 4"	13' - 4"
		16/16	66.4	13' - 10"	15' - 10"	13' - 4"
7½ 2 Hour Fire Rating	1.852	20/20	76.1	9' - 10"	11' - 3"	10' - 8"
		20/18	76.6	9' - 10"	11' - 7"	10' - 8"
		20/16	77.1	10' - 1"	11' - 10"	10' - 11"
		18/20	76.8	12' - 4"	12' - 11"	13' - 7"
		18/18	77.3	12' - 7"	13' - 2"	13' - 8"
		18/16	77.8	12' - 9"	13' - 6"	13' - 4"
		16/20	77.5	13' - 2"	14' - 8"	13' - 4"
		16/18	77.9	12' - 11"	14' - 5"	13' - 4"
		16/16	78.4	13' - 4"	14' - 10"	13' - 4"
8¼ 3 Hour Fire Rating	2.083	20/20	85.2	9' - 5"	10' - 10"	10' - 2"
		20/18	85.7	9' - 5"	11' - 1"	10' - 3"
		20/16	86.2	9' - 8"	11' - 4"	10' - 6"
		18/20	85.8	12' - 1"	12' - 4"	13' - 0"
		18/18	86.3	12' - 3"	12' - 8"	13' - 1"
		18/16	86.8	12' - 5"	12' - 11"	13' - 1"
		16/20	86.5	12' - 10"	14' - 1"	13' - 4"
		16/18	87.0	12' - 7"	13' - 10"	13' - 4"
		16/16	87.5	13' - 0"	14' - 3"	13' - 4"

Shaded area the span is governed by maximum deck panel length of 40 feet; 20 feet for double span, 13 feet 4 inches for triple span.

3WxHF-36 Cellular Composite Deck 2.3

Light Weight Concrete (110 pcf)
Maximum Unshored Spans



3WxHF-36 Cellular Shoring Table

Total Slab Depth (in)	110 pcf Light Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
5	1.080	20/20	35.7	13' - 1"	14' - 8"	13' - 10"
		20/18	36.2	13' - 2"	15' - 1"	13' - 11"
		20/16	36.7	13' - 7"	15' - 5"	14' - 3"
		18/20	36.4	14' - 9"	16' - 9"	13' - 4"
		18/18	36.8	15' - 1"	17' - 2"	13' - 4"
		18/16	37.4	15' - 4"	17' - 7"	13' - 4"
		16/20	37.0	15' - 10"	19' - 1"	13' - 4"
		16/18	37.5	15' - 6"	18' - 7"	13' - 4"
		16/16	38.0	15' - 11"	19' - 4"	13' - 4"
5½ 1 Hour Fire Rating	1.235	20/20	40.3	12' - 7"	14' - 2"	13' - 4"
		20/18	40.8	12' - 7"	14' - 6"	13' - 4"
		20/16	41.3	13' - 0"	14' - 10"	13' - 4"
		18/20	40.9	14' - 5"	16' - 2"	13' - 4"
		18/18	41.4	14' - 8"	16' - 7"	13' - 4"
		18/16	41.9	14' - 11"	16' - 11"	13' - 4"
		16/20	41.6	15' - 4"	18' - 6"	13' - 4"
		16/18	42.1	15' - 1"	18' - 1"	13' - 4"
		16/16	42.6	15' - 6"	18' - 8"	13' - 4"
6	1.389	20/20	44.9	12' - 1"	13' - 8"	12' - 11"
		20/18	45.4	12' - 2"	14' - 0"	13' - 0"
		20/16	45.9	12' - 6"	14' - 4"	13' - 3"
		18/20	45.5	14' - 0"	15' - 8"	13' - 4"
		18/18	46.0	14' - 4"	16' - 0"	13' - 4"
		18/16	46.5	14' - 6"	16' - 4"	13' - 4"
		16/20	46.2	15' - 0"	17' - 10"	13' - 4"
		16/18	46.7	14' - 9"	17' - 6"	13' - 4"
		16/16	47.2	15' - 1"	18' - 0"	13' - 4"
6¼ 2 Hour Fire Rating	1.466	20/20	47.2	11' - 10"	13' - 5"	12' - 8"
		20/18	47.6	11' - 11"	13' - 9"	12' - 9"
		20/16	48.2	12' - 3"	14' - 1"	13' - 1"
		18/20	47.8	13' - 11"	15' - 5"	13' - 4"
		18/18	48.3	14' - 2"	15' - 9"	13' - 4"
		18/16	48.8	14' - 4"	16' - 1"	13' - 4"
		16/20	48.5	14' - 10"	17' - 6"	13' - 4"
		16/18	49.0	14' - 7"	17' - 2"	13' - 4"
		16/16	49.5	14' - 11"	17' - 9"	13' - 4"
7 3/16 3 Hour Fire Rating	1.755	20/20	55.8	11' - 1"	12' - 8"	12' - 0"
		20/18	56.2	11' - 2"	13' - 0"	12' - 1"
		20/16	56.8	11' - 6"	13' - 4"	12' - 4"
		18/20	56.4	13' - 4"	14' - 6"	13' - 4"
		18/18	56.9	13' - 7"	14' - 10"	13' - 4"
		18/16	57.4	13' - 10"	15' - 2"	13' - 4"
		16/20	57.1	14' - 3"	16' - 7"	13' - 4"
		16/18	57.6	14' - 0"	16' - 3"	13' - 4"
		16/16	58.1	14' - 4"	16' - 9"	13' - 4"

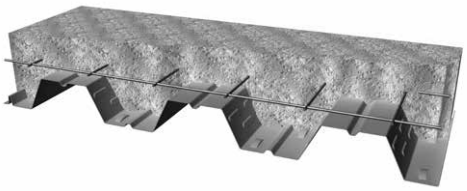
Shaded area the span is governed by maximum deck panel length of 40 feet; 20 feet for double span, 13 feet 4 inches for triple span.

2.4 3WxH-36 Composite Deck

5" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.080yd^3/100ft^2



	Gage	Single	Double	Triple
Maximum Unshored Span	22	10' - 1"	11' - 0"	11' - 4"
	21	11' - 0"	11' - 9"	12' - 2"
	20	11' - 9"	12' - 6"	12' - 11"

3WxH-36 5" Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
19	12' - 3"	13' - 10"	14' - 4"
18	12' - 7"	15' - 2"	14' - 9"
16	13' - 3"	16' - 7"	15' - 7"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	337	295	260	230	204	182	163	146	132	119	107	97	88	80	72
	LRFD, ϕW	451	394	345	304	270	240	214	191	171	154	138	124	112	101	90
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	2367	2342	2319	2309	2291	2274	2258	2244	2231	2227	2216	2205	2196	2187	2178
	PAF Base Steel ≥ .25"	2178	2163	2151	2150	2139	2129	2120	2112	2105	2106	2099	2093	2087	2082	2077
	PAF Base Steel ≥ 0.125"	2163	2150	2138	2137	2127	2118	2110	2102	2095	2096	2090	2084	2079	2074	2069
	#12 Screw Base Steel ≥ .0385"	2149	2137	2125	2126	2116	2107	2100	2092	2086	2088	2082	2076	2071	2066	2062
	Concrete + Deck =	44.0	psf		I_{cr} =	39.2	in^4/ft	ASD		M_{no}/Ω=	31.6	kip-in/ft		V_n/Ω =	3.30	kip/ft
	$(I_{cr}+I_u)/2$ =	73.17	in^4/ft		I_u =	107.1	in^4/ft	LRFD		ϕM_{no}=	48.4	kip-in/ft		ϕV_n =	4.76	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	372	325	287	254	226	202	181	163	147	133	120	109	99	90	82
	LRFD, ϕW	498	435	382	337	299	266	238	213	192	172	155	140	127	114	103
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
21	Arc Spot Weld 1/2" Effective Dia	2430	2401	2375	2365	2343	2324	2306	2289	2274	2271	2258	2246	2234	2224	2214
	PAF Base Steel ≥ .25"	2213	2196	2181	2182	2169	2158	2147	2138	2129	2132	2124	2117	2110	2104	2098
	PAF Base Steel ≥ 0.125"	2196	2180	2166	2168	2156	2145	2135	2126	2118	2121	2113	2107	2100	2094	2089
	#12 Screw Base Steel ≥ .0385"	2181	2166	2153	2155	2144	2134	2124	2116	2108	2111	2104	2098	2092	2086	2081
	Concrete + Deck =	44.3	psf		I_{cr} =	42.3	in^4/ft	ASD		M_{no}/Ω=	34.6	kip-in/ft		V_n/Ω =	3.82	kip/ft
	$(I_{cr}+I_u)/2$ =	75.43	in^4/ft		I_u =	108.6	in^4/ft	LRFD		ϕM_{no}=	52.9	kip-in/ft		ϕV_n =	5.66	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	404	354	312	277	246	220	198	178	161	146	132	120	109	100	91
	LRFD, ϕW	541	473	416	368	327	292	261	234	211	190	172	155	141	128	116
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	2477	2445	2416	2407	2383	2361	2341	2323	2307	2304	2289	2276	2263	2252	2241
	PAF Base Steel ≥ .25"	2239	2220	2204	2206	2192	2179	2168	2157	2147	2151	2142	2134	2127	2120	2114
	PAF Base Steel ≥ 0.125"	2220	2203	2188	2190	2177	2165	2154	2144	2135	2139	2131	2124	2117	2110	2104
	#12 Screw Base Steel ≥ .0385"	2205	2189	2174	2177	2165	2153	2143	2134	2125	2130	2122	2115	2108	2102	2096
	Concrete + Deck =	44.4	psf		I_{cr} =	45.1	in^4/ft	ASD		M_{no}/Ω=	37.3	kip-in/ft		V_n/Ω =	3.82	kip/ft
	$(I_{cr}+I_u)/2$ =	77.52	in^4/ft		I_u =	110.0	in^4/ft	LRFD		ϕM_{no}=	57.1	kip-in/ft		ϕV_n =	5.73	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	3200	4550	5540	7340	10040
	24 in o.c.	3200	4550	5540	7340	7750
	36 in o.c.	3200	4550	5170	5170	5170

3WxH-36 Composite Deck 2.4

5" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.080yd^3/100ft^2

3WxH PANELS

3WxH-36 5" Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Gage	22	10' - 1"	11' - 0"	11' - 4"
	21	11' - 0"	11' - 9"	12' - 2"
	20	11' - 9"	12' - 6"	12' - 11"

Gage	Single	Double	Triple
19	12' - 3"	13' - 10"	14' - 4"
18	12' - 7"	15' - 2"	14' - 9"
16	13' - 3"	16' - 7"	15' - 7"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	469	412	364	323	288	258	232	210	190	172	157	143	131	119	109
	LRFD, ϕW	630	552	487	431	384	343	308	277	250	226	205	186	170	154	141
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2579	2540	2506	2497	2468	2442	2418	2397	2377	2376	2358	2342	2327	2313	2300
	PAF Base Steel ≥ .25"	2295	2273	2254	2258	2241	2226	2212	2200	2188	2194	2184	2174	2165	2156	2149
	PAF Base Steel ≥ 0.125"	2274	2253	2235	2241	2225	2210	2197	2185	2174	2181	2171	2161	2153	2145	2137
	#12 Screw Base Steel ≥ .0385"	2258	2238	2220	2227	2212	2198	2185	2174	2163	2170	2161	2152	2144	2136	2129
	Concrete + Deck =	44.8	psf		I_{cr} =	50.6	in^4/ft	ASD		M_{no}/Ω=	42.9	kip-in/ft		V_n/Ω =	3.82	kip/ft
	$(I_{cr}+I_u)/2$ =	81.72	in^4/ft		I_u =	112.8	in^4/ft	LRFD		ϕM_{no}=	65.7	kip-in/ft		ϕV_n =	5.73	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	527	463	409	364	325	292	263	238	216	196	179	162	145	131	118
	LRFD, ϕW	709	622	549	487	434	389	349	315	285	258	235	214	195	178	163
	L/360	-	-	-	-	-	-	-	-	-	-	-	162	145	131	118
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2679	2634	2594	2587	2554	2523	2496	2470	2447	2448	2427	2408	2391	2374	2359
	PAF Base Steel ≥ .25"	2352	2326	2303	2312	2292	2274	2258	2243	2229	2238	2226	2214	2204	2194	2184
	PAF Base Steel ≥ 0.125"	2328	2304	2282	2292	2273	2256	2240	2226	2213	2223	2211	2200	2190	2181	2172
	#12 Screw Base Steel ≥ .0385"	2311	2288	2267	2278	2259	2243	2228	2215	2202	2212	2201	2190	2181	2171	2163
	Concrete + Deck =	45.0	psf		I_{cr} =	55.4	in^4/ft	ASD		M_{no}/Ω=	47.9	kip-in/ft		V_n/Ω =	3.82	kip/ft
	$(I_{cr}+I_u)/2$ =	85.38	in^4/ft		I_u =	115.4	in^4/ft	LRFD		ϕM_{no}=	73.2	kip-in/ft		ϕV_n =	5.73	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	649	571	505	450	403	362	326	285	251	222	197	176	158	142	129
	LRFD, ϕW	874	768	679	604	540	484	436	395	358	326	297	271	248	228	209
	L/360	-	-	-	-	-	-	326	285	251	222	197	176	158	142	129
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2898	2840	2788	2786	2742	2702	2666	2633	2602	2609	2581	2556	2533	2511	2491
	PAF Base Steel ≥ .25"	2477	2443	2413	2431	2405	2381	2359	2339	2321	2339	2322	2307	2292	2279	2266
	PAF Base Steel ≥ 0.125"	2431	2400	2372	2393	2368	2346	2326	2308	2291	2310	2294	2279	2266	2253	2242
	#12 Screw Base Steel ≥ .0385"	2431	2400	2373	2393	2369	2346	2326	2308	2291	2310	2294	2280	2266	2254	2242
	Concrete + Deck =	45.7	psf		I_{cr} =	64.9	in^4/ft	ASD		M_{no}/Ω=	58.3	kip-in/ft		V_n/Ω =	3.82	kip/ft
	$(I_{cr}+I_u)/2$ =	92.79	in^4/ft		I_u =	120.7	in^4/ft	LRFD		ϕM_{no}=	89.2	kip-in/ft		ϕV_n =	5.73	kip/ft

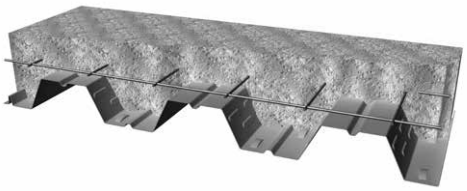
All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	3200	4550	5540	7340	10040
	24 in o.c.	3200	4550	5540	7340	7750
	36 in o.c.	3200	4550	5170	5170	5170

2.4 3WxH-36 Composite Deck

5½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.23yd³/100ft²



3WxH-36 5 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	9' - 8"	10' - 6"	10' - 10"
	21	10' - 6"	11' - 3"	11' - 8"
	20	11' - 3"	11' - 11"	12' - 4"

Gage	Single	Double	Triple
19	11' - 10"	13' - 4"	13' - 9"
18	12' - 3"	14' - 6"	14' - 4"
16	12' - 11"	16' - 1"	15' - 1"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	394	345	304	269	239	213	191	171	154	139	126	114	103	94	85
	LRFD, ϕW	527	460	404	356	316	281	250	224	201	180	162	146	132	119	107
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2858	2832	2809	2800	2781	2764	2749	2734	2721	2718	2706	2696	2686	2677	2669
	PAF Base Steel ≥ .25"	2668	2654	2641	2640	2629	2620	2611	2603	2595	2596	2590	2584	2578	2573	2568
	PAF Base Steel ≥ 0.125"	2653	2640	2628	2628	2618	2608	2600	2592	2585	2587	2581	2575	2569	2564	2560
	#12 Screw Base Steel ≥ .0385"	2640	2627	2616	2616	2607	2598	2590	2583	2576	2578	2572	2567	2562	2557	2552
	Concrete + Deck = 50.1 psf				I_{cr} = 50.5 in⁴/ft			ASD		M_{no}/Ω= 36.8 kip-in/ft				V_n/Ω = 3.57 kip/ft		
	$(I_{cr}+I_u)/2$ = 95.95 in⁴/ft				I_u = 141.4 in⁴/ft			LRFD		ϕM_{no}= 56.4 kip-in/ft				ϕV_n = 5.16 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	434	380	335	297	264	236	212	191	172	156	141	128	116	106	96
	LRFD, ϕW	581	508	447	395	350	312	279	250	225	202	183	165	149	135	122
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2921	2891	2865	2855	2834	2814	2796	2780	2765	2761	2748	2736	2725	2714	2704
	PAF Base Steel ≥ .25"	2703	2686	2672	2672	2659	2648	2638	2628	2620	2622	2614	2607	2600	2594	2588
	PAF Base Steel ≥ 0.125"	2686	2671	2657	2658	2646	2635	2625	2617	2608	2611	2604	2597	2591	2585	2579
	#12 Screw Base Steel ≥ .0385"	2672	2657	2644	2646	2634	2624	2615	2606	2599	2602	2595	2588	2582	2577	2571
	Concrete + Deck = 50.4 psf				I_{cr} = 54.4 in⁴/ft			ASD		M_{no}/Ω= 40.3 kip-in/ft				V_n/Ω = 4.23 kip/ft		
	$(I_{cr}+I_u)/2$ = 98.84 in⁴/ft				I_u = 143.2 in⁴/ft			LRFD		ϕM_{no}= 61.6 kip-in/ft				ϕV_n = 6.05 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	472	413	365	323	288	258	232	209	189	171	155	141	129	117	107
	LRFD, ϕW	632	553	487	431	383	342	306	275	247	223	202	183	166	150	137
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2968	2935	2906	2897	2873	2851	2832	2813	2797	2794	2780	2766	2754	2742	2731
	PAF Base Steel ≥ .25"	2729	2711	2694	2696	2682	2669	2658	2647	2638	2641	2633	2625	2617	2610	2604
	PAF Base Steel ≥ 0.125"	2711	2694	2678	2681	2668	2656	2645	2635	2626	2630	2622	2614	2607	2600	2594
	#12 Screw Base Steel ≥ .0385"	2696	2679	2665	2668	2655	2644	2634	2624	2616	2620	2612	2605	2598	2592	2586
	Concrete + Deck = 50.4 psf				I_{cr} = 58.1 in⁴/ft			ASD		M_{no}/Ω= 43.5 kip-in/ft				V_n/Ω = 4.35 kip/ft		
	$(I_{cr}+I_u)/2$ = 101.5 in⁴/ft				I_u = 145.0 in⁴/ft			LRFD		ϕM_{no}= 66.5 kip-in/ft				ϕV_n = 6.52 kip/ft		

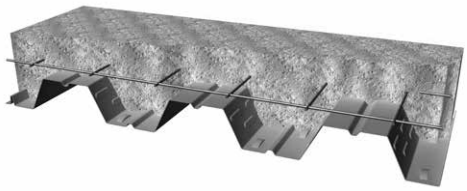
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in²/ft	A_s = 0.058 in²/ft	A_s = 0.080 in²/ft	A_s = 0.120 in²/ft	A_s = 0.180 in²/ft
	12 in o.c.	3700	5050	6040	7840	10540
	24 in o.c.	3700	5050	6040	7750	7750
	36 in o.c.	3700	5050	5170	5170	5170

3WxH-36 Composite Deck 2.4

5½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.23yd³/100ft²



	Gage	Single	Double	Triple
Maximum Unshored Span	22	9' - 8"	10' - 6"	10' - 10"
	21	10' - 6"	11' - 3"	11' - 8"
	20	11' - 3"	11' - 11"	12' - 4"

3WxH-36 5 1/2 " Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
19	11' - 10"	13' - 4"	13' - 9"
18	12' - 3"	14' - 6"	14' - 4"
16	12' - 11"	16' - 1"	15' - 1"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	548	481	425	378	337	302	272	246	222	202	184	168	153	140	129
	LRFD, ϕW	736	645	569	505	449	402	361	325	293	266	241	219	199	182	166
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
19	Arc Spot Weld 1/2" Effective Dia	3069	3030	2996	2988	2959	2933	2909	2887	2867	2866	2849	2832	2817	2803	2790
	PAF Base Steel ≥ .25"	2786	2764	2744	2749	2732	2717	2703	2690	2678	2685	2674	2664	2655	2647	2639
	PAF Base Steel ≥ 0.125"	2765	2744	2725	2731	2715	2701	2687	2675	2664	2671	2661	2652	2643	2635	2628
	#12 Screw Base Steel ≥ .0385"	2748	2729	2711	2717	2702	2688	2676	2664	2654	2661	2651	2642	2634	2626	2619
	Concrete + Deck =	50.9	psf		I_{cr} =	65.2	in^4/ft	ASD		M_{no}/Ω=	50.0	kip-in/ft		V_n/Ω =	4.35	kip/ft
	$(I_{cr}+I_u)/2$ =	106.9	in^4/ft		I_u =	148.5	in^4/ft	LRFD		ϕM_{no}=	76.6	kip-in/ft		ϕV_n =	6.52	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	616	541	479	426	381	342	308	278	253	230	210	192	175	161	148
	LRFD, ϕW	829	727	642	570	508	455	410	369	334	303	276	251	229	210	192
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	3169	3125	3085	3078	3044	3014	2986	2961	2938	2938	2918	2899	2881	2865	2849
	PAF Base Steel ≥ .25"	2842	2816	2794	2802	2782	2764	2748	2733	2719	2729	2716	2705	2694	2684	2675
	PAF Base Steel ≥ 0.125"	2818	2794	2772	2782	2763	2746	2731	2716	2703	2713	2702	2691	2680	2671	2662
	#12 Screw Base Steel ≥ .0385"	2802	2778	2758	2768	2750	2733	2719	2705	2692	2703	2691	2681	2671	2662	2653
	Concrete + Deck =	51.1	psf		I_{cr} =	71.4	in^4/ft	ASD		M_{no}/Ω=	55.9	kip-in/ft		V_n/Ω =	4.35	kip/ft
	$(I_{cr}+I_u)/2$ =	111.5	in^4/ft		I_u =	151.7	in^4/ft	LRFD		ϕM_{no}=	85.5	kip-in/ft		ϕV_n =	6.52	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	758	667	591	526	471	424	383	347	315	288	257	230	206	186	168
	LRFD, ϕW	1022	898	794	707	632	567	511	463	420	382	348	319	292	268	246
	L/360	-	-	-	-	-	-	-	-	-	-	257	230	206	186	168
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	3389	3330	3278	3277	3232	3193	3156	3123	3093	3099	3072	3047	3023	3002	2981
	PAF Base Steel ≥ .25"	2967	2933	2903	2922	2895	2871	2850	2830	2812	2829	2813	2797	2783	2769	2757
	PAF Base Steel ≥ 0.125"	2921	2890	2863	2883	2859	2837	2816	2798	2781	2800	2784	2770	2756	2744	2732
	#12 Screw Base Steel ≥ .0385"	2922	2891	2863	2884	2859	2837	2817	2798	2781	2800	2785	2770	2757	2744	2732
	Concrete + Deck =	51.8	psf		I_{cr} =	83.7	in^4/ft	ASD		M_{no}/Ω=	68.0	kip-in/ft		V_n/Ω =	4.35	kip/ft
	$(I_{cr}+I_u)/2$ =	121	in^4/ft		I_u =	158.3	in^4/ft	LRFD		ϕM_{no}=	104.1	kip-in/ft		ϕV_n =	6.52	kip/ft

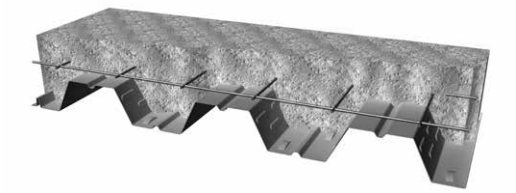
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	3700	5050	6040	7840	10540
	24 in o.c.	3700	5050	6040	7750	7750
	36 in o.c.	3700	5050	5170	5170	5170

2.4 3WxH-36 Composite Deck

6" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.389yd^3/100ft^2



3WxH-36 6" Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	9' - 3"	10' - 1"	10' - 5"
	21	10' - 1"	10' - 10"	11' - 2"
	20	10' - 10"	11' - 6"	11' - 10"

Gage	Single	Double	Triple
19	11' - 7"	12' - 9"	13' - 3"
18	11' - 11"	13' - 11"	14' - 0"
16	12' - 7"	15' - 7"	14' - 9"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	454	397	350	310	275	246	220	198	178	161	146	132	120	109	99
	LRFD, ϕW	607	530	466	411	364	324	289	259	232	209	188	170	153	138	125
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3348	3323	3300	3290	3271	3254	3239	3225	3212	3208	3197	3186	3177	3168	3159
	PAF Base Steel ≥ .25"	3159	3144	3132	3131	3120	3110	3101	3093	3086	3087	3080	3074	3068	3063	3058
	PAF Base Steel ≥ 0.125"	3144	3130	3118	3118	3108	3099	3090	3083	3076	3077	3071	3065	3060	3055	3050
	#12 Screw Base Steel ≥ .0385"	3130	3117	3106	3107	3097	3088	3080	3073	3067	3069	3063	3057	3052	3047	3043
	Concrete + Deck = 56.1 psf				I_{cr} = 63.6 in^4/ft			ASD		M_{no}/Ω= 42.3 kip-in/ft				V_n/Ω = 3.85 kip/ft		
	$(I_{cr}+I_u)/2$ = 123.1 in^4/ft				I_u = 182.5 in^4/ft			LRFD		ϕM_{no}= 64.8 kip-in/ft				ϕV_n = 5.57 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	500	438	386	342	305	273	245	220	199	180	163	148	135	123	112
	LRFD, ϕW	670	586	515	455	404	360	322	289	260	234	212	191	173	157	142
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3411	3382	3356	3346	3324	3304	3286	3270	3255	3252	3239	3226	3215	3205	3195
	PAF Base Steel ≥ .25"	3193	3177	3162	3162	3150	3138	3128	3119	3110	3112	3105	3097	3091	3085	3079
	PAF Base Steel ≥ 0.125"	3177	3161	3147	3148	3136	3126	3116	3107	3099	3102	3094	3088	3081	3075	3070
	#12 Screw Base Steel ≥ .0385"	3162	3147	3134	3136	3125	3114	3105	3097	3089	3092	3085	3079	3073	3067	3062
	Concrete + Deck = 56.4 psf				I_{cr} = 68.6 in^4/ft			ASD		M_{no}/Ω= 46.3 kip-in/ft				V_n/Ω = 4.50 kip/ft		
	$(I_{cr}+I_u)/2$ = 126.7 in^4/ft				I_u = 184.7 in^4/ft			LRFD		ϕM_{no}= 70.8 kip-in/ft				ϕV_n = 6.47 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	543	476	420	373	332	298	267	241	218	198	179	163	149	136	124
	LRFD, ϕW	729	638	561	497	442	395	353	318	286	258	234	212	192	175	159
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3458	3426	3397	3387	3363	3342	3322	3304	3287	3285	3270	3257	3244	3233	3222
	PAF Base Steel ≥ .25"	3219	3201	3185	3186	3172	3160	3148	3138	3128	3132	3123	3115	3108	3101	3094
	PAF Base Steel ≥ 0.125"	3201	3184	3169	3171	3158	3146	3135	3125	3116	3120	3112	3104	3097	3091	3085
	#12 Screw Base Steel ≥ .0385"	3186	3170	3155	3158	3146	3134	3124	3115	3106	3110	3103	3095	3089	3082	3077
	Concrete + Deck = 56.5 psf				I_{cr} = 73.2 in^4/ft			ASD		M_{no}/Ω= 50.0 kip-in/ft				V_n/Ω = 4.90 kip/ft		
	$(I_{cr}+I_u)/2$ = 130 in^4/ft				I_u = 186.9 in^4/ft			LRFD		ϕM_{no}= 76.5 kip-in/ft				ϕV_n = 7.27 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	4190	5540	6530	8330	11030
	24 in o.c.	4190	5540	6530	7750	7750
	36 in o.c.	4190	5170	5170	5170	5170

3WxH-36 Composite Deck 2.4

6" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.389yd³/100ft²

3WxH-36 6" Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	9' - 3"	10' - 1"	10' - 5"
	21	10' - 1"	10' - 10"	11' - 2"
	20	10' - 10"	11' - 6"	11' - 10"

Gage	Single	Double	Triple
19	11' - 7"	12' - 9"	13' - 3"
18	11' - 11"	13' - 11"	14' - 0"
16	12' - 7"	15' - 7"	14' - 9"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	632	555	490	436	389	349	314	284	257	234	213	194	178	163	149
	LRFD, ϕW	849	744	656	582	519	464	417	376	339	307	279	254	231	211	193
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3560	3521	3486	3478	3449	3423	3399	3378	3358	3357	3339	3323	3308	3294	3281
	PAF Base Steel ≥ .25"	3276	3254	3234	3239	3222	3207	3193	3180	3169	3175	3165	3155	3146	3137	3129
	PAF Base Steel ≥ 0.125"	3255	3234	3216	3221	3205	3191	3178	3166	3155	3162	3152	3142	3134	3126	3118
	#12 Screw Base Steel ≥ .0385"	3239	3219	3201	3208	3193	3179	3166	3155	3144	3151	3142	3133	3124	3117	3110
	Concrete + Deck = 56.9 psf				I_{cr} = 82.3 in^4/ft			ASD		M_{no}/Ω= 57.6 kip-in/ft				V_n/Ω = 4.90 kip/ft		
	$(I_{cr}+I_u)/2$ = 136.8 in^4/ft				I_u = 191.2 in^4/ft			LRFD		ϕM_{no}= 88.1 kip-in/ft				ϕV_n = 7.35 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	711	625	552	491	439	395	356	322	292	266	242	222	203	187	171
	LRFD, ϕW	956	839	741	658	587	526	473	427	387	351	320	291	266	243	223
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3660	3615	3575	3568	3534	3504	3476	3451	3428	3429	3408	3389	3372	3355	3340
	PAF Base Steel ≥ .25"	3333	3307	3284	3292	3273	3255	3238	3223	3210	3219	3207	3195	3185	3175	3165
	PAF Base Steel ≥ 0.125"	3309	3284	3263	3272	3254	3237	3221	3207	3194	3204	3192	3181	3171	3161	3153
	#12 Screw Base Steel ≥ .0385"	3292	3269	3248	3258	3240	3224	3209	3195	3183	3193	3182	3171	3161	3152	3144
	Concrete + Deck = 57.1 psf				I_{cr} = 90.2 in^4/ft			ASD		M_{no}/Ω= 64.3 kip-in/ft				V_n/Ω = 4.90 kip/ft		
	$(I_{cr}+I_u)/2$ = 142.7 in^4/ft				I_u = 195.2 in^4/ft			LRFD		ϕM_{no}= 98.4 kip-in/ft				ϕV_n = 7.35 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	875	770	682	608	544	490	442	401	365	333	304	279	256	236	214
	LRFD, ϕW	1179	1037	917	816	730	656	591	535	486	442	404	369	338	311	286
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	214
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3879	3820	3768	3767	3723	3683	3647	3613	3583	3589	3562	3537	3514	3492	3472
	PAF Base Steel ≥ .25"	3458	3424	3394	3412	3386	3362	3340	3320	3302	3320	3303	3287	3273	3260	3247
	PAF Base Steel ≥ 0.125"	3412	3381	3353	3374	3349	3327	3307	3288	3272	3290	3275	3260	3247	3234	3223
	#12 Screw Base Steel ≥ .0385"	3412	3381	3354	3374	3350	3327	3307	3289	3272	3291	3275	3261	3247	3235	3223
	Concrete + Deck = 57.8 psf				I_{cr} = 105.8 in^4/ft			ASD		M_{no}/Ω= 78.4 kip-in/ft				V_n/Ω = 4.90 kip/ft		
	$(I_{cr}+I_u)/2$ = 154.5 in^4/ft				I_u = 203.3 in^4/ft			LRFD		ϕM_{no}= 119.9 kip-in/ft				ϕV_n = 7.35 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	4190	5540	6530	8330	11030
	24 in o.c.	4190	5540	6530	7750	7750
	36 in o.c.	4190	5170	5170	5170	5170

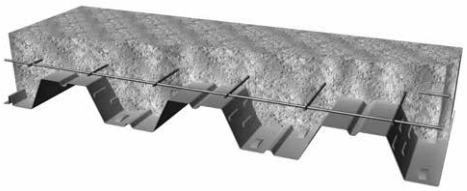
2.4 3WxH-36 Composite Deck

6 ½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.543yd³/100ft²

1 Hour Fire Rating



3WxH-36 6 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 11"	9' - 9"	10' - 1"
	21	9' - 8"	10' - 5"	10' - 9"
	20	10' - 5"	11' - 1"	11' - 5"

Gage	Single	Double	Triple
19	11' - 3"	12' - 4"	12' - 9"
18	11' - 8"	13' - 5"	13' - 8"
16	12' - 3"	15' - 0"	14' - 5"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	516	452	398	352	313	280	251	226	203	184	166	151	137	125	113
	LRFD, ϕW	691	603	530	468	415	370	330	296	265	239	215	194	175	158	143
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3839	3813	3790	3781	3762	3745	3729	3715	3702	3698	3687	3677	3667	3658	3649
	PAF Base Steel ≥ .25"	3649	3635	3622	3621	3610	3600	3592	3583	3576	3577	3571	3564	3559	3553	3548
	PAF Base Steel ≥ 0.125"	3634	3621	3609	3609	3598	3589	3581	3573	3566	3568	3561	3556	3550	3545	3541
	#12 Screw Base Steel ≥ .0385"	3621	3608	3597	3597	3587	3579	3571	3564	3557	3559	3553	3548	3542	3538	3533
	Concrete + Deck = 62.2 psf				I_{cr} = 78.7 in⁴/ft			ASD		M_{no}/Ω= 48.0 kip-in/ft				V_n/Ω = 4.14 kip/ft		
	$(I_{cr}+I_u)/2$ = 154.9 in⁴/ft				I_u = 231.1 in⁴/ft			LRFD		ϕM_{no}= 73.5 kip-in/ft				ϕV_n = 6.01 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	569	498	439	390	347	310	279	251	227	205	186	169	154	140	128
	LRFD, ϕW	762	666	586	519	461	411	368	330	297	268	242	219	198	180	163
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3902	3872	3846	3836	3815	3795	3777	3761	3746	3742	3729	3717	3706	3695	3685
	PAF Base Steel ≥ .25"	3684	3667	3652	3653	3640	3629	3619	3609	3600	3603	3595	3588	3581	3575	3569
	PAF Base Steel ≥ 0.125"	3667	3651	3638	3639	3627	3616	3606	3597	3589	3592	3585	3578	3572	3566	3560
	#12 Screw Base Steel ≥ .0385"	3652	3638	3624	3626	3615	3605	3596	3587	3579	3583	3576	3569	3563	3558	3552
	Concrete + Deck = 62.4 psf				I_{cr} = 84.9 in⁴/ft			ASD		M_{no}/Ω= 52.5 kip-in/ft				V_n/Ω = 4.80 kip/ft		
	$(I_{cr}+I_u)/2$ = 159.4 in⁴/ft				I_u = 233.8 in⁴/ft			LRFD		ϕM_{no}= 80.3 kip-in/ft				ϕV_n = 6.91 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	618	542	478	424	378	339	305	275	249	225	205	187	170	155	142
	LRFD, ϕW	829	726	639	566	504	450	403	362	327	295	267	242	220	200	182
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3949	3916	3887	3878	3854	3832	3812	3794	3778	3775	3760	3747	3735	3723	3712
	PAF Base Steel ≥ .25"	3710	3691	3675	3677	3663	3650	3639	3628	3619	3622	3614	3606	3598	3591	3585
	PAF Base Steel ≥ 0.125"	3692	3674	3659	3662	3648	3636	3626	3616	3607	3611	3602	3595	3588	3581	3575
	#12 Screw Base Steel ≥ .0385"	3676	3660	3645	3649	3636	3625	3614	3605	3596	3601	3593	3586	3579	3573	3567
	Concrete + Deck = 62.5 psf				I_{cr} = 90.6 in⁴/ft			ASD		M_{no}/Ω= 56.7 kip-in/ft				V_n/Ω = 5.38 kip/ft		
	$(I_{cr}+I_u)/2$ = 163.5 in⁴/ft				I_u = 236.4 in⁴/ft			LRFD		ϕM_{no}= 86.8 kip-in/ft				ϕV_n = 7.71 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	n/a	6030	7020	8820	11520
	24 in o.c.	n/a	6030	7020	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3WxH-36 Composite Deck 2.4

6 ½" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.543yd³/100ft²

1 Hour Fire Rating

3WxH-36 6 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 11"	9' - 9"	10' - 1"
	21	9' - 8"	10' - 5"	10' - 9"
	20	10' - 5"	11' - 1"	11' - 5"

Gage	Single	Double	Triple
19	11' - 3"	12' - 4"	12' - 9"
18	11' - 8"	13' - 5"	13' - 8"
16	12' - 3"	15' - 0"	14' - 5"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	719	631	558	496	443	397	358	323	293	267	243	222	203	186	171
	LRFD, ϕW	966	847	748	663	591	529	475	429	387	351	319	290	265	242	221
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4050	4011	3977	3968	3940	3913	3890	3868	3848	3847	3829	3813	3798	3784	3771
	PAF Base Steel ≥ .25"	3767	3744	3725	3730	3713	3697	3684	3671	3659	3666	3655	3645	3636	3628	3620
	PAF Base Steel ≥ 0.125"	3745	3725	3706	3712	3696	3681	3668	3656	3645	3652	3642	3633	3624	3616	3609
	#12 Screw Base Steel ≥ .0385"	3729	3709	3692	3698	3683	3669	3656	3645	3634	3642	3632	3623	3615	3607	3600
	Concrete + Deck =	63.0	psf		I_{cr} =	101.9	in⁴/ft	ASD		M_{no}/Ω=	65.4	kip-in/ft		V_n/Ω =	5.49	kip/ft
	$(I_{cr}+I_u)/2$ =	171.8	in⁴/ft		I_u =	241.7	in⁴/ft	LRFD		ϕM_{no}=	100.0	kip-in/ft		ϕV_n =	8.23	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	809	711	629	560	501	450	406	367	333	303	277	253	232	213	196
	LRFD, ϕW	1089	956	845	750	670	600	540	488	442	401	365	333	305	279	256
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4150	4105	4065	4059	4025	3994	3967	3942	3918	3919	3899	3880	3862	3846	3830
	PAF Base Steel ≥ .25"	3823	3797	3774	3783	3763	3745	3729	3714	3700	3710	3697	3686	3675	3665	3656
	PAF Base Steel ≥ 0.125"	3799	3775	3753	3763	3744	3727	3711	3697	3684	3694	3682	3672	3661	3652	3643
	#12 Screw Base Steel ≥ .0385"	3783	3759	3739	3749	3731	3714	3699	3686	3673	3684	3672	3662	3652	3643	3634
	Concrete + Deck =	63.2	psf		I_{cr} =	111.7	in⁴/ft	ASD		M_{no}/Ω=	73.1	kip-in/ft		V_n/Ω =	5.49	kip/ft
	$(I_{cr}+I_u)/2$ =	179.2	in⁴/ft		I_u =	246.6	in⁴/ft	LRFD		ϕM_{no}=	111.8	kip-in/ft		ϕV_n =	8.23	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	997	878	778	693	621	559	505	458	417	380	348	319	293	270	249
	LRFD, ϕW	1345	1182	1046	931	833	748	675	611	555	505	462	422	387	356	328
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4369	4311	4259	4257	4213	4173	4137	4104	4073	4080	4053	4028	4004	3983	3962
	PAF Base Steel ≥ .25"	3948	3914	3884	3903	3876	3852	3831	3811	3793	3810	3793	3778	3763	3750	3738
	PAF Base Steel ≥ 0.125"	3902	3871	3844	3864	3840	3817	3797	3779	3762	3781	3765	3751	3737	3725	3713
	#12 Screw Base Steel ≥ .0385"	3903	3872	3844	3864	3840	3818	3798	3779	3762	3781	3766	3751	3738	3725	3713
	Concrete + Deck =	63.9	psf		I_{cr} =	131.2	in⁴/ft	ASD		M_{no}/Ω=	89.2	kip-in/ft		V_n/Ω =	5.49	kip/ft
	$(I_{cr}+I_u)/2$ =	193.8	in⁴/ft		I_u =	256.4	in⁴/ft	LRFD		ϕM_{no}=	136.4	kip-in/ft		ϕV_n =	8.23	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	n/a	6030	7020	8820	11520
	24 in o.c.	n/a	6030	7020	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

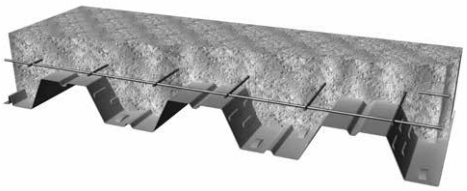
2.4 3WxH-36 Composite Deck

7 ½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.852yd^3/100ft^2

2 Hour Fire Rating



3WxH-36 7 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 4"	9' - 1"	9' - 5"
	21	9' - 0"	9' - 9"	10' - 1"
	20	9' - 8"	10' - 4"	10' - 8"

Gage	Single	Double	Triple
19	10' - 8"	11' - 6"	11' - 11"
18	11' - 2"	12' - 7"	13' - 0"
16	11' - 9"	14' - 1"	13' - 10"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	645	565	498	441	393	351	315	284	256	231	210	191	173	158	144
	LRFD, ϕW	864	756	664	587	521	464	415	372	335	301	272	246	222	201	182
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4819	4794	4771	4762	4743	4726	4710	4696	4683	4679	4668	4658	4648	4639	4630
	PAF Base Steel ≥ .25"	4630	4616	4603	4602	4591	4581	4572	4564	4557	4558	4551	4545	4540	4534	4529
	PAF Base Steel ≥ 0.125"	4615	4602	4590	4590	4579	4570	4562	4554	4547	4549	4542	4537	4531	4526	4521
	#12 Screw Base Steel ≥ .0385"	4601	4589	4577	4578	4568	4560	4552	4544	4538	4540	4534	4528	4523	4519	4514
	Concrete + Deck = 74.2 psf				I_{cr} = 114.4 in^4/ft			ASD		M_{no}/Ω= 59.8 kip-in/ft				V_n/Ω = 4.76 kip/ft		
	$(I_{cr}+I_u)/2$ = 234.2 in^4/ft				I_u = 354.1 in^4/ft			LRFD		ϕM_{no}= 91.5 kip-in/ft				ϕV_n = 6.94 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	712	624	550	488	435	390	350	315	285	258	235	214	195	178	162
	LRFD, ϕW	954	835	735	651	579	516	463	416	374	338	306	277	251	228	207
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4883	4853	4827	4817	4795	4776	4758	4741	4726	4723	4710	4698	4686	4676	4666
	PAF Base Steel ≥ .25"	4665	4648	4633	4634	4621	4610	4599	4590	4581	4584	4576	4569	4562	4556	4550
	PAF Base Steel ≥ 0.125"	4648	4632	4618	4620	4608	4597	4587	4578	4570	4573	4566	4559	4552	4547	4541
	#12 Screw Base Steel ≥ .0385"	4633	4618	4605	4607	4596	4586	4576	4568	4560	4564	4557	4550	4544	4538	4533
	Concrete + Deck = 74.5 psf				I_{cr} = 123.6 in^4/ft			ASD		M_{no}/Ω= 65.5 kip-in/ft				V_n/Ω = 5.42 kip/ft		
	$(I_{cr}+I_u)/2$ = 240.8 in^4/ft				I_u = 358.0 in^4/ft			LRFD		ϕM_{no}= 100.2 kip-in/ft				ϕV_n = 7.84 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	773	679	599	532	475	425	383	345	313	284	258	235	215	196	180
	LRFD, ϕW	1038	910	802	710	632	565	507	456	412	372	338	307	279	254	231
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4929	4897	4868	4859	4835	4813	4793	4775	4759	4756	4741	4728	4715	4704	4693
	PAF Base Steel ≥ .25"	4691	4672	4656	4658	4644	4631	4620	4609	4600	4603	4594	4586	4579	4572	4566
	PAF Base Steel ≥ 0.125"	4673	4655	4640	4642	4629	4617	4606	4597	4587	4592	4583	4576	4569	4562	4556
	#12 Screw Base Steel ≥ .0385"	4657	4641	4626	4630	4617	4606	4595	4586	4577	4582	4574	4567	4560	4554	4548
	Concrete + Deck = 74.6 psf				I_{cr} = 132.0 in^4/ft			ASD		M_{no}/Ω= 70.8 kip-in/ft				V_n/Ω = 6.01 kip/ft		
	$(I_{cr}+I_u)/2$ = 246.8 in^4/ft				I_u = 361.6 in^4/ft			LRFD		ϕM_{no}= 108.3 kip-in/ft				ϕV_n = 8.64 kip/ft		

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	7020	8010	9810	12510
	24 in o.c.	n/a	7020	7750	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3WxH-36 Composite Deck 2.4

7 ½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.852yd^3/100ft^2

2 Hour Fire Rating

3WxH-36 7 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 4"	9' - 1"	9' - 5"
	21	9' - 0"	9' - 9"	10' - 1"
	20	9' - 8"	10' - 4"	10' - 8"

Gage	Single	Double	Triple
19	10' - 8"	11' - 6"	11' - 11"
18	11' - 2"	12' - 7"	13' - 0"
16	11' - 9"	14' - 1"	13' - 10"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	901	791	700	622	556	499	450	407	369	336	306	280	256	235	216
	LRFD, ϕW	1212	1063	938	833	743	666	598	540	488	443	403	367	335	306	280
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5031	4992	4958	4949	4920	4894	4871	4849	4829	4828	4810	4794	4779	4765	4752
	PAF Base Steel ≥ .25"	4747	4725	4706	4711	4694	4678	4664	4652	4640	4646	4636	4626	4617	4609	4601
	PAF Base Steel ≥ 0.125"	4726	4706	4687	4693	4677	4662	4649	4637	4626	4633	4623	4614	4605	4597	4590
	#12 Screw Base Steel ≥ .0385"	4710	4690	4673	4679	4664	4650	4637	4626	4615	4623	4613	4604	4596	4588	4581
	Concrete + Deck = 75.1 psf				I_{cr} = 148.9 in^4/ft			ASD		M_{no}/Ω= 81.7 kip-in/ft				V_n/Ω = 6.73 kip/ft		
	$(I_{cr}+I_u)/2$ = 259 in^4/ft				I_u = 369.2 in^4/ft			LRFD		ϕM_{no}= 125.0 kip-in/ft				ϕV_n = 10.09 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1016	893	791	704	630	566	511	462	420	383	350	320	294	270	249
	LRFD, ϕW	1368	1201	1062	944	843	756	681	615	558	507	462	422	386	354	324
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5131	5086	5046	5039	5006	4975	4948	4922	4899	4900	4879	4860	4843	4826	4811
	PAF Base Steel ≥ .25"	4804	4778	4755	4764	4744	4726	4710	4695	4681	4690	4678	4667	4656	4646	4637
	PAF Base Steel ≥ 0.125"	4780	4756	4734	4744	4725	4708	4692	4678	4665	4675	4663	4652	4642	4633	4624
	#12 Screw Base Steel ≥ .0385"	4764	4740	4719	4730	4712	4695	4680	4667	4654	4665	4653	4643	4633	4624	4615
	Concrete + Deck = 75.3 psf				I_{cr} = 163.5 in^4/ft			ASD		M_{no}/Ω= 91.5 kip-in/ft				V_n/Ω = 6.73 kip/ft		
	$(I_{cr}+I_u)/2$ = 269.8 in^4/ft				I_u = 376.2 in^4/ft			LRFD		ϕM_{no}= 140.0 kip-in/ft				ϕV_n = 10.09 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1254	1104	979	872	782	704	636	577	526	480	439	403	371	342	316
	LRFD, ϕW	1691	1488	1317	1173	1050	944	852	771	701	639	584	535	491	451	416
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5350	5292	5240	5238	5194	5154	5118	5085	5054	5061	5034	5008	4985	4963	4943
	PAF Base Steel ≥ .25"	4929	4895	4865	4883	4857	4833	4811	4792	4773	4791	4774	4759	4744	4731	4718
	PAF Base Steel ≥ 0.125"	4883	4852	4824	4845	4820	4798	4778	4760	4743	4762	4746	4732	4718	4706	4694
	#12 Screw Base Steel ≥ .0385"	4884	4852	4825	4845	4821	4799	4778	4760	4743	4762	4746	4732	4718	4706	4694
	Concrete + Deck = 75.9 psf				I_{cr} = 192.5 in^4/ft			ASD		M_{no}/Ω= 111.8 kip-in/ft				V_n/Ω = 6.73 kip/ft		
	$(I_{cr}+I_u)/2$ = 291.3 in^4/ft				I_u = 390.2 in^4/ft			LRFD		ϕM_{no}= 171.1 kip-in/ft				ϕV_n = 10.09 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	7020	8010	9810	12510
	24 in o.c.	n/a	7020	7750	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

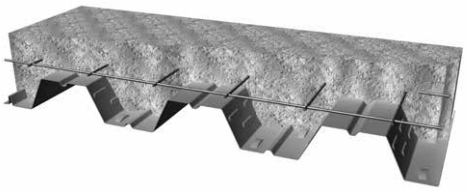
2.4 3WxH-36 Composite Deck

8 ¼" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 2.083yd^3/100ft^2

3 Hour Fire Rating



3WxH-36 8 1/4 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 11"	8' - 9"	9' - 0"
	21	8' - 7"	9' - 4"	9' - 8"
	20	9' - 3"	9' - 11"	10' - 3"

Gage	Single	Double	Triple
19	10' - 3"	11' - 0"	11' - 5"
18	10' - 9"	12' - 1"	12' - 5"
16	11' - 5"	13' - 6"	13' - 5"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	746	653	576	511	455	407	365	329	297	269	244	221	201	184	167
	LRFD, ϕW	999	874	769	680	604	538	481	432	389	350	316	286	259	235	213
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5555	5530	5507	5497	5478	5461	5446	5432	5419	5415	5404	5393	5383	5374	5366
	PAF Base Steel ≥ .25"	5366	5351	5338	5338	5327	5317	5308	5300	5293	5294	5287	5281	5275	5270	5265
	PAF Base Steel ≥ 0.125"	5351	5337	5325	5325	5315	5306	5297	5290	5283	5284	5278	5272	5267	5262	5257
	#12 Screw Base Steel ≥ .0385"	5337	5324	5313	5314	5304	5295	5287	5280	5274	5275	5270	5264	5259	5254	5250
	Concrete + Deck =	83.3	psf		I_{cr} =	146.3	in^4/ft	ASD		M_{no}/Ω=	69.0	kip-in/ft		V_n/Ω =	5.37	kip/ft
	$(I_{cr}+I_u)/2$ =	309	in^4/ft		I_u =	471.8	in^4/ft	LRFD		ϕM_{no}=	105.5	kip-in/ft		ϕV_n =	7.86	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	822	721	637	565	504	451	405	366	331	300	273	248	226	207	189
	LRFD, ϕW	1104	966	851	753	670	599	536	482	435	393	356	322	293	266	242
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5618	5589	5563	5553	5531	5511	5493	5477	5462	5459	5446	5433	5422	5412	5402
	PAF Base Steel ≥ .25"	5400	5384	5369	5369	5357	5345	5335	5326	5317	5319	5312	5304	5298	5291	5286
	PAF Base Steel ≥ 0.125"	5384	5368	5354	5355	5343	5333	5323	5314	5306	5309	5301	5294	5288	5282	5277
	#12 Screw Base Steel ≥ .0385"	5369	5354	5341	5343	5332	5321	5312	5304	5296	5299	5292	5286	5280	5274	5269
	Concrete + Deck =	83.6	psf		I_{cr} =	158.2	in^4/ft	ASD		M_{no}/Ω=	75.5	kip-in/ft		V_n/Ω =	6.03	kip/ft
	$(I_{cr}+I_u)/2$ =	317.4	in^4/ft		I_u =	476.7	in^4/ft	LRFD		ϕM_{no}=	115.6	kip-in/ft		ϕV_n =	8.76	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	894	785	693	616	550	493	443	400	363	329	300	273	250	229	209
	LRFD, ϕW	1201	1052	928	823	733	655	588	529	478	433	392	357	325	296	270
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5665	5633	5604	5594	5570	5549	5529	5511	5494	5492	5477	5464	5451	5439	5429
	PAF Base Steel ≥ .25"	5426	5408	5392	5393	5379	5367	5355	5345	5335	5339	5330	5322	5315	5308	5301
	PAF Base Steel ≥ 0.125"	5408	5391	5376	5378	5365	5353	5342	5332	5323	5327	5319	5311	5304	5298	5292
	#12 Screw Base Steel ≥ .0385"	5393	5376	5362	5365	5353	5341	5331	5322	5313	5317	5310	5302	5296	5289	5284
	Concrete + Deck =	83.7	psf		I_{cr} =	169.0	in^4/ft	ASD		M_{no}/Ω=	81.7	kip-in/ft		V_n/Ω =	6.62	kip/ft
	$(I_{cr}+I_u)/2$ =	325.2	in^4/ft		I_u =	481.3	in^4/ft	LRFD		ϕM_{no}=	124.9	kip-in/ft		ϕV_n =	9.56	kip/ft

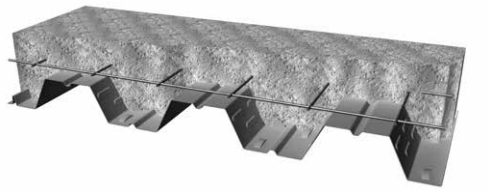
All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	7760	8750	10550	13250
	24 in o.c.	n/a	7750	7750	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3WxH-36 Composite Deck 2.4

8 ¼" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 2.083yd^3/100ft^2

3 Hour Fire Rating



3WxH-36 8 1/4 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 11"	8' - 9"	9' - 0"	19	10' - 3"	11' - 0"	11' - 5"
	21	8' - 7"	9' - 4"	9' - 8"	18	10' - 9"	12' - 1"	12' - 5"
	20	9' - 3"	9' - 11"	10' - 3"	16	11' - 5"	13' - 6"	13' - 5"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1042	916	810	721	644	579	522	472	428	390	356	325	298	273	251
	LRFD, ϕW	1402	1231	1087	965	861	772	694	627	567	515	468	427	390	357	327
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
19	Arc Spot Weld 1/2" Effective Dia	5767	5728	5693	5685	5656	5630	5606	5585	5565	5563	5546	5530	5515	5501	5488
	PAF Base Steel ≥ .25"	5483	5461	5441	5446	5429	5414	5400	5387	5376	5382	5371	5362	5353	5344	5336
	PAF Base Steel ≥ 0.125"	5462	5441	5423	5428	5412	5398	5385	5373	5362	5369	5359	5349	5341	5333	5325
	#12 Screw Base Steel ≥ .0385"	5446	5426	5408	5415	5399	5386	5373	5361	5351	5358	5349	5340	5331	5324	5317
	Concrete + Deck =	84.1	psf		I_{cr} =	190.9	in^4/ft	ASD		M_{no}/Ω=	94.3	kip-in/ft		V_n/Ω =	7.69	kip/ft
	$(I_{cr}+I_u)/2$ =	340.9	in^4/ft		I_u =	490.8	in^4/ft	LRFD		ϕM_{no}=	144.3	kip-in/ft		ϕV_n =	11.01	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1177	1035	916	816	730	656	593	537	488	445	406	372	342	314	289
	LRFD, ϕW	1585	1392	1231	1095	978	878	791	715	648	589	537	491	449	412	378
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	5867	5822	5782	5775	5741	5711	5683	5658	5635	5636	5615	5596	5578	5562	5547
	PAF Base Steel ≥ .25"	5540	5514	5491	5499	5480	5462	5445	5430	5417	5426	5414	5402	5391	5382	5372
	PAF Base Steel ≥ 0.125"	5516	5491	5470	5479	5460	5443	5428	5414	5401	5411	5399	5388	5378	5368	5359
	#12 Screw Base Steel ≥ .0385"	5499	5476	5455	5465	5447	5431	5416	5402	5390	5400	5389	5378	5368	5359	5351
	Concrete + Deck =	84.3	psf		I_{cr} =	210.0	in^4/ft	ASD		M_{no}/Ω=	105.8	kip-in/ft		V_n/Ω =	7.95	kip/ft
	$(I_{cr}+I_u)/2$ =	354.8	in^4/ft		I_u =	499.7	in^4/ft	LRFD		ϕM_{no}=	161.9	kip-in/ft		ϕV_n =	11.93	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1454	1281	1135	1013	908	817	739	671	611	558	511	469	432	398	368
	LRFD, ϕW	1962	1726	1529	1362	1219	1096	990	897	815	743	680	623	572	526	485
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	6086	6027	5975	5974	5930	5890	5854	5820	5790	5796	5769	5744	5721	5699	5679
	PAF Base Steel ≥ .25"	5664	5631	5601	5619	5593	5569	5547	5527	5509	5527	5510	5494	5480	5467	5454
	PAF Base Steel ≥ 0.125"	5619	5588	5560	5581	5556	5534	5514	5495	5479	5497	5482	5467	5454	5441	5430
	#12 Screw Base Steel ≥ .0385"	5619	5588	5561	5581	5556	5534	5514	5496	5479	5498	5482	5468	5454	5442	5430
	Concrete + Deck =	85.0	psf		I_{cr} =	247.7	in^4/ft	ASD		M_{no}/Ω=	129.5	kip-in/ft		V_n/Ω =	7.95	kip/ft
	$(I_{cr}+I_u)/2$ =	382.6	in^4/ft		I_u =	517.6	in^4/ft	LRFD		ϕM_{no}=	198.2	kip-in/ft		ϕV_n =	11.93	kip/ft

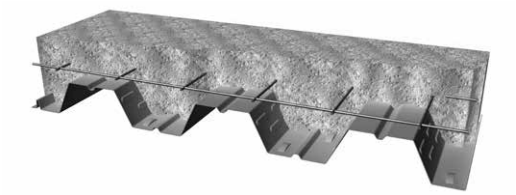
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	7760	8750	10550	13250
	24 in o.c.	n/a	7750	7750	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

2.4 3WxH-36 Composite Deck

5" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.080yd³/100ft²



3WxH-36 5" Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	11' - 2"	12' - 0"	12' - 5"
	21	12' - 2"	12' - 10"	13' - 4"
	20	12' - 7"	13' - 8"	14' - 1"

Gage	Single	Double	Triple
19	13' - 1"	15' - 2"	15' - 3"
18	13' - 6"	16' - 7"	15' - 9"
16	14' - 2"	17' - 8"	16' - 7"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	330	289	255	226	202	181	162	146	132	120	109	99	91	83	76
	LRFD, ϕW	442	387	341	302	268	240	215	193	174	157	142	129	117	106	97
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	1711	1686	1663	1654	1635	1618	1602	1588	1575	1571	1560	1550	1540	1531	1522
	PAF Base Steel ≥ .25"	1522	1508	1495	1494	1483	1473	1464	1456	1449	1450	1443	1437	1432	1426	1421
	PAF Base Steel ≥ 0.125"	1507	1494	1482	1482	1471	1462	1454	1446	1439	1441	1434	1429	1423	1418	1413
	#12 Screw Base Steel ≥ .0385"	1493	1481	1469	1470	1460	1452	1444	1436	1430	1432	1426	1420	1415	1411	1406
	Concrete + Deck =	33.8	psf		I_{cr} =	53.5	in⁴/ft	ASD		M_{no}/Ω=	30.3	kip-in/ft		V_n/Ω =	2.83	kip/ft
	$(I_{cr}+I_u)/2$ =	83.92	in⁴/ft		I_u =	114.4	in⁴/ft	LRFD		ϕM_{no}=	46.4	kip-in/ft		ϕV_n =	4.05	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	362	318	281	249	222	199	179	162	147	133	121	109	98	88	80
	LRFD, ϕW	486	426	375	333	296	265	238	214	193	175	159	144	131	119	109
	L/360	-	-	-	-	-	-	-	-	-	-	-	109	98	88	80
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
21	Arc Spot Weld 1/2" Effective Dia	1776	1746	1720	1710	1689	1669	1651	1635	1620	1616	1603	1591	1580	1569	1559
	PAF Base Steel ≥ .25"	1558	1541	1527	1527	1514	1503	1493	1483	1475	1477	1469	1462	1455	1449	1443
	PAF Base Steel ≥ 0.125"	1541	1526	1512	1513	1501	1490	1481	1472	1463	1466	1459	1452	1446	1440	1434
	#12 Screw Base Steel ≥ .0385"	1527	1512	1499	1501	1489	1479	1470	1461	1454	1457	1450	1443	1437	1432	1427
	Concrete + Deck =	34.1	psf		I_{cr} =	57.4	in⁴/ft	ASD		M_{no}/Ω=	33.1	kip-in/ft		V_n/Ω =	2.86	kip/ft
	$(I_{cr}+I_u)/2$ =	86.96	in⁴/ft		I_u =	116.5	in⁴/ft	LRFD		ϕM_{no}=	50.6	kip-in/ft		ϕV_n =	4.94	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	392	344	304	271	242	217	195	176	160	142	126	113	101	91	82
	LRFD, ϕW	527	462	408	362	322	289	259	234	211	192	174	158	144	132	121
	L/360	-	-	-	-	-	-	-	-	-	142	126	113	101	91	82
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	1824	1791	1762	1753	1729	1707	1688	1669	1653	1650	1636	1622	1610	1598	1587
	PAF Base Steel ≥ .25"	1585	1567	1550	1552	1538	1525	1514	1503	1494	1497	1489	1481	1473	1466	1460
	PAF Base Steel ≥ 0.125"	1567	1550	1534	1537	1524	1512	1501	1491	1482	1486	1478	1470	1463	1456	1450
	#12 Screw Base Steel ≥ .0385"	1552	1535	1521	1524	1511	1500	1490	1480	1472	1476	1468	1461	1454	1448	1442
	Concrete + Deck =	34.2	psf		I_{cr} =	61.0	in⁴/ft	ASD		M_{no}/Ω=	35.6	kip-in/ft		V_n/Ω =	2.86	kip/ft
	$(I_{cr}+I_u)/2$ =	89.76	in⁴/ft		I_u =	118.5	in⁴/ft	LRFD		ϕM_{no}=	54.5	kip-in/ft		ϕV_n =	5.73	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	2720	4070	5060	6860	9560
	24 in o.c.	2720	4070	5060	6860	7750
	36 in o.c.	2720	4070	5060	5170	5170

3WxH-36 Composite Deck 2.4

5" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.080yd³/100ft²

3WxH-36 5" Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple	Gage	Single	Double	Triple
Maximum Unshored Span	22	11' - 2"	12' - 0"	12' - 5"	19	13' - 1"	15' - 2"	15' - 3"
	21	12' - 2"	12' - 10"	13' - 4"	18	13' - 6"	16' - 7"	15' - 9"
	20	12' - 7"	13' - 8"	14' - 1"	16	14' - 2"	17' - 8"	16' - 7"

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	453	399	353	314	281	252	221	194	170	151	134	120	107	97	87
	LRFD, ϕW	610	536	473	421	376	337	303	274	248	225	205	187	171	157	144
	L/360	-	-	-	-	-	-	221	194	170	151	134	120	107	97	87
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
19	Arc Spot Weld 1/2" Effective Dia	1927	1888	1854	1846	1817	1791	1767	1745	1725	1724	1707	1690	1675	1661	1648
	PAF Base Steel ≥ .25"	1644	1622	1602	1607	1590	1575	1561	1548	1536	1543	1532	1522	1513	1505	1497
	PAF Base Steel ≥ 0.125"	1623	1602	1583	1589	1573	1559	1545	1533	1522	1529	1519	1510	1501	1493	1486
	#12 Screw Base Steel ≥ .0385"	1606	1587	1569	1575	1560	1546	1534	1522	1512	1519	1509	1500	1492	1484	1477
	Concrete + Deck =	34.6	psf		I_{cr} =	68.1	in⁴/ft	ASD		M_{no}/Ω=	40.9	kip-in/ft		V_n/Ω =	2.86	kip/ft
	$(I_{cr}+I_u)/2$ =	95.35	in⁴/ft		I_u =	122.6	in⁴/ft	LRFD		ϕM_{no}=	62.6	kip-in/ft		ϕV_n =	5.73	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	507	446	395	352	309	267	232	203	179	158	141	126	113	101	92
	LRFD, ϕW	683	601	531	472	422	379	342	309	280	255	233	213	195	179	164
	L/360	-	-	-	-	309	267	232	203	179	158	141	126	113	101	92
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	2029	1984	1945	1938	1904	1874	1846	1821	1798	1798	1778	1759	1741	1725	1709
	PAF Base Steel ≥ .25"	1702	1676	1654	1662	1642	1624	1608	1593	1579	1589	1576	1565	1554	1544	1535
	PAF Base Steel ≥ 0.125"	1678	1654	1632	1642	1623	1606	1591	1576	1563	1573	1562	1551	1540	1531	1522
	#12 Screw Base Steel ≥ .0385"	1662	1638	1618	1628	1610	1593	1579	1565	1552	1563	1551	1541	1531	1522	1513
	Concrete + Deck =	34.8	psf		I_{cr} =	74.1	in⁴/ft	ASD		M_{no}/Ω=	45.5	kip-in/ft		V_n/Ω =	2.86	kip/ft
	$(I_{cr}+I_u)/2$ =	100.2	in⁴/ft		I_u =	126.2	in⁴/ft	LRFD		ϕM_{no}=	69.6	kip-in/ft		ϕV_n =	5.73	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	620	546	466	396	340	293	255	223	196	174	155	138	124	111	101
	LRFD, ϕW	837	736	652	581	520	468	423	383	348	318	290	266	245	225	208
	L/360	-	-	466	396	340	293	255	223	196	174	155	138	124	111	101
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	2253	2194	2142	2141	2096	2056	2020	1987	1957	1963	1936	1911	1887	1866	1845
	PAF Base Steel ≥ .25"	1831	1797	1767	1786	1759	1735	1714	1694	1676	1693	1676	1661	1647	1633	1621
	PAF Base Steel ≥ 0.125"	1785	1754	1727	1747	1723	1700	1680	1662	1645	1664	1648	1634	1620	1608	1596
	#12 Screw Base Steel ≥ .0385"	1786	1755	1727	1748	1723	1701	1681	1662	1645	1664	1649	1634	1621	1608	1596
	Concrete + Deck =	35.5	psf		I_{cr} =	86.1	in⁴/ft	ASD		M_{no}/Ω=	55.2	kip-in/ft		V_n/Ω =	2.86	kip/ft
	$(I_{cr}+I_u)/2$ =	109.9	in⁴/ft		I_u =	133.7	in⁴/ft	LRFD		ϕM_{no}=	84.4	kip-in/ft		ϕV_n =	5.73	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	2720	4070	5060	6860	9560
	24 in o.c.	2720	4070	5060	6860	7750
	36 in o.c.	2720	4070	5060	5170	5170

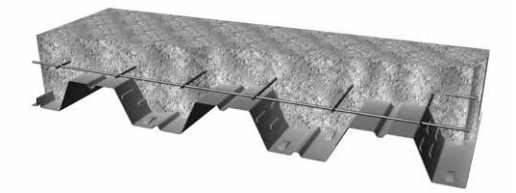
2.4 3WxH-36 Composite Deck

5 ½" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.235yd^3/100ft^2

1 Hour Fire Rating



3WxH-36 5 1/2 " Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	10' - 8"	11' - 7"	11' - 11"
	21	11' - 8"	12' - 4"	12' - 9"
	20	12' - 2"	13' - 1"	13' - 7"

Gage	Single	Double	Triple
19	12' - 8"	14' - 7"	14' - 10"
18	13' - 1"	15' - 11"	15' - 4"
16	13' - 9"	17' - 2"	16' - 2"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	385	338	298	265	236	212	190	172	155	141	128	117	106	97	89
	LRFD, ϕW	517	453	399	353	314	281	252	226	204	185	167	152	138	125	114
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	2035	2010	1987	1978	1959	1942	1926	1912	1899	1895	1884	1874	1864	1855	1846
	PAF Base Steel ≥ .25"	1846	1832	1819	1818	1807	1797	1788	1780	1773	1774	1767	1761	1756	1750	1745
	PAF Base Steel ≥ 0.125"	1831	1818	1806	1806	1795	1786	1778	1770	1763	1765	1758	1753	1747	1742	1737
	#12 Screw Base Steel ≥ .0385"	1817	1805	1793	1794	1784	1776	1768	1761	1754	1756	1750	1744	1739	1735	1730
	Concrete + Deck =	38.4	psf		I_{cr} =	68.9	in^4/ft	ASD		M_{no}/Ω=	35.3	kip-in/ft		V_n/Ω =	3.03	kip/ft
	$(I_{cr}+I_u)/2$ =	109.7	in^4/ft		I_u =	150.4	in^4/ft	LRFD		ϕM_{no}=	54.1	kip-in/ft		ϕV_n =	4.34	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	423	371	328	291	260	233	210	190	172	156	142	130	119	109	99
	LRFD, ϕW	568	498	439	389	347	310	279	251	227	205	186	169	154	141	128
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
21	Arc Spot Weld 1/2" Effective Dia	2100	2070	2044	2035	2013	1993	1975	1959	1944	1940	1927	1915	1904	1893	1884
	PAF Base Steel ≥ .25"	1882	1865	1851	1851	1839	1827	1817	1807	1799	1801	1793	1786	1779	1773	1767
	PAF Base Steel ≥ 0.125"	1865	1850	1836	1837	1825	1814	1805	1796	1787	1790	1783	1776	1770	1764	1758
	#12 Screw Base Steel ≥ .0385"	1851	1836	1823	1825	1813	1803	1794	1785	1778	1781	1774	1767	1761	1756	1751
	Concrete + Deck =	38.7	psf		I_{cr} =	74.0	in^4/ft	ASD		M_{no}/Ω=	38.6	kip-in/ft		V_n/Ω =	3.26	kip/ft
	$(I_{cr}+I_u)/2$ =	113.5	in^4/ft		I_u =	153.1	in^4/ft	LRFD		ϕM_{no}=	59.0	kip-in/ft		ϕV_n =	5.24	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	458	402	356	316	283	254	229	207	187	170	155	142	130	119	107
	LRFD, ϕW	616	540	477	423	377	338	304	274	248	225	204	186	170	155	142
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	119	107
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	2148	2115	2087	2077	2053	2031	2012	1994	1977	1974	1960	1946	1934	1922	1911
	PAF Base Steel ≥ .25"	1909	1891	1874	1876	1862	1849	1838	1828	1818	1821	1813	1805	1797	1790	1784
	PAF Base Steel ≥ 0.125"	1891	1874	1858	1861	1848	1836	1825	1815	1806	1810	1802	1794	1787	1780	1774
	#12 Screw Base Steel ≥ .0385"	1876	1859	1845	1848	1835	1824	1814	1804	1796	1800	1792	1785	1778	1772	1766
	Concrete + Deck =	38.8	psf		I_{cr} =	78.6	in^4/ft	ASD		M_{no}/Ω=	41.6	kip-in/ft		V_n/Ω =	3.26	kip/ft
	$(I_{cr}+I_u)/2$ =	117.1	in^4/ft		I_u =	155.6	in^4/ft	LRFD		ϕM_{no}=	63.6	kip-in/ft		ϕV_n =	6.04	kip/ft

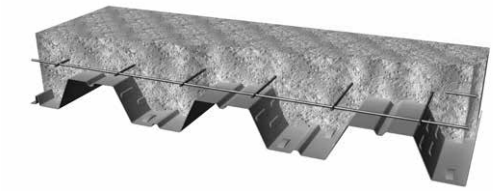
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	12 in o.c.	3090	4440	5430	7230	9930
	24 in o.c.	3090	4440	5430	7230	7750
	36 in o.c.	3090	4440	5170	5170	5170

3WxH-36 Composite Deck 2.4

5 ½" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.235yd³/100ft²

1 Hour Fire Rating



3WxH-36 5 1/2 " Slab Depth, 110 pcf LWC

Gage	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	10' - 8"	11' - 7"	11' - 11"	19	12' - 8"	14' - 7"	14' - 10"
	21	11' - 8"	12' - 4"	12' - 9"	18	13' - 1"	15' - 11"	15' - 4"
	20	12' - 2"	13' - 1"	13' - 7"	16	13' - 9"	17' - 2"	16' - 2"

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	530	466	412	367	328	295	266	241	219	196	175	156	140	126	114
	LRFD, ϕW	713	626	554	492	439	394	355	321	291	264	241	220	201	184	169
	L/360	-	-	-	-	-	-	-	-	-	196	175	156	140	126	114
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2251	2213	2178	2170	2141	2115	2091	2069	2049	2048	2031	2014	1999	1985	1972
	PAF Base Steel ≥ .25"	1968	1946	1926	1931	1914	1899	1885	1872	1860	1867	1856	1846	1837	1829	1821
	PAF Base Steel ≥ 0.125"	1947	1926	1907	1913	1897	1883	1869	1857	1846	1853	1843	1834	1825	1817	1810
	#12 Screw Base Steel ≥ .0385"	1930	1911	1893	1899	1884	1870	1858	1846	1836	1843	1833	1824	1816	1808	1801
	Concrete + Deck =	39.2	psf		I_{cr} =	87.8	in⁴/ft	ASD		M_{no}/Ω=	47.7	kip-in/ft		V_n/Ω =	3.26	kip/ft
	$(I_{cr}+I_u)/2$ =	124.2	in⁴/ft		I_u =	160.6	in⁴/ft	LRFD		ϕM_{no}=	73.0	kip-in/ft		ϕV_n =	6.52	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	593	522	462	412	369	332	300	265	233	206	183	164	147	132	119
	LRFD, ϕW	799	702	621	553	494	444	400	362	329	299	273	250	229	210	193
	L/360	-	-	-	-	-	-	-	265	233	206	183	164	147	132	119
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2353	2309	2269	2262	2228	2198	2170	2145	2122	2122	2102	2083	2065	2049	2033
	PAF Base Steel ≥ .25"	2026	2000	1978	1986	1966	1948	1932	1917	1903	1913	1900	1889	1878	1868	1859
	PAF Base Steel ≥ 0.125"	2002	1978	1956	1966	1947	1930	1915	1900	1887	1897	1886	1875	1864	1855	1846
	#12 Screw Base Steel ≥ .0385"	1986	1962	1942	1952	1934	1917	1903	1889	1876	1887	1875	1865	1855	1846	1837
	Concrete + Deck =	39.4	psf		I_{cr} =	95.5	in⁴/ft	ASD		M_{no}/Ω=	53.1	kip-in/ft		V_n/Ω =	3.26	kip/ft
	$(I_{cr}+I_u)/2$ =	130.3	in⁴/ft		I_u =	165.1	in⁴/ft	LRFD		ϕM_{no}=	81.2	kip-in/ft		ϕV_n =	6.52	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	724	638	566	505	440	380	331	290	255	226	200	179	161	144	131
	LRFD, ϕW	978	861	763	680	609	548	495	448	408	372	340	312	287	264	244
	L/360	-	-	-	-	440	380	331	290	255	226	200	179	161	144	131
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2577	2518	2466	2465	2420	2381	2344	2311	2281	2287	2260	2235	2211	2190	2169
	PAF Base Steel ≥ .25"	2155	2121	2091	2110	2083	2059	2038	2018	2000	2017	2001	1985	1971	1957	1945
	PAF Base Steel ≥ 0.125"	2109	2078	2051	2071	2047	2025	2004	1986	1969	1988	1972	1958	1944	1932	1920
	#12 Screw Base Steel ≥ .0385"	2110	2079	2051	2072	2047	2025	2005	1986	1969	1988	1973	1958	1945	1932	1921
	Concrete + Deck =	40.1	psf		I_{cr} =	110.8	in⁴/ft	ASD		M_{no}/Ω=	64.4	kip-in/ft		V_n/Ω =	3.26	kip/ft
	$(I_{cr}+I_u)/2$ =	142.6	in⁴/ft		I_u =	174.3	in⁴/ft	LRFD		ϕM_{no}=	98.5	kip-in/ft		ϕV_n =	6.52	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	3090	4440	5430	7230	9930
	24 in o.c.	3090	4440	5430	7230	7750
	36 in o.c.	3090	4440	5170	5170	5170

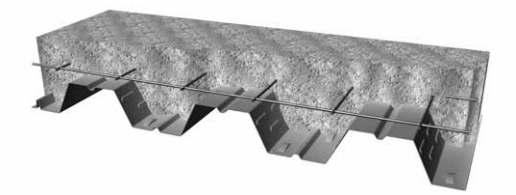
2.4 3WxH-36 Composite Deck

6 ¼" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.466yd^3/100ft^2

2 Hour Fire Rating



3WxH-36 6 1/4 " Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	10' - 1"	10' - 11"	11' - 4"
	21	11' - 0"	11' - 9"	12' - 1"
	20	11' - 9"	12' - 5"	12' - 10"

Gage	Single	Double	Triple
19	12' - 2"	13' - 10"	14' - 3"
18	12' - 7"	15' - 1"	14' - 9"
16	13' - 3"	16' - 6"	15' - 7"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	474	416	368	327	291	261	235	212	192	174	159	145	132	121	111
	LRFD, ϕW	637	558	492	436	388	347	311	280	253	229	208	188	171	156	142
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2522	2496	2473	2464	2445	2428	2412	2398	2385	2381	2370	2360	2350	2341	2332
	PAF Base Steel ≥ .25"	2332	2318	2305	2304	2293	2283	2275	2266	2259	2260	2254	2247	2242	2236	2231
	PAF Base Steel ≥ 0.125"	2317	2304	2292	2292	2281	2272	2264	2256	2249	2251	2244	2239	2233	2228	2224
	#12 Screw Base Steel ≥ .0385"	2304	2291	2280	2280	2270	2262	2254	2247	2240	2242	2236	2231	2225	2221	2216
	Concrete + Deck = 45.3 psf				I_{cr} = 97.0 in^4/ft			ASD		M_{no}/Ω= 43.4 kip-in/ft				V_n/Ω = 3.34 kip/ft		
	$(I_{cr}+I_u)/2$ = 157.6 in^4/ft				I_u = 218.1 in^4/ft			LRFD		ϕM_{no}= 66.4 kip-in/ft				ϕV_n = 4.82 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	521	458	404	359	321	288	259	234	213	193	176	161	147	135	124
	LRFD, ϕW	700	614	542	481	428	384	345	311	281	255	231	210	192	175	160
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2586	2557	2530	2521	2499	2479	2461	2445	2430	2427	2413	2401	2390	2379	2370
	PAF Base Steel ≥ .25"	2368	2352	2337	2337	2325	2313	2303	2293	2285	2287	2279	2272	2265	2259	2253
	PAF Base Steel ≥ 0.125"	2351	2336	2322	2323	2311	2300	2291	2282	2274	2276	2269	2262	2256	2250	2245
	#12 Screw Base Steel ≥ .0385"	2337	2322	2309	2311	2299	2289	2280	2271	2264	2267	2260	2254	2247	2242	2237
	Concrete + Deck = 45.6 psf				I_{cr} = 104.2 in^4/ft			ASD		M_{no}/Ω= 47.4 kip-in/ft				V_n/Ω = 3.89 kip/ft		
	$(I_{cr}+I_u)/2$ = 163 in^4/ft				I_u = 221.7 in^4/ft			LRFD		ϕM_{no}= 72.5 kip-in/ft				ϕV_n = 5.71 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	564	496	439	390	349	313	282	255	232	211	192	176	161	148	136
	LRFD, ϕW	759	666	588	522	466	418	376	339	307	279	254	231	211	193	177
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2634	2601	2573	2563	2539	2517	2498	2480	2463	2460	2446	2432	2420	2408	2397
	PAF Base Steel ≥ .25"	2395	2377	2360	2362	2348	2336	2324	2314	2304	2308	2299	2291	2283	2277	2270
	PAF Base Steel ≥ 0.125"	2377	2360	2344	2347	2334	2322	2311	2301	2292	2296	2288	2280	2273	2267	2260
	#12 Screw Base Steel ≥ .0385"	2362	2345	2331	2334	2321	2310	2300	2290	2282	2286	2278	2271	2264	2258	2252
	Concrete + Deck = 45.6 psf				I_{cr} = 110.8 in^4/ft			ASD		M_{no}/Ω= 51.1 kip-in/ft				V_n/Ω = 3.89 kip/ft		
	$(I_{cr}+I_u)/2$ = 167.9 in^4/ft				I_u = 225.1 in^4/ft			LRFD		ϕM_{no}= 78.1 kip-in/ft				ϕV_n = 6.51 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	4990	5980	7780	10480
	24 in o.c.	n/a	4990	5980	7750	7750
	36 in o.c.	n/a	4990	5170	5170	5170

3WxH-36 Composite Deck 2.4

6 ¼" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.466yd³/100ft²

2 Hour Fire Rating

3WxH-36 6 1/4 " Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple	Gage	Single	Double	Triple
Maximum Unshored Span	22	10' - 1"	10' - 11"	11' - 4"	19	12' - 2"	13' - 10"	14' - 3"
	21	11' - 0"	11' - 9"	12' - 1"	18	12' - 7"	15' - 1"	14' - 9"
	20	11' - 9"	12' - 5"	12' - 10"	16	13' - 3"	16' - 6"	15' - 7"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	653	574	509	453	405	365	329	298	271	247	226	207	190	175	161
	LRFD, ϕW	880	773	684	608	543	488	439	397	360	328	299	273	250	229	211
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2737	2699	2664	2656	2627	2601	2577	2555	2536	2534	2517	2501	2485	2471	2458
	PAF Base Steel ≥ .25"	2454	2432	2412	2417	2400	2385	2371	2358	2347	2353	2342	2333	2323	2315	2307
	PAF Base Steel ≥ 0.125"	2433	2412	2393	2399	2383	2369	2356	2344	2333	2339	2329	2320	2311	2303	2296
	#12 Screw Base Steel ≥ .0385"	2417	2397	2379	2386	2370	2356	2344	2332	2322	2329	2319	2310	2302	2294	2287
	Concrete + Deck =	46.1	psf		I_{cr} =	123.8	in^4/ft	ASD		M_{no}/Ω=	58.7	kip-in/ft		V_n/Ω =	3.89	kip/ft
	$(I_{cr}+I_u)/2$ =	177.9	in^4/ft		I_u =	231.9	in^4/ft	LRFD		ϕM_{no}=	89.8	kip-in/ft		ϕV_n =	7.79	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	732	644	571	509	456	410	371	336	306	279	256	234	210	189	171
	LRFD, ϕW	987	868	768	684	612	549	496	449	408	371	339	310	285	262	241
	L/360	-	-	-	-	-	-	-	-	-	-	-	234	210	189	171
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2840	2795	2755	2748	2714	2684	2656	2631	2608	2608	2588	2569	2551	2535	2519
	PAF Base Steel ≥ .25"	2512	2487	2464	2472	2452	2434	2418	2403	2389	2399	2386	2375	2364	2354	2345
	PAF Base Steel ≥ 0.125"	2488	2464	2443	2452	2433	2416	2401	2387	2374	2384	2372	2361	2351	2341	2332
	#12 Screw Base Steel ≥ .0385"	2472	2449	2428	2438	2420	2404	2389	2375	2363	2373	2362	2351	2341	2332	2323
	Concrete + Deck =	46.3	psf		I_{cr} =	134.8	in^4/ft	ASD		M_{no}/Ω=	65.4	kip-in/ft		V_n/Ω =	3.89	kip/ft
	$(I_{cr}+I_u)/2$ =	186.4	in^4/ft		I_u =	238.1	in^4/ft	LRFD		ϕM_{no}=	100.1	kip-in/ft		ϕV_n =	7.79	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	895	789	700	624	560	505	457	413	364	322	286	256	229	206	186
	LRFD, ϕW	1209	1064	943	841	753	678	613	556	506	462	423	388	357	329	303
	L/360	-	-	-	-	-	-	-	413	364	322	286	256	229	206	186
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3063	3004	2952	2951	2907	2867	2830	2797	2767	2773	2746	2721	2697	2676	2655
	PAF Base Steel ≥ .25"	2641	2607	2577	2596	2569	2545	2524	2504	2486	2503	2487	2471	2457	2443	2431
	PAF Base Steel ≥ 0.125"	2595	2564	2537	2557	2533	2511	2490	2472	2455	2474	2458	2444	2430	2418	2406
	#12 Screw Base Steel ≥ .0385"	2596	2565	2537	2558	2533	2511	2491	2472	2456	2474	2459	2444	2431	2418	2407
	Concrete + Deck =	47.0	psf		I_{cr} =	156.5	in^4/ft	ASD		M_{no}/Ω=	79.4	kip-in/ft		V_n/Ω =	3.89	kip/ft
	$(I_{cr}+I_u)/2$ =	203.5	in^4/ft		I_u =	250.6	in^4/ft	LRFD		ϕM_{no}=	121.4	kip-in/ft		ϕV_n =	7.79	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	4990	5980	7780	10480
	24 in o.c.	n/a	4990	5980	7750	7750
	36 in o.c.	n/a	4990	5170	5170	5170

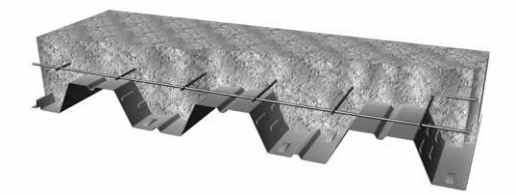
2.4 3WxH-36 Composite Deck

7 ¼" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.77yd^3/100ft^2

3 Hour Fire Rating



	Gage	Single	Double	Triple
Maximum Unshored Span	22	9' - 5"	10' - 3"	10' - 7"
	21	10' - 3"	11' - 0"	11' - 4"
	20	11' - 0"	11' - 8"	12' - 1"

3WxH-36 7 1/4 " Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
19	11' - 8"	13' - 0"	13' - 5"
18	12' - 1"	14' - 2"	14' - 1"
16	12' - 9"	15' - 10"	14' - 11"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	601	528	467	415	370	332	299	270	245	222	202	185	169	155	142
	LRFD, ϕW	808	708	625	554	494	442	397	357	323	292	265	241	220	200	183
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	3170	3144	3121	3112	3093	3076	3060	3046	3033	3030	3018	3008	2998	2989	2981
	PAF Base Steel ≥ .25"	2980	2966	2953	2952	2941	2932	2923	2915	2907	2908	2902	2896	2890	2884	2880
	PAF Base Steel ≥ 0.125"	2965	2952	2940	2940	2930	2920	2912	2904	2897	2899	2893	2887	2881	2876	2872
	#12 Screw Base Steel ≥ .0385"	2952	2939	2928	2928	2919	2910	2902	2895	2888	2890	2884	2879	2874	2869	2864
	Concrete + Deck = 54.5 psf				I_{cr} = 144.0 in^4/ft			ASD		M_{no}/Ω= 54.8 kip-in/ft				V_n/Ω = 3.80 kip/ft		
	$(I_{cr}+I_u)/2$ = 240.8 in^4/ft				I_u = 337.7 in^4/ft			LRFD		ϕM_{no}= 83.8 kip-in/ft				ϕV_n = 5.50 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	661	580	513	456	408	366	330	298	271	246	225	205	188	173	159
	LRFD, ϕW	888	780	688	611	545	488	439	396	358	325	296	269	246	225	206
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
21	Arc Spot Weld 1/2" Effective Dia	3234	3205	3178	3169	3147	3127	3109	3093	3078	3075	3061	3049	3038	3028	3018
	PAF Base Steel ≥ .25"	3016	3000	2985	2985	2973	2961	2951	2941	2933	2935	2927	2920	2914	2907	2902
	PAF Base Steel ≥ 0.125"	3000	2984	2970	2971	2959	2949	2939	2930	2922	2925	2917	2910	2904	2898	2893
	#12 Screw Base Steel ≥ .0385"	2985	2970	2957	2959	2948	2937	2928	2920	2912	2915	2908	2902	2896	2890	2885
	Concrete + Deck = 54.7 psf				I_{cr} = 154.8 in^4/ft			ASD		M_{no}/Ω= 59.9 kip-in/ft				V_n/Ω = 4.46 kip/ft		
	$(I_{cr}+I_u)/2$ = 248.8 in^4/ft				I_u = 342.9 in^4/ft			LRFD		ϕM_{no}= 91.6 kip-in/ft				ϕV_n = 6.40 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	716	629	557	496	443	398	359	325	295	269	246	225	206	189	174
	LRFD, ϕW	964	846	748	664	593	532	479	432	392	356	324	296	270	248	227
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	3282	3249	3221	3211	3187	3165	3146	3128	3111	3108	3094	3080	3068	3056	3046
	PAF Base Steel ≥ .25"	3043	3025	3009	3010	2996	2984	2972	2962	2952	2956	2947	2939	2932	2925	2918
	PAF Base Steel ≥ 0.125"	3025	3008	2992	2995	2982	2970	2959	2949	2940	2944	2936	2928	2921	2915	2909
	#12 Screw Base Steel ≥ .0385"	3010	2993	2979	2982	2969	2958	2948	2938	2930	2934	2926	2919	2912	2906	2900
	Concrete + Deck = 54.8 psf				I_{cr} = 164.7 in^4/ft			ASD		M_{no}/Ω= 64.6 kip-in/ft				V_n/Ω = 4.81 kip/ft		
	$(I_{cr}+I_u)/2$ = 256.2 in^4/ft				I_u = 347.7 in^4/ft			LRFD		ϕM_{no}= 98.8 kip-in/ft				ϕV_n = 7.20 kip/ft		

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	5730	6720	8520	11220
	24 in o.c.	n/a	5730	6720	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3WxH-36 Composite Deck 2.4

7 ¼" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.77yd³/100ft²

3 Hour Fire Rating

3WxH-36 7 1/4 " Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple	Gage	Single	Double	Triple
Maximum Unshored Span	22	9' - 5"	10' - 3"	10' - 7"	19	11' - 8"	13' - 0"	13' - 5"
	21	10' - 3"	11' - 0"	11' - 4"	18	12' - 1"	14' - 2"	14' - 1"
	20	11' - 0"	11' - 8"	12' - 1"	16	12' - 9"	15' - 10"	14' - 11"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
19	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	829	730	647	576	516	464	419	380	346	315	288	264	243	224	206
	LRFD, ϕW	1118	983	870	774	692	621	560	507	460	419	382	350	320	294	271
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3385	3347	3312	3304	3275	3249	3225	3204	3184	3182	3165	3149	3134	3120	3106
	PAF Base Steel ≥ .25"	3102	3080	3060	3065	3048	3033	3019	3006	2995	3001	2990	2981	2972	2963	2955
	PAF Base Steel ≥ 0.125"	3081	3060	3042	3047	3031	3017	3004	2992	2981	2987	2977	2968	2960	2952	2944
	#12 Screw Base Steel ≥ .0385"	3065	3045	3027	3034	3018	3004	2992	2980	2970	2977	2967	2959	2950	2943	2935
	Concrete + Deck = 55.3 psf				I_{cr} = 184.4 in⁴/ft			ASD		M_{no}/Ω= 74.3 kip-in/ft				V_n/Ω = 4.81 kip/ft		
	$(I_{cr}+I_u)/2$ = 271 in⁴/ft				I_u = 357.6 in⁴/ft			LRFD		ϕM_{no}= 113.7 kip-in/ft				ϕV_n = 8.65 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	931	820	727	648	581	523	473	429	391	357	327	300	276	254	235
	LRFD, ϕW	1256	1105	979	871	780	701	633	574	521	475	434	398	365	336	310
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3488	3443	3403	3396	3362	3332	3304	3279	3256	3256	3236	3217	3199	3183	3168
	PAF Base Steel ≥ .25"	3160	3135	3112	3120	3100	3082	3066	3051	3038	3047	3035	3023	3012	3002	2993
	PAF Base Steel ≥ 0.125"	3137	3112	3091	3100	3081	3064	3049	3035	3022	3032	3020	3009	2999	2989	2980
	#12 Screw Base Steel ≥ .0385"	3120	3097	3076	3086	3068	3052	3037	3023	3011	3021	3010	2999	2989	2980	2971
	Concrete + Deck = 55.5 psf				I_{cr} = 201.1 in⁴/ft			ASD		M_{no}/Ω= 83.0 kip-in/ft				V_n/Ω = 4.81 kip/ft		
	$(I_{cr}+I_u)/2$ = 283.9 in⁴/ft				I_u = 366.6 in⁴/ft			LRFD		ϕM_{no}= 127.0 kip-in/ft				ϕV_n = 9.61 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1141	1006	893	797	715	645	584	530	484	442	406	373	344	314	283
	LRFD, ϕW	1542	1358	1204	1074	962	867	784	711	648	592	542	498	458	422	390
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	314	283
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3711	3652	3600	3599	3555	3515	3478	3445	3415	3421	3394	3369	3346	3324	3304
	PAF Base Steel ≥ .25"	3289	3256	3226	3244	3217	3194	3172	3152	3134	3151	3135	3119	3105	3091	3079
	PAF Base Steel ≥ 0.125"	3243	3212	3185	3205	3181	3159	3139	3120	3103	3122	3107	3092	3079	3066	3054
	#12 Screw Base Steel ≥ .0385"	3244	3213	3185	3206	3181	3159	3139	3121	3104	3122	3107	3092	3079	3066	3055
	Concrete + Deck = 56.1 psf				I_{cr} = 234.0 in⁴/ft			ASD		M_{no}/Ω= 101.0 kip-in/ft				V_n/Ω = 4.81 kip/ft		
	$(I_{cr}+I_u)/2$ = 309.4 in⁴/ft				I_u = 384.7 in⁴/ft			LRFD		ϕM_{no}= 154.5 kip-in/ft				ϕV_n = 9.61 kip/ft		

All Gages	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in²/ft	A_s = 0.058 in²/ft	A_s = 0.080 in²/ft	A_s = 0.120 in²/ft	A_s = 0.180 in²/ft
	12 in o.c.	n/a	5730	6720	8520	11220
	24 in o.c.	n/a	5730	6720	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

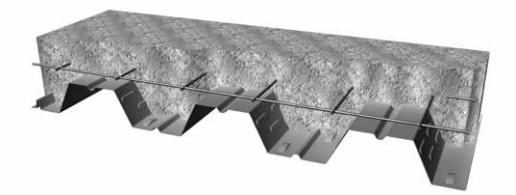
2.4 3WxH-36 Composite Deck

7 3/16" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.755yd^3/100ft^2

3 Hour Fire Rating



	Gage	Single	Double	Triple
Maximum Unshored Span	22	9' - 5"	10' - 4"	10' - 8"
	21	10' - 3"	11' - 0"	11' - 5"
	20	11' - 1"	11' - 9"	12' - 1"

3WxH-36 7 3/16" Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
19	11' - 9"	13' - 1"	13' - 6"
18	12' - 1"	14' - 3"	14' - 2"
16	12' - 9"	15' - 10"	14' - 11"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	593	521	460	409	365	327	295	266	241	219	200	182	166	152	140
	LRFD, ϕW	797	699	616	546	487	436	391	352	318	288	262	238	217	198	180
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	3129	3104	3081	3071	3052	3035	3020	3006	2993	2989	2978	2967	2958	2949	2940
	PAF Base Steel ≥ .25"	2940	2925	2913	2912	2901	2891	2882	2874	2867	2868	2861	2855	2849	2844	2839
	PAF Base Steel ≥ 0.125"	2925	2911	2899	2899	2889	2880	2871	2864	2857	2858	2852	2846	2841	2836	2831
	#12 Screw Base Steel ≥ .0385"	2911	2898	2887	2888	2878	2869	2861	2854	2848	2850	2844	2838	2833	2828	2824
	Concrete + Deck =	53.9	psf		I_{cr} =	140.7	in^4/ft	ASD		M_{no}/Ω=	54.1	kip-in/ft		V_n/Ω =	3.77	kip/ft
	$(I_{cr}+I_u)/2$ =	234.9	in^4/ft		I_u =	329.1	in^4/ft	LRFD		ϕM_{no}=	82.7	kip-in/ft		ϕV_n =	5.46	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	652	573	506	450	402	361	326	294	267	243	222	202	185	170	156
	LRFD, ϕW	876	769	679	603	538	481	433	391	353	321	292	266	242	222	203
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
21	Arc Spot Weld 1/2" Effective Dia	3194	3164	3138	3128	3106	3087	3069	3052	3037	3034	3021	3009	2998	2987	2977
	PAF Base Steel ≥ .25"	2976	2959	2944	2945	2932	2921	2910	2901	2892	2895	2887	2880	2873	2867	2861
	PAF Base Steel ≥ 0.125"	2959	2943	2929	2931	2919	2908	2898	2889	2881	2884	2877	2870	2864	2858	2852
	#12 Screw Base Steel ≥ .0385"	2944	2930	2916	2918	2907	2897	2888	2879	2871	2875	2868	2861	2855	2849	2844
	Concrete + Deck =	54.2	psf		I_{cr} =	151.3	in^4/ft	ASD		M_{no}/Ω=	59.1	kip-in/ft		V_n/Ω =	4.43	kip/ft
	$(I_{cr}+I_u)/2$ =	242.8	in^4/ft		I_u =	334.2	in^4/ft	LRFD		ϕM_{no}=	90.4	kip-in/ft		ϕV_n =	6.35	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	706	621	549	489	437	393	354	321	291	265	242	222	203	187	172
	LRFD, ϕW	951	835	737	655	585	525	472	426	386	351	320	292	267	244	224
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	3241	3209	3180	3171	3147	3125	3105	3087	3071	3068	3053	3040	3027	3016	3005
	PAF Base Steel ≥ .25"	3003	2984	2968	2970	2956	2943	2932	2921	2912	2915	2906	2899	2891	2884	2878
	PAF Base Steel ≥ 0.125"	2985	2967	2952	2954	2941	2929	2918	2909	2899	2904	2895	2888	2881	2874	2868
	#12 Screw Base Steel ≥ .0385"	2969	2953	2938	2942	2929	2918	2907	2898	2889	2894	2886	2879	2872	2866	2860
	Concrete + Deck =	54.2	psf		I_{cr} =	161.0	in^4/ft	ASD		M_{no}/Ω=	63.7	kip-in/ft		V_n/Ω =	4.75	kip/ft
	$(I_{cr}+I_u)/2$ =	250	in^4/ft		I_u =	338.9	in^4/ft	LRFD		ϕM_{no}=	97.5	kip-in/ft		ϕV_n =	7.15	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	5680	6670	8470	11170
	24 in o.c.	n/a	5680	6670	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3WxH-36 Composite Deck 2.4

7 3/16" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.755yd^3/100ft^2

3 Hour Fire Rating

3WxH-36 7 3/16" Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	9' - 5"	10' - 4"	10' - 8"
	21	10' - 3"	11' - 0"	11' - 5"
	20	11' - 1"	11' - 9"	12' - 1"

Gage	Single	Double	Triple
19	11' - 9"	13' - 1"	13' - 6"
18	12' - 1"	14' - 3"	14' - 2"
16	12' - 9"	15' - 10"	14' - 11"

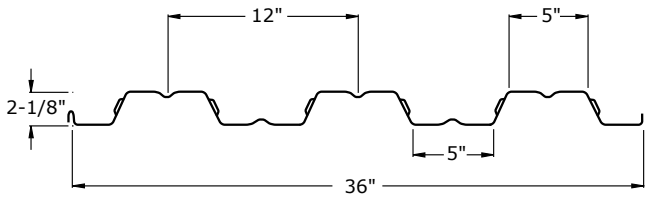
Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	818	720	638	568	509	458	413	375	341	311	284	261	240	220	203
	LRFD, ϕW	1103	969	858	763	682	613	552	500	454	413	377	345	316	290	267
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3345	3306	3272	3263	3234	3208	3185	3163	3143	3142	3124	3108	3093	3079	3066
	PAF Base Steel ≥ .25"	3061	3039	3020	3025	3008	2992	2978	2966	2954	2960	2950	2940	2931	2923	2915
	PAF Base Steel ≥ 0.125"	3040	3020	3001	3007	2991	2976	2963	2951	2940	2947	2937	2928	2919	2911	2904
	#12 Screw Base Steel ≥ .0385"	3024	3004	2987	2993	2978	2964	2951	2940	2929	2937	2927	2918	2910	2902	2895
	Concrete + Deck = 54.7 psf				I_{cr} = 180.1 in^4/ft			ASD		M_{no}/Ω= 73.3 kip-in/ft				V_n/Ω = 4.75 kip/ft		
	$(I_{cr}+I_u)/2$ = 264.4 in^4/ft				I_u = 348.7 in^4/ft			LRFD		ϕM_{no}= 112.2 kip-in/ft				ϕV_n = 8.61 kip/ft		

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	918	809	717	639	573	516	466	423	385	352	322	296	272	251	232
	LRFD, ϕW	1239	1090	965	859	769	692	624	566	514	469	428	392	360	331	305
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3447	3402	3362	3355	3322	3291	3264	3238	3215	3216	3195	3176	3159	3142	3127
	PAF Base Steel ≥ .25"	3120	3094	3071	3080	3060	3042	3026	3011	2997	3006	2994	2982	2972	2962	2953
	PAF Base Steel ≥ 0.125"	3096	3072	3050	3060	3041	3024	3008	2994	2981	2991	2979	2968	2958	2949	2940
	#12 Screw Base Steel ≥ .0385"	3079	3056	3035	3046	3028	3011	2996	2983	2970	2981	2969	2959	2949	2940	2931
	Concrete + Deck = 54.9 psf				I_{cr} = 196.5 in^4/ft			ASD		M_{no}/Ω= 81.9 kip-in/ft				V_n/Ω = 4.75 kip/ft		
	$(I_{cr}+I_u)/2$ = 277 in^4/ft				I_u = 357.4 in^4/ft			LRFD		ϕM_{no}= 125.3 kip-in/ft				ϕV_n = 9.49 kip/ft		

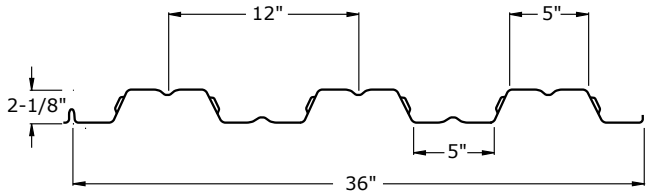
Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1125	992	880	786	705	636	575	523	477	436	400	368	339	306	276
	LRFD, ϕW	1520	1339	1187	1059	949	854	773	701	639	583	534	491	451	416	385
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	306	276
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3670	3612	3560	3558	3514	3474	3438	3405	3374	3381	3354	3328	3305	3283	3263
	PAF Base Steel ≥ .25"	3249	3215	3185	3203	3177	3153	3131	3112	3093	3111	3094	3079	3064	3051	3038
	PAF Base Steel ≥ 0.125"	3203	3172	3144	3165	3140	3118	3098	3080	3063	3082	3066	3052	3038	3026	3014
	#12 Screw Base Steel ≥ .0385"	3204	3172	3145	3165	3141	3119	3098	3080	3063	3082	3066	3052	3038	3026	3014
	Concrete + Deck = 55.6 psf				I_{cr} = 228.6 in^4/ft			ASD		M_{no}/Ω= 99.6 kip-in/ft				V_n/Ω = 4.75 kip/ft		
	$(I_{cr}+I_u)/2$ = 301.9 in^4/ft				I_u = 375.1 in^4/ft			LRFD		ϕM_{no}= 152.3 kip-in/ft				ϕV_n = 9.49 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	5680	6670	8470	11170
	24 in o.c.	n/a	5680	6670	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

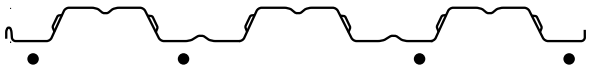
3.1 **2WH-36**



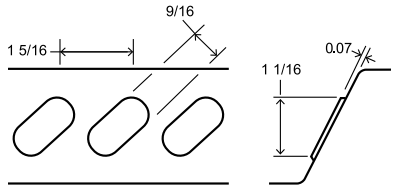
2WH-36 Profile



2WHS-36 Profile



36/4 Attachment Pattern



2W Series Embossment

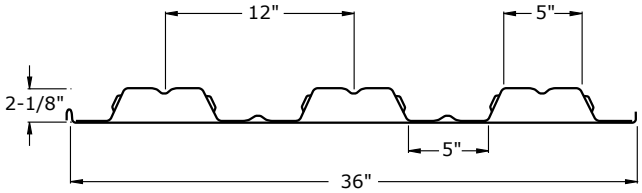
Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus (Min.)	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in^2/ft	I_g in^4/ft	y_b in	S_g in^3/ft	r in
22	1.58	0.0290	50	65	0.449	0.353	1.04	0.328	0.890
21	1.79	0.0330	50	65	0.509	0.403	1.04	0.371	0.889
20	1.94	0.0359	50	65	0.554	0.437	1.05	0.403	0.888
19	2.26	0.0420	50	65	0.646	0.507	1.05	0.468	0.887
18	2.54	0.0474	50	65	0.728	0.570	1.05	0.525	0.885
16	3.19	0.0598	50	65	0.915	0.713	1.05	0.654	0.883

Gauge	Effective Section Properties at F_y for Bending Strength					Effective Section Properties at Service Load Load for Deflection			
								Uniform Load Only	
	Area	Section Modulus (Min.)	Distance to N.A. from Bottom	Section Modulus (Min.)	Distance to N.A. from Bottom	Moment of Inertia	Moment of Inertia	$I_d = (2I_e+I_g)/3$	
	A_e+ in^2/ft	S_e+ in^3/ft	y_b in	S_e- in^3/ft	y_b in	I_e+ in^4/ft	I_e- in^4/ft	I+ in^4/ft	I- in^4/ft
22	0.292	0.247	0.92	0.256	1.17	0.330	0.323	0.338	0.333
21	0.362	0.298	0.95	0.307	1.14	0.387	0.380	0.392	0.388
20	0.415	0.337	0.97	0.345	1.13	0.430	0.420	0.432	0.426
19	0.524	0.408	0.98	0.425	1.11	0.507	0.503	0.507	0.504
18	0.627	0.472	1.00	0.500	1.09	0.570	0.570	0.570	0.570
16	0.897	0.654	1.05	0.653	1.06	0.713	0.713	0.713	0.713

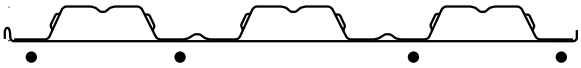
Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs							
		Allowable (R_n/Ω)				Factored (ΦR_n)			
		1"	2"	4"	6"	1"	2"	4"	6"
22	End	316	393	503	588	483	602	770	899
	Interior	528	638	792	911	786	948	1178	1355
21	End	403	499	636	741	616	764	973	1133
	Interior	675	810	1001	1148	1004	1205	1489	1708
20	End	450	556	707	822	688	851	1081	1258
	Interior	755	903	1114	1275	1123	1344	1657	1897
19	End	633	777	980	1137	968	1188	1500	1739
	Interior	1066	1266	1549	1766	1585	1883	2304	2627
18	End	781	954	1199	1387	1195	1460	1835	2122
	Interior	1319	1559	1898	2158	1961	2318	2823	3211
16	End	1194	1445	1800	2072	1827	2211	2754	3170
	Interior	2027	2373	2862	3237	3015	3530	4257	4815

Web Crippling Constraints h=2.16" r=0.125" θ=64°



2WHF-36 Profile



36/4 Attachment Pattern

Panel Properties

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties: Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in²/ft	I_g in⁴/ft	y_b in	S_g in³/ft	r in
20/20	3.49	0.035 / 0.036	50	65	1.008	0.770	0.65	0.496	0.874
20/18	3.96	0.035 / 0.047	50	65	1.147	0.820	0.58	0.504	0.845
20/16	4.48	0.035 / 0.059	50	65	1.299	0.864	0.53	0.510	0.815
18/20	4.11	0.047 / 0.036	50	65	1.187	0.961	0.72	0.648	0.900
18/18	4.58	0.047 / 0.047	50	65	1.326	1.025	0.66	0.658	0.879
18/16	5.10	0.047 / 0.059	50	65	1.477	1.083	0.61	0.667	0.856
16/20	4.74	0.059 / 0.036	50	65	1.381	1.159	0.79	0.809	0.916
16/18	5.21	0.059 / 0.047	50	65	1.520	1.235	0.73	0.822	0.901
16/16	5.73	0.059 / 0.059	50	65	1.671	1.306	0.68	0.833	0.884

Gauge	Effective Section Modulus at F_y: Compression: Area	Bending: Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Effective Moment of Inertia for Deflection: Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e in²/ft	S_e+ in³/ft	y_b in	S_e- in³/ft	y_b in	I_e+ in⁴/ft	I_e- in⁴/ft	I+ in⁴/ft	I- in⁴/ft
20/20	0.510	0.391	0.56	0.457	1.00	0.732	0.603	0.745	0.659
20/18	0.591	0.401	0.50	0.476	0.87	0.776	0.690	0.791	0.733
20/16	0.692	0.406	0.46	0.492	0.73	0.816	0.771	0.832	0.802
18/20	0.715	0.590	0.69	0.593	1.07	0.959	0.749	0.960	0.820
18/18	0.796	0.599	0.63	0.616	0.95	1.023	0.849	1.024	0.908
18/16	0.897	0.607	0.57	0.639	0.83	1.081	0.948	1.082	0.993
16/20	0.939	0.779	0.77	0.740	1.10	1.156	0.905	1.157	0.990
16/18	1.020	0.792	0.71	0.766	1.01	1.232	1.017	1.233	1.090
16/16	1.121	0.803	0.66	0.792	0.91	1.303	1.132	1.304	1.190

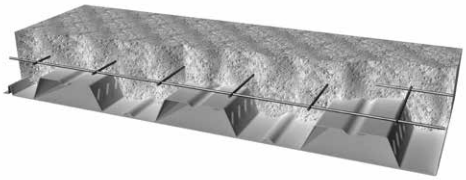
Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs: Allowable (R_n/Ω) 1"	2"	4"	6"	Factored (ΦR_n) 1"	2"	4"	6"
22	End	316	393	503	588	483	602	770	899
	Interior	528	638	792	911	786	948	1178	1355
21	End	403	499	636	741	616	764	973	1133
	Interior	675	810	1001	1148	1004	1205	1489	1708
20	End	450	556	707	822	688	851	1081	1258
	Interior	755	903	1114	1275	1123	1344	1657	1897
19	End	633	777	980	1137	968	1188	1500	1739
	Interior	1066	1266	1549	1766	1585	1883	2304	2627
18	End	781	954	1199	1387	1195	1460	1835	2122
	Interior	1319	1559	1898	2158	1961	2318	2823	3211
16	End	1194	1445	1800	2072	1827	2211	2754	3170
	Interior	2027	2373	2862	3237	3015	3530	4257	4815

Web Crippling Constraints h=2.16" r=0.125" θ=64°

3.3 2WHF-36 Cellular Composite Deck

Normal Weight Concrete (145 pcf)
Maximum Unshored Spans



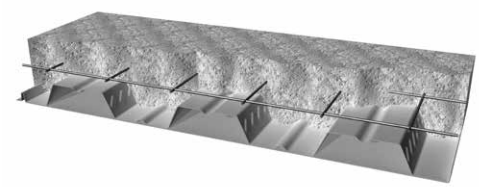
2WHF-36 Cellular Shoring Table

Total Slab Depth (in)	145 pcf Normal Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
4	0.907	20/20	39.1	9' - 9"	10' - 10"	10' - 11"
		20/18	39.6	9' - 10"	11' - 8"	10' - 11"
		20/16	40.1	9' - 10"	11' - 11"	10' - 11"
		18/20	39.8	12' - 1"	11' - 10"	13' - 4"
		18/18	40.3	12' - 3"	13' - 4"	13' - 4"
		18/16	40.8	12' - 4"	13' - 7"	13' - 4"
		16/20	40.4	12' - 9"	12' - 10"	13' - 4"
		16/18	40.9	12' - 11"	14' - 5"	13' - 4"
		16/16	41.4	13' - 1"	15' - 1"	13' - 4"
5	1.215	20/20	51.2	8' - 10"	9' - 11"	9' - 11"
		20/18	51.7	8' - 11"	10' - 8"	10' - 0"
		20/16	52.2	8' - 11"	10' - 11"	10' - 0"
		18/20	51.9	11' - 4"	10' - 10"	12' - 3"
		18/18	52.3	11' - 5"	12' - 3"	12' - 4"
		18/16	52.9	11' - 6"	12' - 6"	12' - 4"
		16/20	52.5	12' - 0"	11' - 9"	13' - 4"
		16/18	53.0	12' - 2"	13' - 2"	13' - 4"
		16/16	53.5	12' - 3"	13' - 10"	13' - 4"
5½ 1 Hour Fire Rating	1.370	20/20	57.2	8' - 6"	9' - 6"	9' - 7"
		20/18	57.7	8' - 6"	10' - 4"	9' - 7"
		20/16	58.2	8' - 7"	10' - 6"	9' - 8"
		18/20	57.9	10' - 11"	10' - 5"	11' - 10"
		18/18	58.4	11' - 0"	11' - 9"	11' - 10"
		18/16	58.9	11' - 0"	12' - 0"	11' - 11"
		16/20	58.6	11' - 8"	11' - 4"	13' - 0"
		16/18	59.0	11' - 10"	12' - 8"	13' - 3"
		16/16	59.6	12' - 0"	13' - 3"	13' - 4"
6½ 2 Hour Fire Rating	1.678	20/20	69.3	7' - 11"	8' - 11"	8' - 11"
		20/18	69.8	7' - 11"	9' - 7"	9' - 0"
		20/16	70.3	8' - 0"	9' - 9"	9' - 0"
		18/20	70.0	10' - 2"	9' - 9"	11' - 0"
		18/18	70.5	10' - 2"	11' - 0"	11' - 1"
		18/16	71.0	10' - 3"	11' - 2"	11' - 1"
		16/20	70.7	11' - 2"	10' - 7"	12' - 6"
		16/18	71.1	11' - 4"	11' - 10"	12' - 8"
		16/16	71.7	11' - 6"	12' - 5"	12' - 10"
7¼ 3 Hour Fire Rating	1.910	20/20	78.4	7' - 6"	8' - 6"	8' - 6"
		20/18	78.9	7' - 7"	9' - 2"	8' - 7"
		20/16	79.4	7' - 8"	9' - 4"	8' - 7"
		18/20	79.0	9' - 8"	9' - 4"	10' - 6"
		18/18	79.5	9' - 9"	10' - 6"	10' - 7"
		18/16	80.0	9' - 9"	10' - 8"	10' - 7"
		16/20	79.7	10' - 9"	10' - 1"	12' - 1"
		16/18	80.2	10' - 11"	11' - 4"	12' - 4"
		16/16	80.7	11' - 1"	11' - 10"	12' - 5"

Shaded area the span is governed by maximum deck panel length of 40 feet; 20 feet for double span, 13 feet 4 inches for triple span.

2WHF-36 Cellular Composite Deck 3.3

Light Weight Concrete (110 pcf)
Maximum Unshored Spans



2WHF-36 Cellular Shoring Table

Total Slab Depth (in)	110 pcf Light Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
4	0.907	20/20	30.6	11'-6"	13'-2"	12'-7"
		20/18	31.0	11'-8"	13'-4"	12'-8"
		20/16	31.5	11'-8"	13'-6"	12'-8"
		18/20	31.2	13'-0"	14'-11"	13' - 4"
		18/18	31.7	13'-2"	15'-1"	13' - 4"
		18/16	32.2	13'-3"	15'-4"	13' - 4"
		16/20	31.9	13'-6"	16'-2"	13' - 4"
		16/18	32.4	13' - 9"	16'-7"	13' - 4"
		16/16	32.9	13' - 10"	16'-10"	13' - 4"
4½ 1 Hour Fire Rating	1.061	20/20	35.1	11'-0"	12'-7"	12'-1"
		20/18	35.6	11'-1"	12'-10"	12'-2"
		20/16	36.1	11'-2"	13'-0"	12'-2"
		18/20	35.8	12'-7"	14'-3"	13' - 4"
		18/18	36.3	12'-9"	14'-6"	13' - 4"
		18/16	36.8	12'-10"	14'-8"	13' - 4"
		16/20	36.5	13'-1"	15'-8"	13' - 4"
		16/18	36.9	13' - 4"	16'-1"	13' - 4"
		16/16	37.5	13' - 5"	16'-4"	13' - 4"
5	1.215	20/20	39.7	10'-6"	12'-2"	11'-7"
		20/18	40.2	10'-8"	12'-4"	11'-8"
		20/16	40.7	10'-8"	12'-6"	11'-9"
		18/20	40.4	12'-2"	13'-9"	13' - 4"
		18/18	40.9	12'-4"	14'-0"	13' - 4"
		18/16	41.4	12'-6"	14'-2"	13' - 4"
		16/20	41.0	12'-8"	15'-3"	13' - 4"
		16/18	41.5	12'-11"	15'-7"	13' - 4"
		16/16	42.0	13' - 1"	15'-8"	13' - 4"
5¼ 2 Hour Fire Rating	1.292	20/20	42.0	10'-4"	11'-11"	11'-5"
		20/18	42.5	10'-5"	12'-1"	11'-6"
		20/16	43.0	10'-6"	12'-3"	11'-6"
		18/20	42.7	12'-1"	13'-6"	13' - 4"
		18/18	43.1	12'-3"	13'-9"	13' - 4"
		18/16	43.7	12'-4"	13'-11"	13' - 4"
		16/20	43.3	12' - 7"	14'-11"	13' - 4"
		16/18	43.8	12' - 9"	15'-3"	13' - 4"
		16/16	44.3	12' - 11"	15'-5"	13' - 4"
6 3/16 3 Hour Fire Rating	1.582	20/20	50.6	9'-8"	11'-2"	10'-8"
		20/18	51.1	9'-9"	11'-5"	10'-10"
		20/16	51.6	9'-10"	11'-6"	10'-10"
		18/20	51.3	11'-6"	12'-8"	13'-0"
		18/18	51.7	11'-8"	12'-11"	13-2"
		18/16	52.3	11'-10"	13'-1"	13'-2"
		16/20	51.9	12'-0"	14'-1"	13' - 4"
		16/18	52.4	12' - 3"	14'-4"	13' - 4"
		16/16	52.9	12' - 4"	14'-6"	13' - 4"

Shaded area the span is governed by maximum deck panel length of 40 feet; 20 feet for double span, 13 feet 4 inches for triple span.

3.3 2WH-36 Composite Deck

4" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 0.907yd^3/100ft^2

2WH-36 4" Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 0"	8' - 10"	9' - 6"	19	10' - 4"	11' - 8"	12' - 1"
	21	8' - 11"	9' - 11"	10' - 4"	18	10' - 7"	12' - 7"	12' - 7"
	20	9' - 8"	11' - 3"	11' - 8"	16	11' - 4"	14' - 1"	13' - 3"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	401	338	287	246	213	186	162	143	126	112	99	89	79	71	63
	LRFD, ϕW	642	540	459	394	341	297	260	229	202	179	159	142	126	113	101
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2485	2458	2420	2388	2360	2334	2312	2303	2284	2268	2252	2239	2226	2222	2211
	PAF Base Steel ≥ .25"	2237	2229	2208	2190	2174	2160	2147	2146	2136	2126	2117	2109	2102	2103	2097
	PAF Base Steel ≥ 0.125"	2218	2211	2192	2174	2159	2146	2134	2134	2124	2115	2107	2099	2092	2094	2088
	#12 Screw Base Steel ≥ .0385"	2200	2195	2176	2160	2146	2133	2122	2123	2113	2105	2097	2090	2083	2085	2080
	Concrete + Deck =	37.9	psf		I_{cr} =	23.4	in^4/ft	ASD		M_{no}/Ω=	24.3	kip-in/ft		V_n/Ω =	3.07	kip/ft
	$(I_{cr}+I_u)/2$ =	41.15	in^4/ft		I_u =	58.9	in^4/ft	LRFD		ϕM_{no}=	37.1	kip-in/ft		ϕV_n =	4.60	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	445	375	320	275	238	208	182	161	142	126	112	101	90	81	72
	LRFD, ϕW	713	601	512	440	381	332	291	257	227	202	180	161	144	129	116
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2564	2535	2492	2454	2422	2393	2367	2358	2336	2317	2299	2283	2268	2265	2252
	PAF Base Steel ≥ .25"	2279	2272	2248	2227	2208	2192	2177	2178	2165	2154	2144	2135	2126	2129	2121
	PAF Base Steel ≥ 0.125"	2257	2252	2229	2209	2192	2176	2162	2164	2152	2142	2132	2123	2115	2118	2111
	#12 Screw Base Steel ≥ .0385"	2238	2234	2213	2194	2177	2163	2150	2152	2141	2131	2121	2113	2105	2109	2102
	Concrete + Deck =	38.0	psf		I_{cr} =	25.4	in^4/ft	ASD		M_{no}/Ω=	26.8	kip-in/ft		V_n/Ω =	3.07	kip/ft
	$(I_{cr}+I_u)/2$ =	42.61	in^4/ft		I_u =	59.9	in^4/ft	LRFD		ϕM_{no}=	41.0	kip-in/ft		ϕV_n =	4.60	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	572	483	413	356	309	271	238	211	188	167	150	135	118	105	93
	LRFD, ϕW	771	650	554	477	414	361	317	280	248	221	197	176	158	142	128
	L/360	-	-	-	-	-	-	-	-	-	-	-	135	118	105	93
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2622	2592	2545	2504	2468	2436	2408	2398	2375	2354	2334	2316	2300	2298	2283
	PAF Base Steel ≥ .25"	2310	2304	2277	2254	2234	2216	2199	2201	2188	2175	2164	2154	2144	2148	2139
	PAF Base Steel ≥ 0.125"	2286	2283	2257	2235	2216	2199	2184	2186	2173	2162	2151	2141	2132	2136	2128
	#12 Screw Base Steel ≥ .0385"	2266	2264	2240	2219	2201	2185	2170	2174	2161	2150	2140	2131	2122	2127	2119
	Concrete + Deck =	38.2	psf		I_{cr} =	26.9	in^4/ft	ASD		M_{no}/Ω=	28.8	kip-in/ft		V_n/Ω =	3.07	kip/ft
	$(I_{cr}+I_u)/2$ =	43.79	in^4/ft		I_u =	60.6	in^4/ft	LRFD		ϕM_{no}=	44.1	kip-in/ft		ϕV_n =	4.60	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	3200	4550	5540	7340	10040
	24 in o.c.	3200	4550	5540	7340	7750
	36 in o.c.	3200	4550	5170	5170	5170

2WH-36 Composite Deck 3.3

4" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 0.907yd^3/100ft^2

2WH-36 4" Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 0"	8' - 10"	9' - 6"
	21	8' - 11"	9' - 11"	10' - 4"
	20	9' - 8"	11' - 3"	11' - 8"

Gage	Single	Double	Triple
19	10' - 4"	11' - 8"	12' - 1"
18	10' - 7"	12' - 7"	12' - 7"
16	11' - 4"	14' - 1"	13' - 3"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	556	470	401	346	300	263	231	205	182	162	145	130	117	106	96
	LRFD, ϕW	890	752	642	553	480	420	370	327	291	260	232	209	188	170	153
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2748	2717	2660	2611	2567	2529	2496	2488	2459	2434	2410	2389	2369	2368	2351
	PAF Base Steel ≥ .25"	2377	2375	2342	2314	2289	2268	2248	2254	2237	2222	2208	2196	2184	2191	2180
	PAF Base Steel ≥ 0.125"	2350	2349	2319	2292	2269	2248	2230	2236	2220	2206	2193	2181	2170	2177	2167
	#12 Screw Base Steel ≥ .0385"	2328	2330	2300	2275	2253	2233	2216	2223	2208	2194	2182	2170	2160	2167	2158
	Concrete + Deck =	38.5	psf		I_{cr} =	30.1	in^4/ft	ASD		M_{no}/Ω=	33.0	kip-in/ft		V_n/Ω =	3.07	kip/ft
	$(I_{cr}+I_u)/2$ =	46.16	in^4/ft		I_u =	62.2	in^4/ft	LRFD		ϕM_{no}=	50.6	kip-in/ft		ϕV_n =	4.60	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	733	621	531	459	400	351	308	262	225	194	169	148	130	115	102
	LRFD, ϕW	991	837	715	617	537	470	414	367	327	292	262	236	213	192	174
	L/360	-	-	-	-	-	-	308	262	225	194	169	148	130	115	102
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2862	2831	2766	2709	2659	2615	2577	2570	2537	2508	2481	2456	2434	2435	2415
	PAF Base Steel ≥ .25"	2438	2440	2402	2370	2341	2316	2294	2302	2283	2266	2250	2235	2222	2231	2219
	PAF Base Steel ≥ 0.125"	2407	2411	2376	2345	2318	2294	2273	2283	2264	2248	2233	2219	2206	2216	2205
	#12 Screw Base Steel ≥ .0385"	2386	2391	2357	2328	2302	2279	2259	2269	2252	2236	2221	2208	2195	2206	2195
	Concrete + Deck =	38.8	psf		I_{cr} =	32.7	in^4/ft	ASD		M_{no}/Ω=	36.6	kip-in/ft		V_n/Ω =	3.07	kip/ft
	$(I_{cr}+I_u)/2$ =	48.1	in^4/ft		I_u =	63.5	in^4/ft	LRFD		ϕM_{no}=	56.0	kip-in/ft		ϕV_n =	4.60	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	750	635	543	469	409	359	317	281	243	210	183	160	141	125	111
	LRFD, ϕW	1200	1016	869	751	654	574	507	450	402	360	324	292	265	240	218
	L/360	-	-	-	-	-	-	-	-	243	210	183	160	141	125	111
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3118	3089	3005	2931	2867	2810	2760	2759	2716	2677	2642	2610	2581	2587	2561
	PAF Base Steel ≥ .25"	2576	2588	2540	2497	2460	2427	2398	2416	2391	2367	2346	2327	2309	2327	2310
	PAF Base Steel ≥ 0.125"	2518	2535	2490	2451	2417	2387	2360	2380	2356	2335	2315	2297	2281	2299	2284
	#12 Screw Base Steel ≥ .0385"	2517	2534	2489	2450	2416	2386	2359	2379	2355	2334	2314	2296	2280	2298	2283
	Concrete + Deck =	39.4	psf		I_{cr} =	37.8	in^4/ft	ASD		M_{no}/Ω=	44.0	kip-in/ft		V_n/Ω =	3.07	kip/ft
	$(I_{cr}+I_u)/2$ =	52.03	in^4/ft		I_u =	66.3	in^4/ft	LRFD		ϕM_{no}=	67.4	kip-in/ft		ϕV_n =	4.60	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	3200	4550	5540	7340	10040
	24 in o.c.	3200	4550	5540	7340	7750
	36 in o.c.	3200	4550	5170	5170	5170

3.3 2WH-36 Composite Deck

4½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.061yd³/100ft²

2WH-36 4 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 8"	8' - 6"	9' - 0"
	21	8' - 6"	9' - 6"	9' - 10"
	20	9' - 3"	10' - 9"	11' - 1"

Gage	Single	Double	Triple
19	9' - 10"	11' - 2"	11' - 6"
18	10' - 2"	12' - 0"	12' - 2"
16	10' - 10"	13' - 7"	12' - 10"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	576	486	414	357	309	270	238	210	186	166	148	133	119	107	97
	LRFD, ϕW	775	653	556	477	413	360	315	278	245	218	194	173	154	138	124
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2975	2948	2911	2878	2850	2825	2803	2793	2775	2758	2743	2729	2716	2713	2702
	PAF Base Steel ≥ .25"	2728	2720	2699	2680	2664	2650	2637	2637	2626	2617	2608	2600	2592	2594	2587
	PAF Base Steel ≥ 0.125"	2708	2702	2682	2665	2650	2636	2625	2625	2615	2606	2597	2590	2583	2585	2578
	#12 Screw Base Steel ≥ .0385"	2690	2685	2667	2650	2636	2624	2613	2613	2604	2595	2587	2580	2574	2576	2570
	Concrete + Deck =	43.9	psf		I_{cr} =	31.9	in^4/ft	ASD		M_{no}/Ω=	29.2	kip-in/ft		V_n/Ω =	3.56	kip/ft
	$(I_{cr}+I_u)/2$ =	57.56	in^4/ft		I_u =	83.2	in^4/ft	LRFD		ϕM_{no}=	44.7	kip-in/ft		ϕV_n =	5.09	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	639	540	461	397	345	302	266	235	209	186	167	150	135	122	110
	LRFD, ϕW	861	726	619	532	461	403	353	312	276	246	219	196	176	158	142
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3054	3026	2982	2945	2912	2883	2857	2848	2827	2807	2790	2774	2759	2756	2743
	PAF Base Steel ≥ .25"	2770	2763	2738	2717	2698	2682	2667	2668	2656	2645	2634	2625	2616	2619	2611
	PAF Base Steel ≥ 0.125"	2748	2743	2720	2700	2682	2667	2653	2654	2643	2632	2622	2614	2606	2609	2601
	#12 Screw Base Steel ≥ .0385"	2728	2725	2703	2684	2668	2653	2640	2642	2631	2621	2612	2604	2596	2599	2592
	Concrete + Deck =	44.1	psf		I_{cr} =	34.7	in^4/ft	ASD		M_{no}/Ω=	32.3	kip-in/ft		V_n/Ω =	3.57	kip/ft
	$(I_{cr}+I_u)/2$ =	59.55	in^4/ft		I_u =	84.4	in^4/ft	LRFD		ϕM_{no}=	49.4	kip-in/ft		ϕV_n =	5.36	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	691	584	499	430	374	328	289	256	228	203	182	164	148	134	121
	LRFD, ϕW	932	786	671	577	501	438	385	340	302	269	240	215	193	174	157
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3113	3083	3035	2994	2958	2926	2898	2889	2865	2844	2825	2807	2791	2788	2774
	PAF Base Steel ≥ .25"	2801	2795	2768	2745	2724	2706	2690	2692	2678	2666	2654	2644	2635	2638	2630
	PAF Base Steel ≥ 0.125"	2777	2773	2748	2726	2706	2689	2674	2677	2664	2652	2641	2632	2623	2627	2619
	#12 Screw Base Steel ≥ .0385"	2757	2755	2730	2709	2691	2675	2661	2664	2652	2641	2630	2621	2613	2617	2610
	Concrete + Deck =	44.2	psf		I_{cr} =	36.9	in^4/ft	ASD		M_{no}/Ω=	34.8	kip-in/ft		V_n/Ω =	3.57	kip/ft
	$(I_{cr}+I_u)/2$ =	61.15	in^4/ft		I_u =	85.4	in^4/ft	LRFD		ϕM_{no}=	53.2	kip-in/ft		ϕV_n =	5.36	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	3690	5040	6030	7830	10530
	24 in o.c.	3690	5040	6030	7750	7750
	36 in o.c.	3690	5040	5170	5170	5170

2WH-36 Composite Deck 3.3

4½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.061yd³/100ft²

2WH-36 4 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 8"	8' - 6"	9' - 0"
	21	8' - 6"	9' - 6"	9' - 10"
	20	9' - 3"	10' - 9"	11' - 1"

Gage	Single	Double	Triple
19	9' - 10"	11' - 2"	11' - 6"
18	10' - 2"	12' - 0"	12' - 2"
16	10' - 10"	13' - 7"	12' - 10"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	798	675	577	499	434	381	336	298	266	238	214	193	174	154	137
	LRFD, ϕW	1077	910	777	670	582	510	449	397	353	316	283	254	229	207	187
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	174	154	137
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
19	Arc Spot Weld 1/2" Effective Dia	3238	3207	3150	3101	3058	3020	2986	2978	2950	2924	2901	2879	2860	2859	2842
	PAF Base Steel ≥ .25"	2868	2865	2833	2805	2780	2758	2739	2744	2727	2712	2699	2686	2675	2681	2671
	PAF Base Steel ≥ 0.125"	2840	2840	2809	2782	2759	2739	2721	2727	2711	2696	2683	2672	2661	2668	2658
	#12 Screw Base Steel ≥ .0385"	2819	2820	2791	2766	2743	2724	2706	2713	2698	2684	2672	2661	2650	2658	2648
	Concrete + Deck =	44.5	psf		I_{cr} =	41.2	in^4/ft	ASD		M_{no}/Ω=	39.9	kip-in/ft		V_n/Ω =	3.57	kip/ft
	$(I_{cr}+I_u)/2$ =	64.38	in^4/ft		I_u =	87.5	in^4/ft	LRFD		ϕM_{no}=	61.0	kip-in/ft		ϕV_n =	5.36	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	888	752	643	556	485	426	376	334	298	267	235	206	181	160	143
	LRFD, ϕW	1200	1014	867	748	651	571	503	446	397	355	319	287	260	235	213
	L/360	-	-	-	-	-	-	-	-	-	-	235	206	181	160	143
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	3353	3321	3256	3199	3150	3106	3067	3061	3028	2998	2971	2947	2924	2925	2905
	PAF Base Steel ≥ .25"	2929	2930	2893	2860	2832	2807	2784	2793	2773	2756	2740	2726	2712	2721	2709
	PAF Base Steel ≥ 0.125"	2898	2901	2866	2835	2809	2785	2764	2773	2755	2738	2723	2709	2697	2707	2695
	#12 Screw Base Steel ≥ .0385"	2876	2882	2848	2818	2792	2770	2749	2760	2742	2726	2711	2698	2686	2696	2685
	Concrete + Deck =	44.8	psf		I_{cr} =	44.8	in^4/ft	ASD		M_{no}/Ω=	44.2	kip-in/ft		V_n/Ω =	3.57	kip/ft
	$(I_{cr}+I_u)/2$ =	67.03	in^4/ft		I_u =	89.3	in^4/ft	LRFD		ϕM_{no}=	67.7	kip-in/ft		ϕV_n =	5.36	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1076	912	782	676	590	519	459	395	338	292	254	223	196	173	154
	LRFD, ϕW	1455	1232	1055	912	795	698	617	548	489	439	395	357	323	293	267
	L/360	-	-	-	-	-	-	-	395	338	292	254	223	196	173	154
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	3609	3580	3495	3422	3357	3301	3250	3249	3207	3168	3133	3101	3071	3078	3051
	PAF Base Steel ≥ .25"	3066	3079	3030	2988	2951	2918	2889	2907	2881	2858	2837	2818	2800	2817	2801
	PAF Base Steel ≥ 0.125"	3009	3026	2981	2942	2907	2877	2850	2870	2847	2825	2805	2788	2771	2790	2774
	#12 Screw Base Steel ≥ .0385"	3007	3025	2980	2941	2906	2876	2849	2869	2846	2824	2805	2787	2770	2789	2774
	Concrete + Deck =	45.4	psf		I_{cr} =	51.8	in^4/ft	ASD		M_{no}/Ω=	53.3	kip-in/ft		V_n/Ω =	3.57	kip/ft
	$(I_{cr}+I_u)/2$ =	72.39	in^4/ft		I_u =	92.9	in^4/ft	LRFD		ϕM_{no}=	81.5	kip-in/ft		ϕV_n =	5.36	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	3690	5040	6030	7830	10530
	24 in o.c.	3690	5040	6030	7750	7750
	36 in o.c.	3690	5040	5170	5170	5170

3.3 2WH-36 Composite Deck

5" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.215yd^3/100ft^2

2WH-36 5" Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 4"	8' - 2"	8' - 8"
	21	8' - 2"	9' - 1"	9' - 5"
	20	8' - 11"	10' - 3"	10' - 8"

Gage	Single	Double	Triple
19	9' - 6"	10' - 8"	11' - 0"
18	9' - 9"	11' - 6"	11' - 10"
16	10' - 5"	13' - 1"	12' - 5"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	680	574	489	421	366	320	281	249	221	197	176	158	142	128	115
	LRFD, ϕW	915	771	657	564	489	426	373	329	291	259	230	206	184	165	148
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3466	3439	3401	3369	3340	3315	3293	3284	3265	3249	3233	3219	3207	3203	3192
	PAF Base Steel ≥ .25"	3218	3210	3189	3171	3155	3141	3128	3127	3117	3107	3098	3090	3083	3084	3078
	PAF Base Steel ≥ 0.125"	3199	3192	3172	3155	3140	3127	3115	3115	3105	3096	3088	3080	3073	3075	3069
	#12 Screw Base Steel ≥ .0385"	3181	3176	3157	3141	3127	3114	3103	3104	3094	3086	3078	3071	3064	3066	3060
	Concrete + Deck = 49.9 psf				I_{cr} = 42.2 in^4/ft			ASD		M_{no}/Ω= 34.4 kip-in/ft				V_n/Ω = 3.82 kip/ft		
	$(I_{cr}+I_u)/2$ = 77.87 in^4/ft				I_u = 113.6 in^4/ft			LRFD		ϕM_{no}= 52.7 kip-in/ft				ϕV_n = 5.49 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	755	638	545	469	408	357	315	278	248	221	198	178	160	145	131
	LRFD, ϕW	1017	858	732	629	546	477	419	370	328	292	260	233	209	188	169
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3545	3516	3473	3435	3402	3373	3348	3338	3317	3298	3280	3264	3249	3246	3233
	PAF Base Steel ≥ .25"	3260	3253	3229	3207	3189	3172	3158	3159	3146	3135	3125	3115	3107	3109	3102
	PAF Base Steel ≥ 0.125"	3238	3233	3210	3190	3172	3157	3143	3145	3133	3122	3113	3104	3096	3099	3092
	#12 Screw Base Steel ≥ .0385"	3219	3215	3193	3175	3158	3143	3130	3133	3122	3111	3102	3094	3086	3090	3083
	Concrete + Deck = 50.1 psf				I_{cr} = 45.8 in^4/ft			ASD		M_{no}/Ω= 38.0 kip-in/ft				V_n/Ω = 4.11 kip/ft		
	$(I_{cr}+I_u)/2$ = 80.51 in^4/ft				I_u = 115.2 in^4/ft			LRFD		ϕM_{no}= 58.2 kip-in/ft				ϕV_n = 6.16 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	817	690	590	509	443	388	342	303	270	241	216	195	176	159	144
	LRFD, ϕW	1102	930	793	683	593	519	456	403	358	319	285	256	230	207	187
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3603	3573	3526	3485	3448	3417	3388	3379	3356	3334	3315	3297	3281	3278	3264
	PAF Base Steel ≥ .25"	3291	3285	3258	3235	3214	3196	3180	3182	3169	3156	3145	3134	3125	3129	3120
	PAF Base Steel ≥ 0.125"	3267	3263	3238	3216	3197	3180	3165	3167	3154	3143	3132	3122	3113	3117	3109
	#12 Screw Base Steel ≥ .0385"	3247	3245	3221	3200	3182	3166	3151	3155	3142	3131	3121	3112	3103	3108	3100
	Concrete + Deck = 50.3 psf				I_{cr} = 48.8 in^4/ft			ASD		M_{no}/Ω= 41.0 kip-in/ft				V_n/Ω = 4.11 kip/ft		
	$(I_{cr}+I_u)/2$ = 82.63 in^4/ft				I_u = 116.5 in^4/ft			LRFD		ϕM_{no}= 62.7 kip-in/ft				ϕV_n = 6.16 kip/ft		

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	4180	5530	6520	8320	11020
	24 in o.c.	4180	5530	6520	7750	7750
	36 in o.c.	4180	5170	5170	5170	5170

2WH-36 Composite Deck 3.3

5" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.215yd^3/100ft^2

2WH-36 5" Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 4"	8' - 2"	8' - 8"
	21	8' - 2"	9' - 1"	9' - 5"
	20	8' - 11"	10' - 3"	10' - 8"

Gage	Single	Double	Triple
19	9' - 6"	10' - 8"	11' - 0"
18	9' - 9"	11' - 6"	11' - 10"
16	10' - 5"	13' - 1"	12' - 5"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	943	798	683	590	514	451	398	353	315	282	254	229	207	188	171
	LRFD, ϕW	1274	1076	920	793	690	604	532	472	420	375	336	303	273	247	224
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3729	3698	3641	3591	3548	3510	3476	3468	3440	3414	3391	3370	3350	3349	3332
	PAF Base Steel ≥ .25"	3358	3356	3323	3295	3270	3249	3229	3234	3218	3203	3189	3176	3165	3171	3161
	PAF Base Steel ≥ 0.125"	3330	3330	3299	3273	3250	3229	3211	3217	3201	3187	3174	3162	3151	3158	3148
	#12 Screw Base Steel ≥ .0385"	3309	3311	3281	3256	3234	3214	3197	3204	3188	3175	3162	3151	3141	3148	3139
	Concrete + Deck =	50.6	psf		I_{cr} =	54.6	in^4/ft	ASD		M_{no}/Ω=	47.1	kip-in/ft		V_n/Ω =	4.11	kip/ft
	$(I_{cr}+I_u)/2$ =	86.9	in^4/ft		I_u =	119.2	in^4/ft	LRFD		ϕM_{no}=	72.1	kip-in/ft		ϕV_n =	6.16	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1051	890	762	659	574	505	446	396	354	317	286	258	234	213	192
	LRFD, ϕW	1420	1201	1027	887	772	677	597	530	472	423	380	342	309	280	254
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	192
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3843	3812	3746	3690	3640	3596	3557	3551	3518	3489	3462	3437	3415	3415	3395
	PAF Base Steel ≥ .25"	3419	3420	3383	3351	3322	3297	3275	3283	3264	3246	3230	3216	3203	3212	3200
	PAF Base Steel ≥ 0.125"	3388	3392	3357	3326	3299	3275	3254	3264	3245	3229	3214	3200	3187	3197	3185
	#12 Screw Base Steel ≥ .0385"	3367	3372	3338	3309	3283	3260	3240	3250	3232	3216	3202	3189	3176	3187	3176
	Concrete + Deck =	50.9	psf		I_{cr} =	59.4	in^4/ft	ASD		M_{no}/Ω=	52.3	kip-in/ft		V_n/Ω =	4.11	kip/ft
	$(I_{cr}+I_u)/2$ =	90.42	in^4/ft		I_u =	121.5	in^4/ft	LRFD		ϕM_{no}=	80.0	kip-in/ft		ϕV_n =	6.16	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1276	1081	927	803	701	616	546	486	435	391	343	300	264	234	208
	LRFD, ϕW	1726	1461	1252	1082	944	829	733	651	582	522	470	425	385	350	319
	L/360	-	-	-	-	-	-	-	-	-	-	343	300	264	234	208
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4099	4070	3985	3912	3848	3791	3741	3740	3697	3658	3623	3591	3562	3568	3542
	PAF Base Steel ≥ .25"	3557	3569	3520	3478	3441	3408	3379	3397	3371	3348	3327	3308	3290	3308	3291
	PAF Base Steel ≥ 0.125"	3499	3516	3471	3432	3398	3368	3341	3361	3337	3315	3296	3278	3262	3280	3265
	#12 Screw Base Steel ≥ .0385"	3498	3515	3470	3431	3397	3367	3340	3360	3336	3315	3295	3277	3261	3279	3264
	Concrete + Deck =	51.5	psf		I_{cr} =	68.9	in^4/ft	ASD		M_{no}/Ω=	63.1	kip-in/ft		V_n/Ω =	4.11	kip/ft
	$(I_{cr}+I_u)/2$ =	97.55	in^4/ft		I_u =	126.2	in^4/ft	LRFD		ϕM_{no}=	96.5	kip-in/ft		ϕV_n =	6.16	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	4180	5530	6520	8320	11020
	24 in o.c.	4180	5530	6520	7750	7750
	36 in o.c.	4180	5170	5170	5170	5170

3.3 2WH-36 Composite Deck

5 ½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.370yd³/100ft²

1 Hour Fire Rating

Maximum Unshored Span	Gage	Single	Double	Triple
	22	7' - 1"	7' - 11"	8' - 4"
	21	7' - 10"	8' - 9"	9' - 1"
	20	8' - 7"	9' - 11"	10' - 3"

2WH-36 5 1/2 " Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
19	9' - 2"	10' - 3"	10' - 7"
18	9' - 5"	11' - 0"	11' - 5"
16	10' - 1"	12' - 7"	12' - 1"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	787	558	476	409	354	309	271	239	212	188	168	150	134	120	108
	LRFD, ϕW	1060	893	761	654	567	495	434	382	339	301	268	240	215	193	173
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3956	3929	3892	3859	3831	3806	3783	3774	3756	3739	3724	3710	3697	3694	3682
	PAF Base Steel ≥ .25"	3708	3701	3679	3661	3645	3631	3618	3618	3607	3597	3589	3581	3573	3575	3568
	PAF Base Steel ≥ 0.125"	3689	3683	3663	3646	3631	3617	3605	3606	3595	3586	3578	3571	3564	3565	3559
	#12 Screw Base Steel ≥ .0385"	3671	3666	3647	3631	3617	3605	3594	3594	3585	3576	3568	3561	3555	3557	3551
	Concrete + Deck = 56.0 psf				I_{cr} = 54.1 in⁴/ft			ASD		M_{no}/Ω= 39.8 kip-in/ft				V_n/Ω = 4.10 kip/ft		
	$(I_{cr}+I_u)/2$ = 102.5 in⁴/ft				I_u = 150.9 in⁴/ft			LRFD		ϕM_{no}= 60.9 kip-in/ft				ϕV_n = 5.91 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	737	622	530	456	396	346	304	269	238	212	190	170	153	137	124
	LRFD, ϕW	1179	995	848	730	634	554	487	430	381	340	303	272	244	220	198
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4035	4006	3963	3926	3893	3864	3838	3829	3807	3788	3771	3754	3740	3737	3724
	PAF Base Steel ≥ .25"	3750	3744	3719	3698	3679	3663	3648	3649	3637	3625	3615	3606	3597	3600	3592
	PAF Base Steel ≥ 0.125"	3729	3723	3700	3680	3663	3647	3634	3635	3624	3613	3603	3594	3586	3589	3582
	#12 Screw Base Steel ≥ .0385"	3709	3706	3684	3665	3648	3634	3621	3623	3612	3602	3593	3584	3577	3580	3573
	Concrete + Deck = 56.2 psf				I_{cr} = 58.8 in⁴/ft			ASD		M_{no}/Ω= 44.0 kip-in/ft				V_n/Ω = 4.63 kip/ft		
	$(I_{cr}+I_u)/2$ = 105.9 in⁴/ft				I_u = 152.9 in⁴/ft			LRFD		ϕM_{no}= 67.3 kip-in/ft				ϕV_n = 6.62 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	947	800	684	591	514	450	397	352	314	281	252	227	205	186	168
	LRFD, ϕW	1277	1078	920	793	689	602	530	469	417	372	333	298	269	242	219
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4094	4064	4016	3975	3939	3907	3879	3870	3846	3825	3805	3788	3771	3769	3755
	PAF Base Steel ≥ .25"	3781	3776	3749	3725	3705	3687	3671	3673	3659	3647	3635	3625	3615	3619	3611
	PAF Base Steel ≥ 0.125"	3758	3754	3728	3706	3687	3670	3655	3658	3645	3633	3622	3613	3604	3608	3600
	#12 Screw Base Steel ≥ .0385"	3738	3735	3711	3690	3672	3656	3642	3645	3633	3622	3611	3602	3594	3598	3590
	Concrete + Deck = 56.3 psf				I_{cr} = 62.7 in⁴/ft			ASD		M_{no}/Ω= 47.5 kip-in/ft				V_n/Ω = 4.67 kip/ft		
	$(I_{cr}+I_u)/2$ = 108.6 in⁴/ft				I_u = 154.6 in⁴/ft			LRFD		ϕM_{no}= 72.6 kip-in/ft				ϕV_n = 7.00 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in²/ft	A_s = 0.058 in²/ft	A_s = 0.080 in²/ft	A_s = 0.120 in²/ft	A_s = 0.180 in²/ft
	12 in o.c.	n/a	6030	7020	8820	11520
	24 in o.c.	n/a	6030	7020	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

2WH-36 Composite Deck 3.3

5 ½" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.370yd³/100ft²

1 Hour Fire Rating

2WH-36 5 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 1"	7' - 11"	8' - 4"
	21	7' - 10"	8' - 9"	9' - 1"
	20	8' - 7"	9' - 11"	10' - 3"

Gage	Single	Double	Triple
19	9' - 2"	10' - 3"	10' - 7"
18	9' - 5"	11' - 0"	11' - 5"
16	10' - 1"	12' - 7"	12' - 1"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	924	781	668	576	501	439	387	343	305	273	245	221	199	180	163
	LRFD, ϕW	1478	1249	1068	922	802	702	619	549	489	437	392	353	319	288	261
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4219	4188	4131	4082	4039	4001	3967	3959	3931	3905	3882	3860	3841	3840	3823
	PAF Base Steel ≥ .25"	3848	3846	3813	3785	3761	3739	3720	3725	3708	3693	3679	3667	3655	3662	3651
	PAF Base Steel ≥ 0.125"	3821	3820	3790	3763	3740	3720	3701	3707	3692	3677	3664	3653	3642	3649	3639
	#12 Screw Base Steel ≥ .0385"	3800	3801	3772	3746	3724	3705	3687	3694	3679	3665	3653	3641	3631	3638	3629
	Concrete + Deck = 56.6 psf				I_{cr} = 70.3 in^4/ft			ASD		M_{no}/Ω= 54.6 kip-in/ft				V_n/Ω = 4.67 kip/ft		
	$(I_{cr}+I_u)/2$ = 114.1 in^4/ft				I_u = 158.0 in^4/ft			LRFD		ϕM_{no}= 83.5 kip-in/ft				ϕV_n = 7.00 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1220	1033	885	766	668	587	519	461	412	370	333	301	273	248	226
	LRFD, ϕW	1649	1395	1194	1031	898	788	695	617	550	493	443	399	361	327	298
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4334	4302	4237	4180	4131	4087	4048	4041	4009	3979	3952	3928	3905	3906	3886
	PAF Base Steel ≥ .25"	3910	3911	3873	3841	3813	3788	3765	3774	3754	3737	3721	3706	3693	3702	3690
	PAF Base Steel ≥ 0.125"	3879	3882	3847	3816	3789	3766	3745	3754	3736	3719	3704	3690	3678	3687	3676
	#12 Screw Base Steel ≥ .0385"	3857	3862	3828	3799	3773	3750	3730	3741	3723	3707	3692	3679	3667	3677	3666
	Concrete + Deck = 56.9 psf				I_{cr} = 76.5 in^4/ft			ASD		M_{no}/Ω= 60.6 kip-in/ft				V_n/Ω = 4.67 kip/ft		
	$(I_{cr}+I_u)/2$ = 118.7 in^4/ft				I_u = 160.9 in^4/ft			LRFD		ϕM_{no}= 92.7 kip-in/ft				ϕV_n = 7.00 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1255	1063	910	787	687	604	534	475	424	381	343	310	281	256	233
	LRFD, ϕW	2007	1700	1457	1260	1099	966	854	759	678	609	549	496	450	409	373
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4590	4561	4476	4403	4338	4282	4231	4230	4187	4149	4114	4081	4052	4058	4032
	PAF Base Steel ≥ .25"	4047	4060	4011	3968	3931	3899	3870	3888	3862	3839	3818	3798	3781	3798	3782
	PAF Base Steel ≥ 0.125"	3990	4007	3962	3923	3888	3858	3831	3851	3827	3806	3786	3768	3752	3770	3755
	#12 Screw Base Steel ≥ .0385"	3988	4005	3960	3921	3887	3857	3830	3850	3827	3805	3786	3768	3751	3770	3755
	Concrete + Deck = 57.5 psf				I_{cr} = 88.9 in^4/ft			ASD		M_{no}/Ω= 73.3 kip-in/ft				V_n/Ω = 4.67 kip/ft		
	$(I_{cr}+I_u)/2$ = 127.9 in^4/ft				I_u = 166.9 in^4/ft			LRFD		ϕM_{no}= 112.1 kip-in/ft				ϕV_n = 7.00 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	6030	7020	8820	11520
	24 in o.c.	n/a	6030	7020	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3.3 2WH-36 Composite Deck

6" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.54yd^3/100ft^2

1½ Hour Fire Rating

2WH-36 6" Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	6' - 10"	7' - 8"	8' - 0"
	21	7' - 6"	8' - 5"	8' - 9"
	20	8' - 4"	9' - 6"	9' - 10"

Gage	Single	Double	Triple
19	8' - 10"	9' - 11"	10' - 3"
18	9' - 1"	10' - 8"	11' - 0"
16	9' - 9"	12' - 2"	11' - 10"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	897	757	647	557	484	424	373	330	293	262	234	210	189	171	154
	LRFD, ϕW	1209	1019	868	747	647	565	496	437	387	345	307	275	246	221	199
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4447	4420	4382	4350	4321	4296	4274	4265	4246	4229	4214	4200	4188	4184	4173
	PAF Base Steel ≥ .25"	4199	4191	4170	4152	4136	4121	4109	4108	4098	4088	4079	4071	4064	4065	4059
	PAF Base Steel ≥ 0.125"	4180	4173	4153	4136	4121	4108	4096	4096	4086	4077	4069	4061	4054	4056	4050
	#12 Screw Base Steel ≥ .0385"	4162	4157	4138	4122	4108	4095	4084	4085	4075	4067	4059	4052	4045	4047	4041
	Concrete + Deck =	62.0	psf		I_{cr} =	67.7	in^4/ft	ASD		M_{no}/Ω=	45.3	kip-in/ft		V_n/Ω =	4.40	kip/ft
	$(I_{cr}+I_u)/2$ =	131.8	in^4/ft		I_u =	195.8	in^4/ft	LRFD		ϕM_{no}=	69.3	kip-in/ft		ϕV_n =	6.35	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	997	843	720	621	540	473	417	370	329	294	264	237	214	194	176
	LRFD, ϕW	1345	1135	968	834	724	633	556	492	436	389	348	312	280	252	228
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4526	4497	4454	4416	4383	4354	4329	4319	4298	4279	4261	4245	4230	4227	4214
	PAF Base Steel ≥ .25"	4241	4234	4210	4188	4170	4153	4139	4140	4127	4116	4106	4096	4088	4090	4083
	PAF Base Steel ≥ 0.125"	4219	4214	4191	4171	4153	4138	4124	4126	4114	4103	4094	4085	4077	4080	4073
	#12 Screw Base Steel ≥ .0385"	4200	4196	4174	4155	4139	4124	4111	4114	4102	4092	4083	4075	4067	4071	4064
	Concrete + Deck =	62.2	psf		I_{cr} =	73.7	in^4/ft	ASD		M_{no}/Ω=	50.1	kip-in/ft		V_n/Ω =	4.92	kip/ft
	$(I_{cr}+I_u)/2$ =	136	in^4/ft		I_u =	198.3	in^4/ft	LRFD		ϕM_{no}=	76.6	kip-in/ft		ϕV_n =	7.06	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1080	913	781	674	587	515	454	403	359	321	288	260	235	213	193
	LRFD, ϕW	1457	1231	1051	906	787	689	606	536	477	425	381	342	308	278	252
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4584	4554	4507	4465	4429	4398	4369	4360	4337	4315	4296	4278	4262	4259	4245
	PAF Base Steel ≥ .25"	4272	4266	4239	4216	4195	4177	4161	4163	4149	4137	4126	4115	4106	4110	4101
	PAF Base Steel ≥ 0.125"	4248	4244	4219	4197	4178	4161	4145	4148	4135	4123	4113	4103	4094	4098	4090
	#12 Screw Base Steel ≥ .0385"	4228	4226	4202	4181	4163	4146	4132	4135	4123	4112	4102	4092	4084	4089	4081
	Concrete + Deck =	62.4	psf		I_{cr} =	78.6	in^4/ft	ASD		M_{no}/Ω=	54.1	kip-in/ft		V_n/Ω =	5.26	kip/ft
	$(I_{cr}+I_u)/2$ =	139.5	in^4/ft		I_u =	200.4	in^4/ft	LRFD		ϕM_{no}=	82.7	kip-in/ft		ϕV_n =	7.63	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	6520	7510	9310	12010
	24 in o.c.	n/a	6520	7510	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

2WH-36 Composite Deck 3.3

6" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.54yd³/100ft²

1½ Hour Fire Rating

	Gage	Single	Double	Triple
Maximum Unshored Span	22	6' - 10"	7' - 8"	8' - 0"
	21	7' - 6"	8' - 5"	8' - 9"
	20	8' - 4"	9' - 6"	9' - 10"

2WH-36 6" Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
19	8' - 10"	9' - 11"	10' - 3"
18	9' - 1"	10' - 8"	11' - 0"
16	9' - 9"	12' - 2"	11' - 10"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1250	1058	906	783	682	599	529	470	420	376	339	306	277	252	229
	LRFD, ϕW	1688	1427	1220	1053	917	803	709	628	560	501	449	405	366	331	300
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4710	4678	4622	4572	4529	4491	4457	4449	4421	4395	4372	4351	4331	4330	4313
	PAF Base Steel ≥ .25"	4339	4336	4304	4276	4251	4230	4210	4215	4199	4184	4170	4157	4146	4152	4142
	PAF Base Steel ≥ 0.125"	4311	4311	4280	4254	4231	4210	4192	4198	4182	4168	4155	4143	4132	4139	4129
	#12 Screw Base Steel ≥ .0385"	4290	4291	4262	4237	4215	4195	4178	4184	4169	4156	4143	4132	4121	4129	4119
	Concrete + Deck =	62.7	psf		I_{cr} =	88.2	in^4/ft	ASD		M_{no}/Ω=	62.2	kip-in/ft		V_n/Ω =	5.26	kip/ft
	$(I_{cr}+I_u)/2$ =	146.5	in^4/ft		I_u =	204.7	in^4/ft	LRFD		ϕM_{no}=	95.2	kip-in/ft		ϕV_n =	7.89	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1394	1181	1012	875	764	671	593	528	472	423	382	345	313	285	260
	LRFD, ϕW	1885	1595	1365	1179	1027	901	796	706	630	565	508	458	415	376	342
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4824	4793	4727	4671	4621	4577	4538	4532	4499	4469	4443	4418	4395	4396	4376
	PAF Base Steel ≥ .25"	4400	4401	4364	4331	4303	4278	4256	4264	4245	4227	4211	4197	4183	4193	4181
	PAF Base Steel ≥ 0.125"	4369	4373	4337	4307	4280	4256	4235	4245	4226	4210	4194	4181	4168	4178	4166
	#12 Screw Base Steel ≥ .0385"	4348	4353	4319	4289	4264	4241	4221	4231	4213	4197	4183	4169	4157	4168	4156
	Concrete + Deck =	62.9	psf		I_{cr} =	96.2	in^4/ft	ASD		M_{no}/Ω=	69.2	kip-in/ft		V_n/Ω =	5.26	kip/ft
	$(I_{cr}+I_u)/2$ =	152.2	in^4/ft		I_u =	208.3	in^4/ft	LRFD		ϕM_{no}=	105.9	kip-in/ft		ϕV_n =	7.89	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1698	1440	1235	1069	934	822	728	649	581	522	472	427	389	354	324
	LRFD, ϕW	2298	1946	1668	1443	1259	1107	979	871	778	699	630	570	517	471	429
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5080	5051	4966	4893	4829	4772	4722	4721	4678	4639	4604	4572	4542	4549	4523
	PAF Base Steel ≥ .25"	4538	4550	4501	4459	4422	4389	4360	4378	4352	4329	4308	4289	4271	4288	4272
	PAF Base Steel ≥ 0.125"	4480	4497	4452	4413	4379	4349	4322	4342	4318	4296	4277	4259	4242	4261	4246
	#12 Screw Base Steel ≥ .0385"	4479	4496	4451	4412	4378	4348	4321	4341	4317	4296	4276	4258	4242	4260	4245
	Concrete + Deck =	63.6	psf		I_{cr} =	112.0	in^4/ft	ASD		M_{no}/Ω=	83.8	kip-in/ft		V_n/Ω =	5.26	kip/ft
	$(I_{cr}+I_u)/2$ =	163.9	in^4/ft		I_u =	215.8	in^4/ft	LRFD		ϕM_{no}=	128.2	kip-in/ft		ϕV_n =	7.89	kip/ft

All Gages	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	6520	7510	9310	12010
	24 in o.c.	n/a	6520	7510	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3.3 2WH-36 Composite Deck

6½" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.54yd³/100ft²

2 Hour Fire Rating

2WH-36 6 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	6' - 7"	7' - 5"	7' - 9"
	21	7' - 3"	8' - 2"	8' - 5"
	20	8' - 1"	9' - 2"	9' - 6"

Gage	Single	Double	Triple
19	8' - 7"	9' - 7"	9' - 10"
18	8' - 10"	10' - 3"	10' - 8"
16	9' - 6"	11' - 9"	11' - 7"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1009	852	728	627	545	477	420	372	331	295	264	237	214	193	175
	LRFD, ϕW	1360	1147	977	841	729	637	559	493	437	389	347	311	279	250	225
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4937	4910	4873	4840	4812	4787	4764	4755	4737	4720	4705	4691	4678	4674	4663
	PAF Base Steel ≥ .25"	4689	4681	4660	4642	4626	4612	4599	4599	4588	4578	4570	4562	4554	4556	4549
	PAF Base Steel ≥ 0.125"	4670	4664	4644	4627	4611	4598	4586	4586	4576	4567	4559	4551	4545	4546	4540
	#12 Screw Base Steel ≥ .0385"	4652	4647	4628	4612	4598	4585	4574	4575	4566	4557	4549	4542	4536	4538	4532
	Concrete + Deck = 68.1 psf				I_{cr} = 83.1 in⁴/ft			ASD		M_{no}/Ω= 50.9 kip-in/ft				V_n/Ω = 4.71 kip/ft		
	$(I_{cr}+I_u)/2$ = 166.2 in⁴/ft				I_u = 249.2 in⁴/ft			LRFD		ϕM_{no}= 77.8 kip-in/ft				ϕV_n = 6.81 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1122	948	811	700	609	533	470	417	371	332	298	268	242	219	199
	LRFD, ϕW	1514	1278	1090	939	816	713	627	555	492	439	393	352	317	286	258
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5016	4987	4944	4907	4874	4845	4819	4810	4788	4769	4751	4735	4721	4717	4705
	PAF Base Steel ≥ .25"	4731	4724	4700	4679	4660	4644	4629	4630	4618	4606	4596	4587	4578	4581	4573
	PAF Base Steel ≥ 0.125"	4709	4704	4681	4661	4644	4628	4615	4616	4604	4594	4584	4575	4567	4570	4563
	#12 Screw Base Steel ≥ .0385"	4690	4687	4665	4646	4629	4615	4602	4604	4593	4583	4574	4565	4558	4561	4554
	Concrete + Deck = 68.2 psf				I_{cr} = 90.6 in⁴/ft			ASD		M_{no}/Ω= 56.3 kip-in/ft				V_n/Ω = 5.23 kip/ft		
	$(I_{cr}+I_u)/2$ = 171.4 in⁴/ft				I_u = 252.2 in⁴/ft			LRFD		ϕM_{no}= 86.2 kip-in/ft				ϕV_n = 7.52 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1216	1028	880	760	661	580	512	454	405	362	326	294	265	241	219
	LRFD, ϕW	1641	1386	1184	1021	887	777	684	605	538	481	431	387	349	315	285
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5074	5045	4997	4956	4920	4888	4860	4851	4827	4806	4786	4769	4752	4750	4735
	PAF Base Steel ≥ .25"	4762	4757	4730	4706	4686	4668	4652	4654	4640	4627	4616	4606	4596	4600	4591
	PAF Base Steel ≥ 0.125"	4739	4735	4709	4687	4668	4651	4636	4639	4626	4614	4603	4593	4584	4589	4580
	#12 Screw Base Steel ≥ .0385"	4719	4716	4692	4671	4653	4637	4622	4626	4614	4602	4592	4583	4574	4579	4571
	Concrete + Deck = 68.4 psf				I_{cr} = 96.6 in⁴/ft			ASD		M_{no}/Ω= 60.8 kip-in/ft				V_n/Ω = 5.65 kip/ft		
	$(I_{cr}+I_u)/2$ = 175.7 in⁴/ft				I_u = 254.8 in⁴/ft			LRFD		ϕM_{no}= 93.1 kip-in/ft				ϕV_n = 8.10 kip/ft		

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	n/a	7010	8000	9800	12500
	24 in o.c.	n/a	7010	7750	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

2WH-36 Composite Deck 3.3

6½" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.54yd³/100ft²

2 Hour Fire Rating

2WH-36 6 1/2 " Slab Depth, 145 pcf NWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	6' - 7"	7' - 5"	7' - 9"
	21	7' - 3"	8' - 2"	8' - 5"
	20	8' - 1"	9' - 2"	9' - 6"

Gage	Single	Double	Triple
19	8' - 7"	9' - 7"	9' - 10"
18	8' - 10"	10' - 3"	10' - 8"
16	9' - 6"	11' - 9"	11' - 7"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1408	1192	1021	882	769	676	597	531	474	425	383	346	313	285	259
	LRFD, ϕW	1902	1609	1376	1188	1034	907	800	709	632	566	508	458	414	375	340
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5200	5169	5112	5063	5020	4982	4948	4940	4911	4886	4862	4841	4822	4821	4803
	PAF Base Steel ≥ .25"	4829	4827	4794	4766	4742	4720	4701	4706	4689	4674	4660	4648	4636	4643	4632
	PAF Base Steel ≥ 0.125"	4802	4801	4771	4744	4721	4700	4682	4688	4672	4658	4645	4633	4623	4629	4620
	#12 Screw Base Steel ≥ .0385"	4781	4782	4753	4727	4705	4686	4668	4675	4660	4646	4634	4622	4612	4619	4610
	Concrete + Deck = 68.7 psf				I_{cr} = 108.6 in⁴/ft			ASD		M_{no}/Ω= 70.1 kip-in/ft				V_n/Ω = 5.87 kip/ft		
	$(I_{cr}+I_u)/2$ = 184.3 in⁴/ft				I_u = 259.9 in⁴/ft			LRFD		ϕM_{no}= 107.2 kip-in/ft				ϕV_n = 8.74 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1572	1332	1141	987	862	757	670	596	533	478	431	390	354	322	294
	LRFD, ϕW	2126	1799	1540	1331	1159	1018	899	798	712	638	574	518	469	426	388
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5314	5283	5218	5161	5111	5068	5029	5022	4990	4960	4933	4908	4886	4887	4867
	PAF Base Steel ≥ .25"	4891	4892	4854	4822	4793	4768	4746	4755	4735	4718	4702	4687	4674	4683	4671
	PAF Base Steel ≥ 0.125"	4860	4863	4828	4797	4770	4747	4725	4735	4717	4700	4685	4671	4658	4668	4657
	#12 Screw Base Steel ≥ .0385"	4838	4843	4809	4780	4754	4731	4711	4721	4704	4688	4673	4660	4648	4658	4647
	Concrete + Deck = 69.0 psf				I_{cr} = 118.5 in⁴/ft			ASD		M_{no}/Ω= 77.9 kip-in/ft				V_n/Ω = 5.87 kip/ft		
	$(I_{cr}+I_u)/2$ = 191.4 in⁴/ft				I_u = 264.3 in⁴/ft			LRFD		ϕM_{no}= 119.3 kip-in/ft				ϕV_n = 8.81 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1917	1625	1394	1208	1055	929	823	733	657	591	534	484	440	401	367
	LRFD, ϕW	2594	2198	1884	1630	1423	1251	1107	985	880	791	713	645	586	533	487
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5571	5541	5457	5383	5319	5263	5212	5211	5168	5130	5094	5062	5033	5039	5013
	PAF Base Steel ≥ .25"	5028	5041	4992	4949	4912	4880	4850	4868	4843	4820	4799	4779	4762	4779	4763
	PAF Base Steel ≥ 0.125"	4971	4988	4942	4903	4869	4839	4812	4832	4808	4787	4767	4749	4733	4751	4736
	#12 Screw Base Steel ≥ .0385"	4969	4986	4941	4902	4868	4838	4811	4831	4807	4786	4766	4749	4732	4751	4735
	Concrete + Deck = 69.6 psf				I_{cr} = 138.2 in⁴/ft			ASD		M_{no}/Ω= 94.5 kip-in/ft				V_n/Ω = 5.87 kip/ft		
	$(I_{cr}+I_u)/2$ = 205.9 in⁴/ft				I_u = 273.6 in⁴/ft			LRFD		ϕM_{no}= 144.6 kip-in/ft				ϕV_n = 8.81 kip/ft		

All Gages	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	n/a	7010	8000	9800	12500
	24 in o.c.	n/a	7010	7750	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

2W PANELS

3.3 2WH-36 Composite Deck

7 ¼" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.910yd^3/100ft^2
3 Hour Fire Rating

Maximum Unshored Span	Gage	Single	Double	Triple
	22	6' - 3"	7' - 1"	7' - 5"
	21	6' - 11"	7' - 9"	8' - 0"
	20	7' - 9"	8' - 9"	9' - 1"

2WH-36 7 1/4 " Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
19	8' - 3"	9' - 1"	9' - 5"
18	8' - 6"	9' - 10"	10' - 2"
16	9' - 1"	11' - 3"	11' - 3"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1180	997	851	734	638	559	492	436	388	346	310	279	252	227	206
	LRFD, ϕW	1591	1342	1144	985	854	746	656	579	513	457	408	366	328	295	266
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	5673	5646	5608	5576	5547	5522	5500	5491	5472	5455	5440	5426	5414	5410	5399
	PAF Base Steel ≥ .25"	5425	5417	5396	5378	5362	5347	5335	5334	5324	5314	5305	5297	5290	5291	5285
	PAF Base Steel ≥ 0.125"	5406	5399	5379	5362	5347	5334	5322	5322	5312	5303	5295	5287	5280	5282	5276
	#12 Screw Base Steel ≥ .0385"	5388	5383	5364	5348	5334	5321	5310	5311	5301	5293	5285	5278	5271	5273	5267
	Concrete + Deck =	77.1	psf		I_{cr} =	109.5	in^4/ft	ASD		M_{no}/Ω=	59.4	kip-in/ft		V_n/Ω =	5.24	kip/ft
	$(I_{cr}+I_u)/2$ =	228	in^4/ft		I_u =	346.6	in^4/ft	LRFD		ϕM_{no}=	90.9	kip-in/ft		ϕV_n =	7.61	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1313	1110	949	819	713	625	551	489	436	390	350	315	285	258	234
	LRFD, ϕW	1772	1496	1277	1100	956	836	736	651	578	516	462	415	373	337	304
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
21	Arc Spot Weld 1/2" Effective Dia	5752	5723	5680	5642	5609	5580	5555	5545	5524	5505	5487	5471	5456	5453	5440
	PAF Base Steel ≥ .25"	5467	5460	5436	5414	5396	5379	5365	5366	5353	5342	5332	5322	5314	5316	5309
	PAF Base Steel ≥ 0.125"	5445	5440	5417	5397	5379	5364	5350	5352	5340	5329	5320	5311	5303	5306	5299
	#12 Screw Base Steel ≥ .0385"	5426	5422	5400	5381	5365	5350	5337	5340	5328	5318	5309	5301	5293	5297	5290
	Concrete + Deck =	77.3	psf		I_{cr} =	119.4	in^4/ft	ASD		M_{no}/Ω=	65.8	kip-in/ft		V_n/Ω =	5.76	kip/ft
	$(I_{cr}+I_u)/2$ =	235	in^4/ft		I_u =	350.6	in^4/ft	LRFD		ϕM_{no}=	100.7	kip-in/ft		ϕV_n =	8.32	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1423	1204	1030	890	775	680	600	533	475	426	383	345	312	283	257
	LRFD, ϕW	1922	1624	1387	1196	1040	911	802	711	632	565	506	455	411	371	336
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	5810	5780	5733	5692	5655	5624	5595	5586	5563	5541	5522	5504	5488	5485	5471
	PAF Base Steel ≥ .25"	5498	5492	5465	5442	5421	5403	5387	5389	5375	5363	5352	5341	5332	5336	5327
	PAF Base Steel ≥ 0.125"	5474	5470	5445	5423	5404	5387	5371	5374	5361	5349	5339	5329	5320	5324	5316
	#12 Screw Base Steel ≥ .0385"	5454	5452	5428	5407	5389	5372	5358	5362	5349	5338	5328	5319	5310	5315	5307
	Concrete + Deck =	77.5	psf		I_{cr} =	127.5	in^4/ft	ASD		M_{no}/Ω=	71.1	kip-in/ft		V_n/Ω =	6.18	kip/ft
	$(I_{cr}+I_u)/2$ =	240.7	in^4/ft		I_u =	353.9	in^4/ft	LRFD		ϕM_{no}=	108.8	kip-in/ft		ϕV_n =	8.90	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	7750	8740	10540	13240
	24 in o.c.	n/a	7750	7750	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

2WH-36 Composite Deck 3.3

7 ¼" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.910yd³/100ft²

3 Hour Fire Rating

	Gage	Single	Double	Triple
Maximum Unshored Span	22	6' - 3"	7' - 1"	7' - 5"
	21	6' - 11"	7' - 9"	8' - 0"
	20	7' - 9"	8' - 9"	9' - 1"

2WH-36 7 1/4 " Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
19	8' - 3"	9' - 1"	9' - 5"
18	8' - 6"	9' - 10"	10' - 2"
16	9' - 1"	11' - 3"	11' - 3"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1650	1397	1197	1035	903	793	701	623	557	499	450	407	369	335	306
	LRFD, ϕW	2230	1886	1613	1394	1213	1064	939	833	743	665	598	539	487	442	402
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5936	5905	5848	5798	5755	5717	5683	5675	5647	5621	5598	5577	5557	5556	5539
	PAF Base Steel ≥ .25"	5565	5562	5530	5502	5477	5456	5436	5441	5425	5410	5396	5383	5372	5378	5368
	PAF Base Steel ≥ 0.125"	5537	5537	5506	5480	5457	5436	5418	5424	5408	5394	5381	5369	5358	5365	5355
	#12 Screw Base Steel ≥ .0385"	5516	5517	5488	5463	5441	5421	5404	5411	5395	5382	5369	5358	5348	5355	5345
	Concrete + Deck = 77.8 psf				I_{cr} = 143.6 in⁴/ft			ASD		M_{no}/Ω= 82.0 kip-in/ft				V_n/Ω = 6.66 kip/ft		
	$(I_{cr}+I_u)/2$ = 252.1 in⁴/ft				I_u = 360.7 in⁴/ft			LRFD		ϕM_{no}= 125.5 kip-in/ft				ϕV_n = 9.54 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1844	1562	1339	1159	1012	889	787	700	626	563	507	459	417	380	347
	LRFD, ϕW	2494	2111	1807	1562	1362	1196	1056	938	838	751	676	611	553	502	457
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	6050	6019	5953	5897	5847	5803	5764	5758	5725	5696	5669	5644	5621	5622	5602
	PAF Base Steel ≥ .25"	5626	5627	5590	5558	5529	5504	5482	5490	5471	5453	5437	5423	5410	5419	5407
	PAF Base Steel ≥ 0.125"	5595	5599	5563	5533	5506	5482	5461	5471	5452	5436	5421	5407	5394	5404	5392
	#12 Screw Base Steel ≥ .0385"	5574	5579	5545	5515	5490	5467	5447	5457	5439	5423	5409	5395	5383	5394	5382
	Concrete + Deck = 78.1 psf				I_{cr} = 156.9 in⁴/ft			ASD		M_{no}/Ω= 91.3 kip-in/ft				V_n/Ω = 6.94 kip/ft		
	$(I_{cr}+I_u)/2$ = 261.7 in⁴/ft				I_u = 366.5 in⁴/ft			LRFD		ϕM_{no}= 139.7 kip-in/ft				ϕV_n = 10.11 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	2252	1910	1639	1420	1241	1093	968	863	773	696	629	570	519	473	433
	LRFD, ϕW	3049	2584	2215	1917	1674	1472	1303	1159	1037	932	841	761	691	630	575
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	6306	6277	6192	6119	6055	5998	5948	5947	5904	5865	5830	5798	5769	5775	5749
	PAF Base Steel ≥ .25"	5764	5776	5727	5685	5648	5615	5586	5604	5578	5555	5534	5515	5497	5514	5498
	PAF Base Steel ≥ 0.125"	5706	5723	5678	5639	5605	5575	5548	5568	5544	5522	5503	5485	5469	5487	5472
	#12 Screw Base Steel ≥ .0385"	5705	5722	5677	5638	5604	5574	5547	5567	5543	5522	5502	5484	5468	5486	5471
	Concrete + Deck = 78.7 psf				I_{cr} = 183.6 in⁴/ft			ASD		M_{no}/Ω= 110.9 kip-in/ft				V_n/Ω = 6.94 kip/ft		
	$(I_{cr}+I_u)/2$ = 281.1 in⁴/ft				I_u = 378.6 in⁴/ft			LRFD		ϕM_{no}= 169.7 kip-in/ft				ϕV_n = 10.41 kip/ft		

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in²/ft	A_s = 0.058 in²/ft	A_s = 0.080 in²/ft	A_s = 0.120 in²/ft	A_s = 0.180 in²/ft
	12 in o.c.	n/a	7750	8740	10540	13240
	24 in o.c.	n/a	7750	7750	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3.3 2WH-36 Composite Deck

4" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 0.907yd^3/100ft^2

2WH-36 4" Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 10"	9' - 6"	10' - 5"
	21	9' - 10"	10' - 8"	11' - 3"
	20	10' - 7"	12' - 3"	12' - 7"

Gage	Single	Double	Triple
19	11' - 3"	12' - 9"	13' - 2"
18	11' - 6"	13' - 8"	13' - 6"
16	12' - 1"	15' - 0"	14' - 2"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	461	390	333	287	250	219	193	170	146	126	110	96	85	75	67
	LRFD, ϕW	622	525	448	385	334	292	257	227	201	180	160	144	129	116	105
	L/360	-	-	-	-	-	-	-	170	146	126	110	96	85	75	67
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	1829	1802	1765	1732	1704	1679	1656	1647	1629	1612	1597	1583	1570	1566	1555
	PAF Base Steel ≥ .25"	1581	1573	1552	1534	1518	1504	1491	1491	1480	1470	1462	1454	1446	1447	1441
	PAF Base Steel ≥ 0.125"	1562	1556	1536	1519	1503	1490	1478	1478	1468	1459	1451	1443	1437	1438	1432
	#12 Screw Base Steel ≥ .0385"	1544	1539	1520	1504	1490	1477	1466	1467	1458	1449	1441	1434	1428	1430	1424
	Concrete + Deck = 29.1 psf				I_{cr} = 31.6 in^4/ft			ASD		M_{no}/Ω= 23.2 kip-in/ft				V_n/Ω = 2.30 kip/ft		
	$(I_{cr}+I_u)/2$ = 47.3 in^4/ft				I_u = 63.0 in^4/ft			LRFD		ϕM_{no}= 35.5 kip-in/ft				ϕV_n = 4.13 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	510	431	369	318	277	243	209	177	152	131	114	100	88	78	69
	LRFD, ϕW	688	581	496	428	372	325	286	253	225	201	180	162	146	132	119
	L/360	-	-	-	-	-	-	209	177	152	131	114	100	88	78	69
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	1909	1881	1837	1800	1767	1738	1712	1703	1682	1662	1645	1629	1614	1611	1598
	PAF Base Steel ≥ .25"	1625	1618	1593	1572	1553	1537	1523	1523	1511	1500	1489	1480	1471	1474	1466
	PAF Base Steel ≥ 0.125"	1603	1598	1575	1555	1537	1522	1508	1509	1498	1487	1477	1469	1461	1464	1456
	#12 Screw Base Steel ≥ .0385"	1583	1580	1558	1539	1523	1508	1495	1497	1486	1476	1467	1459	1451	1454	1447
	Concrete + Deck = 29.3 psf				I_{cr} = 34.1 in^4/ft			ASD		M_{no}/Ω= 25.5 kip-in/ft				V_n/Ω = 2.30 kip/ft		
	$(I_{cr}+I_u)/2$ = 49.25 in^4/ft				I_u = 64.4 in^4/ft			LRFD		ϕM_{no}= 39.1 kip-in/ft				ϕV_n = 4.60 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	550	465	398	344	300	255	215	183	157	136	118	103	91	80	71
	LRFD, ϕW	742	627	536	462	402	352	310	275	245	219	196	176	159	144	130
	L/360	-	-	-	-	-	255	215	183	157	136	118	103	91	80	71
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	1969	1939	1891	1850	1814	1782	1754	1745	1721	1700	1681	1663	1647	1644	1630
	PAF Base Steel ≥ .25"	1657	1651	1624	1601	1580	1562	1546	1548	1534	1522	1510	1500	1491	1494	1486
	PAF Base Steel ≥ 0.125"	1633	1629	1604	1582	1562	1545	1530	1533	1520	1508	1497	1488	1479	1483	1475
	#12 Screw Base Steel ≥ .0385"	1613	1611	1586	1565	1547	1531	1517	1520	1508	1497	1486	1477	1469	1473	1466
	Concrete + Deck = 29.4 psf				I_{cr} = 36.1 in^4/ft			ASD		M_{no}/Ω= 27.4 kip-in/ft				V_n/Ω = 2.30 kip/ft		
	$(I_{cr}+I_u)/2$ = 50.78 in^4/ft				I_u = 65.5 in^4/ft			LRFD		ϕM_{no}= 42.0 kip-in/ft				ϕV_n = 4.60 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	2710	4060	5050	6850	9550
	24 in o.c.	2710	4060	5050	6850	7750
	36 in o.c.	2710	4060	5050	5170	5170

2WH-36 Composite Deck 2.3

4" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 0.907yd³/100ft²

2WH-36 4" Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 10"	9' - 6"	10' - 5"
	21	9' - 10"	10' - 8"	11' - 3"
	20	10' - 7"	12' - 3"	12' - 7"

Gage	Single	Double	Triple
19	11' - 3"	12' - 9"	13' - 2"
18	11' - 6"	13' - 8"	13' - 6"
16	12' - 1"	15' - 0"	14' - 2"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	631	535	458	395	325	271	228	194	166	144	125	109	96	85	76
	LRFD, ϕW	853	722	617	533	464	407	359	319	284	255	229	206	187	169	154
	L/360	-	-	-	395	325	271	228	194	166	144	125	109	96	85	76
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2096	2065	2008	1959	1916	1878	1844	1836	1808	1782	1759	1737	1718	1717	1700
	PAF Base Steel ≥ .25"	1726	1723	1691	1663	1638	1616	1597	1602	1585	1570	1557	1544	1533	1539	1529
	PAF Base Steel ≥ 0.125"	1698	1698	1667	1640	1617	1597	1579	1585	1569	1555	1542	1530	1519	1526	1516
	#12 Screw Base Steel ≥ .0385"	1677	1678	1649	1624	1601	1582	1564	1571	1556	1542	1530	1519	1508	1516	1506
	Concrete + Deck =	29.7	psf		I_{cr} =	40.1	in^4/ft	ASD		M_{no}/Ω=	31.4	kip-in/ft		V_n/Ω =	2.30	kip/ft
	$(I_{cr}+I_u)/2$ =	53.88	in^4/ft		I_u =	67.7	in^4/ft	LRFD		ϕM_{no}=	48.0	kip-in/ft		ϕV_n =	4.60	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	700	593	508	413	340	284	239	203	174	150	131	115	101	89	79
	LRFD, ϕW	946	801	686	593	516	453	400	356	318	285	256	231	210	190	173
	L/360	-	-	508	413	340	284	239	203	174	150	131	115	101	89	79
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2213	2181	2116	2059	2009	1966	1927	1920	1888	1858	1831	1806	1784	1785	1765
	PAF Base Steel ≥ .25"	1789	1790	1752	1720	1692	1667	1644	1653	1633	1616	1600	1585	1572	1581	1569
	PAF Base Steel ≥ 0.125"	1758	1761	1726	1695	1668	1645	1624	1633	1615	1598	1583	1569	1557	1566	1555
	#12 Screw Base Steel ≥ .0385"	1736	1741	1707	1678	1652	1629	1609	1619	1602	1586	1571	1558	1546	1556	1545
	Concrete + Deck =	30.0	psf		I_{cr} =	43.2	in^4/ft	ASD		M_{no}/Ω=	34.7	kip-in/ft		V_n/Ω =	2.30	kip/ft
	$(I_{cr}+I_u)/2$ =	56.39	in^4/ft		I_u =	69.6	in^4/ft	LRFD		ϕM_{no}=	53.0	kip-in/ft		ϕV_n =	4.60	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	767	691	554	450	371	309	260	221	190	164	143	125	110	97	86
	LRFD, ϕW	1139	965	827	716	625	549	486	432	387	347	313	283	257	234	214
	L/360	-	691	554	450	371	309	260	221	190	164	143	125	110	97	86
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2473	2443	2359	2285	2221	2164	2114	2113	2070	2032	1996	1964	1935	1941	1915
	PAF Base Steel ≥ .25"	1930	1943	1894	1851	1814	1781	1752	1770	1745	1722	1700	1681	1664	1681	1665
	PAF Base Steel ≥ 0.125"	1873	1890	1844	1805	1771	1741	1714	1734	1710	1689	1669	1651	1635	1653	1638
	#12 Screw Base Steel ≥ .0385"	1871	1888	1843	1804	1770	1740	1713	1733	1709	1688	1668	1651	1634	1653	1637
	Concrete + Deck =	30.6	psf		I_{cr} =	49.5	in^4/ft	ASD		M_{no}/Ω=	41.5	kip-in/ft		V_n/Ω =	2.30	kip/ft
	$(I_{cr}+I_u)/2$ =	61.45	in^4/ft		I_u =	73.4	in^4/ft	LRFD		ϕM_{no}=	63.5	kip-in/ft		ϕV_n =	4.60	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	2710	4060	5050	6850	9550
	24 in o.c.	2710	4060	5050	6850	7750
	36 in o.c.	2710	4060	5050	5170	5170

3.3 2WH-36 Composite Deck

4 ½" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.061yd³/100ft²

1 Hour Fire Rating

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 5"	9' - 2"	9' - 11"
	21	9' - 4"	10' - 4"	10' - 9"
	20	10' - 1"	11' - 9"	12' - 2"

2WH-36 4 1/2 " Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
19	10' - 9"	12' - 2"	12' - 7"
18	11' - 1"	13' - 1"	13' - 0"
16	11' - 8"	14' - 7"	13' - 8"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	558	471	403	348	303	265	234	207	185	165	148	133	118	104	93
	LRFD, ϕW	752	635	542	467	406	355	312	276	245	218	195	175	158	142	128
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	118	104	93
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2153	2126	2089	2056	2028	2003	1980	1971	1953	1936	1921	1907	1894	1890	1879
	PAF Base Steel ≥ .25"	1905	1897	1876	1858	1842	1828	1815	1815	1804	1794	1786	1778	1770	1772	1765
	PAF Base Steel ≥ 0.125"	1886	1880	1860	1843	1827	1814	1802	1802	1792	1783	1775	1767	1761	1762	1756
	#12 Screw Base Steel ≥ .0385"	1868	1863	1844	1828	1814	1802	1790	1791	1782	1773	1765	1758	1752	1754	1748
	Concrete + Deck =	33.7	psf		I_{cr} =	43.3	in^4/ft	ASD		M_{no}/Ω=	28.0	kip-in/ft		V_n/Ω =	2.68	kip/ft
	$(I_{cr}+I_u)/2$ =	65.93	in^4/ft		I_u =	88.6	in^4/ft	LRFD		ϕM_{no}=	42.8	kip-in/ft		ϕV_n =	4.42	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	617	522	447	386	336	295	260	231	206	183	159	139	123	108	96
	LRFD, ϕW	833	704	601	519	451	395	348	308	274	245	219	197	178	161	145
	L/360	-	-	-	-	-	-	-	-	-	183	159	139	123	108	96
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2233	2205	2161	2124	2091	2062	2036	2027	2006	1986	1969	1953	1938	1935	1922
	PAF Base Steel ≥ .25"	1949	1942	1917	1896	1878	1861	1847	1847	1835	1824	1813	1804	1796	1798	1790
	PAF Base Steel ≥ 0.125"	1927	1922	1899	1879	1861	1846	1832	1833	1822	1811	1801	1793	1785	1788	1780
	#12 Screw Base Steel ≥ .0385"	1908	1904	1882	1863	1847	1832	1819	1821	1810	1800	1791	1783	1775	1778	1771
	Concrete + Deck =	33.9	psf		I_{cr} =	46.8	in^4/ft	ASD		M_{no}/Ω=	30.8	kip-in/ft		V_n/Ω =	2.68	kip/ft
	$(I_{cr}+I_u)/2$ =	68.57	in^4/ft		I_u =	90.4	in^4/ft	LRFD		ϕM_{no}=	47.2	kip-in/ft		ϕV_n =	5.13	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	666	563	482	417	363	319	282	250	218	189	164	144	126	112	99
	LRFD, ϕW	899	760	650	561	488	427	377	334	298	266	239	215	194	176	159
	L/360	-	-	-	-	-	-	-	-	218	189	164	144	126	112	99
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2293	2263	2215	2174	2138	2106	2078	2069	2045	2024	2005	1987	1971	1968	1954
	PAF Base Steel ≥ .25"	1981	1975	1948	1925	1904	1886	1870	1872	1858	1846	1834	1824	1815	1818	1810
	PAF Base Steel ≥ 0.125"	1957	1953	1928	1906	1886	1869	1854	1857	1844	1832	1821	1812	1803	1807	1799
	#12 Screw Base Steel ≥ .0385"	1937	1935	1910	1890	1871	1855	1841	1844	1832	1821	1811	1801	1793	1797	1790
	Concrete + Deck =	34.0	psf		I_{cr} =	49.5	in^4/ft	ASD		M_{no}/Ω=	33.2	kip-in/ft		V_n/Ω =	2.68	kip/ft
	$(I_{cr}+I_u)/2$ =	70.66	in^4/ft		I_u =	91.8	in^4/ft	LRFD		ϕM_{no}=	50.8	kip-in/ft		ϕV_n =	5.36	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	12 in o.c.	3080	4430	5420	7220	9920
	24 in o.c.	3080	4430	5420	7220	7750
	36 in o.c.	3080	4430	5170	5170	5170

2WH-36 Composite Deck 3.3

4 ½" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.061yd³/100ft²

1 Hour Fire Rating

2WH-36 4 1/2 " Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 5"	9' - 2"	9' - 11"
	21	9' - 4"	10' - 4"	10' - 9"
	20	10' - 1"	11' - 9"	12' - 2"

Gage	Single	Double	Triple
19	10' - 9"	12' - 2"	12' - 7"
18	11' - 1"	13' - 1"	13' - 0"
16	11' - 8"	14' - 7"	13' - 8"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	765	648	555	480	419	368	317	270	231	200	174	152	134	118	105
	LRFD, ϕW	1034	875	749	647	564	495	437	388	346	310	279	251	228	207	188
	L/360	-	-	-	-	-	-	317	270	231	200	174	152	134	118	105
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2420	2389	2332	2283	2240	2202	2168	2160	2132	2106	2083	2061	2042	2041	2024
	PAF Base Steel ≥ .25"	2050	2047	2015	1987	1962	1940	1921	1926	1909	1894	1881	1868	1857	1863	1853
	PAF Base Steel ≥ 0.125"	2022	2022	1991	1965	1941	1921	1903	1909	1893	1879	1866	1854	1843	1850	1840
	#12 Screw Base Steel ≥ .0385"	2001	2002	1973	1948	1925	1906	1889	1895	1880	1866	1854	1843	1832	1840	1830
	Concrete + Deck = 34.3 psf				I_{cr} = 55.0 in^4/ft			ASD		M_{no}/Ω= 37.9 kip-in/ft				V_n/Ω = 2.68 kip/ft		
	$(I_{cr}+I_u)/2$ = 74.86 in^4/ft				I_u = 94.8 in^4/ft			LRFD		ϕM_{no}= 58.1 kip-in/ft				ϕV_n = 5.36 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	848	719	616	534	466	394	332	282	242	209	182	159	140	124	110
	LRFD, ϕW	1147	972	832	719	627	551	487	433	387	347	312	282	256	232	212
	L/360	-	-	-	-	-	394	332	282	242	209	182	159	140	124	110
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2537	2505	2440	2383	2334	2290	2251	2244	2212	2182	2155	2131	2108	2109	2089
	PAF Base Steel ≥ .25"	2113	2114	2076	2044	2016	1991	1968	1977	1957	1940	1924	1909	1896	1905	1893
	PAF Base Steel ≥ 0.125"	2082	2085	2050	2019	1992	1969	1948	1957	1939	1922	1907	1893	1881	1891	1879
	#12 Screw Base Steel ≥ .0385"	2060	2065	2031	2002	1976	1953	1933	1944	1926	1910	1895	1882	1870	1880	1869
	Concrete + Deck = 34.6 psf				I_{cr} = 59.3 in^4/ft			ASD		M_{no}/Ω= 42.0 kip-in/ft				V_n/Ω = 2.68 kip/ft		
	$(I_{cr}+I_u)/2$ = 78.28 in^4/ft				I_u = 97.2 in^4/ft			LRFD		ϕM_{no}= 64.2 kip-in/ft				ϕV_n = 5.36 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	893	825	744	623	514	428	361	307	263	227	198	173	152	135	120
	LRFD, ϕW	1383	1172	1005	870	760	668	591	526	471	423	382	346	314	286	261
	L/360	-	-	-	623	514	428	361	307	263	227	198	173	152	135	120
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2797	2767	2683	2609	2545	2489	2438	2437	2394	2356	2320	2288	2259	2265	2239
	PAF Base Steel ≥ .25"	2254	2267	2218	2175	2138	2106	2076	2094	2069	2046	2025	2005	1988	2005	1989
	PAF Base Steel ≥ 0.125"	2197	2214	2169	2129	2095	2065	2038	2058	2034	2013	1993	1975	1959	1977	1962
	#12 Screw Base Steel ≥ .0385"	2195	2212	2167	2128	2094	2064	2037	2057	2033	2012	1992	1975	1958	1977	1961
	Concrete + Deck = 35.2 psf				I_{cr} = 68.0 in^4/ft			ASD		M_{no}/Ω= 50.3 kip-in/ft				V_n/Ω = 2.68 kip/ft		
	$(I_{cr}+I_u)/2$ = 85.13 in^4/ft				I_u = 102.3 in^4/ft			LRFD		ϕM_{no}= 77.0 kip-in/ft				ϕV_n = 5.36 kip/ft		

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	12 in o.c.	3080	4430	5420	7220	9920
	24 in o.c.	3080	4430	5420	7220	7750
	36 in o.c.	3080	4430	5170	5170	5170

3.3 2WH-36 Composite Deck

5 ¼" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.300yd³/100ft²

2 Hour Fire Rating

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 11"	8' - 9"	9' - 4"
	21	8' - 10"	9' - 9"	10' - 2"
	20	9' - 7"	11' - 1"	11' - 6"

2WH-36 5 1/4 " Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
19	10' - 2"	11' - 6"	11' - 11"
18	10' - 6"	12' - 5"	12' - 6"
16	11' - 2"	13' - 11"	13' - 1"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	712	602	515	445	387	340	300	266	237	212	191	172	155	141	128
	LRFD, ϕW	961	812	693	598	519	455	400	354	315	281	252	226	204	184	166
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	2639	2612	2575	2542	2514	2489	2466	2457	2439	2422	2407	2393	2380	2377	2365
	PAF Base Steel ≥ .25"	2391	2384	2362	2344	2328	2314	2301	2301	2290	2280	2272	2264	2256	2258	2251
	PAF Base Steel ≥ 0.125"	2372	2366	2346	2329	2314	2300	2288	2289	2278	2269	2261	2254	2247	2248	2242
	#12 Screw Base Steel ≥ .0385"	2354	2349	2330	2314	2300	2288	2276	2277	2268	2259	2251	2244	2238	2240	2234
	Concrete + Deck =	40.6	psf		I_{cr} =	65.2	in⁴/ft	ASD		M_{no}/Ω=	35.6	kip-in/ft		V_n/Ω =	3.29	kip/ft
	$(I_{cr}+I_u)/2$ =	102.2	in⁴/ft		I_u =	139.2	in⁴/ft	LRFD		ϕM_{no}=	54.5	kip-in/ft		ϕV_n =	4.87	kip/ft

	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	789	667	571	494	430	378	334	296	264	237	213	192	174	158	144
	LRFD, ϕW	1065	900	770	664	578	506	446	395	352	315	283	254	230	208	188
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
21	Arc Spot Weld 1/2" Effective Dia	2719	2691	2647	2610	2577	2548	2522	2513	2492	2472	2455	2439	2424	2421	2408
	PAF Base Steel ≥ .25"	2435	2428	2403	2382	2364	2347	2333	2333	2321	2310	2300	2290	2282	2284	2277
	PAF Base Steel ≥ 0.125"	2413	2408	2385	2365	2347	2332	2318	2320	2308	2297	2288	2279	2271	2274	2266
	#12 Screw Base Steel ≥ .0385"	2394	2390	2368	2349	2333	2318	2305	2307	2296	2286	2277	2269	2261	2264	2258
	Concrete + Deck =	40.7	psf		I_{cr} =	70.6	in⁴/ft	ASD		M_{no}/Ω=	39.3	kip-in/ft		V_n/Ω =	3.29	kip/ft
	$(I_{cr}+I_u)/2$ =	106.2	in⁴/ft		I_u =	141.8	in⁴/ft	LRFD		ϕM_{no}=	60.2	kip-in/ft		ϕV_n =	5.58	kip/ft

	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	851	721	617	534	466	409	361	321	287	257	232	209	190	173	154
	LRFD, ϕW	1151	973	832	719	626	549	484	429	383	343	308	277	251	227	206
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	154
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	2779	2749	2701	2660	2624	2592	2564	2555	2531	2510	2491	2473	2457	2454	2440
	PAF Base Steel ≥ .25"	2467	2461	2434	2411	2390	2372	2356	2358	2344	2332	2320	2310	2301	2304	2296
	PAF Base Steel ≥ 0.125"	2443	2439	2414	2392	2372	2355	2340	2343	2330	2318	2308	2298	2289	2293	2285
	#12 Screw Base Steel ≥ .0385"	2423	2421	2397	2376	2357	2341	2327	2330	2318	2307	2297	2287	2279	2283	2276
	Concrete + Deck =	40.9	psf		I_{cr} =	74.8	in⁴/ft	ASD		M_{no}/Ω=	42.3	kip-in/ft		V_n/Ω =	3.29	kip/ft
	$(I_{cr}+I_u)/2$ =	109.4	in⁴/ft		I_u =	143.9	in⁴/ft	LRFD		ϕM_{no}=	64.8	kip-in/ft		ϕV_n =	6.16	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	n/a	4990	5980	7780	10480
	24 in o.c.	n/a	4990	5980	7750	7750
	36 in o.c.	n/a	4990	5170	5170	5170

2WH-36 Composite Deck 3.3

5 ¼" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.300yd³/100ft²

2 Hour Fire Rating

2WH-36 5 1/4 " Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 11"	8' - 9"	9' - 4"
	21	8' - 10"	9' - 9"	10' - 2"
	20	9' - 7"	11' - 1"	11' - 6"

Gage	Single	Double	Triple
19	10' - 2"	11' - 6"	11' - 11"
18	10' - 6"	12' - 5"	12' - 6"
16	11' - 2"	13' - 11"	13' - 1"

	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	980	830	712	616	538	473	418	372	333	299	269	235	207	183	163
	LRFD, ϕW	1325	1122	960	830	724	635	561	499	445	399	360	325	294	267	243
	L/360	-	-	-	-	-	-	-	-	-	-	269	235	207	183	163
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2906	2875	2818	2769	2726	2688	2654	2646	2618	2592	2569	2548	2528	2527	2510
	PAF Base Steel ≥ .25"	2536	2533	2501	2473	2448	2426	2407	2412	2395	2380	2367	2354	2343	2349	2339
	PAF Base Steel ≥ 0.125"	2508	2508	2477	2451	2427	2407	2389	2395	2379	2365	2352	2340	2329	2336	2326
	#12 Screw Base Steel ≥ .0385"	2487	2488	2459	2434	2412	2392	2375	2381	2366	2353	2340	2329	2318	2326	2316
	Concrete + Deck = 41.2 psf				I_{cr} = 83.2 in⁴/ft			ASD		M_{no}/Ω= 48.5 kip-in/ft				V_n/Ω = 3.29 kip/ft		
	$(I_{cr}+I_u)/2$ = 115.7 in⁴/ft				I_u = 148.3 in⁴/ft			LRFD		ϕM_{no}= 74.2 kip-in/ft				ϕV_n = 6.58 kip/ft		

	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1088	923	791	685	599	527	466	415	372	323	281	246	216	191	170
	LRFD, ϕW	1473	1248	1069	925	807	709	627	558	498	447	403	365	331	301	275
	L/360	-	-	-	-	-	-	-	-	-	323	281	246	216	191	170
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3023	2991	2926	2869	2820	2776	2737	2731	2698	2668	2641	2617	2594	2595	2575
	PAF Base Steel ≥ .25"	2599	2600	2563	2530	2502	2477	2454	2463	2443	2426	2410	2395	2382	2391	2379
	PAF Base Steel ≥ 0.125"	2568	2571	2536	2505	2478	2455	2434	2443	2425	2408	2393	2379	2367	2377	2365
	#12 Screw Base Steel ≥ .0385"	2546	2552	2518	2488	2462	2440	2419	2430	2412	2396	2381	2368	2356	2366	2355
	Concrete + Deck = 41.5 psf				I_{cr} = 90.0 in⁴/ft			ASD		M_{no}/Ω= 53.7 kip-in/ft				V_n/Ω = 3.29 kip/ft		
	$(I_{cr}+I_u)/2$ = 120.9 in⁴/ft				I_u = 151.9 in⁴/ft			LRFD		ϕM_{no}= 82.2 kip-in/ft				ϕV_n = 6.58 kip/ft		

	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1096	1012	940	830	725	639	557	473	406	350	305	267	235	208	185
	LRFD, ϕW	1780	1509	1294	1121	979	861	763	680	608	547	494	448	407	371	339
	L/360	-	-	-	-	-	-	557	473	406	350	305	267	235	208	185
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3283	3254	3169	3095	3031	2975	2924	2923	2880	2842	2807	2774	2745	2751	2725
	PAF Base Steel ≥ .25"	2740	2753	2704	2661	2624	2592	2563	2580	2555	2532	2511	2491	2474	2491	2475
	PAF Base Steel ≥ 0.125"	2683	2700	2655	2615	2581	2551	2524	2544	2520	2499	2479	2461	2445	2463	2448
	#12 Screw Base Steel ≥ .0385"	2681	2698	2653	2614	2580	2550	2523	2543	2520	2498	2479	2461	2444	2463	2447
	Concrete + Deck = 42.1 psf				I_{cr} = 103.3 in⁴/ft			ASD		M_{no}/Ω= 64.6 kip-in/ft				V_n/Ω = 3.29 kip/ft		
	$(I_{cr}+I_u)/2$ = 131.3 in⁴/ft				I_u = 159.3 in⁴/ft			LRFD		ϕM_{no}= 98.8 kip-in/ft				ϕV_n = 6.58 kip/ft		

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	12 in o.c.	n/a	4990	5980	7780	10480
	24 in o.c.	n/a	4990	5980	7750	7750
	36 in o.c.	n/a	4990	5170	5170	5170

3.3 2WH-36 Composite Deck

6 ¼" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.61yd³/100ft²

3 Hour Fire Rating

2WH-36 6 1/4 " Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 5"	8' - 3"	8' - 9"
	21	8' - 2"	9' - 2"	9' - 6"
	20	8' - 11"	10' - 4"	10' - 9"

Gage	Single	Double	Triple
19	9' - 6"	10' - 9"	11' - 1"
18	9' - 10"	11' - 7"	11' - 11"
16	10' - 6"	13' - 2"	12' - 6"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	930	787	673	581	507	444	392	348	311	278	250	226	204	185	169
	LRFD, ϕW	1255	1061	906	782	680	595	525	465	414	370	332	298	269	243	220
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3287	3260	3223	3190	3162	3137	3115	3105	3087	3070	3055	3041	3028	3025	3013
	PAF Base Steel ≥ .25"	3040	3032	3011	2992	2976	2962	2949	2949	2938	2929	2920	2912	2904	2906	2899
	PAF Base Steel ≥ 0.125"	3020	3014	2994	2977	2962	2948	2937	2937	2927	2917	2909	2902	2895	2896	2890
	#12 Screw Base Steel ≥ .0385"	3002	2997	2979	2962	2948	2936	2925	2925	2916	2907	2899	2892	2886	2888	2882
	Concrete + Deck = 49.7 psf				I_{cr} = 103.1 in^4/ft			ASD		M_{no}/Ω= 46.4 kip-in/ft				V_n/Ω = 3.86 kip/ft		
	$(I_{cr}+I_u)/2$ = 168.4 in^4/ft				I_u = 233.7 in^4/ft			LRFD		ϕM_{no}= 71.0 kip-in/ft				ϕV_n = 5.54 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1031	873	747	646	563	495	437	389	347	311	280	253	230	209	190
	LRFD, ϕW	1393	1178	1007	870	757	664	586	519	463	414	372	335	303	275	249
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3368	3339	3296	3258	3225	3196	3171	3161	3140	3121	3103	3087	3072	3069	3056
	PAF Base Steel ≥ .25"	3083	3076	3052	3030	3012	2995	2981	2981	2969	2958	2948	2938	2930	2932	2925
	PAF Base Steel ≥ 0.125"	3061	3056	3033	3013	2995	2980	2966	2968	2956	2945	2936	2927	2919	2922	2915
	#12 Screw Base Steel ≥ .0385"	3042	3038	3016	2997	2981	2966	2953	2955	2944	2934	2925	2917	2909	2913	2906
	Concrete + Deck = 49.9 psf				I_{cr} = 111.7 in^4/ft			ASD		M_{no}/Ω= 51.3 kip-in/ft				V_n/Ω = 4.17 kip/ft		
	$(I_{cr}+I_u)/2$ = 174.7 in^4/ft				I_u = 237.7 in^4/ft			LRFD		ϕM_{no}= 78.4 kip-in/ft				ϕV_n = 6.25 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1114	944	808	699	610	536	474	422	377	338	305	276	250	228	208
	LRFD, ϕW	1506	1274	1090	942	821	720	636	565	504	451	406	366	331	301	274
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3427	3397	3350	3308	3272	3240	3212	3203	3180	3158	3139	3121	3105	3102	3088
	PAF Base Steel ≥ .25"	3115	3109	3082	3059	3038	3020	3004	3006	2992	2980	2969	2958	2949	2952	2944
	PAF Base Steel ≥ 0.125"	3091	3087	3062	3040	3020	3003	2988	2991	2978	2966	2956	2946	2937	2941	2933
	#12 Screw Base Steel ≥ .0385"	3071	3069	3045	3024	3005	2989	2975	2978	2966	2955	2945	2935	2927	2931	2924
	Concrete + Deck = 50.1 psf				I_{cr} = 118.6 in^4/ft			ASD		M_{no}/Ω= 55.3 kip-in/ft				V_n/Ω = 4.17 kip/ft		
	$(I_{cr}+I_u)/2$ = 179.8 in^4/ft				I_u = 240.9 in^4/ft			LRFD		ϕM_{no}= 84.6 kip-in/ft				ϕV_n = 6.82 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	5730	6720	8520	11220
	24 in o.c.	n/a	5730	6720	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

2WH-36 Composite Deck 3.3

6 ¼" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.61yd^3/100ft^2

3 Hour Fire Rating

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 5"	8' - 3"	8' - 9"
	21	8' - 2"	9' - 2"	9' - 6"
	20	8' - 11"	10' - 4"	10' - 9"

2WH-36 6 1/4 " Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
19	9' - 6"	10' - 9"	11' - 1"
18	9' - 10"	11' - 7"	11' - 11"
16	10' - 6"	13' - 2"	12' - 6"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1284	1089	934	808	706	621	550	490	438	394	356	322	293	267	244
	LRFD, ϕW	1738	1472	1261	1090	951	835	739	657	587	527	475	429	389	354	323
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
19	Arc Spot Weld 1/2" Effective Dia	3555	3523	3467	3417	3374	3336	3302	3294	3266	3240	3217	3196	3176	3175	3158
	PAF Base Steel ≥ .25"	3184	3181	3149	3121	3096	3074	3055	3060	3044	3028	3015	3002	2991	2997	2987
	PAF Base Steel ≥ 0.125"	3156	3156	3125	3099	3076	3055	3037	3043	3027	3013	3000	2988	2977	2984	2974
	#12 Screw Base Steel ≥ .0385"	3135	3136	3107	3082	3060	3040	3023	3029	3014	3001	2988	2977	2966	2974	2964
	Concrete + Deck =	50.4	psf		I_{cr} =	132.3	in^4/ft	ASD		M_{no}/Ω=	63.5	kip-in/ft		V_n/Ω =	4.17	kip/ft
	$(I_{cr}+I_u)/2$ =	190	in^4/ft		I_u =	247.6	in^4/ft	LRFD		ϕM_{no}=	97.1	kip-in/ft		ϕV_n =	7.46	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1391	1212	1040	901	787	693	614	547	490	441	399	361	329	300	275
	LRFD, ϕW	1935	1639	1405	1216	1062	933	826	735	658	591	533	482	438	399	364
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	3671	3639	3574	3517	3468	3424	3385	3379	3346	3316	3289	3265	3242	3243	3223
	PAF Base Steel ≥ .25"	3247	3248	3211	3178	3150	3125	3102	3111	3092	3074	3058	3044	3030	3040	3027
	PAF Base Steel ≥ 0.125"	3216	3220	3184	3153	3127	3103	3082	3091	3073	3056	3041	3027	3015	3025	3013
	#12 Screw Base Steel ≥ .0385"	3194	3200	3166	3136	3110	3088	3067	3078	3060	3044	3029	3016	3004	3014	3003
	Concrete + Deck =	50.7	psf		I_{cr} =	143.4	in^4/ft	ASD		M_{no}/Ω=	70.4	kip-in/ft		V_n/Ω =	4.17	kip/ft
	$(I_{cr}+I_u)/2$ =	198.3	in^4/ft		I_u =	253.3	in^4/ft	LRFD		ϕM_{no}=	107.8	kip-in/ft		ϕV_n =	8.03	kip/ft

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1391	1284	1192	1094	957	844	748	668	599	540	488	437	385	340	303
	LRFD, ϕW	2346	1990	1707	1479	1293	1138	1008	899	805	725	655	594	540	493	451
	L/360	-	-	-	-	-	-	-	-	-	-	-	437	385	340	303
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	3931	3902	3817	3744	3679	3623	3572	3571	3528	3490	3455	3423	3393	3399	3373
	PAF Base Steel ≥ .25"	3388	3401	3352	3310	3272	3240	3211	3229	3203	3180	3159	3139	3122	3139	3123
	PAF Base Steel ≥ 0.125"	3331	3348	3303	3264	3229	3199	3172	3192	3169	3147	3127	3110	3093	3111	3096
	#12 Screw Base Steel ≥ .0385"	3329	3346	3301	3262	3228	3198	3171	3191	3168	3146	3127	3109	3092	3111	3096
	Concrete + Deck =	51.3	psf		I_{cr} =	165.4	in^4/ft	ASD		M_{no}/Ω=	85.0	kip-in/ft		V_n/Ω =	4.17	kip/ft
	$(I_{cr}+I_u)/2$ =	215.1	in^4/ft		I_u =	264.9	in^4/ft	LRFD		ϕM_{no}=	130.0	kip-in/ft		ϕV_n =	8.34	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	5730	6720	8520	11220
	24 in o.c.	n/a	5730	6720	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

3.3 2WH-36 Composite Deck

6 3/16" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.582yd^3/100ft^2

3 Hour Fire Rating

	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 5"	8' - 3"	8' - 9"
	21	8' - 3"	9' - 3"	9' - 6"
	20	9' - 0"	10' - 5"	10' - 9"

2WH-36 6 3/16" Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
19	9' - 7"	10' - 10"	11' - 2"
18	9' - 10"	11' - 7"	11' - 11"
16	10' - 6"	13' - 3"	12' - 7"

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	916	775	663	573	499	438	386	343	306	274	247	222	201	183	166
	LRFD, ϕW	1236	1045	893	770	670	586	517	458	407	364	326	294	265	239	217
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3247	3220	3182	3150	3121	3096	3074	3065	3046	3030	3014	3000	2988	2984	2973
	PAF Base Steel ≥ .25"	2999	2991	2970	2952	2936	2922	2909	2908	2898	2888	2879	2871	2864	2865	2859
	PAF Base Steel ≥ 0.125"	2980	2973	2953	2936	2921	2908	2896	2896	2886	2877	2869	2861	2854	2856	2850
	#12 Screw Base Steel ≥ .0385"	2962	2957	2938	2922	2908	2895	2884	2885	2875	2867	2859	2852	2845	2847	2841
	Concrete + Deck = 49.2 psf				I_{cr} = 100.4 in^4/ft			ASD		M_{no}/Ω= 45.7 kip-in/ft				V_n/Ω = 3.83 kip/ft		
	$(I_{cr}+I_u)/2$ = 163.6 in^4/ft				I_u = 226.8 in^4/ft			LRFD		ϕM_{no}= 70.0 kip-in/ft				ϕV_n = 5.49 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
21	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1015	859	736	636	555	487	431	383	342	307	276	249	226	205	187
	LRFD, ϕW	1372	1160	992	857	746	654	577	512	456	408	366	330	298	270	246
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3327	3298	3255	3218	3185	3156	3130	3121	3099	3080	3062	3046	3032	3028	3016
	PAF Base Steel ≥ .25"	3042	3036	3011	2990	2971	2955	2940	2941	2929	2917	2907	2898	2889	2892	2884
	PAF Base Steel ≥ 0.125"	3020	3015	2992	2972	2955	2939	2926	2927	2915	2905	2895	2886	2878	2881	2874
	#12 Screw Base Steel ≥ .0385"	3001	2998	2976	2957	2940	2926	2913	2915	2904	2894	2885	2876	2869	2872	2865
	Concrete + Deck = 49.3 psf				I_{cr} = 108.8 in^4/ft			ASD		M_{no}/Ω= 50.5 kip-in/ft				V_n/Ω = 4.11 kip/ft		
	$(I_{cr}+I_u)/2$ = 169.7 in^4/ft				I_u = 230.7 in^4/ft			LRFD		ϕM_{no}= 77.3 kip-in/ft				ϕV_n = 6.20 kip/ft		

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1097	929	796	689	601	528	467	415	371	333	300	272	246	224	205
	LRFD, ϕW	1483	1255	1074	928	808	709	626	556	496	444	400	361	326	296	269
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3386	3357	3309	3268	3232	3200	3172	3163	3139	3118	3098	3081	3064	3062	3047
	PAF Base Steel ≥ .25"	3074	3069	3042	3018	2998	2980	2964	2966	2952	2939	2928	2918	2908	2912	2903
	PAF Base Steel ≥ 0.125"	3051	3047	3021	2999	2980	2963	2948	2951	2938	2926	2915	2905	2896	2901	2892
	#12 Screw Base Steel ≥ .0385"	3031	3028	3004	2983	2965	2949	2934	2938	2926	2914	2904	2895	2886	2891	2883
	Concrete + Deck = 49.5 psf				I_{cr} = 115.6 in^4/ft			ASD		M_{no}/Ω= 54.4 kip-in/ft				V_n/Ω = 4.11 kip/ft		
	$(I_{cr}+I_u)/2$ = 174.7 in^4/ft				I_u = 233.9 in^4/ft			LRFD		ϕM_{no}= 83.3 kip-in/ft				ϕV_n = 6.78 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	5680	6670	8470	11170
	24 in o.c.	n/a	5680	6670	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

2WH-36 Composite Deck 3.3

6 3/16" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.582yd^3/100ft^2

3 Hour Fire Rating

2WH-36 6 3/16" Slab Depth, 110 pcf LWC

	Gage	Single	Double	Triple	Gage	Single	Double	Triple
Maximum Unshored Span	22	7' - 5"	8' - 3"	8' - 9"	19	9' - 7"	10' - 10"	11' - 2"
	21	8' - 3"	9' - 3"	9' - 6"	18	9' - 10"	11' - 7"	11' - 11"
	20	9' - 0"	10' - 5"	10' - 9"	16	10' - 6"	13' - 3"	12' - 7"

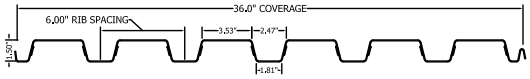
Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
19	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1265	1072	919	796	695	612	541	482	431	388	350	317	288	263	240
	LRFD, ϕW	1711	1449	1241	1074	936	823	727	647	578	519	467	422	383	348	318
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3514	3483	3426	3377	3334	3296	3262	3254	3225	3200	3176	3155	3136	3135	3117
	PAF Base Steel ≥ .25"	3143	3141	3108	3080	3056	3034	3015	3020	3003	2988	2974	2962	2950	2957	2946
	PAF Base Steel ≥ 0.125"	3116	3115	3085	3058	3035	3015	2996	3002	2987	2972	2959	2947	2937	2943	2934
	#12 Screw Base Steel ≥ .0385"	3095	3096	3067	3041	3019	3000	2982	2989	2974	2960	2948	2936	2926	2933	2924
	Concrete + Deck = 49.8 psf	I_{cr} = 128.9 in^4/ft	ASD	M_{no}/Ω= 62.5 kip-in/ft	V_n/Ω = 4.11 kip/ft											
	$(I_{cr}+I_u)/2$ = 184.6 in^4/ft	I_u = 240.4 in^4/ft	LRFD	ϕM_{no}= 95.6 kip-in/ft	ϕV_n = 7.42 kip/ft											

Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
18	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1371	1194	1024	887	775	682	605	539	483	434	392	356	324	295	270
	LRFD, ϕW	1905	1614	1384	1198	1045	919	813	724	647	582	525	475	431	393	359
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3630	3599	3533	3477	3427	3383	3345	3338	3305	3276	3249	3224	3202	3203	3183
	PAF Base Steel ≥ .25"	3206	3208	3170	3138	3109	3084	3062	3070	3051	3034	3018	3003	2990	2999	2987
	PAF Base Steel ≥ 0.125"	3175	3179	3144	3113	3086	3062	3041	3051	3032	3016	3001	2987	2974	2984	2973
	#12 Screw Base Steel ≥ .0385"	3154	3159	3125	3096	3070	3047	3027	3037	3020	3003	2989	2976	2963	2974	2963
	Concrete + Deck = 50.1 psf	I_{cr} = 139.7 in^4/ft	ASD	M_{no}/Ω= 69.4 kip-in/ft	V_n/Ω = 4.11 kip/ft											
	$(I_{cr}+I_u)/2$ = 192.8 in^4/ft	I_u = 245.9 in^4/ft	LRFD	ϕM_{no}= 106.1 kip-in/ft	ϕV_n = 7.99 kip/ft											

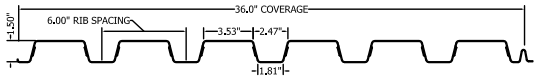
Gage	Vertical Load Span (ft-in)	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"
16	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1371	1266	1176	1077	942	830	737	657	589	531	481	425	374	331	294
	LRFD, ϕW	2310	1959	1681	1456	1273	1120	993	885	793	713	644	584	532	485	444
	L/360	-	-	-	-	-	-	-	-	-	-	-	425	374	331	294
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3890	3861	3776	3703	3639	3582	3532	3531	3488	3449	3414	3382	3353	3359	3333
	PAF Base Steel ≥ .25"	3348	3360	3311	3269	3232	3199	3170	3188	3162	3139	3118	3099	3081	3099	3082
	PAF Base Steel ≥ 0.125"	3290	3307	3262	3223	3189	3159	3132	3152	3128	3106	3087	3069	3053	3071	3056
	#12 Screw Base Steel ≥ .0385"	3289	3306	3261	3222	3188	3158	3131	3151	3127	3106	3086	3068	3052	3070	3055
	Concrete + Deck = 50.7 psf	I_{cr} = 161.0 in^4/ft	ASD	M_{no}/Ω= 83.7 kip-in/ft	V_n/Ω = 4.11 kip/ft											
	$(I_{cr}+I_u)/2$ = 209.1 in^4/ft	I_u = 257.2 in^4/ft	LRFD	ϕM_{no}= 128.0 kip-in/ft	ϕV_n = 8.23 kip/ft											

All Gages	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in^2/ft	A_s = 0.058 in^2/ft	A_s = 0.080 in^2/ft	A_s = 0.120 in^2/ft	A_s = 0.180 in^2/ft
	12 in o.c.	n/a	5680	6670	8470	11170
	24 in o.c.	n/a	5680	6670	7750	7750
	36 in o.c.	n/a	5170	5170	5170	5170

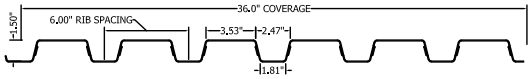
4.1 **BH-36**



BH-36 Profile

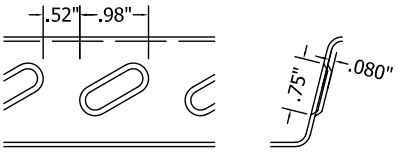


BH-36S Profile



BHN-36 Profile

36/4 Attachment Pattern



B Series Embossment

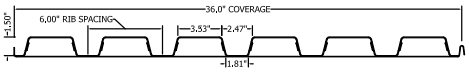
*Die Set (Swedge) ends are no longer standard but can be performed upon request

Panel Properties

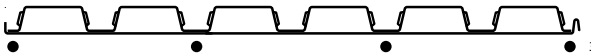
Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus (Min.)	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in^2/ft	I_g in^4/ft	y_b in	S_g in^3/ft	r in
22	1.77	0.0299	50	65	0.503	0.190	0.93	0.205	0.614
21	1.95	0.0330	50	65	0.555	0.210	0.93	0.226	0.615
20	2.12	0.0359	50	65	0.604	0.227	0.93	0.245	0.615
19	2.46	0.0420	50	65	0.706	0.267	0.93	0.286	0.615
18	2.80	0.0478	50	65	0.805	0.303	0.94	0.325	0.615
16	3.48	0.0598	50	65	1.006	0.380	0.94	0.404	0.615

Gauge	Effective Section Properties at F_y for Bending Strength					Effective Section Properties at Service Load Load for Deflection			
								Uniform Load Only	
	Area	Section Modulus (Min.)	Distance to N.A. from Bottom	Section Modulus (Min.)	Distance to N.A. from Bottom	Moment of Inertia	Moment of Inertia	$I_d = (2I_e+I_g)/3$	
	A_e+ in^2/ft	S_e+ in^3/ft	y_b in	S_e- in^3/ft	y_b in	I_e+ in^4/ft	I_e- in^4/ft	I+ in^4/ft	I- in^4/ft
22	0.389	0.175	0.75	0.185	0.96	0.167	0.190	0.174	0.190
21	0.437	0.203	0.76	0.210	0.95	0.190	0.210	0.197	0.210
20	0.487	0.224	0.79	0.234	0.94	0.210	0.227	0.216	0.227
19	0.602	0.269	0.83	0.284	0.94	0.257	0.267	0.260	0.267
18	0.724	0.313	0.87	0.324	0.94	0.297	0.303	0.299	0.303
16	0.979	0.400	0.92	0.404	0.94	0.380	0.380	0.380	0.380

Reactions at Supports based on Web Crippling									
Gauge	Condition	Bearing Length of Webs							
		ASD (Pn/Ω) *(lbs/ft width)*				LRFD (ϕPn) *(lbs/ft width)*			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
22	End	755	855	939	1081	1155	1308	1437	1654
	Interior	1184	1315	1427	1613	1760	1957	2122	2399
20	End	1059	1195	1309	1501	1621	1828	2003	2296
	Interior	1679	1857	2007	2260	2497	2762	2986	3361
18	End	1800	2016	2197	2503	2754	3084	3362	3829
	Interior	2896	3181	3421	3823	4308	4731	5088	5687
16	End	2724	3033	3294	3732	4167	4641	5040	5710
	Interior	4434	4842	5187	5765	6595	7203	7715	8575
Constants		h = 1.388"		r = 0.156"		θ = 76.6°			



BHF-36 Profile



36/4 Attachment Pattern

*Die Set (Swedge) ends are no longer standard but can be performed upon request

Panel Properties

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Top Section Modulus	Radius of Gyration
	w psf	t_{beam} in	F_y ksi	F_u ksi	A_g in^2/ft	I_g in^4/ft	y_b in	S_g in^3/ft	r in
20/20	3.69	0.0359 / 0.036	50	65	1.032	0.433	0.55	0.435	0.647
20/18	4.16	0.0359 / 0.047	50	65	1.171	0.470	0.50	0.444	0.633
20/16	4.68	0.0359 / 0.059	50	65	1.321	0.500	0.46	0.451	0.616
18/20	4.35	0.0478 / 0.036	50	65	1.218	0.527	0.61	0.562	0.657
18/18	4.83	0.0478 / 0.047	50	65	1.357	0.570	0.56	0.574	0.649
18/16	5.35	0.0478 / 0.059	50	65	1.508	0.613	0.52	0.584	0.638
16/20	5.03	0.0598 / 0.036	50	65	1.404	0.610	0.66	0.683	0.659
16/18	5.51	0.0598 / 0.047	50	65	1.542	0.663	0.61	0.698	0.656
16/16	6.03	0.0598 / 0.059	50	65	1.693	0.713	0.57	0.711	0.649

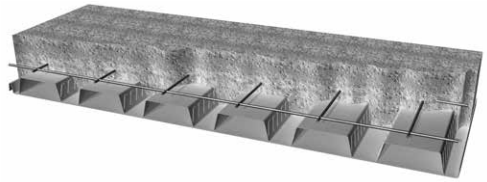
Gauge	Effective Section Properties at F_y for Bending Strength					Effective Section Properties at Service Load for Deflection			
	Area	Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e in^2/ft	S_e+ in^3/ft	y_b in	S_e- in^3/ft	y_b in	I_e+ in^4/ft	I_e- in^4/ft	I+ in^4/ft	I- in^4/ft
20/20	0.912	0.270	0.42	0.404	0.77	0.313	0.387	0.353	0.402
20/18	1.050	0.276	0.38	0.428	0.63	0.417	0.437	0.434	0.448
20/16	1.201	0.280	0.35	0.445	0.51	0.443	0.490	0.462	0.493
18/20	1.100	0.404	0.52	0.487	0.80	0.503	0.443	0.511	0.471
18/18	1.239	0.412	0.47	0.546	0.71	0.547	0.520	0.554	0.537
18/16	1.389	0.420	0.43	0.573	0.59	0.587	0.590	0.596	0.598
16/20	1.305	0.555	0.59	0.554	0.83	0.607	0.513	0.608	0.546
16/18	1.443	0.566	0.55	0.658	0.76	0.657	0.600	0.659	0.621
16/16	1.594	0.577	0.51	0.693	0.65	0.707	0.677	0.709	0.689

Reactions at Supports based on Web Crippling

Gauge	Condition	Bearing Length of Webs							
		ASD (Pn/Ω) *(lbs/ft width)*				**LRFD (ϕPn)** *(lbs/ft width)*			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
22	End	755	855	939	1081	1155	1308	1437	1654
	Interior	1184	1315	1427	1613	1760	1957	2122	2399
20	End	1059	1195	1309	1501	1621	1828	2003	2296
	Interior	1679	1857	2007	2260	2497	2762	2986	3361
18	End	1800	2016	2197	2503	2754	3084	3362	3829
	Interior	2896	3181	3421	3823	4308	4731	5088	5687
16	End	2724	3033	3294	3732	4167	4641	5040	5710
	Interior	4434	4842	5187	5765	6595	7203	7715	8575
Constants		h = 1.388"		r = 0.156"		θ = 76.6°			

4.3 BHF-36 Cellular Composite Deck

Normal Weight Concrete (145 pcf)
Maximum Unshored Spans

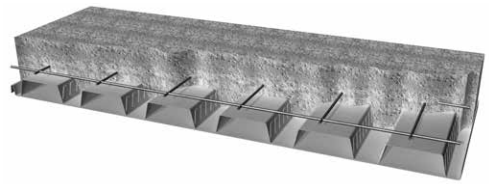


BHF-36 Cellular Shoring Table

Total Slab Depth (in)	145 pcf Normal Weight Concrete					
	Volume cy/100sf	Gage	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
3 1/2	0.78	20/20	34.3	8'-8"	10'-1"	10'-3"
		20/18	34.7	8'-9"	10'-2"	10'-4"
		20/16	35.1	8'-10"	10'-3"	10'-5"
		18/20	35.1	10'-7"	12'-11"	12'-4"
		18/18	35.9	10'-10"	13'-1"	12'-8"
		18/16	35.9	11'-0"	13'-2"	13'-0"
		16/20	35.9	11'-1"	13'-6"	12'-8"
		16/18	36.2	11'-4"	13'-11"	13'-1"
		16/16	36.7	11'-6"	14'-3"	13'-5"
4 1/2	1.09	20/20	46.4	7'-10"	9'-2"	9'-3"
		20/18	46.8	7'-11"	9'-3"	9'-4"
		20/16	47.2	8'-0"	9'-4"	9'-5"
		18/20	47.2	9'-8"	11'-8"	11'-6"
		18/18	47.6	9'-10"	11'-9"	11'-10"
		18/16	48	10'-1"	11'-10"	12'-0"
		16/20	47.9	10'-2"	12'-6"	11'-10"
		16/18	48.3	10'-5"	13'-0"	12'-3"
		16/16	48.8	10'-7"	13'-4"	12'-6"
5	1.25	20/20	52.4	7'-6"	8'-9"	8'-10"
		20/18	52.8	7'-7"	8'-10"	8'-11"
		20/16	53.3	7'-8"	8'-11"	9'-0"
		18/20	53.2	9'-3"	11'-2"	11'-2"
		18/18	53.6	9'-6"	11'-3"	11'-4"
		18/16	54	9'-8"	11'-4"	11'-6"
		16/20	54	9'-9"	12'-0"	11'-7"
		16/18	54.4	10'-0"	12'-8"	11'-11"
		16/16	54.8	10'-3"	13'-0"	12'-2"
6	1.55	20/20	64.5	7'-0"	8'-1"	8'-2"
		20/18	64.9	7'-1"	8'-2"	8'-4"
		20/16	65.3	7'-1"	8'-3"	8'-4"
		18/20	65.3	8'-8"	10'-4"	10'-5"
		18/18	65.7	8'-11"	10'-5"	10'-6"
		18/16	66.1	9'-1"	10'-6"	10'-7"
		16/20	66.1	9'-2"	11'-2"	10'-11"
		16/18	66.4	9'-5"	12'-1"	11'-4"
		16/16	66.9	9'-7"	12'-4"	11'-8"
6 3/4	1.79	20/20	73.6	6'-8"	7'-9"	7'-10"
		20/18	74	6'-9"	7'-10"	7'-11"
		20/16	74.4	6'-9"	7'-10"	7'-11"
		18/20	74.4	8'-4"	9'-9"	9'-11"
		18/18	74.7	8'-6"	9'-10"	10'-0"
		18/16	75.2	8'-7"	10'-0"	10'-1"
		16/20	75.1	8'-10"	10'-7"	10'-6"
		16/18	75.5	9'-0"	11'-7"	10'-11"
		16/16	75.9	9'-3"	11'-10"	11'-3"

BHF-36 Cellular Composite Deck 4.3

Light Weight Concrete (110 pcf)
Maximum Unshored Spans



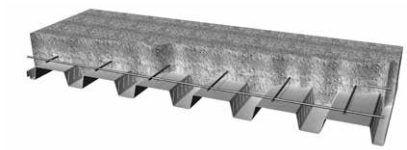
BHF-36 Cellular Shoring Table

Total Slab Depth (in)	110 pcf Normal Weight Concrete					
	Volume cy/100sf	Gage	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
3 1/2	0.78	20/20	26.9	9'-5"	11'-0"	11'-2"
		20/18	27.3	9'-6"	11'-2"	11'-3"
		20/16	27.8	9'-7"	11'-2"	11'-4"
		18/20	27.7	11'-5"	13'-11"	13'-1"
		18/18	28.1	11'-7"	14'-4"	13'-6"
		18/16	28.5	11'-9"	14'-5"	13'-10"
		16/20	28.4	11'-10"	14'-4"	13'-6"
		16/18	28.8	12'-1"	14'-9"	13'-11"
		16/16	29.3	12'-3"	15'-1"	14'-3"
4	0.94	20/20	31.5	9'-0"	10'-6"	10'-7"
		20/18	31.9	9'-1"	10'-7"	10'-9"
		20/16	32.4	9'-1"	10'-8"	10'-9"
		18/20	32.2	10'-11"	13'-5"	12'-8"
		18/18	32.7	11'-2"	13'-7"	13'-0"
		18/16	33.1	11'-4"	13'-8"	13'-4"
		16/20	33	11'-5"	13'-10"	13'-0"
		16/18	33.4	11'-8"	14'-3"	13'-5"
		16/16	33.9	11'-10"	14'-7"	13'-9"
4 1/2	1.09	20/20	36.1	8'-7"	10'-0"	10'-2"
		20/18	36.5	8'-8"	10'-2"	10'-3"
		20/16	37	8'-9"	10'-2"	10'-4"
		18/20	36.8	10'-6"	12'-10"	12'-3"
		18/18	37.2	10'-9"	13'-0"	12'-7"
		18/16	37.7	10'-11"	13'-1"	12'-11"
		16/20	37.6	11'-0"	13'-5"	12'-8"
		16/18	38	11'-3"	13'-10"	13'-0"
		16/16	38.4	11'-6"	14'-2"	13'-4"
4 3/4	1.17	20/20	38.4	8'-5"	9'-10"	9'-11"
		20/18	38.8	8'-6"	9'-11"	10'-0"
		20/16	39.2	8'-7"	10'-0"	10'-1"
		18/20	39.1	10'-3"	12'-7"	12'-1"
		18/18	39.5	10'-6"	12'-8"	12'-5"
		18/16	40	10'-9"	12'-9"	12'-9"
		16/20	39.9	10'-10"	13'-3"	12'-6"
		16/18	40.3	11'-1"	13'-8"	12'-10"
		16/16	40.7	11'-4"	14'-0"	13'-2"
5 11/16	1.46	20/20	49.3	7'-10"	9'-2"	9'-3"
		20/18	47.4	7'-11"	9'-3"	9'-4"
		20/16	47.8	8'-0"	9'-4"	9'-5"
		18/20	47.7	9'-8"	11'-8"	11'-6"
		18/18	48.1	9'-11"	11'-9"	11'-10"
		18/16	48.6	10'-1"	11'-11"	12'-0"
		16/20	48.5	10'-2"	12'-6"	11'-11"
		16/18	48.5	10'-5"	13'-1"	12'-3"
		16/16	49.3	10'-8"	13'-4"	12'-7"

4.4 BH-36 Composite Deck

3 ½" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 0.622yd^3/100ft^2



BH-36 3 1/2 " Slab Depth, 145 pcf NWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	6' - 7"	7' - 8"	7' - 10"	18	8' - 11"	10' - 8"	11' - 0"
	20	7' - 9"	9' - 1"	9' - 2"	16	9' - 7"	11' - 10"	11' - 9"

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
22 ga.	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	550	449	372	312	265	226	195	169	147	129	113	100	88	78	69
	LRFD, ϕW	828	678	563	474	403	346	300	261	229	201	178	157	140	125	111
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2497	2449	2408	2381	2351	2326	2303	2283	2265	2254	2240	2226	2214	2203	2193
	PAF Base Steel ≥ .25"	2328	2295	2267	2251	2231	2213	2197	2183	2171	2165	2155	2146	2137	2130	2123
	PAF Base Steel ≥ 0.125"	2304	2273	2247	2232	2213	2196	2182	2169	2157	2152	2143	2134	2126	2119	2113
	#12 Screw Base Steel ≥ .0385"	2138	2122	2108	2105	2094	2086	2078	2071	2065	2065	2060	2055	2051	2047	2043
	Concrete + Deck = 32.6 psf				I_{cr} = 17.3 in^4/ft			ASD		M_{no}/Ω= 21.9 kip-in/ft				V_n/Ω = 1.98 kip/ft		
	$(I_{cr}+I_u)/2$ = 26.68 in^4/ft				I_u = 36.1 in^4/ft			LRFD		ϕM_{no}= 32.5 kip-in/ft				ϕV_n = 2.97 kip/ft		

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
20 ga.	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	648	530	440	370	314	270	233	203	177	156	137	121	108	96	85
	LRFD, ϕW	973	797	664	560	477	410	356	311	273	241	214	190	170	152	136
	L/360	-	-	-	-	-	-	-	-	-	155	133	115	100	87	77
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2700	2633	2577	2537	2496	2460	2429	2402	2377	2361	2341	2323	2306	2291	2278
	PAF Base Steel ≥ .25"	2395	2356	2323	2303	2279	2258	2239	2223	2208	2201	2189	2178	2168	2159	2151
	PAF Base Steel ≥ 0.125"	2366	2329	2299	2280	2258	2238	2221	2205	2192	2185	2174	2164	2155	2146	2138
	#12 Screw Base Steel ≥ .0385"	2127	2112	2099	2096	2087	2079	2071	2065	2059	2059	2054	2050	2046	2042	2039
	Concrete + Deck = 33.0 psf				I_{cr} = 19.6 in^4/ft			ASD		M_{no}/Ω= 25.5 kip-in/ft				V_n/Ω = 1.98 kip/ft		
	$(I_{cr}+I_u)/2$ = 28.41 in^4/ft				I_u = 37.2 in^4/ft			LRFD		ϕM_{no}= 38.0 kip-in/ft				ϕV_n = 2.97 kip/ft		

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
18 ga.	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	791	680	566	478	407	350	304	265	233	206	182	162	145	130	116
	LRFD, ϕW	1186	1022	852	720	615	531	462	404	356	316	281	251	225	202	183
	L/360	-	-	-	-	-	349	288	240	202	172	147	127	111	97	85
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3199	3086	2992	2921	2852	2793	2741	2695	2654	2623	2590	2560	2533	2508	2485
	PAF Base Steel ≥ .25"	2526	2474	2432	2403	2372	2344	2320	2299	2281	2269	2254	2240	2227	2216	2205
	PAF Base Steel ≥ 0.125"	2487	2439	2399	2373	2344	2318	2296	2277	2259	2249	2234	2221	2210	2199	2189
	#12 Screw Base Steel ≥ .0385"	2123	2109	2096	2094	2084	2076	2069	2063	2057	2057	2053	2048	2044	2041	2037
	Concrete + Deck = 33.8 psf				I_{cr} = 23.6 in^4/ft			ASD		M_{no}/Ω= 32.4 kip-in/ft				V_n/Ω = 1.98 kip/ft		
	$(I_{cr}+I_u)/2$ = 31.53 in^4/ft				I_u = 39.4 in^4/ft			LRFD		ϕM_{no}= 48.2 kip-in/ft				ϕV_n = 2.97 kip/ft		

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
16 ga.	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	791	719	659	578	494	426	370	324	285	252	224	200	179	161	145
	LRFD, ϕW	1186	1078	989	870	745	643	560	492	434	385	344	308	277	250	226
	L/360	-	-	-	-	468	380	313	261	220	187	160	139	120	105	93
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3532	3389	3270	3177	3090	3015	2949	2891	2840	2799	2757	2719	2684	2653	2624
	PAF Base Steel ≥ .25"	2654	2591	2538	2502	2463	2430	2400	2375	2352	2336	2318	2301	2285	2271	2258
	PAF Base Steel ≥ 0.125"	2579	2523	2476	2444	2410	2380	2354	2331	2310	2297	2280	2265	2251	2239	2227
	#12 Screw Base Steel ≥ .0385"	2123	2109	2096	2094	2084	2076	2069	2063	2057	2057	2053	2048	2044	2041	2037
	Concrete + Deck = 34.6 psf				I_{cr} = 27.1 in^4/ft			ASD		M_{no}/Ω= 38.9 kip-in/ft				V_n/Ω = 1.98 kip/ft		
	$(I_{cr}+I_u)/2$ = 34.3 in^4/ft				I_u = 41.5 in^4/ft			LRFD		ϕM_{no}= 57.8 kip-in/ft				ϕV_n = 2.97 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	6 in o.c.	3230	4580	5570	7370	10070
	12 in o.c.	3230	4580	5570	7370	10070
	18 in o.c.	3230	4580	5570	7370	8790

BH-36 Composite Deck 4.4

4" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 0.931yd^3/100ft^2

BH-36 4" Slab Depth, 145 pcf NWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	6' - 3"	7' - 4"	7' - 5"	18	8' - 6"	10' - 2"	10' - 6"
	20	7' - 4"	8' - 7"	8' - 8"	16	9' - 2"	11' - 3"	11' - 3"

22 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	697	569	472	397	337	288	249	216	188	165	145	128	113	100	89
	LRFD, ϕW	1048	858	713	601	512	440	381	332	291	257	227	202	180	160	144
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2988	2939	2899	2872	2842	2816	2793	2773	2755	2745	2730	2717	2705	2694	2684
	PAF Base Steel ≥ .25"	2819	2786	2758	2742	2721	2703	2688	2674	2661	2656	2645	2636	2628	2620	2613
	PAF Base Steel ≥ 0.125"	2794	2763	2737	2723	2704	2687	2672	2659	2648	2643	2633	2624	2617	2610	2603
	#12 Screw Base Steel ≥ .0385"	2628	2612	2599	2595	2585	2576	2568	2561	2555	2555	2550	2545	2541	2537	2534
	Concrete + Deck = 38.7 psf				I_{cr} = 25.2 in^4/ft			ASD		M_{no}/Ω= 27.6 kip-in/ft				V_n/Ω = 2.36 kip/ft		
	$(I_{cr}+I_u)/2$ = 39.59 in^4/ft				I_u = 54.0 in^4/ft			LRFD		ϕM_{no}= 41.0 kip-in/ft				ϕV_n = 3.53 kip/ft		
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	822	673	559	471	400	344	297	259	227	200	176	156	139	124	110
	LRFD, ϕW	1234	1012	843	711	607	523	454	396	349	308	273	244	218	195	176
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3190	3123	3067	3028	2986	2951	2920	2892	2868	2851	2831	2813	2797	2782	2768
	PAF Base Steel ≥ .25"	2886	2846	2814	2793	2769	2748	2729	2713	2699	2691	2679	2668	2658	2649	2641
	PAF Base Steel ≥ 0.125"	2856	2820	2789	2771	2748	2728	2711	2696	2682	2675	2664	2654	2645	2637	2629
	#12 Screw Base Steel ≥ .0385"	2617	2602	2590	2587	2577	2569	2562	2555	2549	2550	2545	2540	2536	2533	2529
	Concrete + Deck = 39.1 psf				I_{cr} = 28.6 in^4/ft			ASD		M_{no}/Ω= 32.3 kip-in/ft				V_n/Ω = 2.36 kip/ft		
	$(I_{cr}+I_u)/2$ = 42.14 in^4/ft				I_u = 55.7 in^4/ft			LRFD		ϕM_{no}= 48.0 kip-in/ft				ϕV_n = 3.53 kip/ft		
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	942	856	723	610	520	448	389	340	299	264	235	209	187	168	151
	LRFD, ϕW	1413	1285	1086	919	785	678	590	517	456	405	361	323	290	261	236
	L/360	-	-	-	-	-	-	-	-	-	255	218	189	164	144	126
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3689	3577	3483	3411	3343	3283	3231	3186	3145	3114	3081	3051	3023	2999	2976
	PAF Base Steel ≥ .25"	3016	2965	2922	2894	2862	2835	2811	2790	2771	2760	2744	2730	2718	2706	2695
	PAF Base Steel ≥ 0.125"	2977	2930	2890	2864	2834	2809	2787	2767	2749	2739	2725	2712	2700	2689	2679
	#12 Screw Base Steel ≥ .0385"	2614	2599	2587	2584	2575	2567	2559	2553	2548	2548	2543	2539	2535	2531	2528
	Concrete + Deck = 39.8 psf				I_{cr} = 34.6 in^4/ft			ASD		M_{no}/Ω= 41.2 kip-in/ft				V_n/Ω = 2.36 kip/ft		
	$(I_{cr}+I_u)/2$ = 46.73 in^4/ft				I_u = 58.8 in^4/ft			LRFD		ϕM_{no}= 61.2 kip-in/ft				ϕV_n = 3.53 kip/ft		
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	942	856	785	725	633	547	475	416	367	325	290	259	232	209	189
	LRFD, ϕW	1413	1285	1178	1087	954	825	719	631	558	496	443	397	357	323	292
	L/360	-	-	-	-	-	-	464	387	326	277	238	205	179	156	137
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4022	3879	3761	3668	3581	3506	3440	3382	3330	3289	3247	3209	3175	3143	3115
	PAF Base Steel ≥ .25"	3144	3081	3029	2992	2954	2920	2891	2865	2842	2827	2808	2791	2776	2762	2749
	PAF Base Steel ≥ 0.125"	3070	3013	2967	2935	2900	2870	2844	2821	2801	2788	2771	2756	2742	2729	2718
	#12 Screw Base Steel ≥ .0385"	2614	2599	2587	2584	2575	2567	2559	2553	2548	2548	2543	2539	2535	2531	2528
	Concrete + Deck = 40.6 psf				I_{cr} = 39.8 in^4/ft			ASD		M_{no}/Ω= 49.5 kip-in/ft				V_n/Ω = 2.36 kip/ft		
	$(I_{cr}+I_u)/2$ = 50.82 in^4/ft				I_u = 61.8 in^4/ft			LRFD		ϕM_{no}= 73.7 kip-in/ft				ϕV_n = 3.53 kip/ft		

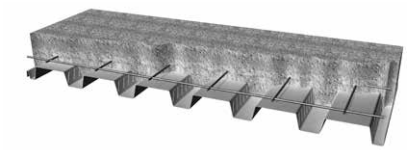
All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	6 in o.c.	3720	5070	6060	7860	10560
	12 in o.c.	3720	5070	6060	7860	10560
	18 in o.c.	3720	5070	6060	7860	8790

B PANELS

4.4 BH-36 Composite Deck

4 ½" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.085yd^3/100ft^2



BH-36 4 1/2 " Slab Depth, 145 pcf NWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	6' - 0"	7' - 0"	7' - 1"	18	8' - 2"	9' - 8"	10' - 0"
	20	7' - 0"	8' - 2"	8' - 4"	16	8' - 9"	10' - 9"	10' - 10"

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
22 ga.	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	851	695	577	485	412	353	305	265	232	203	179	158	140	125	111
	LRFD, ϕW	1278	1047	871	734	626	538	467	407	357	315	279	248	221	198	178
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3478	3430	3389	3362	3332	3306	3284	3264	3246	3235	3220	3207	3195	3184	3174
	PAF Base Steel ≥ .25"	3309	3276	3248	3232	3212	3194	3178	3164	3152	3146	3136	3127	3118	3111	3104
	PAF Base Steel ≥ 0.125"	3285	3253	3228	3213	3194	3177	3163	3150	3138	3133	3124	3115	3107	3100	3093
	#12 Screw Base Steel ≥ .0385"	3118	3102	3089	3086	3075	3066	3059	3052	3046	3046	3040	3036	3032	3028	3024
	Concrete + Deck = 44.7 psf				I_{cr} = 34.9 in^4/ft			ASD		M_{no}/Ω= 33.6 kip-in/ft				V_n/Ω = 2.76 kip/ft		
	$(I_{cr}+I_u)/2$ = 56.11 in^4/ft				I_u = 77.4 in^4/ft			LRFD		ϕM_{no}= 49.9 kip-in/ft				ϕV_n = 4.14 kip/ft		
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1006	823	685	577	491	422	365	318	279	246	218	193	172	154	137
	LRFD, ϕW	1509	1238	1031	871	743	641	556	487	428	379	337	300	269	241	217
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3681	3613	3558	3518	3477	3441	3410	3383	3358	3342	3322	3304	3287	3272	3258
	PAF Base Steel ≥ .25"	3376	3337	3304	3284	3260	3238	3220	3204	3189	3181	3169	3159	3149	3140	3132
	PAF Base Steel ≥ 0.125"	3347	3310	3279	3261	3238	3219	3201	3186	3173	3166	3155	3145	3135	3127	3119
	#12 Screw Base Steel ≥ .0385"	3108	3093	3080	3077	3068	3059	3052	3046	3040	3040	3035	3031	3027	3023	3020
	Concrete + Deck = 45.1 psf				I_{cr} = 39.7 in^4/ft			ASD		M_{no}/Ω= 39.4 kip-in/ft				V_n/Ω = 2.76 kip/ft		
	$(I_{cr}+I_u)/2$ = 59.68 in^4/ft				I_u = 79.7 in^4/ft			LRFD		ϕM_{no}= 58.6 kip-in/ft				ϕV_n = 4.14 kip/ft		
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1103	1003	888	750	640	552	479	419	369	327	290	259	232	208	188
	LRFD, ϕW	1655	1504	1334	1129	966	834	726	637	562	499	445	399	358	323	292
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	203	179
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4179	4067	3973	3902	3833	3774	3722	3676	3635	3604	3571	3541	3514	3489	3466
	PAF Base Steel ≥ .25"	3507	3455	3413	3384	3353	3325	3301	3280	3261	3250	3235	3221	3208	3197	3186
	PAF Base Steel ≥ 0.125"	3468	3420	3380	3354	3325	3299	3277	3257	3240	3230	3215	3202	3190	3180	3170
	#12 Screw Base Steel ≥ .0385"	3104	3090	3077	3075	3065	3057	3050	3044	3038	3038	3033	3029	3025	3022	3018
	Concrete + Deck = 45.9 psf				I_{cr} = 48.2 in^4/ft			ASD		M_{no}/Ω= 50.4 kip-in/ft				V_n/Ω = 2.76 kip/ft		
	$(I_{cr}+I_u)/2$ = 66.12 in^4/ft				I_u = 84.0 in^4/ft			LRFD		ϕM_{no}= 75.0 kip-in/ft				ϕV_n = 4.14 kip/ft		
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1103	1003	919	848	782	675	588	515	454	403	359	322	289	260	235
	LRFD, ϕW	1655	1504	1379	1273	1176	1017	887	780	689	613	548	492	443	401	363
	L/360	-	-	-	-	-	-	-	-	-	392	336	290	253	221	195
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4513	4370	4251	4158	4071	3996	3930	3872	3820	3779	3738	3700	3665	3634	3605
	PAF Base Steel ≥ .25"	3635	3572	3519	3483	3444	3411	3381	3356	3333	3317	3299	3282	3266	3252	3239
	PAF Base Steel ≥ 0.125"	3560	3504	3457	3425	3391	3361	3335	3312	3291	3278	3261	3246	3232	3220	3208
	#12 Screw Base Steel ≥ .0385"	3104	3090	3077	3075	3065	3057	3050	3044	3038	3038	3033	3029	3025	3022	3018
	Concrete + Deck = 46.7 psf				I_{cr} = 55.7 in^4/ft			ASD		M_{no}/Ω= 60.9 kip-in/ft				V_n/Ω = 2.76 kip/ft		
	$(I_{cr}+I_u)/2$ = 71.9 in^4/ft				I_u = 88.1 in^4/ft			LRFD		ϕM_{no}= 90.6 kip-in/ft				ϕV_n = 4.14 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	6 in o.c.	4220	5570	6560	8360	11060
	12 in o.c.	4220	5570	6560	8360	11060
	18 in o.c.	4220	5570	6560	8360	8790

BH-36 Composite Deck 4.4

5" Total Slab Depth

Normal Weight Concrete (145 pcf)

Concrete Volume 1.239yd^3/100ft^2

1 Hour Fire Rating

BH-36 5" Slab Depth, 145 pcf NWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	5' - 9"	6' - 9"	6' - 10"	18	7' - 10"	9' - 4"	9' - 7"
	20	6' - 9"	7' - 10"	7' - 11"	16	8' - 5"	10' - 4"	10' - 5"

22 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1009	825	685	576	490	420	363	316	276	243	214	190	168	150	133
	LRFD, ϕW	1516	1242	1034	872	744	640	555	485	426	376	333	297	265	237	213
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3969	3920	3879	3853	3823	3797	3774	3754	3736	3725	3711	3698	3686	3675	3665
	PAF Base Steel ≥ .25"	3800	3766	3739	3723	3702	3684	3668	3655	3642	3637	3626	3617	3609	3601	3594
	PAF Base Steel ≥ 0.125"	3775	3744	3718	3704	3684	3668	3653	3640	3629	3624	3614	3605	3598	3590	3584
	#12 Screw Base Steel ≥ .0385"	3609	3593	3580	3576	3566	3557	3549	3542	3536	3536	3531	3526	3522	3518	3515
	Concrete + Deck = 50.8 psf				I_{cr} = 46.3 in^4/ft			ASD		M_{no}/Ω= 39.8 kip-in/ft				V_n/Ω = 3.18 kip/ft		
	$(I_{cr}+I_u)/2$ = 76.62 in^4/ft				I_u = 106.9 in^4/ft			LRFD		ϕM_{no}= 59.1 kip-in/ft				ϕV_n = 4.78 kip/ft		
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1195	979	815	686	585	503	436	380	334	294	260	232	206	185	165
	LRFD, ϕW	1793	1471	1226	1036	885	763	663	580	511	452	402	359	322	289	261
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4171	4104	4048	4008	3967	3932	3900	3873	3849	3832	3812	3794	3778	3763	3749
	PAF Base Steel ≥ .25"	3867	3827	3794	3774	3750	3729	3710	3694	3680	3672	3660	3649	3639	3630	3622
	PAF Base Steel ≥ 0.125"	3837	3800	3770	3752	3729	3709	3692	3677	3663	3656	3645	3635	3626	3617	3610
	#12 Screw Base Steel ≥ .0385"	3598	3583	3571	3568	3558	3550	3543	3536	3530	3530	3526	3521	3517	3514	3510
	Concrete + Deck = 51.2 psf				I_{cr} = 52.9 in^4/ft			ASD		M_{no}/Ω= 46.7 kip-in/ft				V_n/Ω = 3.18 kip/ft		
	$(I_{cr}+I_u)/2$ = 81.42 in^4/ft				I_u = 110.0 in^4/ft			LRFD		ϕM_{no}= 69.5 kip-in/ft				ϕV_n = 4.78 kip/ft		
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1273	1158	1060	895	765	660	573	502	442	392	348	311	279	251	226
	LRFD, ϕW	1910	1737	1591	1347	1153	996	868	762	673	597	533	478	430	388	351
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4670	4557	4464	4392	4324	4264	4212	4166	4126	4095	4061	4032	4004	3979	3957
	PAF Base Steel ≥ .25"	3997	3946	3903	3875	3843	3816	3792	3771	3752	3740	3725	3711	3698	3687	3676
	PAF Base Steel ≥ 0.125"	3958	3910	3871	3845	3815	3790	3767	3748	3730	3720	3706	3693	3681	3670	3660
	#12 Screw Base Steel ≥ .0385"	3595	3580	3568	3565	3556	3547	3540	3534	3528	3529	3524	3520	3516	3512	3509
	Concrete + Deck = 51.9 psf				I_{cr} = 64.5 in^4/ft			ASD		M_{no}/Ω= 60.0 kip-in/ft				V_n/Ω = 3.18 kip/ft		
	$(I_{cr}+I_u)/2$ = 90.13 in^4/ft				I_u = 115.8 in^4/ft			LRFD		ϕM_{no}= 89.3 kip-in/ft				ϕV_n = 4.78 kip/ft		
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1273	1158	1061	980	910	809	705	618	546	484	432	387	348	314	284
	LRFD, ϕW	1910	1737	1592	1469	1364	1218	1063	935	827	736	658	591	533	482	437
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	344	301	265
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5003	4860	4741	4648	4562	4486	4421	4362	4311	4270	4228	4190	4156	4124	4096
	PAF Base Steel ≥ .25"	4125	4062	4010	3973	3934	3901	3872	3846	3823	3808	3789	3772	3757	3743	3730
	PAF Base Steel ≥ 0.125"	4050	3994	3948	3916	3881	3851	3825	3802	3782	3769	3752	3737	3723	3710	3699
	#12 Screw Base Steel ≥ .0385"	3595	3580	3568	3565	3556	3547	3540	3534	3528	3529	3524	3520	3516	3512	3509
	Concrete + Deck = 52.7 psf				I_{cr} = 74.7 in^4/ft			ASD		M_{no}/Ω= 72.7 kip-in/ft				V_n/Ω = 3.18 kip/ft		
	$(I_{cr}+I_u)/2$ = 97.97 in^4/ft				I_u = 121.2 in^4/ft			LRFD		ϕM_{no}= 108.1 kip-in/ft				ϕV_n = 4.78 kip/ft		

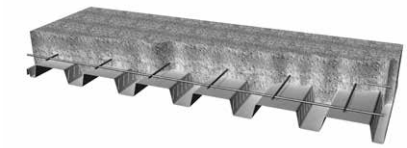
All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	6 in o.c.	n/a	6060	7050	8850	11550
	12 in o.c.	n/a	6060	7050	8850	11550
	18 in o.c.	n/a	6060	7050	8790	8790

4.4 BH-36 Composite Deck

6" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.548yd^3/100ft^2

2 Hour Fire Rating



BH-36 6" Slab Depth, 145 pcf NWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	5' - 4"	6' - 3"	6' - 4"	18	7' - 4"	8' - 7"	8' - 11"
	20	6' - 3"	7' - 3"	7' - 5"	16	7' - 11"	9' - 7"	9' - 9"

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-0"	11'-0"	11'-6"	12'-0"
22 ga.	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1337	1094	909	765	651	559	484	421	369	325	287	255	226	202	180
	LRFD, ϕW	2006	1645	1370	1156	987	850	738	645	567	501	445	397	355	318	286
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4950	4901	4860	4834	4804	4778	4755	4735	4717	4706	4692	4678	4666	4655	4645
	PAF Base Steel ≥ .25"	4781	4747	4719	4704	4683	4665	4649	4635	4623	4617	4607	4598	4590	4582	4575
	PAF Base Steel ≥ 0.125"	4756	4725	4699	4685	4665	4648	4634	4621	4609	4604	4595	4586	4578	4571	4565
	#12 Screw Base Steel ≥ .0385"	4590	4574	4560	4557	4547	4538	4530	4523	4517	4517	4512	4507	4503	4499	4495
	Concrete + Deck = 62.8 psf				I_{cr} = 74.9 in^4/ft			ASD		M_{no}/Ω= 52.5 kip-in/ft				V_n/Ω = 4.11 kip/ft		
	$(I_{cr}+I_u)/2$ = 131.2 in^4/ft				I_u = 187.5 in^4/ft			LRFD		ϕM_{no}= 78.1 kip-in/ft				ϕV_n = 6.16 kip/ft		
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-0"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1588	1301	1083	914	779	671	582	508	446	394	350	311	278	249	223
	LRFD, ϕW	2380	1954	1630	1377	1177	1016	883	774	682	604	538	481	432	388	351
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5152	5085	5029	4989	4948	4913	4881	4854	4829	4813	4793	4775	4758	4743	4730
	PAF Base Steel ≥ .25"	4848	4808	4775	4755	4731	4710	4691	4675	4660	4653	4641	4630	4620	4611	4603
	PAF Base Steel ≥ 0.125"	4818	4781	4751	4732	4710	4690	4673	4657	4644	4637	4626	4616	4607	4598	4591
	#12 Screw Base Steel ≥ .0385"	4579	4564	4552	4549	4539	4531	4523	4517	4511	4511	4506	4502	4498	4494	4491
	Concrete + Deck = 63.2 psf				I_{cr} = 85.8 in^4/ft			ASD		M_{no}/Ω= 61.9 kip-in/ft				V_n/Ω = 4.11 kip/ft		
	$(I_{cr}+I_u)/2$ = 139.1 in^4/ft				I_u = 192.4 in^4/ft			LRFD		ϕM_{no}= 92.1 kip-in/ft				ϕV_n = 6.16 kip/ft		
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-0"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1643	1494	1369	1197	1024	883	769	674	594	526	469	419	376	339	306
	LRFD, ϕW	2465	2241	2054	1799	1541	1332	1162	1020	902	802	716	642	578	523	474
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5651	5538	5445	5373	5305	5245	5193	5147	5107	5075	5042	5012	4985	4960	4938
	PAF Base Steel ≥ .25"	4978	4927	4884	4855	4824	4797	4773	4752	4733	4721	4706	4692	4679	4668	4657
	PAF Base Steel ≥ 0.125"	4939	4891	4852	4826	4796	4771	4748	4729	4711	4701	4686	4673	4662	4651	4641
	#12 Screw Base Steel ≥ .0385"	4576	4561	4549	4546	4536	4528	4521	4515	4509	4509	4505	4500	4496	4493	4490
	Concrete + Deck = 64.0 psf				I_{cr} = 105.4 in^4/ft			ASD		M_{no}/Ω= 79.9 kip-in/ft				V_n/Ω = 4.11 kip/ft		
	$(I_{cr}+I_u)/2$ = 153.6 in^4/ft				I_u = 201.8 in^4/ft			LRFD		ϕM_{no}= 118.9 kip-in/ft				ϕV_n = 6.16 kip/ft		
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-0"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1643	1494	1369	1264	1174	1088	948	833	736	654	584	523	471	426	386
	LRFD, ϕW	2465	2241	2054	1896	1761	1637	1429	1257	1113	991	887	797	719	652	592
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5984	5841	5722	5629	5543	5467	5401	5343	5292	5251	5209	5171	5137	5105	5076
	PAF Base Steel ≥ .25"	5106	5043	4991	4954	4915	4882	4853	4827	4804	4789	4770	4753	4738	4723	4711
	PAF Base Steel ≥ 0.125"	5031	4975	4928	4897	4862	4832	4806	4783	4762	4749	4733	4717	4704	4691	4679
	#12 Screw Base Steel ≥ .0385"	4576	4561	4549	4546	4536	4528	4521	4515	4509	4509	4505	4500	4496	4493	4490
	Concrete + Deck = 64.8 psf				I_{cr} = 122.9 in^4/ft			ASD		M_{no}/Ω= 97.3 kip-in/ft				V_n/Ω = 4.11 kip/ft		
	$(I_{cr}+I_u)/2$ = 166.8 in^4/ft				I_u = 210.7 in^4/ft			LRFD		ϕM_{no}= 144.7 kip-in/ft				ϕV_n = 6.16 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	6 in o.c.	n/a	7050	8040	9840	12540
	12 in o.c.	n/a	7050	8040	9840	12540
	18 in o.c.	n/a	7050	8040	8790	8790

BH-36 Composite Deck 4.4

6 ¾" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.780yd³/100ft²

3 Hour Fire Rating

BH-36 6 3/4 " Slab Depth, 145 pcf NWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	5' - 1"	6' - 0"	6' - 0"	18	7' - 0"	8' - 2"	8' - 6"
	20	6' - 0"	6' - 11"	7' - 0"	16	7' - 7"	9' - 2"	9' - 4"

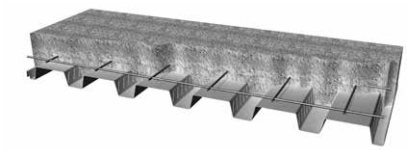
22 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1588	1300	1081	910	775	666	577	503	441	388	343	305	271	242	216
	LRFD, ϕW	2383	1955	1629	1375	1174	1011	878	768	676	598	531	474	424	381	342
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5685	5637	5596	5569	5539	5513	5491	5471	5453	5442	5427	5414	5402	5391	5381
	PAF Base Steel ≥ .25"	5516	5483	5455	5439	5419	5401	5385	5371	5359	5353	5343	5334	5325	5318	5311
	PAF Base Steel ≥ 0.125"	5491	5460	5434	5420	5401	5384	5369	5357	5345	5340	5330	5322	5314	5307	5300
	#12 Screw Base Steel ≥ .0385"	5325	5309	5296	5292	5282	5273	5266	5259	5253	5253	5247	5243	5239	5235	5231
	Concrete + Deck =	71.9	psf		I_{cr} =	101.2	in⁴/ft	ASD		M_{no}/Ω=	62.3	kip-in/ft		V_n/Ω =	4.86	kip/ft
	$(I_{cr}+I_u)/2$ =	185.5	in⁴/ft		I_u =	269.8	in⁴/ft	LRFD		ϕM_{no}=	92.6	kip-in/ft		ϕV_n =	7.30	kip/ft
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1890	1549	1290	1089	929	800	694	607	533	471	418	373	333	299	268
	LRFD, ϕW	2832	2325	1940	1640	1402	1210	1053	923	814	722	643	575	516	465	420
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5887	5820	5764	5725	5684	5648	5617	5590	5565	5548	5529	5510	5494	5479	5465
	PAF Base Steel ≥ .25"	5583	5544	5511	5491	5466	5445	5427	5411	5396	5388	5376	5366	5356	5347	5339
	PAF Base Steel ≥ 0.125"	5554	5517	5486	5468	5445	5426	5408	5393	5380	5373	5362	5351	5342	5334	5326
	#12 Screw Base Steel ≥ .0385"	5315	5300	5287	5284	5275	5266	5259	5253	5247	5247	5242	5238	5234	5230	5227
	Concrete + Deck =	72.3	psf		I_{cr} =	116.3	in⁴/ft	ASD		M_{no}/Ω=	73.6	kip-in/ft		V_n/Ω =	4.86	kip/ft
	$(I_{cr}+I_u)/2$ =	196.4	in⁴/ft		I_u =	276.4	in⁴/ft	LRFD		ϕM_{no}=	109.4	kip-in/ft		ϕV_n =	7.30	kip/ft
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1946	1769	1621	1430	1223	1056	919	806	711	631	562	503	452	407	368
	LRFD, ϕW	2918	2653	2432	2148	1840	1592	1388	1220	1079	959	857	769	693	627	568
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	6386	6274	6180	6109	6040	5981	5929	5883	5842	5811	5778	5748	5721	5696	5673
	PAF Base Steel ≥ .25"	5714	5662	5620	5591	5560	5532	5508	5487	5468	5457	5442	5428	5415	5403	5393
	PAF Base Steel ≥ 0.125"	5675	5627	5587	5561	5532	5506	5484	5464	5447	5436	5422	5409	5397	5387	5377
	#12 Screw Base Steel ≥ .0385"	5311	5296	5284	5282	5272	5264	5257	5250	5245	5245	5240	5236	5232	5228	5225
	Concrete + Deck =	73.1	psf		I_{cr} =	143.5	in⁴/ft	ASD		M_{no}/Ω=	95.3	kip-in/ft		V_n/Ω =	4.86	kip/ft
	$(I_{cr}+I_u)/2$ =	216.3	in⁴/ft		I_u =	289.0	in⁴/ft	LRFD		ϕM_{no}=	141.7	kip-in/ft		ϕV_n =	7.30	kip/ft
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1946	1769	1621	1497	1390	1297	1137	999	883	785	701	629	567	512	464
	LRFD, ϕW	2918	2653	2432	2245	2085	1946	1713	1507	1335	1189	1064	957	864	783	712
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	6720	6577	6458	6365	6278	6203	6137	6079	6027	5986	5945	5907	5872	5841	5812
	PAF Base Steel ≥ .25"	5842	5779	5726	5690	5651	5618	5588	5562	5540	5524	5506	5489	5473	5459	5446
	PAF Base Steel ≥ 0.125"	5767	5711	5664	5632	5598	5568	5542	5519	5498	5485	5468	5453	5439	5427	5415
	#12 Screw Base Steel ≥ .0385"	5311	5296	5284	5282	5272	5264	5257	5250	5245	5245	5240	5236	5232	5228	5225
	Concrete + Deck =	73.9	psf		I_{cr} =	168.0	in⁴/ft	ASD		M_{no}/Ω=	116.2	kip-in/ft		V_n/Ω =	4.86	kip/ft
	$(I_{cr}+I_u)/2$ =	234.5	in⁴/ft		I_u =	301.1	in⁴/ft	LRFD		ϕM_{no}=	172.9	kip-in/ft		ϕV_n =	7.30	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	6 in o.c.	n/a	7790	8780	10580	13280
	12 in o.c.	n/a	7790	8780	10580	13180
	18 in o.c.	n/a	7790	8780	8790	8790

4.4 BH-36 Composite Deck

3 ½" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 0.776yd^3/100ft^2



BH-36 3 1/2 " Slab Depth, 110 pcf LWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	7' - 1"	8' - 4"	8' - 6"	18	9' - 9"	11' - 7"	11' - 11"
	20	8' - 5"	9' - 11"	10' - 0"	16	10' - 6"	12' - 10"	12' - 6"

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	525	429	357	300	255	219	190	165	145	127	112	100	88	79	70
	LRFD, ϕW	788	646	538	454	387	333	289	253	222	196	174	155	139	124	112
	L/360	-	-	-	-	-	-	187	156	131	112	96	83	72	63	55
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
22 ga.	Arc Spot Weld 1/2" Effective Dia	1832	1783	1743	1716	1686	1660	1637	1617	1599	1589	1574	1561	1549	1538	1528
	PAF Base Steel ≥ .25"	1663	1630	1602	1586	1565	1547	1532	1518	1505	1500	1490	1480	1472	1464	1457
	PAF Base Steel ≥ 0.125"	1638	1607	1581	1567	1548	1531	1516	1503	1492	1487	1477	1469	1461	1454	1447
	#12 Screw Base Steel ≥ .0385"	1472	1456	1443	1439	1429	1420	1412	1406	1399	1399	1394	1389	1385	1381	1378
	Concrete + Deck =	25.2	psf		I_{cr} =	23.0	in^4/ft	ASD		M_{no}/Ω=	20.6	kip-in/ft		V_n/Ω =	1.48	kip/ft
	$(I_{cr}+I_u)/2$ =	31.03	in^4/ft		I_u =	39.1	in^4/ft	LRFD		ϕM_{no}=	30.7	kip-in/ft		ϕV_n =	2.97	kip/ft

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	593	503	418	353	301	259	224	196	172	151	134	119	106	95	85
	LRFD, ϕW	920	755	630	532	454	392	341	298	263	233	207	185	166	149	134
	L/360	-	-	-	-	299	243	201	167	141	120	103	89	77	67	59
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
20 ga.	Arc Spot Weld 1/2" Effective Dia	2034	1967	1911	1872	1830	1795	1764	1736	1712	1695	1675	1657	1641	1626	1612
	PAF Base Steel ≥ .25"	1730	1690	1658	1638	1613	1592	1574	1557	1543	1535	1523	1512	1502	1493	1485
	PAF Base Steel ≥ 0.125"	1700	1664	1633	1615	1592	1572	1555	1540	1526	1519	1508	1498	1489	1481	1473
	#12 Screw Base Steel ≥ .0385"	1461	1446	1434	1431	1421	1413	1406	1399	1394	1394	1389	1384	1380	1377	1373
	Concrete + Deck =	25.6	psf		I_{cr} =	25.8	in^4/ft	ASD		M_{no}/Ω=	24.0	kip-in/ft		V_n/Ω =	1.48	kip/ft
	$(I_{cr}+I_u)/2$ =	33.23	in^4/ft		I_u =	40.7	in^4/ft	LRFD		ϕM_{no}=	35.7	kip-in/ft		ϕV_n =	2.97	kip/ft

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	593	539	494	450	384	331	288	252	222	197	175	156	140	126	113
	LRFD, ϕW	1166	958	800	677	579	501	436	383	338	300	268	240	216	195	176
	L/360	-	-	-	418	335	272	224	187	157	134	115	99	86	75	66
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
18 ga.	Arc Spot Weld 1/2" Effective Dia	2533	2421	2327	2255	2187	2127	2076	2030	1989	1958	1925	1895	1868	1843	1820
	PAF Base Steel ≥ .25"	1860	1809	1766	1738	1706	1679	1655	1634	1615	1604	1588	1574	1562	1550	1540
	PAF Base Steel ≥ 0.125"	1821	1774	1734	1708	1678	1653	1631	1611	1594	1583	1569	1556	1544	1533	1523
	#12 Screw Base Steel ≥ .0385"	1458	1443	1431	1428	1419	1411	1403	1397	1392	1392	1387	1383	1379	1375	1372
	Concrete + Deck =	26.3	psf		I_{cr} =	30.6	in^4/ft	ASD		M_{no}/Ω=	30.2	kip-in/ft		V_n/Ω =	1.48	kip/ft
	$(I_{cr}+I_u)/2$ =	37.15	in^4/ft		I_u =	43.7	in^4/ft	LRFD		ϕM_{no}=	44.9	kip-in/ft		ϕV_n =	2.97	kip/ft

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	593	539	494	456	424	395	347	305	269	238	213	190	171	154	139
	LRFD, ϕW	1186	1078	958	811	695	601	524	461	408	362	324	291	262	237	215
	L/360	-	-	-	-	366	297	245	204	172	146	125	108	94	82	73
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
16 ga.	Arc Spot Weld 1/2" Effective Dia	2866	2724	2605	2512	2425	2350	2284	2226	2174	2133	2091	2053	2019	1988	1959
	PAF Base Steel ≥ .25"	1988	1925	1873	1836	1798	1764	1735	1709	1686	1671	1652	1635	1620	1606	1593
	PAF Base Steel ≥ 0.125"	1914	1857	1811	1779	1744	1714	1688	1665	1645	1632	1615	1600	1586	1573	1562
	#12 Screw Base Steel ≥ .0385"	1458	1443	1431	1428	1419	1411	1403	1397	1392	1392	1387	1383	1379	1375	1372
	Concrete + Deck =	27.1	psf		I_{cr} =	34.7	in^4/ft	ASD		M_{no}/Ω=	35.9	kip-in/ft		V_n/Ω =	1.48	kip/ft
	$(I_{cr}+I_u)/2$ =	40.58	in^4/ft		I_u =	46.4	in^4/ft	LRFD		ϕM_{no}=	53.5	kip-in/ft		ϕV_n =	2.97	kip/ft

	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width					
All Gages	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	6 in o.c.	2740	4090	5080	6880	9580
	12 in o.c.	2740	4090	5080	6880	9580
	18 in o.c.	2740	4090	5080	6880	8790

BH-36 Composite Deck 4.4

4" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 0.931yd³/100ft²

1 Hour Fire Rating

BH-36 4" Slab Depth, 110 pcf LWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	6' - 9"	8' - 0"	8' - 1"	18	9' - 3"	11' - 1"	11' - 5"
	20	8' - 0"	9' - 5"	9' - 6"	16	10' - 0"	12' - 3"	12' - 1"

22 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	668	547	455	383	326	280	243	212	185	163	145	128	114	102	91
	LRFD, ϕW	1002	822	685	578	494	425	370	323	284	252	224	200	179	160	144
	L/360	-	-	-	-	-	-	-	-	-	-	142	123	107	93	82
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2156	2107	2067	2040	2010	1984	1961	1941	1923	1913	1898	1885	1873	1862	1852
	PAF Base Steel ≥ .25"	1987	1954	1926	1910	1889	1871	1856	1842	1830	1824	1814	1804	1796	1788	1781
	PAF Base Steel ≥ 0.125"	1962	1931	1905	1891	1872	1855	1840	1827	1816	1811	1801	1793	1785	1778	1771
	#12 Screw Base Steel ≥ .0385"	1796	1780	1767	1763	1753	1744	1736	1730	1723	1723	1718	1714	1709	1705	1702
	Concrete + Deck = 29.8 psf				I_{cr} = 33.6 in⁴/ft			ASD		M_{no}/Ω= 26.2 kip-in/ft				V_n/Ω = 1.77 kip/ft		
	$(I_{cr}+I_u)/2$ = 45.96 in⁴/ft				I_u = 58.3 in⁴/ft			LRFD		ϕM_{no}= 38.9 kip-in/ft				ϕV_n = 3.53 kip/ft		
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	707	642	534	451	385	331	287	251	221	195	173	154	138	124	111
	LRFD, ϕW	1173	963	803	679	581	501	436	382	337	299	266	238	214	192	174
	L/360	-	-	-	-	-	-	-	248	209	177	152	131	114	100	88
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2358	2291	2235	2196	2155	2119	2088	2060	2036	2019	1999	1981	1965	1950	1936
	PAF Base Steel ≥ .25"	2054	2015	1982	1962	1937	1916	1898	1881	1867	1859	1847	1836	1826	1818	1809
	PAF Base Steel ≥ 0.125"	2024	1988	1957	1939	1916	1896	1879	1864	1850	1843	1832	1822	1813	1805	1797
	#12 Screw Base Steel ≥ .0385"	1785	1770	1758	1755	1745	1737	1730	1723	1718	1718	1713	1708	1704	1701	1697
	Concrete + Deck = 30.2 psf				I_{cr} = 37.8 in⁴/ft			ASD		M_{no}/Ω= 30.5 kip-in/ft				V_n/Ω = 1.77 kip/ft		
	$(I_{cr}+I_u)/2$ = 49.21 in⁴/ft				I_u = 60.6 in⁴/ft			LRFD		ϕM_{no}= 45.3 kip-in/ft				ϕV_n = 3.53 kip/ft		
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	707	642	589	544	494	426	371	325	286	254	226	202	182	163	148
	LRFD, ϕW	1413	1227	1025	868	743	643	560	492	435	387	345	310	279	252	228
	L/360	-	-	-	-	-	403	332	277	233	198	170	147	128	112	98
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2857	2745	2651	2579	2511	2452	2400	2354	2313	2282	2249	2219	2192	2167	2144
	PAF Base Steel ≥ .25"	2184	2133	2090	2062	2030	2003	1979	1958	1939	1928	1912	1898	1886	1874	1864
	PAF Base Steel ≥ 0.125"	2145	2098	2058	2032	2003	1977	1955	1935	1918	1907	1893	1880	1868	1857	1847
	#12 Screw Base Steel ≥ .0385"	1782	1767	1755	1752	1743	1735	1728	1721	1716	1716	1711	1707	1703	1699	1696
	Concrete + Deck = 30.9 psf				I_{cr} = 45.0 in⁴/ft			ASD		M_{no}/Ω= 38.6 kip-in/ft				V_n/Ω = 1.77 kip/ft		
	$(I_{cr}+I_u)/2$ = 54.98 in⁴/ft				I_u = 64.9 in⁴/ft			LRFD		ϕM_{no}= 57.4 kip-in/ft				ϕV_n = 3.53 kip/ft		
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	707	642	589	544	505	471	442	393	348	309	276	247	222	201	182
	LRFD, ϕW	1413	1285	1178	1043	895	774	676	594	526	468	419	376	340	308	279
	L/360	-	-	-	-	-	439	362	302	254	216	185	160	139	122	107
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3190	3048	2929	2836	2749	2674	2608	2550	2498	2457	2415	2377	2343	2312	2283
	PAF Base Steel ≥ .25"	2312	2249	2197	2160	2122	2088	2059	2033	2010	1995	1976	1959	1944	1930	1917
	PAF Base Steel ≥ 0.125"	2238	2182	2135	2103	2068	2039	2012	1989	1969	1956	1939	1924	1910	1897	1886
	#12 Screw Base Steel ≥ .0385"	1782	1767	1755	1752	1743	1735	1728	1721	1716	1716	1711	1707	1703	1699	1696
	Concrete + Deck = 31.7 psf				I_{cr} = 51.2 in⁴/ft			ASD		M_{no}/Ω= 46.1 kip-in/ft				V_n/Ω = 1.77 kip/ft		
	$(I_{cr}+I_u)/2$ = 60.01 in⁴/ft				I_u = 68.9 in⁴/ft			LRFD		ϕM_{no}= 68.5 kip-in/ft				ϕV_n = 3.53 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	6 in o.c.	3110	4460	5450	7250	9950
	12 in o.c.	3110	4460	5450	7250	9950
	18 in o.c.	3110	4460	5450	7250	8790

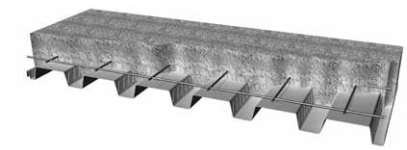
B PANELS

4.4 BH-36 Composite Deck

4¾" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.162yd^3/100ft^2

2 Hour Fire Rating



BH-36 4 3/4 " Slab Depth, 110 pcf LWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	6' - 5"	7' - 6"	7' - 7"	18	8' - 8"	10' - 5"	10' - 9"
	20	7' - 6"	8' - 10"	8' - 11"	16	9' - 5"	11' - 7"	11' - 6"

	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
22 ga.	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	890	734	611	515	439	378	328	286	251	222	197	175	156	140	125
	LRFD, ϕW	1343	1103	919	777	664	573	498	436	384	340	303	271	243	218	197
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2642	2593	2553	2526	2496	2470	2447	2427	2409	2399	2384	2371	2359	2348	2338
	PAF Base Steel ≥ .25"	2473	2440	2412	2396	2375	2357	2342	2328	2316	2310	2300	2290	2282	2274	2267
	PAF Base Steel ≥ 0.125"	2448	2417	2391	2377	2358	2341	2326	2313	2302	2297	2287	2279	2271	2264	2257
	#12 Screw Base Steel ≥ .0385"	2282	2266	2253	2249	2239	2230	2222	2216	2210	2209	2204	2200	2195	2191	2188
	Concrete + Deck = 36.6 psf				I_{cr} = 54.2 in^4/ft			ASD		M_{no}/Ω= 35.0 kip-in/ft				V_n/Ω = 2.23 kip/ft		
	$(I_{cr}+I_u)/2$ = 76.21 in^4/ft				I_u = 98.2 in^4/ft			LRFD		ϕM_{no}= 52.0 kip-in/ft				ϕV_n = 4.45 kip/ft		
20 ga.	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	890	809	721	609	520	448	389	341	300	265	236	210	188	169	152
	LRFD, ϕW	1579	1297	1083	916	784	677	590	517	457	405	361	324	291	262	237
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	166	146
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2844	2777	2721	2682	2641	2605	2574	2546	2522	2505	2485	2467	2451	2436	2422
	PAF Base Steel ≥ .25"	2540	2501	2468	2448	2423	2402	2384	2367	2353	2345	2333	2322	2313	2304	2295
	PAF Base Steel ≥ 0.125"	2510	2474	2443	2425	2402	2382	2365	2350	2336	2330	2318	2308	2299	2291	2283
	#12 Screw Base Steel ≥ .0385"	2272	2257	2244	2241	2231	2223	2216	2209	2204	2204	2199	2195	2191	2187	2184
	Concrete + Deck = 37.0 psf				I_{cr} = 61.3 in^4/ft			ASD		M_{no}/Ω= 40.9 kip-in/ft				V_n/Ω = 2.23 kip/ft		
	$(I_{cr}+I_u)/2$ = 81.57 in^4/ft				I_u = 101.9 in^4/ft			LRFD		ϕM_{no}= 60.9 kip-in/ft				ϕV_n = 4.45 kip/ft		
18 ga.	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	890	809	742	685	636	580	505	443	391	347	310	277	249	225	203
	LRFD, ϕW	1781	1619	1390	1177	1009	873	762	670	592	527	471	423	382	345	313
	L/360	-	-	-	-	-	-	-	-	386	328	281	243	211	185	163
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3343	3231	3137	3065	2997	2938	2886	2840	2799	2768	2735	2705	2678	2653	2630
	PAF Base Steel ≥ .25"	2670	2619	2576	2548	2516	2489	2465	2444	2425	2414	2398	2384	2372	2360	2350
	PAF Base Steel ≥ 0.125"	2631	2584	2544	2518	2489	2463	2441	2421	2404	2393	2379	2366	2354	2343	2333
	#12 Screw Base Steel ≥ .0385"	2268	2253	2241	2238	2229	2221	2214	2207	2202	2202	2197	2193	2189	2185	2182
	Concrete + Deck = 37.8 psf				I_{cr} = 73.4 in^4/ft			ASD		M_{no}/Ω= 52.1 kip-in/ft				V_n/Ω = 2.23 kip/ft		
	$(I_{cr}+I_u)/2$ = 91.1 in^4/ft				I_u = 108.8 in^4/ft			LRFD		ϕM_{no}= 77.5 kip-in/ft				ϕV_n = 4.45 kip/ft		
16 ga.	Vertical Load Span (ft-in)	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	890	809	742	685	636	594	556	524	477	424	379	340	306	277	251
	LRFD, ϕW	1781	1619	1484	1370	1221	1057	924	813	720	642	575	517	467	423	385
	L/360	-	-	-	-	-	-	-	500	422	358	307	265	231	202	178
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3676	3534	3415	3322	3235	3160	3094	3036	2984	2943	2901	2864	2829	2798	2769
	PAF Base Steel ≥ .25"	2798	2735	2683	2646	2608	2574	2545	2519	2496	2481	2462	2445	2430	2416	2403
	PAF Base Steel ≥ 0.125"	2724	2668	2621	2589	2554	2525	2498	2475	2455	2442	2425	2410	2396	2383	2372
	#12 Screw Base Steel ≥ .0385"	2268	2253	2241	2238	2229	2221	2214	2207	2202	2202	2197	2193	2189	2185	2182
	Concrete + Deck = 38.5 psf				I_{cr} = 83.8 in^4/ft			ASD		M_{no}/Ω= 62.6 kip-in/ft				V_n/Ω = 2.23 kip/ft		
	$(I_{cr}+I_u)/2$ = 99.47 in^4/ft				I_u = 115.1 in^4/ft			LRFD		ϕM_{no}= 93.1 kip-in/ft				ϕV_n = 4.45 kip/ft		

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	6 in o.c.	n/a	5010	6000	7800	10500
	12 in o.c.	n/a	5010	6000	7800	10500
	18 in o.c.	n/a	5010	6000	7800	8790

BH-36 Composite Deck 4.4

5 ¾" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.47yd³/100ft²

3 Hour Fire Rating

BH-36 5 3/4 " Slab Depth, 110 pcf LWC

Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	6' - 0"	7' - 0"	7' - 1"	18	8' - 1"	9' - 8"	10' - 0"
	20	7' - 0"	8' - 2"	8' - 3"	16	8' - 9"	10' - 9"	10' - 10"

22 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1160	998	831	701	598	515	447	391	344	304	270	240	215	193	173
	LRFD, ϕW	1823	1497	1249	1056	903	780	679	595	525	465	415	371	333	300	271
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3290	3241	3201	3174	3144	3118	3095	3075	3058	3047	3032	3019	3007	2996	2986
	PAF Base Steel ≥ .25"	3121	3088	3060	3044	3024	3006	2990	2976	2964	2958	2948	2939	2930	2923	2916
	PAF Base Steel ≥ 0.125"	3096	3065	3039	3025	3006	2989	2974	2961	2950	2945	2935	2927	2919	2912	2905
	#12 Screw Base Steel ≥ .0385"	2930	2914	2901	2897	2887	2878	2871	2864	2858	2858	2852	2848	2843	2840	2836
	Concrete + Deck =	45.8	psf		I_{cr} =	90.9	in⁴/ft	ASD		M_{no}/Ω=	47.3	kip-in/ft		V_n/Ω =	2.90	kip/ft
	$(I_{cr}+I_u)/2$ =	133.3	in⁴/ft		I_u =	175.7	in⁴/ft	LRFD		ϕM_{no}=	70.4	kip-in/ft		ϕV_n =	5.80	kip/ft
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1160	1055	967	831	711	613	533	467	412	365	325	290	260	234	211
	LRFD, ϕW	2151	1768	1477	1250	1070	925	806	708	626	556	496	445	400	362	328
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3492	3425	3369	3330	3289	3253	3222	3194	3170	3153	3133	3115	3099	3084	3070
	PAF Base Steel ≥ .25"	3188	3149	3116	3096	3071	3050	3032	3015	3001	2993	2981	2970	2961	2952	2943
	PAF Base Steel ≥ 0.125"	3159	3122	3091	3073	3050	3031	3013	2998	2985	2978	2967	2956	2947	2939	2931
	#12 Screw Base Steel ≥ .0385"	2920	2905	2892	2889	2880	2871	2864	2858	2852	2852	2847	2843	2839	2835	2832
	Concrete + Deck =	46.2	psf		I_{cr} =	103.2	in⁴/ft	ASD		M_{no}/Ω=	55.6	kip-in/ft		V_n/Ω =	2.90	kip/ft
	$(I_{cr}+I_u)/2$ =	142.6	in⁴/ft		I_u =	181.9	in⁴/ft	LRFD		ϕM_{no}=	82.7	kip-in/ft		ϕV_n =	5.80	kip/ft
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1160	1055	967	893	829	774	696	611	540	480	428	384	346	312	283
	LRFD, ϕW	2321	2110	1907	1617	1386	1200	1048	922	816	727	651	585	528	478	435
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3991	3879	3785	3714	3645	3586	3534	3488	3447	3416	3383	3353	3326	3301	3278
	PAF Base Steel ≥ .25"	3318	3267	3224	3196	3164	3137	3113	3092	3073	3062	3046	3033	3020	3008	2998
	PAF Base Steel ≥ 0.125"	3280	3232	3192	3166	3137	3111	3089	3069	3052	3041	3027	3014	3002	2991	2982
	#12 Screw Base Steel ≥ .0385"	2916	2901	2889	2886	2877	2869	2862	2855	2850	2850	2845	2841	2837	2833	2830
	Concrete + Deck =	46.9	psf		I_{cr} =	124.6	in⁴/ft	ASD		M_{no}/Ω=	71.3	kip-in/ft		V_n/Ω =	2.90	kip/ft
	$(I_{cr}+I_u)/2$ =	159.1	in⁴/ft		I_u =	193.5	in⁴/ft	LRFD		ϕM_{no}=	106.0	kip-in/ft		ϕV_n =	5.80	kip/ft
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1160	1055	967	893	829	774	725	683	645	589	527	473	427	387	351
	LRFD, ϕW	2321	2110	1934	1785	1658	1462	1278	1126	998	890	797	718	649	589	536
	L/360	-	-	-	-	-	-	-	-	-	-	-	464	403	353	311
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4325	4182	4063	3970	3883	3808	3742	3684	3632	3591	3549	3512	3477	3446	3417
	PAF Base Steel ≥ .25"	3446	3384	3331	3294	3256	3222	3193	3167	3144	3129	3110	3093	3078	3064	3051
	PAF Base Steel ≥ 0.125"	3372	3316	3269	3237	3203	3173	3147	3124	3103	3090	3073	3058	3044	3032	3020
	#12 Screw Base Steel ≥ .0385"	2916	2901	2889	2886	2877	2869	2862	2855	2850	2850	2845	2841	2837	2833	2830
	Concrete + Deck =	47.7	psf		I_{cr} =	143.2	in⁴/ft	ASD		M_{no}/Ω=	86.2	kip-in/ft		V_n/Ω =	2.90	kip/ft
	$(I_{cr}+I_u)/2$ =	173.7	in⁴/ft		I_u =	204.2	in⁴/ft	LRFD		ϕM_{no}=	128.2	kip-in/ft		ϕV_n =	5.80	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	6 in o.c.	n/a	5750	6740	8540	11240
	12 in o.c.	n/a	5750	6740	8540	11240
	18 in o.c.	n/a	5750	6740	8540	8790

B PANELS

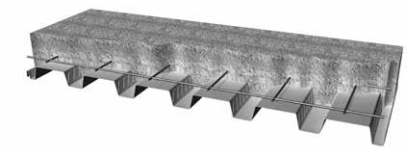
4.4 BH-36 Composite Deck

5 11/16" Total Slab Depth

Light Weight Concrete (110 pcf)

Concrete Volume 1.452yd^3/100ft^2

3 Hour Fire Rating

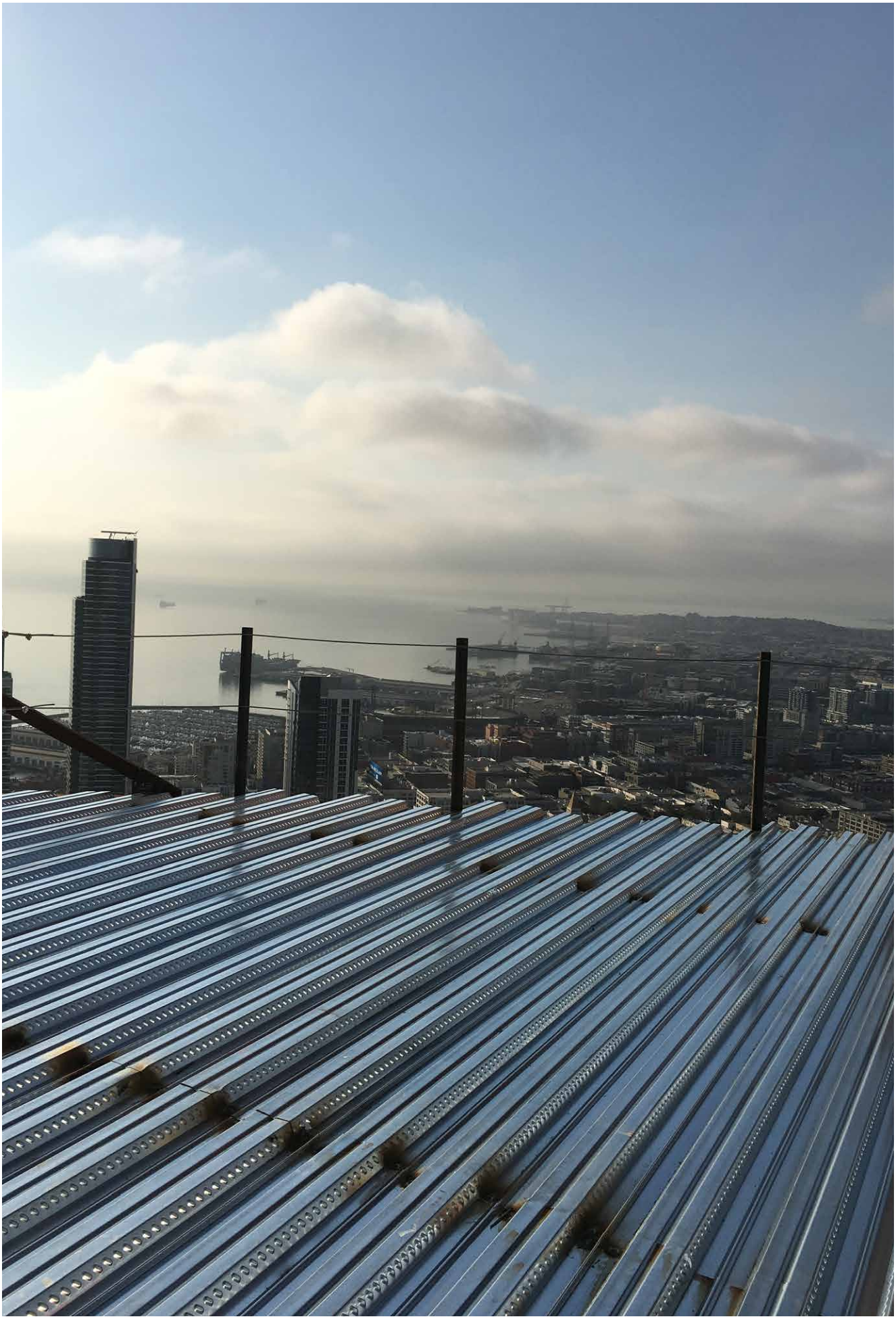


BH-36 5 11/16" Slab Depth, 110 pcf LWC

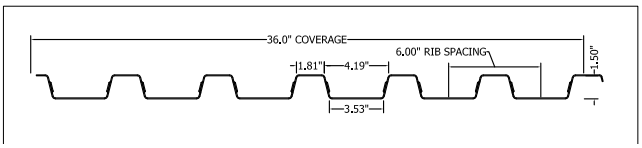
Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	6' - 0"	7' - 0"	7' - 1"	18	8' - 2"	9' - 9"	10' - 1"
	20	7' - 1"	8' - 3"	8' - 4"	16	8' - 10"	10' - 10"	10' - 10"

22 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1143	981	817	689	588	507	440	384	338	299	265	236	211	189	170
	LRFD, ϕW	1793	1472	1228	1038	888	767	667	585	516	457	407	364	327	295	266
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3250	3201	3160	3134	3104	3078	3055	3035	3017	3006	2992	2979	2967	2956	2945
	PAF Base Steel ≥ .25"	3081	3047	3020	3004	2983	2965	2949	2936	2923	2917	2907	2898	2890	2882	2875
	PAF Base Steel ≥ 0.125"	3056	3025	2999	2985	2965	2949	2934	2921	2909	2904	2895	2886	2878	2871	2865
	#12 Screw Base Steel ≥ .0385"	2890	2874	2860	2857	2847	2838	2830	2823	2817	2817	2812	2807	2803	2799	2796
	Concrete + Deck =	45.2	psf		I_{cr} =	88.3	in^4/ft	ASD		M_{no}/Ω=		46.6	kip-in/ft		V_n/Ω =	2.86 kip/ft
	$(I_{cr}+I_u)/2$ =	129.1	in^4/ft		I_u =	170.0	in^4/ft	LRFD		ϕM_{no}=		69.3	kip-in/ft		ϕV_n =	5.71 kip/ft
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1143	1039	952	817	698	602	524	459	404	358	319	285	256	230	208
	LRFD, ϕW	2114	1738	1452	1229	1052	909	793	696	615	546	488	437	393	355	322
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3452	3385	3329	3289	3248	3213	3181	3154	3129	3113	3093	3075	3058	3043	3030
	PAF Base Steel ≥ .25"	3148	3108	3075	3055	3031	3010	2991	2975	2960	2953	2941	2930	2920	2911	2903
	PAF Base Steel ≥ 0.125"	3118	3081	3051	3033	3010	2990	2973	2958	2944	2937	2926	2916	2907	2898	2891
	#12 Screw Base Steel ≥ .0385"	2879	2864	2852	2849	2839	2831	2823	2817	2811	2811	2807	2802	2798	2794	2791
	Concrete + Deck =	45.6	psf		I_{cr} =	100.2	in^4/ft	ASD		M_{no}/Ω=		54.7	kip-in/ft		V_n/Ω =	2.86 kip/ft
	$(I_{cr}+I_u)/2$ =	138.1	in^4/ft		I_u =	176.0	in^4/ft	LRFD		ϕM_{no}=		81.3	kip-in/ft		ϕV_n =	5.71 kip/ft
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1143	1039	952	879	816	762	683	600	530	471	421	377	340	307	278
	LRFD, ϕW	2285	2078	1874	1589	1362	1179	1030	906	802	714	639	575	519	470	427
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	276
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3951	3838	3745	3673	3605	3545	3493	3447	3407	3375	3342	3312	3285	3260	3238
	PAF Base Steel ≥ .25"	3278	3227	3184	3155	3124	3097	3073	3052	3033	3021	3006	2992	2979	2968	2957
	PAF Base Steel ≥ 0.125"	3239	3191	3152	3126	3096	3071	3048	3029	3011	3001	2987	2974	2962	2951	2941
	#12 Screw Base Steel ≥ .0385"	2876	2861	2849	2846	2837	2828	2821	2815	2809	2810	2805	2800	2796	2793	2790
	Concrete + Deck =	46.4	psf		I_{cr} =	121.0	in^4/ft	ASD		M_{no}/Ω=		70.1	kip-in/ft		V_n/Ω =	2.86 kip/ft
	$(I_{cr}+I_u)/2$ =	154.1	in^4/ft		I_u =	187.2	in^4/ft	LRFD		ϕM_{no}=		104.2	kip-in/ft		ϕV_n =	5.71 kip/ft
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1143	1039	952	879	816	762	714	672	635	578	517	465	419	380	345
	LRFD, ϕW	2285	2078	1904	1758	1632	1436	1255	1106	980	874	783	705	637	578	527
	L/360	-	-	-	-	-	-	-	-	-	-	-	449	391	342	301
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4284	4141	4022	3929	3843	3767	3701	3643	3592	3551	3509	3471	3437	3405	3376
	PAF Base Steel ≥ .25"	3406	3343	3291	3254	3215	3182	3153	3127	3104	3089	3070	3053	3038	3024	3011
	PAF Base Steel ≥ 0.125"	3331	3275	3228	3197	3162	3132	3106	3083	3063	3049	3033	3017	3004	2991	2980
	#12 Screw Base Steel ≥ .0385"	2876	2861	2849	2846	2837	2828	2821	2815	2809	2810	2805	2800	2796	2793	2790
	Concrete + Deck =	47.1	psf		I_{cr} =	139.0	in^4/ft	ASD		M_{no}/Ω=		84.7	kip-in/ft		V_n/Ω =	2.86 kip/ft
	$(I_{cr}+I_u)/2$ =	168.3	in^4/ft		I_u =	197.6	in^4/ft	LRFD		ϕM_{no}=		126.0	kip-in/ft		ϕV_n =	5.71 kip/ft

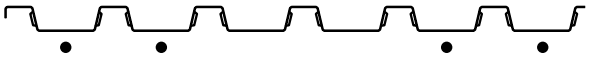
All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	6 in o.c.	n/a	5710	6700	8500	11200
	12 in o.c.	n/a	5710	6700	8500	11200
	18 in o.c.	n/a	5710	6700	8500	8790



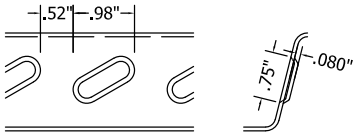
4.5 **BHN-36R**



BHN-36R Profile



36/4 Attachment Pattern



B Series Embossment

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties				
					Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus (Min.)	Radius of Gyration
	w	t	F_y	F_u	A_g	I_g	y_b	S_g	r
	psf	in	ksi	ksi	in^2/ft	in^4/ft	in	in^3/ft	in
22	1.77	0.0299	50	65	0.503	0.190	0.57	0.205	0.614
20	2.12	0.0359	50	65	0.604	0.227	0.57	0.245	0.615
18	2.80	0.0478	50	65	0.805	0.303	0.56	0.325	0.615
16	3.48	0.0598	50	65	1.006	0.380	0.56	0.404	0.615

Gauge	Effective Section Properties at F_y for Bending Strength					Effective Section Properties at Service Load Load for Deflection			
	Area	Section Modulus (Min.)	Distance to N.A. from Bottom	Section Modulus (Min.)	Distance to N.A. from Bottom	Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e+	S_e+	y_b	S_e-	y_b	I_e+	I_e-	I+	I-
	in^2/ft	in^3/ft	in	in^3/ft	in	in^4/ft	in^4/ft	in^4/ft	in^4/ft
22	0.389	0.185	1.03	0.175	0.95	0.190	0.167	0.190	0.174
20	0.487	0.234	0.97	0.224	0.94	0.227	0.210	0.227	0.216
18	0.724	0.324	0.94	0.313	0.95	0.303	0.297	0.303	0.299
16	0.979	0.404	0.94	0.400	0.95	0.380	0.380	0.380	0.380

Reactions at Supports based on Web Crippling

Gauge	Condition	Bearing Length of Webs							
		ASD (Pn/Ω) *(lbs/ft width)*				**LRFD (ϕPn)** *(lbs/ft width)*			
		1"	1.5"	2"	3"	1"	1.5"	2"	3"
22	End	755	855	939	1081	1155	1308	1437	1654
	Interior	1184	1315	1427	1613	1760	1957	2122	2399
20	End	1059	1195	1309	1501	1621	1828	2003	2296
	Interior	1679	1857	2007	2260	2497	2762	2986	3361
18	End	1800	2016	2197	2503	2754	3084	3362	3829
	Interior	2896	3181	3421	3823	4308	4731	5088	5687
16	End	2724	3033	3294	3732	4167	4641	5040	5710
	Interior	4434	4842	5187	5765	6595	7203	7715	8575
Constants		h = 1.388"		r = 0.156"		θ = 76.6°			

BHN-36R Composite Deck

5" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.38yd³/100ft²

BHN-36R 5" Slab Depth, 145 pcf NWC

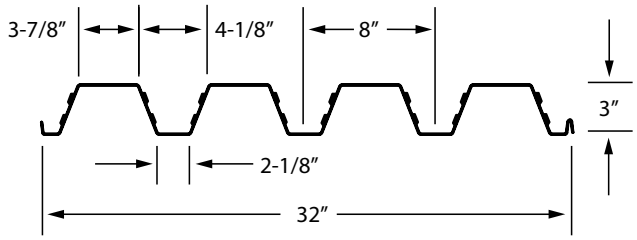
Maximum Unshored Span	Gage	Single	Double	Triple	Gage	Single	Double	Triple
	22	5' - 9"	6' - 8"	6' - 10"	18	7' - 8"	8' - 10"	9' - 2"
	20	6' - 8"	7' - 6"	7' - 9"	16	8' - 2"	9' - 11"	10' - 1"

22 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1243	1017	846	713	607	521	451	393	345	304	269	239	212	190	170
	LRFD, ϕW	1865	1529	1274	1076	919	791	688	601	529	468	416	371	332	298	268
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3909	3866	3830	3807	3780	3757	3737	3719	3703	3694	3681	3669	3659	3649	3640
	PAF Base Steel ≥ .25"	3760	3730	3705	3692	3674	3658	3644	3631	3620	3616	3606	3598	3591	3584	3578
	PAF Base Steel ≥ 0.125"	3738	3710	3687	3675	3658	3643	3630	3618	3608	3604	3595	3588	3581	3574	3568
	#12 Screw Base Steel ≥ .0385"	3591	3577	3565	3562	3553	3545	3538	3532	3526	3527	3522	3518	3514	3510	3507
	Concrete + Deck = 55.9 psf				I_{cr} = 55.6 in⁴/ft			ASD		M_{no}/Ω= 48.7 kip-in/ft				V_n/Ω = 5.07 kip/ft		
	$(I_{cr}+I_u)/2$ = 94.24 in⁴/ft				I_u = 132.9 in⁴/ft			LRFD		ϕM_{no}= 72.4 kip-in/ft				ϕV_n = 7.60 kip/ft		
20 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1483	1216	1012	854	729	628	545	476	419	370	329	293	262	235	211
	LRFD, ϕW	2222	1824	1522	1287	1100	950	827	725	639	567	505	452	405	365	330
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4088	4029	3979	3945	3908	3877	3849	3824	3803	3788	3771	3755	3740	3727	3714
	PAF Base Steel ≥ .25"	3819	3784	3755	3738	3716	3697	3681	3666	3653	3647	3636	3626	3618	3610	3602
	PAF Base Steel ≥ 0.125"	3793	3760	3733	3718	3697	3680	3664	3651	3639	3633	3623	3614	3606	3598	3591
	#12 Screw Base Steel ≥ .0385"	3582	3568	3557	3555	3546	3539	3532	3526	3521	3522	3517	3513	3510	3506	3503
	Concrete + Deck = 56.2 psf				I_{cr} = 63.7 in⁴/ft			ASD		M_{no}/Ω= 57.7 kip-in/ft				V_n/Ω = 5.07 kip/ft		
	$(I_{cr}+I_u)/2$ = 100.1 in⁴/ft				I_u = 136.5 in⁴/ft			LRFD		ϕM_{no}= 85.8 kip-in/ft				ϕV_n = 7.60 kip/ft		
18 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1949	1600	1336	1130	966	834	726	637	562	499	444	398	357	322	291
	LRFD, ϕW	2915	2397	2003	1697	1454	1258	1097	964	852	758	677	608	548	496	450
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4530	4430	4347	4285	4224	4171	4125	4084	4048	4021	3991	3965	3941	3919	3898
	PAF Base Steel ≥ .25"	3934	3889	3851	3826	3798	3774	3753	3734	3717	3707	3694	3681	3670	3660	3650
	PAF Base Steel ≥ 0.125"	3900	3858	3822	3800	3774	3751	3731	3714	3698	3689	3677	3665	3654	3645	3636
	#12 Screw Base Steel ≥ .0385"	3578	3565	3554	3553	3544	3537	3530	3524	3519	3520	3516	3512	3508	3505	3502
	Concrete + Deck = 57.0 psf				I_{cr} = 78.4 in⁴/ft			ASD		M_{no}/Ω= 75.2 kip-in/ft				V_n/Ω = 5.07 kip/ft		
	$(I_{cr}+I_u)/2$ = 110.9 in⁴/ft				I_u = 143.4 in⁴/ft			LRFD		ϕM_{no}= 111.9 kip-in/ft				ϕV_n = 7.60 kip/ft		
16 ga.	**Vertical Load Span (ft-in)**	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	2026	1842	1653	1400	1199	1037	905	795	703	625	558	501	451	408	370
	LRFD, ϕW	3039	2763	2476	2100	1801	1560	1363	1199	1062	946	847	762	688	624	567
	L/360	-	-	-	-	-	-	-	-	-	-	-	488	425	372	327
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 36/4 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4825	4698	4593	4511	4434	4368	4309	4258	4212	4176	4139	4105	4075	4047	4021
	PAF Base Steel ≥ .25"	4048	3992	3945	3914	3879	3850	3823	3801	3780	3767	3750	3735	3722	3709	3697
	PAF Base Steel ≥ 0.125"	3982	3932	3890	3863	3832	3805	3782	3762	3743	3732	3717	3704	3692	3680	3670
	#12 Screw Base Steel ≥ .0385"	3578	3565	3554	3553	3544	3537	3530	3524	3519	3520	3516	3512	3508	3505	3502
	Concrete + Deck = 57.7 psf				I_{cr} = 91.6 in⁴/ft			ASD		M_{no}/Ω= 92.4 kip-in/ft				V_n/Ω = 5.07 kip/ft		
	$(I_{cr}+I_u)/2$ = 120.9 in⁴/ft				I_u = 150.1 in⁴/ft			LRFD		ϕM_{no}= 137.4 kip-in/ft				ϕV_n = 7.60 kip/ft		

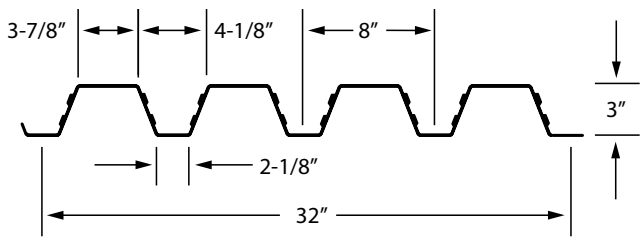
All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	6 in o.c.	n/a	6060	7050	8850	11550
	12 in o.c.	n/a	6060	7050	8850	11550
	18 in o.c.	n/a	6060	7050	8790	8790

BHN-36R 5" Slab Depth, 145 pcf NWC

5.1 **NH-32**

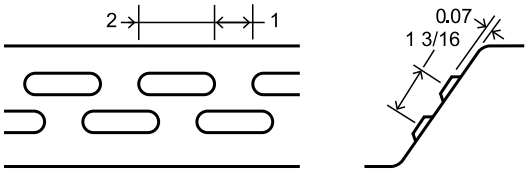


NH-32 Profile



NHN-32 Profile

32/5 Attachment Pattern



N Series Embossment

Panel Properties

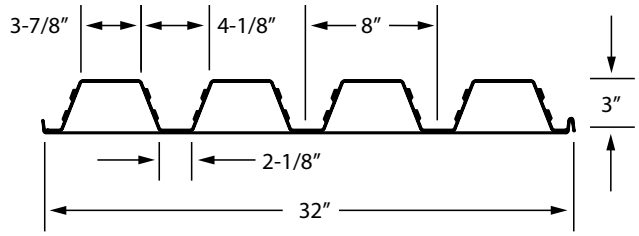
Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties: Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w	t	F_y	F_u	A_g	I_g	y_b	S_g	r
	psf	in	ksi	ksi	in²/ft	in⁴/ft	in	in³/ft	in
22	1.97	0.0299	50	65	0.569	0.814	1.68	0.483	1.195
20	2.35	0.0359	50	65	0.681	0.968	1.68	0.576	1.193
18	3.10	0.0478	50	65	0.902	1.275	1.69	0.755	1.189
16	3.86	0.0598	50	65	1.123	1.575	1.69	0.931	1.185

Gauge	Effective Section Modulus at F_y: Compression: Area	Bending: Section Modulus	Bending: Distance to N.A. from Bottom	Bending: Section Modulus	Bending: Distance to N.A. from Bottom	Effective Moment of Inertia for Deflection: Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e	S_e+	y_b	S_e-	y_b	I_e+	I_e-	I+	I-
	in²/ft	in³/ft	in	in³/ft	in	in⁴/ft	in⁴/ft	in⁴/ft	in⁴/ft
22	0.272	0.349	1.37	0.402	1.78	0.668	0.754	0.716	0.774
20	0.372	0.446	1.41	0.505	1.76	0.848	0.930	0.888	0.943
18	0.604	0.661	1.48	0.715	1.72	1.219	1.275	1.238	1.275
16	0.871	0.879	1.54	0.927	1.70	1.556	1.575	1.563	1.575

Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs: Allowable (R_n/Ω) 1"	1.5"	2"	3"	Factored (ΦR_n) 1"	1.5"	2"	3"
22	End	500	566	622	716	764	866	952	1095
	Interior	876	973	1056	1194	1303	1448	1570	1776
20	End	709	799	876	1004	1084	1223	1340	1536
	Interior	1240	1371	1482	1669	1844	2040	2205	2482
18	End	1221	1367	1490	1697	1868	2092	2280	2597
	Interior	2133	2343	2519	2816	3173	3485	3748	4189
16	End	1864	2076	2254	2554	2852	3176	3449	3907
	Interior	3260	3560	3814	4239	4849	5296	5673	6305

Web Crippling Constraints h=3.06" r=0.125" θ=70.7°



NHF-32 Profile

32/5 Attachment Pattern

Panel Properties

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties: Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in²/ft	I_g in⁴/ft	y_b in	S_g in³/ft	r in
20/20	3.96	0.0359 / 0.036	50	65	1.114	1.740	1.07	0.867	1.250
20/18	4.44	0.0359 / 0.047	50	65	1.254	1.877	0.96	0.884	1.223
20/16	4.96	0.0359 / 0.059	50	65	1.406	1.999	0.87	0.899	1.192
18/20	4.71	0.0478 / 0.036	50	65	1.330	2.143	1.19	1.129	1.269
18/18	5.19	0.0478 / 0.047	50	65	1.470	2.316	1.09	1.153	1.255
18/16	5.71	0.0478 / 0.059	50	65	1.622	2.474	1.00	1.173	1.235
16/20	5.47	0.0598 / 0.036	50	65	1.547	2.522	1.27	1.385	1.277
16/18	5.95	0.0598 / 0.047	50	65	1.687	2.725	1.18	1.415	1.271
16/16	6.47	0.0598 / 0.059	50	65	1.839	2.914	1.10	1.442	1.259

Gauge	Effective Section Modulus at F_y: Compression: Area	Bending: Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Effective Moment of Inertia for Deflection: Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e in²/ft	S_e+ in³/ft	y_b in	S_e- in³/ft	y_b in	I_e+ in⁴/ft	I_e- in⁴/ft	I+ in⁴/ft	I- in⁴/ft
20/20	0.547	0.488	0.76	0.808	1.39	1.381	1.454	1.501	1.549
20/18	0.622	0.490	0.66	0.838	1.24	1.480	1.623	1.612	1.708
20/16	0.729	0.522	0.62	0.863	1.11	1.515	1.816	1.676	1.877
18/20	0.784	0.798	0.99	1.057	1.45	1.835	1.839	1.938	1.940
18/18	0.859	0.816	0.90	1.093	1.33	1.972	2.019	2.087	2.118
18/16	0.966	0.810	0.81	1.123	1.22	2.107	2.234	2.230	2.314
16/20	1.057	1.073	1.13	1.306	1.49	2.316	2.218	2.385	2.319
16/18	1.132	1.098	1.04	1.346	1.39	2.495	2.405	2.572	2.512
16/16	1.238	1.119	0.96	1.380	1.30	2.661	2.636	2.746	2.729

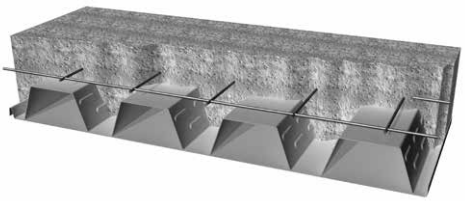
Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs: Allowable (R_n/Ω) 1"	1.5"	2"	3"	Factored (ΦR_n) 1"	1.5"	2"	3"
22	End	500	566	622	716	764	866	952	1095
	Interior	876	973	1056	1194	1303	1448	1570	1776
20	End	709	799	876	1004	1084	1223	1340	1536
	Interior	1240	1371	1482	1669	1844	2040	2205	2482
18	End	1221	1367	1490	1697	1868	2092	2280	2597
	Interior	2133	2343	2519	2816	3173	3485	3748	4189
16	End	1864	2076	2254	2554	2852	3176	3449	3907
	Interior	3260	3560	3814	4239	4849	5296	5673	6305

Web Crippling Constraints h=3.06" r=0.125" θ=70.7°

5.3 NHF-32 Cellular Composite Deck

Normal Weight Concrete (145 pcf)
Maximum Unshored Spans



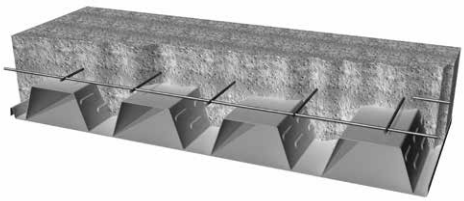
NHF-36 Cellular Shoring Table

Total Slab Depth (in)	145 pcf Normal Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
5	0.979	20/20	42.0	11' - 9"	14' - 0"	12' - 8"
		20/18	42.4	11' - 9"	13' - 11"	13' - 4"
		20/16	42.9	12' - 2"	14' - 4"	13' - 4"
		18/20	42.6	14' - 3"	17' - 9"	13' - 4"
		18/18	43.1	14' - 6"	17' - 11"	13' - 4"
		18/16	43.6	14' - 9"	17' - 9"	13' - 4"
		16/20	43.3	15' - 0"	18' - 6"	13' - 4"
		16/18	43.8	15' - 3"	18' - 10"	13' - 4"
		16/16	44.3	15' - 5"	19' - 3"	13' - 4"
6	1.288	20/20	54.0	10' - 8"	12' - 10"	11' - 7"
		20/18	54.5	10' - 8"	12' - 10"	11' - 7"
		20/16	55.0	11' - 1"	13' - 2"	11' - 11"
		18/20	54.7	13' - 6"	16' - 4"	13' - 4"
		18/18	55.2	13' - 8"	16' - 6"	13' - 4"
		18/16	55.7	13' - 11"	16' - 4"	13' - 4"
		16/20	55.4	14' - 2"	17' - 6"	13' - 4"
		16/18	55.8	14' - 5"	17' - 10"	13' - 4"
		16/16	56.4	14' - 7"	18' - 2"	13' - 4"
6½ 1 Hour Fire Rating	1.442	20/20	60.1	10' - 3"	12' - 4"	11' - 2"
		20/18	60.6	10' - 3"	12' - 4"	11' - 2"
		20/16	61.1	10' - 8"	12' - 9"	11' - 6"
		18/20	60.7	13' - 2"	15' - 9"	13' - 4"
		18/18	61.2	13' - 4"	15' - 10"	13' - 4"
		18/16	61.7	13' - 7"	15' - 9"	13' - 4"
		16/20	61.4	13' - 10"	17' - 1"	13' - 4"
		16/18	61.9	14' - 1"	17' - 5"	13' - 4"
		16/16	62.4	14' - 3"	17' - 9"	13' - 4"
7½ 2 Hour Fire Rating	1.751	20/20	72.2	9' - 7"	11' - 6"	10' - 5"
		20/18	72.6	9' - 7"	11' - 6"	10' - 5"
		20/16	73.2	9' - 11"	11' - 11"	10' - 9"
		18/20	72.8	12' - 7"	14' - 8"	13' - 4"
		18/18	73.3	12' - 9"	14' - 10"	13' - 4"
		18/16	73.8	12' - 8"	14' - 9"	13' - 4"
		16/20	73.5	13' - 3"	16' - 4"	13' - 4"
		16/18	74.0	13' - 6"	16' - 8"	13' - 4"
		16/16	74.5	13' - 8"	16' - 10"	13' - 4"
8¼ 3 Hour Fire Rating	1.982	20/20	81.2	9' - 1"	11' - 0"	10' - 0"
		20/18	81.7	9' - 1"	11' - 0"	10' - 0"
		20/16	82.2	9' - 5"	11' - 4"	10' - 4"
		18/20	81.9	12' - 0"	14' - 1"	12' - 9"
		18/18	82.4	12' - 2"	14' - 2"	12' - 10"
		18/16	82.9	12' - 1"	14' - 1"	12' - 9"
		16/20	82.6	12' - 10"	15' - 8"	13' - 4"
		16/18	83.0	13' - 1"	15' - 11"	13' - 4"
		16/16	83.5	13' - 4"	16' - 1"	13' - 4"

Shaded area the span is governed by maximum deck panel length of 40 feet; 20 feet for double span, 13 feet 4 inches for triple span.

NHF-32 Cellular Composite Deck 5.3

Light Weight Concrete (110 pcf)
Maximum Unshored Spans



NHF-36 Cellular Shoring Table

Total Slab Depth (in)	110 pcf Light Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
5	0.979	20/20	32.7	13' - 0"	15' - 3"	13' - 4"
		20/18	33.2	12' - 11"	15' - 2"	13' - 4"
		20/16	33.7	13' - 5"	15' - 7"	13' - 4"
		18/20	33.4	15' - 3"	19' - 0"	13' - 4"
		18/18	33.8	15' - 5"	19' - 4"	13' - 4"
		18/16	34.4	15' - 8"	19' - 4"	13' - 4"
		16/20	34.0	15' - 11"	19' - 9"	13' - 4"
		16/18	34.5	16' - 2"	20' - 1"	13' - 4"
		16/16	35.0	16' - 5"	20' - 5"	13' - 4"
5½ 1 Hour Fire Rating	1.133	20/20	37.3	12' - 4"	14' - 7"	13' - 3"
		20/18	37.8	12' - 4"	14' - 7"	13' - 3"
		20/16	38.3	12' - 9"	15' - 0"	13' - 4"
		18/20	37.9	14' - 9"	18' - 5"	13' - 4"
		18/18	38.4	15' - 0"	18' - 8"	13' - 4"
		18/16	38.9	15' - 3"	18' - 7"	13' - 4"
		16/20	38.6	15' - 6"	19' - 2"	13' - 4"
		16/18	39.1	15' - 9"	19' - 6"	13' - 4"
		16/16	39.6	15' - 11"	19' - 10"	13' - 4"
6	1.288	20/20	41.9	11' - 10"	14' - 1"	12' - 9"
		20/18	42.3	11' - 10"	14' - 1"	12' - 9"
		20/16	42.9	12' - 3"	14' - 6"	13' - 1"
		18/20	42.5	14' - 4"	17' - 11"	13' - 4"
		18/18	43.0	14' - 7"	18' - 0"	13' - 4"
		18/16	43.5	14' - 10"	17' - 11"	13' - 4"
		16/20	43.2	15' - 1"	18' - 8"	13' - 4"
		16/18	43.7	15' - 4"	19' - 0"	13' - 4"
		16/16	44.2	15' - 6"	19' - 4"	13' - 4"
6¼ 2 Hour Fire Rating	1.365	20/20	44.2	11' - 7"	13' - 10"	12' - 6"
		20/18	44.6	11' - 7"	13' - 10"	12' - 6"
		20/16	45.2	12' - 0"	14' - 3"	12' - 11"
		18/20	44.8	14' - 2"	17' - 7"	13' - 4"
		18/18	45.3	14' - 5"	17' - 9"	13' - 4"
		18/16	45.8	14' - 8"	17' - 7"	13' - 4"
		16/20	45.5	14' - 11"	18' - 5"	13' - 4"
		16/18	46.0	15' - 2"	18' - 9"	13' - 4"
		16/16	46.5	15' - 4"	19' - 1"	13' - 4"
7 3/16 3 Hour Fire Rating	1.654	20/20	52.8	10' - 10"	13' - 0"	11' - 9"
		20/18	53.2	10' - 10"	13' - 0"	11' - 9"
		20/16	53.7	11' - 3"	13' - 5"	12' - 2"
		18/20	53.4	13' - 7"	16' - 7"	13' - 4"
		18/18	53.9	13' - 10"	16' - 8"	13' - 4"
		18/16	54.4	14' - 0"	16' - 7"	13' - 4"
		16/20	54.1	14' - 3"	17' - 8"	13' - 4"
		16/18	54.6	14' - 6"	18' - 0"	13' - 4"
		16/16	55.1	14' - 9"	18' - 4"	13' - 4"

Shaded area the span is governed by maximum deck panel length of 40 feet; 20 feet for double span, 13 feet 4 inches for triple span.

5.3 NH-32 Composite Deck

5" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 0.979yd³/100ft²

ASC STEEL DECK®

Maximum Unshored Span	Gage	Single	Double	Triple
	22	9' - 8"	10' - 10"	11' - 5"
	20	11' - 3"	12' - 7"	13' - 0"

NH-32 5" Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
18	12' - 8"	14' - 11"	15' - 2"
16	13' - 6"	16' - 9"	15' - 11"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	331	290	255	226	201	179	161	145	130	118	107	97	88	80	73
	LRFD, ϕW	443	387	340	300	266	237	211	189	170	153	138	124	112	101	91
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2436	2406	2380	2368	2346	2326	2308	2292	2277	2272	2259	2247	2235	2225	2215
	PAF Base Steel ≥ .25"	2214	2197	2183	2181	2168	2157	2147	2138	2129	2130	2122	2115	2109	2103	2097
	PAF Base Steel ≥ 0.125"	2197	2181	2167	2166	2155	2144	2134	2126	2118	2119	2112	2105	2099	2093	2088
	#12 Screw Base Steel ≥ .0385"	2181	2166	2153	2153	2142	2132	2123	2115	2107	2109	2102	2096	2090	2084	2079
	Concrete + Deck =	40.3	psf		I_{cr} =	38.1	in⁴/ft	ASD		M_{no}/Ω=	30.8	kip-in/ft		V_n/Ω =	3.12	kip/ft
	$(I_{cr}+I_u)/2$ =	65.45417	in⁴/ft		I_u =	92.8	in⁴/ft	LRFD		ϕM_{no}=	47.2	kip-in/ft		ϕV_n =	4.67	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	392	344	304	269	240	215	193	174	157	143	130	118	108	98	90
	LRFD, ϕW	526	461	406	359	319	285	255	229	207	187	169	153	139	126	115
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2543	2507	2474	2462	2435	2411	2389	2369	2350	2346	2330	2315	2301	2288	2276
	PAF Base Steel ≥ .25"	2272	2252	2234	2234	2219	2205	2192	2181	2170	2173	2163	2154	2146	2139	2132
	PAF Base Steel ≥ 0.125"	2252	2233	2216	2217	2202	2189	2177	2166	2156	2159	2151	2142	2135	2127	2121
	#12 Screw Base Steel ≥ .0385"	2235	2216	2200	2202	2188	2176	2165	2154	2145	2148	2140	2132	2125	2118	2111
	Concrete + Deck =	40.7	psf		I_{cr} =	43.5	in⁴/ft	ASD		M_{no}/Ω=	36.1	kip-in/ft		V_n/Ω =	3.12	kip/ft
	$(I_{cr}+I_u)/2$ =	69.58513	in⁴/ft		I_u =	95.7	in⁴/ft	LRFD		ϕM_{no}=	55.2	kip-in/ft		ϕV_n =	4.67	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	506	444	393	349	312	280	253	229	207	184	164	146	131	118	107
	LRFD, ϕW	680	597	527	468	417	374	336	303	275	249	227	207	189	172	158
	L/360	-	-	-	-	-	-	-	-	-	184	164	146	131	118	107
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2767	2717	2673	2662	2624	2590	2560	2532	2506	2504	2482	2461	2441	2423	2406
	PAF Base Steel ≥ .25"	2396	2368	2343	2349	2327	2308	2290	2274	2259	2267	2253	2241	2229	2218	2208
	PAF Base Steel ≥ 0.125"	2369	2343	2319	2326	2306	2287	2270	2255	2241	2250	2237	2225	2214	2203	2194
	#12 Screw Base Steel ≥ .0385"	2351	2325	2302	2311	2291	2273	2257	2242	2228	2238	2225	2214	2203	2193	2184
	Concrete + Deck =	41.4	psf		I_{cr} =	52.9	in⁴/ft	ASD		M_{no}/Ω=	45.8	kip-in/ft		V_n/Ω =	3.12	kip/ft
	$(I_{cr}+I_u)/2$ =	77.02198	in⁴/ft		I_u =	101.1	in⁴/ft	LRFD		ϕM_{no}=	70.1	kip-in/ft		ϕV_n =	4.67	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	615	542	480	427	382	339	295	258	227	201	179	160	143	129	116
	LRFD, ϕW	829	729	645	573	513	460	415	375	340	310	283	258	237	217	200
	L/360	-	-	-	-	-	339	295	258	227	201	179	160	143	129	116
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3009	2944	2886	2880	2831	2787	2747	2710	2676	2680	2650	2622	2597	2573	2550
	PAF Base Steel ≥ .25"	2532	2495	2462	2478	2449	2423	2399	2378	2358	2374	2356	2339	2324	2309	2296
	PAF Base Steel ≥ 0.125"	2480	2446	2416	2434	2407	2383	2362	2342	2323	2341	2324	2308	2294	2280	2268
	#12 Screw Base Steel ≥ .0385"	2492	2458	2428	2446	2420	2396	2374	2354	2336	2353	2336	2321	2306	2293	2280
	Concrete + Deck =	42.2	psf		I_{cr} =	61.6	in⁴/ft	ASD		M_{no}/Ω=	55.2	kip-in/ft		V_n/Ω =	3.12	kip/ft
	$(I_{cr}+I_u)/2$ =	83.94398	in⁴/ft		I_u =	106.3	in⁴/ft	LRFD		ϕM_{no}=	84.5	kip-in/ft		ϕV_n =	4.67	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	8 in o.c.	3200	4550	5540	7340	10040
	16 in o.c.	3200	4550	5540	7340	9890
	24 in o.c.	3200	4550	5540	6590	6590

NH-32 Composite Deck 5.3

5½" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.133yd³/100ft²

Maximum Unshored Span	Gage	Single	Double	Triple
	22	9' - 3"	10' - 4"	10' - 10"
	20	10' - 8"	12' - 0"	12' - 5"

NH-32 5 1/2 " Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
18	12' - 4"	14' - 3"	14' - 9"
16	13' - 1"	16' - 1"	15' - 5"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	392	344	303	268	239	213	191	172	155	140	127	115	105	95	87
	LRFD, ϕW	525	459	403	356	316	282	252	226	203	182	164	148	134	121	110
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2926	2897	2870	2858	2836	2817	2799	2782	2767	2762	2749	2737	2726	2715	2706
	PAF Base Steel ≥ .25"	2704	2688	2673	2671	2659	2648	2637	2628	2619	2620	2613	2606	2599	2593	2587
	PAF Base Steel ≥ 0.125"	2687	2672	2658	2657	2645	2634	2625	2616	2608	2609	2602	2595	2589	2583	2578
	#12 Screw Base Steel ≥ .0385"	2671	2657	2644	2643	2632	2622	2613	2605	2597	2599	2592	2586	2580	2575	2570
	Concrete + Deck =	46.3	psf		I_{cr} =	49.7	in⁴/ft	ASD		M_{no}/Ω=	36.4	kip-in/ft		V_n/Ω =	3.58	kip/ft
	$(I_{cr}+I_u)/2$ =	86.15477	in⁴/ft		I_u =	122.6	in⁴/ft	LRFD		ϕM_{no}=	55.8	kip-in/ft		ϕV_n =	5.37	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	465	408	360	320	285	255	230	207	187	170	154	141	128	117	107
	LRFD, ϕW	624	547	482	427	379	339	304	273	246	223	202	183	166	151	138
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3033	2997	2965	2952	2926	2901	2879	2859	2841	2836	2820	2805	2791	2778	2766
	PAF Base Steel ≥ .25"	2763	2743	2724	2725	2709	2695	2683	2671	2660	2663	2654	2645	2637	2629	2622
	PAF Base Steel ≥ 0.125"	2742	2723	2706	2707	2693	2680	2668	2657	2647	2650	2641	2633	2625	2618	2611
	#12 Screw Base Steel ≥ .0385"	2725	2707	2691	2693	2679	2666	2655	2645	2635	2639	2630	2622	2615	2608	2602
	Concrete + Deck =	46.7	psf		I_{cr} =	56.7	in⁴/ft	ASD		M_{no}/Ω=	42.7	kip-in/ft		V_n/Ω =	3.58	kip/ft
	$(I_{cr}+I_u)/2$ =	91.50932	in⁴/ft		I_u =	126.3	in⁴/ft	LRFD		ϕM_{no}=	65.3	kip-in/ft		ϕV_n =	5.37	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	600	528	467	415	371	334	301	272	247	225	205	188	172	155	140
	LRFD, ϕW	808	709	626	556	496	445	400	362	327	297	271	247	225	206	189
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	155	140
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3258	3208	3163	3152	3115	3081	3050	3022	2996	2995	2972	2951	2932	2913	2896
	PAF Base Steel ≥ .25"	2887	2858	2833	2840	2818	2798	2780	2764	2749	2757	2744	2731	2720	2709	2699
	PAF Base Steel ≥ 0.125"	2860	2833	2809	2817	2796	2778	2761	2745	2731	2740	2727	2715	2704	2694	2684
	#12 Screw Base Steel ≥ .0385"	2841	2815	2793	2801	2781	2763	2747	2732	2719	2728	2716	2704	2693	2683	2674
	Concrete + Deck =	47.5	psf		I_{cr} =	69.1	in⁴/ft	ASD		M_{no}/Ω=	54.3	kip-in/ft		V_n/Ω =	3.58	kip/ft
	$(I_{cr}+I_u)/2$ =	101.1286	in⁴/ft		I_u =	133.2	in⁴/ft	LRFD		ϕM_{no}=	83.0	kip-in/ft		ϕV_n =	5.37	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	731	643	570	508	455	409	370	335	298	263	234	209	188	169	152
	LRFD, ϕW	985	866	766	682	610	548	494	447	406	369	337	308	283	260	239
	L/360	-	-	-	-	-	-	-	-	298	263	234	209	188	169	152
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3500	3435	3377	3370	3321	3277	3237	3200	3167	3170	3140	3113	3087	3063	3041
	PAF Base Steel ≥ .25"	3022	2985	2952	2968	2939	2913	2890	2868	2848	2865	2846	2830	2814	2800	2786
	PAF Base Steel ≥ 0.125"	2970	2936	2906	2924	2898	2874	2852	2832	2814	2831	2814	2799	2784	2771	2758
	#12 Screw Base Steel ≥ .0385"	2983	2949	2918	2937	2910	2886	2864	2844	2826	2843	2827	2811	2796	2783	2770
	Concrete + Deck =	48.2	psf		I_{cr} =	80.4	in⁴/ft	ASD		M_{no}/Ω=	65.5	kip-in/ft		V_n/Ω =	3.58	kip/ft
	$(I_{cr}+I_u)/2$ =	110.052	in⁴/ft		I_u =	139.7	in⁴/ft	LRFD		ϕM_{no}=	100.2	kip-in/ft		ϕV_n =	5.37	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	8 in o.c.	3700	5050	6040	7840	10540
	16 in o.c.	3700	5050	6040	7840	9890
	24 in o.c.	3700	5050	6040	6590	6590

5.3 NH-32 Composite Deck

6" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.288yd³/100ft²

ASC STEEL DECK®

Maximum Unshored Span	Gage	Single	Double	Triple
	22	8' - 10"	9' - 11"	10' - 4"
	20	10' - 3"	11' - 6"	11' - 11"

NH-32 6" Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
18	11' - 11"	13' - 8"	14' - 1"
16	12' - 8"	15' - 6"	15' - 0"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	458	401	353	313	279	249	224	201	182	164	149	135	123	112	102
	LRFD, ϕW	613	536	471	416	370	329	295	264	238	214	193	174	158	143	129
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	3417	3387	3361	3348	3327	3307	3289	3273	3258	3253	3240	3227	3216	3206	3196
	PAF Base Steel ≥ .25"	3195	3178	3164	3162	3149	3138	3128	3118	3110	3111	3103	3096	3089	3083	3078
	PAF Base Steel ≥ 0.125"	3178	3162	3148	3147	3135	3125	3115	3106	3098	3100	3092	3086	3080	3074	3069
	#12 Screw Base Steel ≥ .0385"	3162	3147	3134	3134	3123	3113	3104	3095	3088	3089	3083	3076	3071	3065	3060
	Concrete + Deck =	52.4	psf		I_{cr} =	63.3	in⁴/ft	ASD		M_{no}/Ω=	42.4	kip-in/ft		V_n/Ω =	4.07	kip/ft
	$(I_{cr}+I_u)/2$ =	110.9495	in⁴/ft		I_u =	158.6	in⁴/ft	LRFD		ϕM_{no}=	64.9	kip-in/ft		ϕV_n =	6.10	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	543	477	421	374	333	299	269	242	219	199	181	165	151	138	126
	LRFD, ϕW	729	639	563	499	444	397	356	320	289	261	237	215	195	178	162
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	3524	3488	3455	3443	3416	3392	3370	3350	3331	3327	3311	3296	3282	3269	3257
	PAF Base Steel ≥ .25"	3253	3233	3215	3215	3200	3186	3173	3161	3151	3154	3144	3135	3127	3120	3112
	PAF Base Steel ≥ 0.125"	3233	3214	3197	3198	3183	3170	3158	3147	3137	3140	3131	3123	3115	3108	3102
	#12 Screw Base Steel ≥ .0385"	3215	3197	3181	3183	3169	3157	3145	3135	3126	3129	3121	3113	3105	3099	3092
	Concrete + Deck =	52.8	psf		I_{cr} =	72.4	in⁴/ft	ASD		M_{no}/Ω=	49.7	kip-in/ft		V_n/Ω =	4.07	kip/ft
	$(I_{cr}+I_u)/2$ =	117.7623	in⁴/ft		I_u =	163.2	in⁴/ft	LRFD		ϕM_{no}=	76.1	kip-in/ft		ϕV_n =	6.10	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	702	617	546	486	435	391	352	319	290	264	241	220	202	186	171
	LRFD, ϕW	945	830	733	651	582	521	469	424	384	349	318	290	265	243	223
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	3748	3698	3653	3642	3605	3571	3541	3513	3487	3485	3462	3441	3422	3404	3387
	PAF Base Steel ≥ .25"	3377	3349	3324	3330	3308	3289	3271	3254	3240	3248	3234	3222	3210	3199	3189
	PAF Base Steel ≥ 0.125"	3350	3323	3300	3307	3287	3268	3251	3236	3222	3230	3218	3206	3195	3184	3175
	#12 Screw Base Steel ≥ .0385"	3331	3306	3283	3291	3272	3254	3237	3223	3209	3218	3206	3195	3184	3174	3165
	Concrete + Deck =	53.5	psf		I_{cr} =	88.3	in⁴/ft	ASD		M_{no}/Ω=	63.3	kip-in/ft		V_n/Ω =	4.07	kip/ft
	$(I_{cr}+I_u)/2$ =	130.0083	in⁴/ft		I_u =	171.7	in⁴/ft	LRFD		ϕM_{no}=	96.9	kip-in/ft		ϕV_n =	6.10	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	855	753	667	595	533	479	433	393	358	326	299	269	241	217	196
	LRFD, ϕW	1153	1014	898	799	715	642	579	525	476	434	396	363	333	306	281
	L/360	-	-	-	-	-	-	-	-	-	-	-	269	241	217	196
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	3990	3925	3867	3861	3812	3768	3728	3691	3657	3661	3631	3603	3577	3554	3531
	PAF Base Steel ≥ .25"	3513	3476	3443	3459	3430	3404	3380	3359	3339	3355	3337	3320	3304	3290	3276
	PAF Base Steel ≥ 0.125"	3461	3427	3397	3415	3388	3364	3342	3322	3304	3322	3305	3289	3275	3261	3249
	#12 Screw Base Steel ≥ .0385"	3473	3439	3409	3427	3400	3376	3355	3335	3316	3334	3317	3301	3287	3273	3261
	Concrete + Deck =	54.3	psf		I_{cr} =	102.7	in⁴/ft	ASD		M_{no}/Ω=	76.5	kip-in/ft		V_n/Ω =	4.07	kip/ft
	$(I_{cr}+I_u)/2$ =	141.3513	in⁴/ft		I_u =	180.0	in⁴/ft	LRFD		ϕM_{no}=	117.0	kip-in/ft		ϕV_n =	6.10	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	8 in o.c.	4190	5540	6530	8330	11030
	16 in o.c.	4190	5540	6530	8330	9890
	24 in o.c.	4190	5540	6530	6590	6590

NH-32 Composite Deck 5.3

6 ½" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.442yd³/100ft²

1 Hour Fire Rating

	Gage	Single	Double	Triple
Maximum Unshored Span	22	8' - 6"	9' - 7"	9' - 11"
	20	9' - 10"	11' - 1"	11' - 6"

NH-32 6 1/2 " Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
18	11' - 8"	13' - 2"	13' - 7"
16	12' - 4"	14' - 11"	14' - 8"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	526	461	406	360	321	287	258	232	209	190	172	156	142	130	118
	LRFD, ϕW	705	616	542	479	426	380	340	305	274	247	223	202	183	166	150
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3907	3878	3851	3839	3817	3797	3780	3763	3748	3743	3730	3718	3707	3696	3686
	PAF Base Steel ≥ .25"	3685	3669	3654	3652	3640	3628	3618	3609	3600	3601	3593	3586	3580	3574	3568
	PAF Base Steel ≥ 0.125"	3668	3652	3639	3638	3626	3615	3606	3597	3589	3590	3583	3576	3570	3564	3559
	#12 Screw Base Steel ≥ .0385"	3652	3638	3625	3624	3613	3603	3594	3586	3578	3580	3573	3567	3561	3556	3550
	Concrete + Deck =	58.4	psf		I_{cr} =	79.0	in⁴/ft	ASD		M_{no}/Ω=	48.6	kip-in/ft		V_n/Ω =	4.58	kip/ft
	$(I_{cr}+I_u)/2$ =	140.2447	in⁴/ft		I_u =	201.5	in⁴/ft	LRFD		ϕM_{no}=	74.4	kip-in/ft		ϕV_n =	6.74	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	625	548	484	430	384	344	310	280	253	230	209	191	174	160	146
	LRFD, ϕW	839	735	648	575	512	458	411	370	334	302	274	249	226	206	188
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4014	3978	3946	3933	3906	3882	3860	3840	3822	3817	3801	3786	3772	3759	3747
	PAF Base Steel ≥ .25"	3744	3723	3705	3705	3690	3676	3663	3652	3641	3644	3634	3626	3618	3610	3603
	PAF Base Steel ≥ 0.125"	3723	3704	3687	3688	3674	3660	3648	3638	3628	3631	3622	3614	3606	3599	3592
	#12 Screw Base Steel ≥ .0385"	3706	3688	3672	3673	3660	3647	3636	3626	3616	3620	3611	3603	3596	3589	3583
	Concrete + Deck =	58.8	psf		I_{cr} =	90.4	in⁴/ft	ASD		M_{no}/Ω=	57.1	kip-in/ft		V_n/Ω =	4.58	kip/ft
	$(I_{cr}+I_u)/2$ =	148.7539	in⁴/ft		I_u =	207.1	in⁴/ft	LRFD		ϕM_{no}=	87.3	kip-in/ft		ϕV_n =	6.88	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	809	711	630	560	501	451	407	368	335	305	278	255	234	215	198
	LRFD, ϕW	1089	956	845	751	671	602	542	490	444	404	368	336	307	282	259
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4239	4188	4144	4133	4095	4062	4031	4003	3977	3976	3953	3932	3912	3894	3877
	PAF Base Steel ≥ .25"	3868	3839	3814	3820	3799	3779	3761	3745	3730	3738	3725	3712	3700	3690	3679
	PAF Base Steel ≥ 0.125"	3841	3814	3790	3798	3777	3758	3742	3726	3712	3721	3708	3696	3685	3675	3665
	#12 Screw Base Steel ≥ .0385"	3822	3796	3773	3782	3762	3744	3728	3713	3699	3709	3696	3685	3674	3664	3655
	Concrete + Deck =	59.6	psf		I_{cr} =	110.5	in⁴/ft	ASD		M_{no}/Ω=	72.8	kip-in/ft		V_n/Ω =	4.58	kip/ft
	$(I_{cr}+I_u)/2$ =	164.0786	in⁴/ft		I_u =	217.7	in⁴/ft	LRFD		ϕM_{no}=	111.4	kip-in/ft		ϕV_n =	6.88	kip/ft

	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	987	869	770	687	615	554	501	454	413	377	346	317	292	269	247
	LRFD, ϕW	1331	1171	1037	923	826	742	670	607	551	502	459	420	386	355	327
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	247
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	4481	4416	4358	4351	4302	4258	4218	4181	4148	4151	4121	4094	4068	4044	4022
	PAF Base Steel ≥ .25"	4003	3966	3933	3949	3920	3894	3871	3849	3829	3845	3827	3810	3795	3780	3767
	PAF Base Steel ≥ 0.125"	3951	3917	3887	3905	3879	3855	3833	3813	3795	3812	3795	3780	3765	3752	3739
	#12 Screw Base Steel ≥ .0385"	3963	3930	3899	3917	3891	3867	3845	3825	3807	3824	3807	3792	3777	3764	3751
	Concrete + Deck =	60.3	psf		I_{cr} =	128.7	in⁴/ft	ASD		M_{no}/Ω=	88.1	kip-in/ft		V_n/Ω =	4.58	kip/ft
	$(I_{cr}+I_u)/2$ =	178.2686	in⁴/ft		I_u =	227.8	in⁴/ft	LRFD		ϕM_{no}=	134.7	kip-in/ft		ϕV_n =	6.88	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in²/ft	A_s = 0.058 in²/ft	A_s = 0.080 in²/ft	A_s = 0.120 in²/ft	A_s = 0.180 in²/ft
	8 in o.c.	n/a	6030	7020	8820	11520
	16 in o.c.	n/a	6030	7020	8820	9890
	24 in o.c.	n/a	6030	6590	6590	6590

5.3 NH-32 Composite Deck

7 ½" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.751yd^3/100ft^2

2 Hour Fire Rating

Maximum Unshored Span	Gage	Single	Double	Triple
	22	7' - 11"	8' - 11"	9' - 3"
	20	9' - 2"	10' - 4"	10' - 8"

NH-32 7 1/2 " Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
18	11' - 1"	12' - 3"	12' - 8"
16	11' - 10"	13' - 11"	14' - 0"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	669	587	518	459	409	366	329	297	268	243	221	201	183	167	153
	LRFD, ϕW	898	786	692	612	544	486	435	391	352	318	287	260	236	214	195
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	4888	4858	4832	4820	4798	4778	4760	4744	4729	4724	4711	4699	4688	4677	4667
	PAF Base Steel ≥ .25"	4666	4650	4635	4633	4621	4609	4599	4590	4581	4582	4574	4567	4561	4555	4549
	PAF Base Steel ≥ 0.125"	4649	4633	4619	4618	4607	4596	4587	4578	4570	4571	4564	4557	4551	4545	4540
	#12 Screw Base Steel ≥ .0385"	4633	4618	4605	4605	4594	4584	4575	4567	4559	4561	4554	4548	4542	4536	4531
	Concrete + Deck =	70.5	psf		I_{cr} =	116.8	in^4/ft	ASD		M_{no}/Ω=	61.6	kip-in/ft		V_n/Ω =	5.28	kip/ft
	$(I_{cr}+I_u)/2$ =	213.9273	in^4/ft		I_u =	311.1	in^4/ft	LRFD		ϕM_{no}=	94.3	kip-in/ft		ϕV_n =	7.58	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	796	699	618	549	491	440	396	358	324	295	269	245	224	205	188
	LRFD, ϕW	1070	938	828	734	654	586	526	474	428	388	353	321	292	267	244
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	4995	4959	4927	4914	4887	4863	4841	4821	4803	4798	4782	4767	4753	4740	4728
	PAF Base Steel ≥ .25"	4725	4704	4686	4686	4671	4657	4644	4633	4622	4625	4615	4607	4598	4591	4584
	PAF Base Steel ≥ 0.125"	4704	4685	4668	4669	4654	4641	4629	4618	4608	4612	4603	4594	4587	4580	4573
	#12 Screw Base Steel ≥ .0385"	4687	4669	4652	4654	4641	4628	4617	4606	4597	4601	4592	4584	4577	4570	4564
	Concrete + Deck =	70.9	psf		I_{cr} =	133.9	in^4/ft	ASD		M_{no}/Ω=	72.5	kip-in/ft		V_n/Ω =	5.70	kip/ft
	$(I_{cr}+I_u)/2$ =	226.5568	in^4/ft		I_u =	319.2	in^4/ft	LRFD		ϕM_{no}=	110.9	kip-in/ft		ϕV_n =	8.55	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1034	910	806	718	643	578	522	473	430	392	358	328	302	277	256
	LRFD, ϕW	1394	1225	1083	963	861	773	697	630	572	520	474	434	397	364	335
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	5219	5169	5125	5114	5076	5043	5012	4984	4958	4956	4934	4913	4893	4875	4858
	PAF Base Steel ≥ .25"	4848	4820	4795	4801	4780	4760	4742	4726	4711	4719	4705	4693	4681	4670	4660
	PAF Base Steel ≥ 0.125"	4821	4795	4771	4779	4758	4739	4722	4707	4693	4702	4689	4677	4666	4656	4646
	#12 Screw Base Steel ≥ .0385"	4803	4777	4754	4763	4743	4725	4709	4694	4680	4690	4677	4666	4655	4645	4636
	Concrete + Deck =	71.6	psf		I_{cr} =	164.3	in^4/ft	ASD		M_{no}/Ω=	92.8	kip-in/ft		V_n/Ω =	5.70	kip/ft
	$(I_{cr}+I_u)/2$ =	249.4245	in^4/ft		I_u =	334.5	in^4/ft	LRFD		ϕM_{no}=	142.0	kip-in/ft		ϕV_n =	8.55	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1265	1114	988	881	790	712	644	584	532	486	445	409	377	347	321
	LRFD, ϕW	1708	1503	1331	1186	1062	955	862	781	711	648	593	543	499	459	424
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	5462	5396	5339	5332	5283	5239	5199	5162	5129	5132	5102	5074	5049	5025	5002
	PAF Base Steel ≥ .25"	4984	4947	4914	4930	4901	4875	4851	4830	4810	4826	4808	4791	4776	4761	4748
	PAF Base Steel ≥ 0.125"	4932	4898	4868	4886	4860	4836	4814	4794	4775	4793	4776	4761	4746	4733	4720
	#12 Screw Base Steel ≥ .0385"	4944	4910	4880	4898	4872	4848	4826	4806	4788	4805	4788	4773	4758	4745	4732
	Concrete + Deck =	72.4	psf		I_{cr} =	192.0	in^4/ft	ASD		M_{no}/Ω=	112.6	kip-in/ft		V_n/Ω =	5.70	kip/ft
	$(I_{cr}+I_u)/2$ =	270.6236	in^4/ft		I_u =	349.2	in^4/ft	LRFD		ϕM_{no}=	172.3	kip-in/ft		ϕV_n =	8.55	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	8 in o.c.	n/a	7020	8010	9810	12510
	16 in o.c.	n/a	7020	8010	9810	9890
	24 in o.c.	n/a	6590	6590	6590	6590

NH-32 Composite Deck 5.3

8 ¼" Total Slab Depth
Normal Weight Concrete (145 pcf)

Concrete Volume 1.982yd³/100ft²

3 Hour Fire Rating

Maximum Unshored Span	Gage	Single	Double	Triple
	22	7' - 7"	8' - 7"	8' - 10"
	20	8' - 9"	9' - 11"	10' - 2"

NH-32 8 1/4 " Slab Depth, 145 pcf NWC

Gage	Single	Double	Triple
18	10' - 8"	11' - 9"	12' - 2"
16	11' - 6"	13' - 4"	13' - 8"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	781	685	605	537	479	429	385	347	314	285	259	236	215	196	180
	LRFD, ϕW	1048	918	808	716	637	568	509	458	413	373	338	306	278	253	230
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5624	5594	5568	5555	5534	5514	5496	5480	5465	5460	5447	5434	5423	5413	5403
	PAF Base Steel ≥ .25"	5402	5385	5370	5369	5356	5345	5335	5325	5317	5318	5310	5303	5296	5290	5285
	PAF Base Steel ≥ 0.125"	5385	5369	5355	5354	5342	5332	5322	5313	5305	5307	5299	5293	5287	5281	5275
	#12 Screw Base Steel ≥ .0385"	5369	5354	5341	5341	5330	5320	5311	5302	5295	5296	5290	5283	5277	5272	5267
	Concrete + Deck =	79.6	psf		I_{cr} =	150.7	in⁴/ft	ASD		M_{no}/Ω=	71.8	kip-in/ft		V_n/Ω =	5.73	kip/ft
	$(I_{cr}+I_u)/2$ =	283.9376	in⁴/ft		I_u =	417.2	in⁴/ft	LRFD		ϕM_{no}=	109.8	kip-in/ft		ϕV_n =	8.26	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	931	817	723	642	574	515	464	419	380	346	315	288	263	242	222
	LRFD, ϕW	1251	1097	968	859	766	686	617	556	503	456	414	377	344	314	287
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5731	5694	5662	5650	5623	5599	5577	5557	5538	5534	5517	5503	5489	5476	5464
	PAF Base Steel ≥ .25"	5460	5440	5422	5422	5407	5393	5380	5368	5358	5360	5351	5342	5334	5327	5319
	PAF Base Steel ≥ 0.125"	5440	5421	5404	5405	5390	5377	5365	5354	5344	5347	5338	5330	5322	5315	5308
	#12 Screw Base Steel ≥ .0385"	5422	5404	5388	5390	5376	5364	5352	5342	5333	5336	5328	5320	5312	5306	5299
	Concrete + Deck =	79.9	psf		I_{cr} =	173.1	in⁴/ft	ASD		M_{no}/Ω=	84.5	kip-in/ft		V_n/Ω =	6.61	kip/ft
	$(I_{cr}+I_u)/2$ =	300.3057	in⁴/ft		I_u =	427.5	in⁴/ft	LRFD		ϕM_{no}=	129.3	kip-in/ft		ϕV_n =	9.91	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1211	1066	944	841	753	678	612	555	505	460	421	386	355	327	301
	LRFD, ϕW	1633	1435	1270	1130	1010	907	818	740	672	612	558	510	468	430	395
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	5955	5905	5860	5849	5812	5778	5748	5719	5694	5692	5669	5648	5629	5611	5594
	PAF Base Steel ≥ .25"	5584	5556	5531	5537	5515	5496	5478	5461	5446	5455	5441	5429	5417	5406	5396
	PAF Base Steel ≥ 0.125"	5557	5530	5507	5514	5494	5475	5458	5443	5428	5437	5424	5413	5401	5391	5382
	#12 Screw Base Steel ≥ .0385"	5538	5513	5490	5498	5479	5461	5444	5430	5416	5425	5413	5401	5391	5381	5372
	Concrete + Deck =	80.7	psf		I_{cr} =	213.1	in⁴/ft	ASD		M_{no}/Ω=	108.5	kip-in/ft		V_n/Ω =	6.61	kip/ft
	$(I_{cr}+I_u)/2$ =	330.0687	in⁴/ft		I_u =	447.0	in⁴/ft	LRFD		ϕM_{no}=	166.0	kip-in/ft		ϕV_n =	9.91	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1484	1308	1160	1035	928	836	756	687	626	572	524	482	443	409	378
	LRFD, ϕW	2004	1764	1563	1392	1247	1122	1014	919	836	763	698	640	588	542	500
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	6197	6132	6074	6068	6019	5975	5934	5898	5864	5868	5838	5810	5784	5760	5738
	PAF Base Steel ≥ .25"	5720	5683	5650	5665	5637	5611	5587	5566	5546	5562	5544	5527	5511	5497	5483
	PAF Base Steel ≥ 0.125"	5668	5634	5604	5622	5595	5571	5549	5529	5511	5529	5512	5496	5482	5468	5456
	#12 Screw Base Steel ≥ .0385"	5680	5646	5616	5634	5607	5583	5562	5542	5523	5541	5524	5508	5494	5480	5468
	Concrete + Deck =	81.5	psf		I_{cr} =	249.6	in⁴/ft	ASD		M_{no}/Ω=	131.9	kip-in/ft		V_n/Ω =	6.61	kip/ft
	$(I_{cr}+I_u)/2$ =	357.704	in⁴/ft		I_u =	465.8	in⁴/ft	LRFD		ϕM_{no}=	201.7	kip-in/ft		ϕV_n =	9.91	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	8 in o.c.	n/a	7760	8750	10550	13250
	16 in o.c.	n/a	7760	8750	9890	9890
	24 in o.c.	n/a	6590	6590	6590	6590

N PANELS

5.3 NH-32 Composite Deck

5" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 0.979yd^3/100ft^2

Maximum Unshored Span	Gage	Single	Double	Triple
	22	10' - 8"	11' - 9"	12' - 7"
	20	12' - 5"	13' - 9"	14' - 2"

NH-32 5" Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
18	13' - 7"	16' - 3"	16' - 3"
16	14' - 4"	17' - 11"	17' - 0"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	320	281	248	220	197	176	159	143	129	118	107	95	86	77	70
	LRFD, ϕW	430	377	332	294	262	234	210	189	171	154	140	127	115	105	96
	L/360	-	-	-	-	-	-	-	-	-	-	-	95	86	77	70
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	1780	1751	1724	1712	1690	1671	1653	1636	1621	1616	1603	1591	1580	1569	1560
	PAF Base Steel ≥ .25"	1558	1542	1527	1525	1513	1502	1491	1482	1473	1474	1467	1460	1453	1447	1441
	PAF Base Steel ≥ 0.125"	1541	1526	1512	1511	1499	1488	1479	1470	1462	1463	1456	1449	1443	1437	1432
	#12 Screw Base Steel ≥ .0385"	1525	1511	1498	1497	1486	1476	1467	1459	1451	1453	1446	1440	1434	1429	1424
	Concrete + Deck =	31.0	psf		I_{cr} =	51.6	in^4/ft	ASD		M_{no}/Ω=	29.3	kip-in/ft		V_n/Ω =	2.34	kip/ft
	$(I_{cr}+I_u)/2$ =	76.02874	in^4/ft		I_u =	100.4	in^4/ft	LRFD		ϕM_{no}=	44.9	kip-in/ft		ϕV_n =	4.67	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	377	332	293	261	233	209	188	166	146	129	115	102	92	83	75
	LRFD, ϕW	508	445	393	349	311	279	251	226	205	186	169	154	140	128	117
	L/360	-	-	-	-	-	-	-	166	146	129	115	102	92	83	75
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	1889	1853	1821	1808	1782	1757	1735	1715	1697	1692	1676	1661	1647	1634	1622
	PAF Base Steel ≥ .25"	1619	1599	1580	1581	1565	1551	1539	1527	1516	1519	1510	1501	1493	1485	1478
	PAF Base Steel ≥ 0.125"	1598	1579	1562	1563	1549	1536	1524	1513	1503	1506	1497	1489	1481	1474	1467
	#12 Screw Base Steel ≥ .0385"	1581	1563	1547	1549	1535	1522	1511	1501	1491	1495	1486	1478	1471	1464	1458
	Concrete + Deck =	31.4	psf		I_{cr} =	58.5	in^4/ft	ASD		M_{no}/Ω=	34.2	kip-in/ft		V_n/Ω =	2.34	kip/ft
	$(I_{cr}+I_u)/2$ =	81.51673	in^4/ft		I_u =	104.5	in^4/ft	LRFD		ϕM_{no}=	52.3	kip-in/ft		ϕV_n =	4.67	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	482	424	376	329	282	244	212	185	163	144	128	115	103	93	84
	LRFD, ϕW	649	571	505	449	402	361	325	294	267	243	222	203	186	171	157
	L/360	-	-	-	329	282	244	212	185	163	144	128	115	103	93	84
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	2118	2068	2023	2012	1975	1941	1910	1882	1856	1855	1832	1811	1791	1773	1756
	PAF Base Steel ≥ .25"	1747	1718	1693	1700	1678	1658	1640	1624	1609	1617	1604	1591	1580	1569	1559
	PAF Base Steel ≥ 0.125"	1720	1693	1669	1677	1656	1638	1621	1605	1591	1600	1587	1575	1564	1554	1544
	#12 Screw Base Steel ≥ .0385"	1701	1675	1653	1661	1641	1623	1607	1592	1579	1588	1576	1564	1553	1543	1534
	Concrete + Deck =	32.2	psf		I_{cr} =	70.5	in^4/ft	ASD		M_{no}/Ω=	43.2	kip-in/ft		V_n/Ω =	2.34	kip/ft
	$(I_{cr}+I_u)/2$ =	91.29478	in^4/ft		I_u =	112.1	in^4/ft	LRFD		ϕM_{no}=	66.0	kip-in/ft		ϕV_n =	4.67	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	582	505	425	361	310	268	233	204	179	159	141	126	113	102	92
	LRFD, ϕW	786	692	613	546	489	440	397	360	327	299	273	250	230	212	195
	L/360	-	505	425	361	310	268	233	204	179	159	141	126	113	102	92
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	2364	2299	2241	2234	2185	2141	2101	2064	2031	2034	2004	1977	1951	1927	1905
	PAF Base Steel ≥ .25"	1886	1849	1816	1832	1803	1777	1754	1732	1712	1728	1710	1694	1678	1663	1650
	PAF Base Steel ≥ 0.125"	1834	1800	1770	1788	1762	1738	1716	1696	1678	1695	1678	1663	1648	1635	1622
	#12 Screw Base Steel ≥ .0385"	1843	1809	1778	1797	1770	1746	1724	1704	1686	1703	1687	1671	1656	1643	1630
	Concrete + Deck =	32.9	psf		I_{cr} =	81.3	in^4/ft	ASD		M_{no}/Ω=	51.8	kip-in/ft		V_n/Ω =	2.34	kip/ft
	$(I_{cr}+I_u)/2$ =	100.3268	in^4/ft		I_u =	119.4	in^4/ft	LRFD		ϕM_{no}=	79.3	kip-in/ft		ϕV_n =	4.67	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	8 in o.c.	2720	4070	5060	6860	9560
	16 in o.c.	2720	4070	5060	6860	9560
	24 in o.c.	2720	4070	5060	6590	6590

NH-32 Composite Deck 5.3

5 ½" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.982yd³/100ft²

1 Hour Fire Rating

Maximum Unshored Span	Gage	Single	Double	Triple
	22	10' - 2"	11' - 4"	12' - 0"
	20	11' - 10"	13' - 2"	13' - 8"

NH-32 5 1/2 " Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
18	13' - 2"	15' - 7"	15' - 9"
16	13' - 11"	17' - 4"	16' - 6"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	380	334	295	262	234	209	188	170	154	140	127	116	106	97	89
	LRFD, ϕW	510	447	394	350	311	278	250	225	203	184	167	152	138	126	115
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2104	2075	2048	2036	2014	1995	1977	1960	1945	1940	1927	1915	1904	1893	1884
	PAF Base Steel ≥ .25"	1882	1866	1851	1849	1837	1826	1815	1806	1798	1798	1791	1784	1777	1771	1765
	PAF Base Steel ≥ 0.125"	1865	1850	1836	1835	1823	1812	1803	1794	1786	1787	1780	1773	1767	1762	1756
	#12 Screw Base Steel ≥ .0385"	1849	1835	1822	1821	1810	1800	1791	1783	1775	1777	1770	1764	1758	1753	1748
	Concrete + Deck =	35.6	psf		I_{cr} =	67.3	in⁴/ft	ASD		M_{no}/Ω=	34.7	kip-in/ft		V_n/Ω =	2.68	kip/ft
	$(I_{cr}+I_u)/2$ =	99.79026	in⁴/ft		I_u =	132.2	in⁴/ft	LRFD		ϕM_{no}=	53.1	kip-in/ft		ϕV_n =	5.31	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	448	393	348	310	277	249	224	203	184	167	150	134	120	108	98
	LRFD, ϕW	602	529	467	415	370	332	298	269	244	221	201	184	168	153	140
	L/360	-	-	-	-	-	-	-	-	-	-	150	134	120	108	98
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2213	2177	2145	2132	2106	2081	2059	2039	2021	2016	2000	1985	1971	1958	1946
	PAF Base Steel ≥ .25"	1943	1923	1904	1905	1889	1875	1863	1851	1841	1843	1834	1825	1817	1809	1802
	PAF Base Steel ≥ 0.125"	1922	1903	1886	1887	1873	1860	1848	1837	1827	1830	1821	1813	1805	1798	1791
	#12 Screw Base Steel ≥ .0385"	1905	1887	1871	1873	1859	1846	1835	1825	1815	1819	1810	1802	1795	1788	1782
	Concrete + Deck =	36.0	psf		I_{cr} =	76.3	in⁴/ft	ASD		M_{no}/Ω=	40.5	kip-in/ft		V_n/Ω =	2.68	kip/ft
	$(I_{cr}+I_u)/2$ =	106.866	in⁴/ft		I_u =	137.4	in⁴/ft	LRFD		ϕM_{no}=	62.0	kip-in/ft		ϕV_n =	5.37	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	572	503	446	398	356	319	277	243	213	189	168	150	134	121	109
	LRFD, ϕW	771	678	600	534	478	429	387	350	318	290	265	242	222	204	188
	L/360	-	-	-	-	-	319	277	243	213	189	168	150	134	121	109
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2442	2392	2347	2336	2299	2265	2234	2206	2180	2179	2156	2135	2116	2097	2080
	PAF Base Steel ≥ .25"	2071	2042	2017	2024	2002	1982	1964	1948	1933	1941	1928	1915	1904	1893	1883
	PAF Base Steel ≥ 0.125"	2044	2017	1993	2001	1980	1962	1945	1929	1915	1924	1911	1899	1888	1878	1868
	#12 Screw Base Steel ≥ .0385"	2025	1999	1977	1985	1965	1947	1931	1916	1903	1912	1900	1888	1877	1867	1858
	Concrete + Deck =	36.8	psf		I_{cr} =	91.8	in⁴/ft	ASD		M_{no}/Ω=	51.2	kip-in/ft		V_n/Ω =	2.68	kip/ft
	$(I_{cr}+I_u)/2$ =	119.4043	in⁴/ft		I_u =	147.0	in⁴/ft	LRFD		ϕM_{no}=	78.3	kip-in/ft		ϕV_n =	5.37	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	671	609	540	472	404	349	304	266	234	207	184	164	147	133	120
	LRFD, ϕW	933	822	728	649	581	523	472	428	390	356	326	299	274	253	233
	L/360	-	-	-	472	404	349	304	266	234	207	184	164	147	133	120
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	2688	2623	2565	2558	2509	2465	2425	2388	2355	2358	2328	2301	2275	2251	2229
	PAF Base Steel ≥ .25"	2210	2173	2140	2156	2127	2101	2078	2056	2036	2053	2034	2018	2002	1988	1974
	PAF Base Steel ≥ 0.125"	2158	2124	2094	2112	2086	2062	2040	2020	2002	2019	2002	1987	1972	1959	1946
	#12 Screw Base Steel ≥ .0385"	2167	2133	2102	2121	2094	2070	2048	2028	2010	2027	2011	1995	1981	1967	1954
	Concrete + Deck =	37.5	psf		I_{cr} =	105.8	in⁴/ft	ASD		M_{no}/Ω=	61.4	kip-in/ft		V_n/Ω =	2.68	kip/ft
	$(I_{cr}+I_u)/2$ =	130.913	in⁴/ft		I_u =	156.1	in⁴/ft	LRFD		ϕM_{no}=	93.9	kip-in/ft		ϕV_n =	5.37	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4	6x6 W2.9xW2.9	6x6 W4.0xW4.0	4x4 W4xW4	4x4 W6xW6
		A_s = 0.028 in²/ft	A_s = 0.058 in²/ft	A_s = 0.080 in²/ft	A_s = 0.120 in²/ft	A_s = 0.180 in²/ft
	8 in o.c.	3090	4440	5430	7230	9930
	16 in o.c.	3090	4440	5430	7230	9890
	24 in o.c.	3090	4440	5430	6590	6590

5.3 NH-32 Composite Deck

6 ¼" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.369yd^3/100ft^2

2 Hour Fire Rating

Maximum Unshored Span	Gage	Single	Double	Triple
	22	9' - 7"	10' - 9"	11' - 3"
	20	11' - 2"	12' - 6"	12' - 11"

NH-32 6 1/4 " Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
18	12' - 7"	14' - 9"	15' - 1"
16	13' - 4"	16' - 8"	15' - 10"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	477	419	370	329	294	264	237	214	194	177	161	147	134	123	113
	LRFD, ϕW	641	562	496	440	392	351	315	284	257	233	211	192	175	160	146
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	2590	2561	2534	2522	2500	2481	2463	2447	2432	2426	2413	2401	2390	2380	2370
	PAF Base Steel ≥ .25"	2369	2352	2337	2335	2323	2312	2301	2292	2284	2284	2277	2270	2263	2257	2251
	PAF Base Steel ≥ 0.125"	2351	2336	2322	2321	2309	2299	2289	2280	2272	2273	2266	2259	2253	2248	2242
	#12 Screw Base Steel ≥ .0385"	2335	2321	2308	2307	2296	2286	2277	2269	2262	2263	2256	2250	2244	2239	2234
	Concrete + Deck =	42.5	psf		I_{cr} =	96.3	in^4/ft	ASD		M_{no}/Ω=	43.4	kip-in/ft		V_n/Ω =	3.24	kip/ft
	$(I_{cr}+I_u)/2$ =	144.378	in^4/ft		I_u =	192.4	in^4/ft	LRFD		ϕM_{no}=	66.4	kip-in/ft		ϕV_n =	5.73	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	563	495	438	390	349	313	282	256	232	212	193	177	162	149	137
	LRFD, ϕW	758	665	588	522	466	418	376	340	308	280	255	233	213	195	179
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	2700	2663	2631	2618	2592	2567	2545	2525	2507	2502	2486	2471	2457	2445	2432
	PAF Base Steel ≥ .25"	2429	2409	2391	2391	2375	2361	2349	2337	2327	2329	2320	2311	2303	2295	2288
	PAF Base Steel ≥ 0.125"	2408	2389	2372	2373	2359	2346	2334	2323	2313	2316	2307	2299	2291	2284	2277
	#12 Screw Base Steel ≥ .0385"	2391	2373	2357	2359	2345	2332	2321	2311	2301	2305	2296	2289	2281	2274	2268
	Concrete + Deck =	42.9	psf		I_{cr} =	109.3	in^4/ft	ASD		M_{no}/Ω=	50.8	kip-in/ft		V_n/Ω =	3.24	kip/ft
	$(I_{cr}+I_u)/2$ =	154.4527	in^4/ft		I_u =	199.6	in^4/ft	LRFD		ϕM_{no}=	77.7	kip-in/ft		ϕV_n =	6.48	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	720	634	562	501	449	404	366	332	302	273	242	216	194	175	158
	LRFD, ϕW	972	855	757	674	603	542	489	443	403	367	336	307	282	259	239
	L/360	-	-	-	-	-	-	-	-	-	273	242	216	194	175	158
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	2928	2878	2833	2822	2785	2751	2720	2692	2666	2665	2642	2621	2602	2583	2567
	PAF Base Steel ≥ .25"	2557	2529	2503	2510	2488	2468	2450	2434	2419	2427	2414	2401	2390	2379	2369
	PAF Base Steel ≥ 0.125"	2530	2503	2479	2487	2466	2448	2431	2415	2401	2410	2397	2385	2374	2364	2354
	#12 Screw Base Steel ≥ .0385"	2511	2485	2463	2471	2451	2433	2417	2402	2389	2398	2386	2374	2363	2354	2344
	Concrete + Deck =	43.6	psf		I_{cr} =	131.7	in^4/ft	ASD		M_{no}/Ω=	64.3	kip-in/ft		V_n/Ω =	3.24	kip/ft
	$(I_{cr}+I_u)/2$ =	172.2827	in^4/ft		I_u =	212.9	in^4/ft	LRFD		ϕM_{no}=	98.3	kip-in/ft		ϕV_n =	6.48	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	810	763	682	609	546	492	438	383	337	298	265	237	212	191	173
	LRFD, ϕW	1178	1037	920	820	735	661	598	543	494	451	413	379	349	322	297
	L/360	-	-	-	-	-	-	438	383	337	298	265	237	212	191	173
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	3174	3109	3051	3044	2996	2951	2911	2875	2841	2844	2814	2787	2761	2737	2715
	PAF Base Steel ≥ .25"	2696	2659	2626	2642	2613	2587	2564	2542	2522	2539	2520	2504	2488	2474	2460
	PAF Base Steel ≥ 0.125"	2644	2610	2580	2598	2572	2548	2526	2506	2488	2505	2489	2473	2458	2445	2432
	#12 Screw Base Steel ≥ .0385"	2653	2619	2589	2607	2580	2556	2534	2514	2496	2514	2497	2481	2467	2453	2440
	Concrete + Deck =	44.4	psf		I_{cr} =	151.7	in^4/ft	ASD		M_{no}/Ω=	77.3	kip-in/ft		V_n/Ω =	3.24	kip/ft
	$(I_{cr}+I_u)/2$ =	188.575	in^4/ft		I_u =	225.5	in^4/ft	LRFD		ϕM_{no}=	118.2	kip-in/ft		ϕV_n =	6.48	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**					
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	8 in o.c.	n/a	4990	5980	7780	10480
	16 in o.c.	n/a	4990	5980	7780	9890
	24 in o.c.	n/a	4990	5980	6590	6590

NH-32 Composite Deck 5.3

7 ¼" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.369yd³/100ft²

3 Hour Fire Rating

Maximum Unshored Span	Gage	Single	Double	Triple
	22	8' - 11"	10' - 1"	10' - 6"
	20	10' - 4"	11' - 8"	12' - 1"

NH-32 7 1/4 " Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
18	12' - 1"	13' - 10"	14' - 3"
16	12' - 9"	15' - 8"	15' - 2"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
22	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	617	542	479	426	381	342	308	278	253	230	209	191	175	161	148
	LRFD, ϕW	829	727	642	570	508	455	409	369	334	303	276	251	229	209	192
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3239	3209	3183	3170	3149	3129	3111	3095	3080	3074	3061	3049	3038	3028	3018
	PAF Base Steel ≥ .25"	3017	3000	2985	2983	2971	2960	2950	2940	2932	2932	2925	2918	2911	2905	2900
	PAF Base Steel ≥ 0.125"	2999	2984	2970	2969	2957	2947	2937	2928	2920	2921	2914	2908	2901	2896	2890
	#12 Screw Base Steel ≥ .0385"	2984	2969	2956	2956	2945	2935	2926	2917	2910	2911	2904	2898	2892	2887	2882
	Concrete + Deck =	51.7	psf		I_{cr} =	145.4	in⁴/ft	ASD		M_{no}/Ω=	55.9	kip-in/ft		V_n/Ω =	4.06	kip/ft
	$(I_{cr}+I_u)/2$ =	222.6895	in⁴/ft		I_u =	300.0	in⁴/ft	LRFD		ϕM_{no}=	85.6	kip-in/ft		ϕV_n =	6.34	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
20	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	729	641	568	505	452	407	367	332	302	275	252	231	212	195	179
	LRFD, ϕW	982	862	762	678	606	544	490	443	402	365	333	304	278	255	235
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3348	3311	3279	3267	3240	3216	3194	3173	3155	3150	3134	3119	3106	3093	3081
	PAF Base Steel ≥ .25"	3077	3057	3039	3039	3023	3009	2997	2985	2975	2977	2968	2959	2951	2943	2936
	PAF Base Steel ≥ 0.125"	3057	3037	3020	3021	3007	2994	2982	2971	2961	2964	2955	2947	2939	2932	2925
	#12 Screw Base Steel ≥ .0385"	3039	3021	3005	3007	2993	2981	2969	2959	2949	2953	2945	2937	2929	2922	2916
	Concrete + Deck =	52.0	psf		I_{cr} =	165.4	in⁴/ft	ASD		M_{no}/Ω=	65.5	kip-in/ft		V_n/Ω =	4.06	kip/ft
	$(I_{cr}+I_u)/2$ =	237.9485	in⁴/ft		I_u =	310.5	in⁴/ft	LRFD		ϕM_{no}=	100.2	kip-in/ft		ϕV_n =	8.12	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
18	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	936	825	732	653	585	527	477	433	394	360	330	303	279	258	238
	LRFD, ϕW	1264	1113	985	878	786	707	639	579	527	480	439	403	370	341	314
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3576	3526	3481	3470	3433	3399	3368	3340	3315	3313	3290	3269	3250	3232	3215
	PAF Base Steel ≥ .25"	3205	3177	3151	3158	3136	3116	3099	3082	3067	3075	3062	3049	3038	3027	3017
	PAF Base Steel ≥ 0.125"	3178	3151	3127	3135	3114	3096	3079	3063	3049	3058	3045	3033	3022	3012	3002
	#12 Screw Base Steel ≥ .0385"	3159	3134	3111	3119	3099	3082	3065	3050	3037	3046	3034	3022	3012	3002	2992
	Concrete + Deck =	52.8	psf		I_{cr} =	200.0	in⁴/ft	ASD		M_{no}/Ω=	83.3	kip-in/ft		V_n/Ω =	4.06	kip/ft
	$(I_{cr}+I_u)/2$ =	265.0595	in⁴/ft		I_u =	330.2	in⁴/ft	LRFD		ϕM_{no}=	127.4	kip-in/ft		ϕV_n =	8.12	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
16	**ASD & LRFD - Available Superimposed Load Capacity, W (psf)**															
	ASD, W/Ω	1014	955	890	794	713	643	582	529	483	442	405	364	326	294	265
	LRFD, ϕW	1536	1353	1200	1071	960	865	782	710	647	591	542	498	458	423	391
	L/360	-	-	-	-	-	-	-	-	-	-	-	364	326	294	265
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
	Arc Spot Weld 1/2" Effective Dia	3822	3757	3699	3693	3644	3599	3559	3523	3489	3492	3463	3435	3409	3385	3363
	PAF Base Steel ≥ .25"	3344	3307	3275	3290	3262	3236	3212	3190	3171	3187	3169	3152	3136	3122	3108
	PAF Base Steel ≥ 0.125"	3292	3259	3228	3247	3220	3196	3174	3154	3136	3153	3137	3121	3107	3093	3081
	#12 Screw Base Steel ≥ .0385"	3301	3267	3237	3255	3228	3204	3182	3162	3144	3162	3145	3129	3115	3101	3089
	Concrete + Deck =	53.6	psf		I_{cr} =	230.9	in⁴/ft	ASD		M_{no}/Ω=	100.4	kip-in/ft		V_n/Ω =	4.06	kip/ft
	$(I_{cr}+I_u)/2$ =	289.8115	in⁴/ft		I_u =	348.7	in⁴/ft	LRFD		ϕM_{no}=	153.6	kip-in/ft		ϕV_n =	8.12	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in²/ft	6x6 W2.9xW2.9 A_s = 0.058 in²/ft	6x6 W4.0xW4.0 A_s = 0.080 in²/ft	4x4 W4xW4 A_s = 0.120 in²/ft	4x4 W6xW6 A_s = 0.180 in²/ft
	8 in o.c.	n/a	5730	6720	8520	11220
	16 in o.c.	n/a	5730	6720	8520	9890
	24 in o.c.	n/a	5730	6590	6590	6590

5.3 NH-32 Composite Deck

7 3/16" Total Slab Depth
Light Weight Concrete (110 pcf)

Concrete Volume 1.654yd^3/100ft^2

3 Hour Fire Rating

Maximum Unshored Span	Gage	Single	Double	Triple
	22	9' - 0"	10' - 1"	10' - 6"
	20	10' - 5"	11' - 9"	12' - 1"

NH-32 7 3/16" Slab Depth, 110 pcf LWC

Gage	Single	Double	Triple
18	12' - 1"	13' - 10"	14' - 4"
16	12' - 10"	15' - 8"	15' - 2"

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	608	534	472	420	375	337	303	274	249	226	206	188	173	158	145
	LRFD, ϕW	817	717	633	562	501	449	403	364	329	298	271	247	226	206	189
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
22	Arc Spot Weld 1/2" Effective Dia	3198	3168	3142	3130	3108	3088	3070	3054	3039	3034	3021	3009	2998	2987	2977
	PAF Base Steel ≥ .25"	2976	2960	2945	2943	2931	2919	2909	2900	2891	2892	2884	2877	2871	2865	2859
	PAF Base Steel ≥ 0.125"	2959	2943	2929	2928	2917	2906	2897	2888	2880	2881	2874	2867	2861	2855	2850
	#12 Screw Base Steel ≥ .0385"	2943	2928	2915	2915	2904	2894	2885	2877	2869	2871	2864	2858	2852	2846	2841
	Concrete + Deck =	51.1	psf		I_{cr} =	142.0	in^4/ft	ASD		M_{no}/Ω=	55.1	kip-in/ft		V_n/Ω =	4.00	kip/ft
	$(I_{cr}+I_u)/2$ =	217.1102	in^4/ft		I_u =	292.2	in^4/ft	LRFD		ϕM_{no}=	84.3	kip-in/ft		ϕV_n =	6.30	kip/ft

Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	718	632	559	498	446	401	362	328	298	271	248	227	208	192	177
	LRFD, ϕW	967	850	751	668	597	536	482	436	396	360	328	300	274	251	231
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
20	Arc Spot Weld 1/2" Effective Dia	3307	3271	3239	3226	3199	3175	3153	3133	3115	3110	3094	3079	3065	3052	3040
	PAF Base Steel ≥ .25"	3037	3016	2998	2998	2983	2969	2956	2945	2934	2937	2927	2919	2910	2903	2896
	PAF Base Steel ≥ 0.125"	3016	2997	2980	2981	2966	2953	2941	2930	2920	2924	2915	2906	2899	2892	2885
	#12 Screw Base Steel ≥ .0385"	2999	2981	2964	2966	2953	2940	2929	2918	2909	2913	2904	2896	2889	2882	2876
	Concrete + Deck =	51.5	psf		I_{cr} =	161.4	in^4/ft	ASD		M_{no}/Ω=	64.6	kip-in/ft		V_n/Ω =	4.00	kip/ft
	$(I_{cr}+I_u)/2$ =	232.0047	in^4/ft		I_u =	302.6	in^4/ft	LRFD		ϕM_{no}=	98.8	kip-in/ft		ϕV_n =	8.01	kip/ft

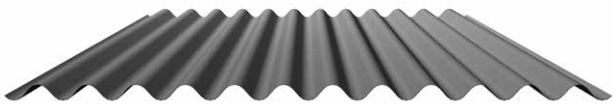
Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	923	813	721	643	576	519	469	426	388	355	325	299	275	254	234
	LRFD, ϕW	1245	1096	971	865	774	697	629	570	519	473	433	397	364	335	309
	L/360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
18	Arc Spot Weld 1/2" Effective Dia	3535	3485	3441	3430	3392	3359	3328	3300	3274	3272	3250	3229	3209	3191	3174
	PAF Base Steel ≥ .25"	3164	3136	3111	3117	3096	3076	3058	3042	3027	3035	3021	3009	2997	2986	2976
	PAF Base Steel ≥ 0.125"	3137	3111	3087	3094	3074	3055	3038	3023	3009	3018	3005	2993	2982	2971	2962
	#12 Screw Base Steel ≥ .0385"	3119	3093	3070	3079	3059	3041	3025	3010	2996	3006	2993	2982	2971	2961	2952
	Concrete + Deck =	52.2	psf		I_{cr} =	195.2	in^4/ft	ASD		M_{no}/Ω=	82.1	kip-in/ft		V_n/Ω =	4.00	kip/ft
	$(I_{cr}+I_u)/2$ =	258.4594	in^4/ft		I_u =	321.7	in^4/ft	LRFD		ϕM_{no}=	125.6	kip-in/ft		ϕV_n =	8.01	kip/ft

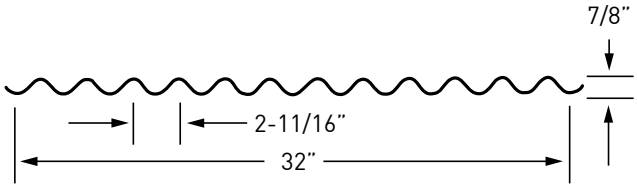
Gage	Vertical Load Span (ft-in)	8'-0"	8'-6"	9'-0"	9'-6"	10'-0"	10'-6"	11'-0"	11'-6"	12'-0"	12'-6"	13'-0"	13'-6"	14'-0"	14'-6"	15'-0"
	ASD & LRFD - Available Superimposed Load Capacity, W (psf)															
	ASD, W/Ω	1001	942	876	782	702	633	573	521	475	435	397	355	318	286	259
	LRFD, ϕW	1513	1333	1182	1054	945	852	770	699	637	582	533	490	451	416	385
	L/360	-	-	-	-	-	-	-	-	-	-	397	355	318	286	259
	LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) 32/5 Attachment Pattern															
16	Arc Spot Weld 1/2" Effective Dia	3782	3716	3659	3652	3603	3559	3519	3482	3448	3452	3422	3394	3369	3345	3322
	PAF Base Steel ≥ .25"	3304	3267	3234	3250	3221	3195	3171	3150	3130	3146	3128	3111	3096	3081	3068
	PAF Base Steel ≥ 0.125"	3252	3218	3188	3206	3179	3155	3134	3114	3095	3113	3096	3081	3066	3053	3040
	#12 Screw Base Steel ≥ .0385"	3260	3226	3196	3214	3188	3164	3142	3122	3104	3121	3104	3089	3074	3061	3048
	Concrete + Deck =	53.0	psf		I_{cr} =	225.3	in^4/ft	ASD		M_{no}/Ω=	98.9	kip-in/ft		V_n/Ω =	4.00	kip/ft
	$(I_{cr}+I_u)/2$ =	282.611	in^4/ft		I_u =	339.9	in^4/ft	LRFD		ϕM_{no}=	151.3	kip-in/ft		ϕV_n =	8.01	kip/ft

All Gages	**LRFD - Available Diaphragm Shear Capacity, ϕS_n (plf / ft) for all vertical load spans, WWF Size or Area of Steel per foot width**				
	3/4" Welded Shear Studs	6x6 W1.4xW1.4 A_s = 0.028 in^2/ft	6x6 W2.9xW2.9 A_s = 0.058 in^2/ft	6x6 W4.0xW4.0 A_s = 0.080 in^2/ft	4x4 W4xW4 A_s = 0.120 in^2/ft	4x4 W6xW6 A_s = 0.180 in^2/ft
	8 in o.c.	n/a	5680	6670	8470	11170
	16 in o.c.	n/a	5680	6670	8470	9890
	24 in o.c.	n/a	5680	6590	6590	6590

HAULAWAY

6.1 **C0.9-32**





Panel Properties

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties: Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in²/ft	I_g in⁴/ft	y_b in	S_g in³/ft	r in
26	1.1	0.0195	80	82	0.299	0.028	0.44	0.062	0.306
24	1.4	0.0254	80	82	0.390	0.036	0.44	0.080	0.306
22	1.7	0.0314	80	82	0.482	0.045	0.46	0.098	0.305
20	2.0	0.0374	80	82	0.574	0.053	0.46	0.116	0.305

Gauge	Effective Section Modulus at F_y: Compression: Area	Bending: Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Effective Moment of Inertia for Deflection: Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e in²/ft	S_e+ in³/ft	y_b in	S_e- in³/ft	y_b in	I_e+ in⁴/ft	I_e- in⁴/ft	I+ in⁴/ft	I- in⁴/ft
26	0.285	0.061	0.45	0.060	0.46	0.028	0.028	0.028	0.028
24	0.390	0.080	0.45	0.080	0.45	0.036	0.036	0.036	0.036
22	0.482	0.098	0.46	0.098	0.46	0.045	0.045	0.045	0.045
20	0.574	0.116	0.45	0.116	0.45	0.053	0.053	0.053	0.053

Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs: Allowable (R_n/Ω) 1"	1.5"	2"	3"	Factored (ΦR_n) 1"	1.5"	2"	3"
26	End	377	431	460	460	577	660	703	703
	Interior	473	532	562	562	724	814	860	860
24	End	699	795	844	844	1069	1216	1292	1292
	Interior	950	1060	1117	1117	1453	1622	1710	1710
22	End	1117	1264	1341	1341	1710	1935	2052	2052
	Interior	1585	1760	1850	1850	2425	2692	2831	2831
20	End	1627	1833	1940	1940	2489	2804	2968	2968
	Interior	2370	2619	2749	2749	3626	4007	4206	4206

Web Crippling Constraints h=0.6" r=0.63" θ=48.8°

Inward Allowable (f_b/Ω) and Factored (Φf_b) Distributed Load (lbs/ft²)

Gauge	Span	Limit Condition	Panel Span (Support Spacing)										
			3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	5' - 6"	6' - 0"	6' - 6"	7' - 0"	7' - 6"	8' - 0"
26	SS	f_b / Ω	163	120	92	73	59	49	41	35	30	26	23
		Φf_b	259	190	146	115	93	77	65	55	48	41	36
		L/360	46	29	19	13	10	7	6	4	4	3	2
		L/240	68	43	29	20	15	11	9	7	5	4	4
		L/180	91	57	38	27	20	15	11	9	7	6	5
		L/120	137	86	58	40	30	22	17	13	11	9	7
	DS	f_b / Ω	158	116	89	70	57	47	40	34	29	25	22
		Φf_b	251	185	141	112	91	75	63	54	46	40	35
		L/360	110	69	46	32	24	18	14	11	9	7	6
		L/240	-	104	69	49	36	27	21	16	13	11	9
		L/180	-	-	-	65	47	36	27	22	17	14	12
		L/120	-	-	-	-	-	-	-	32	26	21	17
	TS	f_b / Ω	198	146	111	88	71	59	50	42	36	32	28
		Φf_b	314	231	177	140	113	94	79	67	58	50	44
		L/360	100	63	42	30	22	16	13	10	8	6	5
		L/240	151	95	64	45	33	24	19	15	12	10	8
		L/180	-	127	85	60	43	33	25	20	16	13	11
		L/120	-	-	-	-	65	49	38	30	24	19	16
24	SS	f_b / Ω	213	156	120	95	77	63	53	45	39	34	30
		Φf_b	338	248	190	150	122	101	84	72	62	54	48
		L/360	59	37	25	17	13	10	7	6	5	4	3
		L/240	88	56	37	26	19	14	11	9	7	6	5
		L/180	118	74	50	35	25	19	15	12	9	8	6
		L/120	177	111	75	52	38	29	22	17	14	11	9
	DS	f_b / Ω	213	156	120	95	77	63	53	45	39	34	30
		Φf_b	338	248	190	150	122	101	84	72	62	54	48
		L/360	142	89	60	42	31	23	18	14	11	9	7
		L/240	213	134	90	63	46	35	27	21	17	14	11
		L/180	-	-	120	84	61	46	35	28	22	18	15
		L/120	-	-	-	-	-	-	53	42	33	27	22
	TS	f_b / Ω	266	196	150	118	96	79	67	57	49	43	37
		Φf_b	422	310	238	188	152	126	106	90	78	68	59
		L/360	130	82	55	39	28	21	16	13	10	8	7
		L/240	195	123	82	58	42	32	24	19	15	12	10
		L/180	260	164	110	77	56	42	32	26	20	17	14
		L/120	-	-	-	116	84	63	49	38	31	25	21
22	SS	f_b / Ω	261	192	147	116	94	78	65	56	48	42	37
		Φf_b	414	304	233	184	149	123	104	88	76	66	58
		L/360	73	46	31	22	16	12	9	7	6	5	4
		L/240	109	69	46	32	24	18	14	11	9	7	6
		L/180	146	92	61	43	31	24	18	14	11	9	8
		L/120	219	138	92	65	47	35	27	21	17	14	12
	DS	f_b / Ω	261	192	147	116	94	78	65	56	48	42	37
		Φf_b	414	304	233	184	149	123	104	88	76	66	58
		L/360	175	110	74	52	38	28	22	17	14	11	9
		L/240	-	166	111	78	57	43	33	26	21	17	14
		L/180	-	-	-	104	76	57	44	35	28	22	19
		L/120	-	-	-	-	-	-	-	52	41	34	28
	TS	f_b / Ω	326	240	184	145	118	97	82	70	60	52	46
		Φf_b	518	381	291	230	186	154	129	110	95	83	73
		L/360	161	101	68	48	35	26	20	16	13	10	8
		L/240	241	152	102	71	52	39	30	24	19	15	13
		L/180	322	202	136	95	69	52	40	32	25	21	17
		L/120	-	-	-	143	104	78	60	47	38	31	25
20	SS	f_b / Ω	309	227	174	137	111	92	77	66	57	49	43
		Φf_b	490	360	275	218	176	146	122	104	90	78	69
		L/360	85	54	36	25	18	14	11	8	7	5	4
		L/240	127	80	54	38	28	21	16	13	10	8	7
		L/180	170	107	72	50	37	28	21	17	13	11	9
		L/120	255	161	108	76	55	41	32	25	20	16	13
	DS	f_b / Ω	309	227	174	137	111	92	77	66	57	49	43
		Φf_b	490	360	275	218	176	146	122	104	90	78	69
		L/360	205	129	86	61	44	33	26	20	16	13	11
		L/240	307	193	130	91	66	50	38	30	24	20	16
		L/180	-	-	173	121	88	66	51	40	32	26	22
		L/120	-	-	-	-	-	-	77	60	48	39	32
	TS	f_b / Ω	386	283	217	171	139	115	96	82	71	62	54
		Φf_b	612	450	344	272	220	182	153	130	112	98	86
		L/360	188	118	79	56	41	30	23	18	15	12	10
		L/240	281	177	119	83	61	46	35	28	22	18	15
		L/180	375	236	158	111	81	61	47	37	30	24	20
		L/120	-	-	-	167	122	91	70	55	44	36	30

6.3 C0.9-32

Normal Weight Concrete (145 pcf)
Maximum Unshored Spans

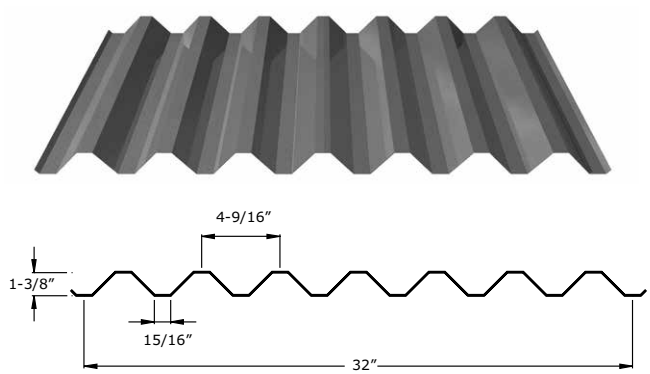
C0.9-32 Shoring Table

Total Slab Depth (in)	145 pcf Normal Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
2.5	0.637	26	26.0	3' - 9"	4' - 4"	4' - 6"
		24	26.3	4' - 7"	5' - 5"	5' - 6"
		22	26.6	5' - 1"	6' - 3"	6' - 4"
		20	26.9	5' - 4"	7' - 0"	6' - 7"
3	0.791	26	32.0	3' - 7"	4' - 2"	4' - 3"
		24	32.3	4' - 4"	5' - 2"	5' - 2"
		22	32.7	4' - 10"	5' - 11"	5' - 11"
		20	33.0	5' - 0"	6' - 8"	6' - 3"
3.5	0.945	26	38.1	3' - 5"	4' - 0"	4' - 1"
		24	38.4	4' - 2"	4' - 11"	5' - 0"
		22	38.7	4' - 7"	5' - 8"	5' - 8"
		20	39.0	4' - 9"	6' - 4"	5' - 11"
4	1.100	26	44.1	3' - 4"	3' - 10"	3' - 11"
		24	44.4	4' - 0"	4' - 8"	4' - 9"
		22	44.7	4' - 4"	5' - 5"	5' - 5"
		20	45.1	4' - 7"	6' - 0"	5' - 8"
4.5	1.254	26	50.2	3' - 2"	3' - 8"	3' - 10"
		24	50.5	3' - 10"	4' - 6"	4' - 7"
		22	50.8	4' - 2"	5' - 2"	5' - 2"
		20	51.1	4' - 5"	5' - 9"	5' - 5"
5	1.408	26	56.2	3' - 1"	3' - 7"	3' - 8"
		24	56.5	3' - 9"	4' - 4"	4' - 5"
		22	56.8	4' - 0"	5' - 0"	5' - 0"
		20	57.1	4' - 3"	5' - 7"	5' - 3"
5.5	1.563	26	62.2	3' - 0"	3' - 6"	3' - 7"
		24	62.6	3' - 7"	4' - 3"	4' - 3"
		22	62.9	3' - 11"	4' - 10"	4' - 10"
		20	63.2	4' - 1"	5' - 5"	5' - 1"
6	1.717	26	68.3	2' - 11"	3' - 4"	3' - 6"
		24	68.6	3' - 6"	4' - 1"	4' - 2"
		22	68.9	3' - 10"	4' - 8"	4' - 8"
		20	69.2	4' - 0"	5' - 3"	4' - 11"
6.5	1.871	26	74.3	2' - 10"	3' - 3"	3' - 5"
		24	74.6	3' - 5"	4' - 0"	4' - 1"
		22	74.9	3' - 8"	4' - 7"	4' - 7"
		20	75.3	3' - 11"	5' - 1"	4' - 10"

C0.9-32 Shoring Table

Total Slab Depth (in)	110 pcf Normal Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
2.5	0.637	26	20.0	4' - 0"	4' - 7"	4' - 9"
		24	20.3	4' - 10"	5' - 10"	5' - 10"
		22	20.6	5' - 7"	6' - 9"	6' - 10"
		20	20.9	5' - 10"	7' - 7"	7' - 3"
3	0.791	26	24.6	3' - 10"	4' - 5"	4' - 7"
		24	24.9	4' - 8"	5' - 6"	5' - 7"
		22	25.2	5' - 3"	6' - 5"	6' - 6"
		20	25.5	5' - 6"	7' - 2"	6' - 10"
3.5	0.945	26	29.1	3' - 8"	4' - 3"	4' - 5"
		24	29.5	4' - 6"	5' - 4"	5' - 4"
		22	29.8	5' - 0"	6' - 1"	6' - 2"
		20	30.1	5' - 3"	6' - 10"	6' - 6"
4	1.100	26	33.7	3' - 7"	4' - 1"	4' - 3"
		24	34.0	4' - 4"	5' - 1"	5' - 2"
		22	34.3	4' - 9"	5' - 11"	5' - 11"
		20	34.7	5' - 0"	6' - 7"	6' - 2"
4.5	1.254	26	38.3	3' - 5"	4' - 0"	4' - 2"
		24	38.6	4' - 2"	4' - 11"	5' - 0"
		22	38.9	4' - 7"	5' - 8"	5' - 8"
		20	39.2	4' - 10"	6' - 4"	5' - 11"
5	1.408	26	42.9	3' - 4"	3' - 10"	4' - 0"
		24	43.2	4' - 1"	4' - 9"	4' - 10"
		22	43.5	4' - 5"	5' - 6"	5' - 6"
		20	43.8	4' - 8"	6' - 1"	5' - 9"
5.5	1.563	26	47.5	3' - 3"	3' - 9"	3' - 11"
		24	47.8	3' - 11"	4' - 8"	4' - 8"
		22	48.1	4' - 3"	5' - 4"	5' - 3"
		20	48.4	4' - 6"	5' - 11"	5' - 7"
6	1.717	26	52.1	3' - 2"	3' - 8"	3' - 10"
		24	52.4	3' - 10"	4' - 6"	4' - 7"
		22	52.7	4' - 2"	5' - 2"	5' - 2"
		20	53.0	4' - 4"	5' - 9"	5' - 5"
6.5	1.871	26	56.6	3' - 1"	3' - 6"	3' - 8"
		24	57.0	3' - 8"	4' - 4"	4' - 5"
		22	57.3	4' - 1"	5' - 0"	5' - 1"
		20	57.6	4' - 3"	5' - 7"	5' - 8"

6.6 **C1.4-32**



Panel Properties

Gauge	Weight	Base Metal Thickness	Yield Strength	Tensile Strength	Gross Section Properties: Area	Moment of Inertia	Distance to N.A. from Bottom	Section Modulus	Radius of Gyration
	w psf	t in	F_y ksi	F_u ksi	A_g in²/ft	I_g in⁴/ft	y_b in	S_g in³/ft	r in
26	1.1	0.0195	80	82	0.302	0.079	0.67	0.118	0.512
24	1.4	0.0254	80	82	0.393	0.103	0.67	0.153	0.511
22	1.7	0.0314	80	82	0.485	0.128	0.67	0.188	0.511
20	2.0	0.0374	80	82	0.576	0.150	0.68	0.222	0.510
18	2.6	0.0480	40	55	0.737	0.191	0.68	0.280	0.509

Gauge	Effective Section Modulus at F_y: Compression: Area	Bending: Section Modulus	Distance to N.A. from Bottom	Section Modulus	Distance to N.A. from Bottom	Effective Moment of Inertia for Deflection: Moment of Inertia	Moment of Inertia	Uniform Load Only $I_d = (2I_e+I_g)/3$	
	A_e in²/ft	S_e+ in³/ft	y_b in	S_e- in³/ft	y_b in	I_e+ in⁴/ft	I_e- in⁴/ft	I+ in⁴/ft	I- in⁴/ft
26	0.172	0.101	0.65	0.106	0.69	0.078	0.078	0.079	0.078
24	0.265	0.139	0.67	0.141	0.68	0.103	0.103	0.103	0.103
22	0.367	0.175	0.68	0.174	0.67	0.128	0.128	0.128	0.128
20	0.473	0.206	0.68	0.206	0.68	0.150	0.150	0.150	0.150
18	0.722	0.261	0.68	0.261	0.68	0.191	0.191	0.191	0.191

Reactions at Supports (plf) Based on Web Crippling

Gauge	Condition	Bearing Length of Webs: Allowable (R_n/Ω) 1"	2"	4"	6"	Factored (ΦR_n) 1"	2"	4"	6"
26	End	315	399	517	522	482	610	791	798
	Interior	559	686	865	873	855	1049	1324	1335
24	End	533	668	858	959	815	1021	1313	1467
	Interior	936	1136	1419	1568	1432	1738	2171	2399
22	End	807	1003	1280	1439	1235	1535	1958	2201
	Interior	1410	1696	2101	2333	2158	2595	3214	3569
20	End	1134	1399	1773	1988	1735	2140	2713	3042
	Interior	1974	2357	2898	3209	3021	3606	4434	4909
18	End	1223	1493	1875	2094	1871	2284	2868	3204
	Interior	2124	2508	3052	3364	3250	3838	4669	5147

Web Crippling Constraints h=1.82" r=0.125" θ=45°

Inward Allowable (f_b/Ω) and Factored (Φf_b) Distributed Load (lbs/ft²)

Gauge	Span	Limit Condition	Panel Span (Support Spacing)										
			3' - 0"	3' - 6"	4' - 0"	4' - 6"	5' - 0"	5' - 6"	6' - 0"	6' - 6"	7' - 0"	7' - 6"	8' - 0"
26	SS	f_b / Ω	268	197	151	119	96	80	67	57	49	43	38
		Φf_b	403	296	227	179	145	120	101	86	74	64	57
		L/360	127	80	54	38	27	21	16	13	10	8	7
		L/240	191	120	81	57	41	31	24	19	15	12	10
		L/180	255	160	107	75	55	41	32	25	20	16	13
		L/120	-	-	-	113	82	62	48	38	30	24	20
	DS	f_b / Ω	283	208	159	126	102	84	71	60	52	45	40
		Φf_b	425	313	239	189	153	127	106	91	78	68	60
		L/360	-	193	129	91	66	50	38	30	24	20	16
		L/240	-	-	-	-	99	75	57	45	36	29	24
		L/180	-	-	-	-	-	-	-	60	48	39	32
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b / Ω	354	260	199	157	127	105	88	75	65	57	50
		Φf_b	532	391	299	236	191	158	133	113	98	85	75
		L/360	281	177	118	83	61	46	35	28	22	18	15
		L/240	-	-	178	125	91	68	53	41	33	27	22
		L/180	-	-	-	-	121	91	70	55	44	36	30
		L/120	-	-	-	-	-	-	-	-	-	54	44
24	SS	f_b / Ω	370	272	208	164	133	110	92	79	68	59	52
		Φf_b	556	408	313	247	200	165	139	118	102	89	78
		L/360	166	105	70	49	36	27	21	16	13	11	9
		L/240	249	157	105	74	54	40	31	25	20	16	13
		L/180	333	209	140	99	72	54	42	33	26	21	18
		L/120	-	-	-	148	108	81	62	49	39	32	26
	DS	f_b / Ω	375	275	211	167	135	111	94	80	69	60	53
		Φf_b	563	414	317	250	203	168	141	120	103	90	79
		L/360	-	252	169	119	87	65	50	39	32	26	21
		L/240	-	-	-	-	130	98	75	59	47	38	32
		L/180	-	-	-	-	-	-	-	79	63	51	42
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b / Ω	468	344	263	208	169	139	117	100	86	75	66
		Φf_b	704	517	396	313	253	209	176	150	129	113	99
		L/360	367	231	155	109	79	60	46	36	29	23	19
		L/240	-	-	232	163	119	89	69	54	43	35	29
		L/180	-	-	-	-	159	119	92	72	58	47	39
		L/120	-	-	-	-	-	-	-	-	-	70	58
22	SS	f_b / Ω	465	341	261	206	167	138	116	99	85	74	65
		Φf_b	698	513	393	310	251	208	175	149	128	112	98
		L/360	206	130	87	61	45	33	26	20	16	13	11
		L/240	310	195	131	92	67	50	39	30	24	20	16
		L/180	413	260	174	122	89	67	52	41	32	26	22
		L/120	-	-	261	183	134	100	77	61	49	40	33
	DS	f_b / Ω	464	341	261	206	167	138	116	99	85	74	65
		Φf_b	697	512	392	310	251	207	174	148	128	112	98
		L/360	-	313	210	147	107	81	62	49	39	32	26
		L/240	-	-	-	-	161	121	93	73	59	48	39
		L/180	-	-	-	-	-	-	-	98	78	64	52
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b / Ω	580	426	326	258	209	172	145	123	106	93	82
		Φf_b	871	640	490	387	314	259	218	186	160	139	123
		L/360	455	287	192	135	98	74	57	45	36	29	24
		L/240	-	-	288	202	148	111	85	67	54	44	36
		L/180	-	-	-	-	197	148	114	90	72	58	48
		L/120	-	-	-	-	-	-	-	-	-	87	72
20	SS	f_b / Ω	549	403	309	244	198	163	137	117	101	88	77
		Φf_b	825	606	464	367	297	245	206	176	152	132	116
		L/360	243	153	102	72	52	39	30	24	19	16	13
		L/240	364	229	154	108	79	59	46	36	29	23	19
		L/180	486	306	205	144	105	79	61	48	38	31	26
		L/120	-	-	307	216	157	118	91	72	57	47	38
	DS	f_b / Ω	549	403	309	244	198	163	137	117	101	88	77
		Φf_b	825	606	464	367	297	245	206	176	152	132	116
		L/360	-	368	247	173	126	95	73	58	46	37	31
		L/240	-	-	-	-	189	142	110	86	69	56	46
		L/180	-	-	-	-	-	-	-	115	92	75	62
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b / Ω	686	504	386	305	247	204	172	146	126	110	97
		Φf_b	1031	758	580	458	371	307	258	220	189	165	145
		L/360	536	337	226	159	116	87	67	53	42	34	28
		L/240	-	-	339	238	174	130	100	79	63	51	42
		L/180	-	-	-	-	231	174	134	105	84	69	57
		L/120	-	-	-	-	-	-	-	-	-	103	85
18	SS	f_b / Ω	464	341	261	206	167	138	116	99	85	74	65
		Φf_b	697	512	392	310	251	207	174	148	128	112	98
		L/360	310	195	131	92	67	50	39	30	24	20	16
		L/240	-	292	196	138	100	75	58	46	37	30	24
		L/180	-	-	-	183	134	100	77	61	49	40	33
		L/120	-	-	-	-	-	-	-	91	73	59	49
	DS	f_b / Ω	464	341	261	206	167	138	116	99	85	74	65
		Φf_b	697	512	392	310	251	207	174	148	128	112	98
		L/360	-	-	-	-	161	121	93	73	59	48	39
		L/240	-	-	-	-	-	-	-	-	-	72	59
		L/180	-	-	-	-	-	-	-	-	-	-	-
		L/120	-	-	-	-	-	-	-	-	-	-	-
	TS	f_b / Ω	580	426	326	258	209	172	145	123	106	93	82
		Φf_b	871	640	490	387	314	259	218	186	160	139	123
		L/360	-	-	288	202	148	111	85	67	54	44	36
		L/240	-	-	-	-	-	166	128	101	81	66	54
		L/180	-	-	-	-	-	-	-	-	-	87	72
		L/120	-	-	-	-	-	-	-	-	-	-	-

6.7 C1.4-32

Normal Weight Concrete (145 pcf)
Maximum Unshored Spans

C1.4-32 Shoring Table

Total Slab Depth (in)	145 pcf Normal Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
3	0.714	26	29.0	5' - 3"	6' - 5"	6' - 3"
		24	29.3	6' - 6"	7' - 10"	7' - 10"
		22	29.6	7' - 0"	8' - 11"	8' - 8"
		20	29.9	7' - 4"	9' - 8"	9' - 1"
		18	30.5	7' - 8"	8' - 10"	9' - 1"
3.5	0.868	26	35.1	5' - 0"	6' - 1"	6' - 0"
		24	35.4	6' - 2"	7' - 5"	7' - 5"
		22	35.7	6' - 7"	8' - 5"	8' - 2"
		20	36.0	6' - 11"	9' - 2"	8' - 7"
		18	36.5	7' - 3"	8' - 4"	8' - 6"
4	1.022	26	41.1	4' - 10"	5' - 10"	5' - 8"
		24	41.4	5' - 10"	7' - 0"	7' - 1"
		22	41.7	6' - 4"	8' - 0"	7' - 9"
		20	42.0	6' - 8"	8' - 9"	8' - 2"
		18	42.6	6' - 10"	8' - 0"	8' - 1"
4.5	1.177	26	47.1	4' - 7"	5' - 7"	5' - 6"
		24	47.4	5' - 8"	6' - 9"	6' - 9"
		22	47.8	6' - 0"	7' - 8"	7' - 5"
		20	48.1	6' - 4"	8' - 4"	7' - 10"
		18	48.6	6' - 7"	7' - 8"	7' - 9"
5	1.331	26	53.2	4' - 5"	5' - 5"	5' - 3"
		24	53.5	5' - 5"	6' - 5"	6' - 6"
		22	53.8	5' - 10"	7' - 4"	7' - 2"
		20	54.1	6' - 2"	8' - 0"	7' - 7"
		18	54.7	6' - 4"	7' - 4"	7' - 5"
5.5	1.485	26	59.2	4' - 3"	5' - 2"	5' - 1"
		24	59.5	5' - 3"	6' - 3"	6' - 3"
		22	59.8	5' - 7"	7' - 1"	6' - 11"
		20	60.2	5' - 11"	7' - 8"	7' - 4"
		18	60.7	6' - 1"	7' - 1"	7' - 2"
6	1.640	26	65.3	4' - 2"	5' - 0"	4' - 11"
		24	65.6	5' - 1"	6' - 0"	6' - 0"
		22	65.9	5' - 5"	6' - 10"	6' - 9"
		20	66.2	5' - 9"	7' - 5"	7' - 1"
		18	66.8	5' - 11"	6' - 10"	6' - 11"
6.5	1.794	26	71.3	4' - 0"	4' - 11"	4' - 9"
		24	71.6	4' - 11"	5' - 10"	5' - 10"
		22	71.9	5' - 4"	6' - 8"	6' - 7"
		20	72.2	5' - 7"	7' - 2"	6' - 11"
		18	72.8	5' - 8"	6' - 7"	6' - 8"

C1.4-32 6.7

Light Weight Concrete (110 pcf)
Maximum Unshored Spans

C1.4-32 Shoring Table

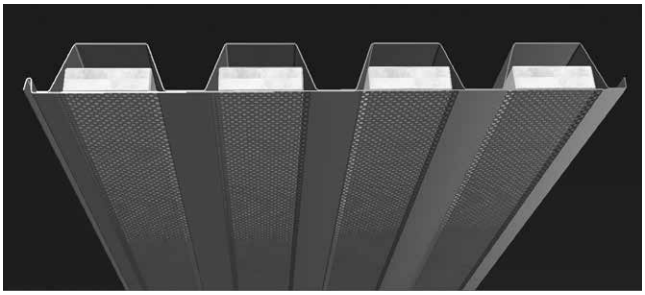
Total Slab Depth (in)	110 pcf Normal Weight Concrete					
	Volume cy/100sf	Gauge	Slab and Deck psf	Maximum Unshored Span		
				Single	Double	Triple
3	0.714	26	22.3	5' - 8"	7' - 0"	6' - 10"
		24	22.6	7' - 2"	8' - 6"	8' - 7"
		22	22.9	7' - 8"	9' - 8"	9' - 5"
		20	23.2	8' - 1"	10' - 6"	9' - 11"
		18	23.8	8' - 4"	9' - 7"	9' - 11"
3.5	0.868	26	26.9	5' - 5"	6' - 8"	6' - 6"
		24	27.2	6' - 9"	8' - 1"	8' - 1"
		22	27.5	7' - 3"	9' - 2"	8' - 11"
		20	27.8	7' - 7"	10' - 0"	9' - 5"
		18	28.3	7' - 11"	9' - 1"	9' - 4"
4	1.022	26	31.4	5' - 2"	6' - 4"	6' - 3"
		24	31.7	6' - 5"	7' - 9"	7' - 9"
		22	32.1	6' - 11"	8' - 9"	8' - 6"
		20	32.4	7' - 3"	9' - 6"	9' - 0"
		18	32.9	7' - 6"	8' - 9"	8' - 11"
4.5	1.177	26	36.0	5' - 0"	6' - 1"	6' - 0"
		24	36.3	6' - 2"	7' - 5"	7' - 5"
		22	36.6	6' - 7"	8' - 5"	8' - 2"
		20	37.0	7' - 0"	9' - 2"	8' - 7"
		18	37.5	7' - 3"	8' - 4"	8' - 6"
5	1.331	26	40.6	4' - 10"	5' - 11"	5' - 9"
		24	40.9	5' - 11"	7' - 1"	7' - 2"
		22	41.2	6' - 4"	8' - 1"	7' - 10"
		20	41.5	6' - 8"	8' - 10"	8' - 3"
		18	42.1	6' - 11"	8' - 1"	8' - 2"
5.5	1.485	26	45.2	4' - 8"	5' - 9"	5' - 7"
		24	45.5	5' - 9"	6' - 10"	6' - 11"
		22	45.8	6' - 2"	7' - 10"	7' - 7"
		20	46.1	6' - 6"	8' - 6"	8' - 0"
		18	46.7	6' - 8"	7' - 10"	7' - 11"
6	1.640	26	49.8	4' - 7"	5' - 6"	5' - 5"
		24	50.1	5' - 7"	6' - 8"	6' - 8"
		22	50.4	6' - 0"	7' - 7"	7' - 5"
		20	50.7	6' - 4"	8' - 3"	7' - 9"
		18	51.3	6' - 6"	7' - 7"	7' - 8"
6.5	1.794	26	54.4	4' - 5"	5' - 5"	5' - 3"
		24	54.7	5' - 5"	6' - 5"	6' - 6"
		22	55.0	5' - 10"	7' - 4"	7' - 2"
		20	55.3	6' - 1"	8' - 0"	7' - 7"
		18	55.8	6' - 4"	7' - 4"	7' - 5"

Acustadek®

Acustadek provides the extraordinary beauty of exposed steel, while providing the same noise reduction performance of common Mineral Fiber, Fiberglass, and Bio Acoustic ceiling tile systems. It is an excellent option for reducing noise inside buildings, increasing the comfort for the occupants. Acustadek is a dual-purpose panel which helps lower costs by providing an interior finish while contributing to the structural performance of the building. This is accomplished by perforating the structural steel deck and adding fiberglass batt acoustic media in the webs or in the cells of cellular deck, turning the profile into Acustadek. Our new Smooth Series™ rivets offer a clean attachment solution for the Acustadek cellular deck system.

Cellular Acustadek®

Cellular Acustadek has 0.157" diameter holes spaced 0.433" inches on center in the sections of the pan below the top flutes of the steel deck. Fiberglass batts are factory inserted in the cells of the deck before shipping to the project locations. Any roof system utilizing structural or insulating concrete fill, rigid insulation board, or other roof substrate material suitable for installation on a steel roof deck may be applied to the cellular Acustadek.



Fiberglass Batts

Fiberglass batts are used to absorb sound in the Acustadek assemblies. ASC Steel Deck supplies the fiberglass batts which are cut to size for the specified profile. The standard batts are unfaced. Optional batts encapsulated with 0.75 mil clear pvc plastic can be specified.

Acoustical Performance

All Acustadeks have been tested for the sound absorption characteristics of the assemblies. This is commonly presented as a Noise Reduction Coefficient (NRC). The NRC is the average of the 250, 500, 1000, and 2000 hertz sound absorption coefficients. Acustadeks have between a 0.6 and 1.0 NRC, which can meet LEED v4.1 EQ Credit Acoustic Performance Option 2.

Acustadek should be a portion of a holistic approach to reducing the noise level in a building. Simply specifying an NRC rating for a single material may not get the level of sound control you require. In general, steel deck tend to have better sound absorption coefficients in the higher audible range. Other materials such as fabric wall treatments and carpet tend to have better sound absorption coefficients in the lower audible frequency ranges. The use of Acustadek in combination with other materials may create the best overall quiet environment. An experienced acoustic designer is key to developing the best overall performance using ASC Steel Deck Acustadek products.

The sound absorption coefficient varies across the spectrum of audible sound. In buildings with equipment which creates a specific frequency, the sound absorption coefficient for that frequency range should determine the type of deck rather than the overall NRC rating.

The NRC should not be confused with the Sound Transmission Coefficient (STC). STCs measure the blocking of sound through an assembly as it relates to the decibel drop in the intensity of the sound. Acustadek may not be a good choice if a high STC is required. As an example, consider a room with noisy equipment. The Acustadek may be a good solution to reduce the noise level in the room for the occupants, but may not be a good material to block the noise from escaping the room. The holes in the perforated Acustadek may in fact let more sound escape the room than a conventional deck.

Detailing and Installation of Acustadek®

Acustadek provides an exposed finish in the building. Steel deck is a structural element in the building and is subject to incidental dents in the handling and steel erection process. To minimize the potential damage use 20 gauge or heavier. 22 gauge may be an economical option when minor dents can be tolerated; dark paint finishes or high roof structures can mask these types of minor blemishes.

Acustadek can be specified with a galvanized finish or factory prime painted over galvanized steel. Most Acustadeks will receive finish paint to meet the aesthetic requirements of the building. The galvanized steel can be field painted following the paint manufacturer's preparation and application recommendations. As an option, factory-applied primer can be specified, which may reduce the surface preparation of the deck.

Structural Performance of Acustadek®

The Acustadek perforations have a small impact on the structural performance of the deck profiles. Section properties are reduced from the non-Acustadek version of the profiles leading to reduced vertical load capacity. The reactions at supports are unaffected by the perforations in the Acustadek.

Sound Absorption Data

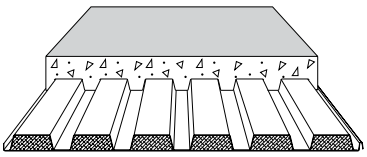
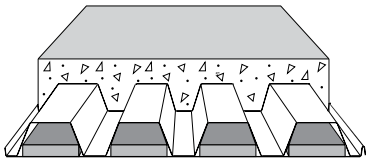
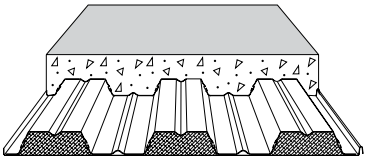
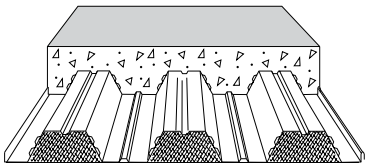
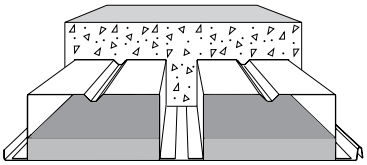
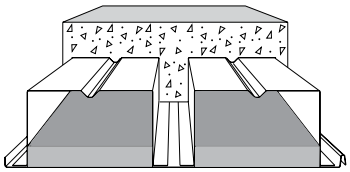
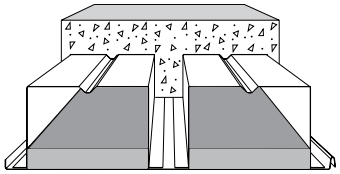
Acustadek® Profile (Perforation Type)	Batt[2]	Absorption Coefficient[1] 125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	Noise Reduction Coefficient[1]
 BHF-36A	Unfaced	0.20	0.45	0.77	1.09	0.84	0.56	0.80
	Encapsulated	0.16	0.37	0.70	1.01	0.64	0.49	0.70
 NHF-32A	Unfaced	0.49	0.63	1.07	0.97	0.79	0.64	0.85
	Encapsulated	0.49	0.63	1.17	0.93	0.72	0.48	0.85
 2WHF-36A	Unfaced	0.43	0.49	0.80	0.86	0.67	0.56	0.70
	Encapsulated	0.38	0.42	0.79	0.79	0.48	0.41	0.60
 3WxHF-36A	Unfaced	0.49	0.56	1.06	0.90	0.69	0.54	0.80
	Encapsulated	0.60	0.79	0.66	0.50	0.46	0.46	0.60
 4.5DF-24A	Unfaced	0.40	0.75	0.83	0.68	0.70	0.54	0.75
	Encapsulated	0.58	0.91	0.93	0.68	0.59	0.46	0.80
 6DF-24A	Unfaced	0.40	0.89	0.85	0.72	0.70	0.53	0.80
	Encapsulated	0.53	0.88	0.82	0.70	0.63	0.52	0.75
 7.5DF-24A	Unfaced	0.78	0.99	0.86	0.79	0.72	0.52	0.85
	Encapsulated	0.84	0.93	0.79	0.75	0.65	0.93	0.80

Table Notes:

1. Noise reduction coefficient testing was conducted in accordance with ASTM C423 and ASTM E795.
2. Unfaced or encapsulated fiberglass batts wrapped with clear plastic film.

Metric Conversion Chart

Metric Conversions

	Multiply	By	To Obtain
Spans, length & thickness	Inches	25.4	Millimeters
	Feet	304.8	Millimeters
	Inches	0.0254	Metres
	Feet	0.3048	Metres
Vertical Load & Superimposed Load	psf	0.0479	kPa
	psi	6.8948	kPa
Area	Square feet	0.0929	Square Metre
	Square	9.2903	Square Metre
Diaphragm Shear	plf	0.0146	KN/m
Section Properties	in^3/ft	53,763	mm^3/m
	in^4/ft	1,365,588	mm^4/m
	in^3/ft	53.763	cm^3/m
	in^4/ft	136.559	cm^4/m
Weight	Pounds	0.00445	kN
	psf	4.8824	kg/m^2
Volume	pcf	16.018	kg/m^3

Manufacturing Facilities

ASC Steel Deck
220 West Kalama River Road
Kalama, WA 98625
916-372-6851
800-726-2727

Visit us at:
www.ascsd.com

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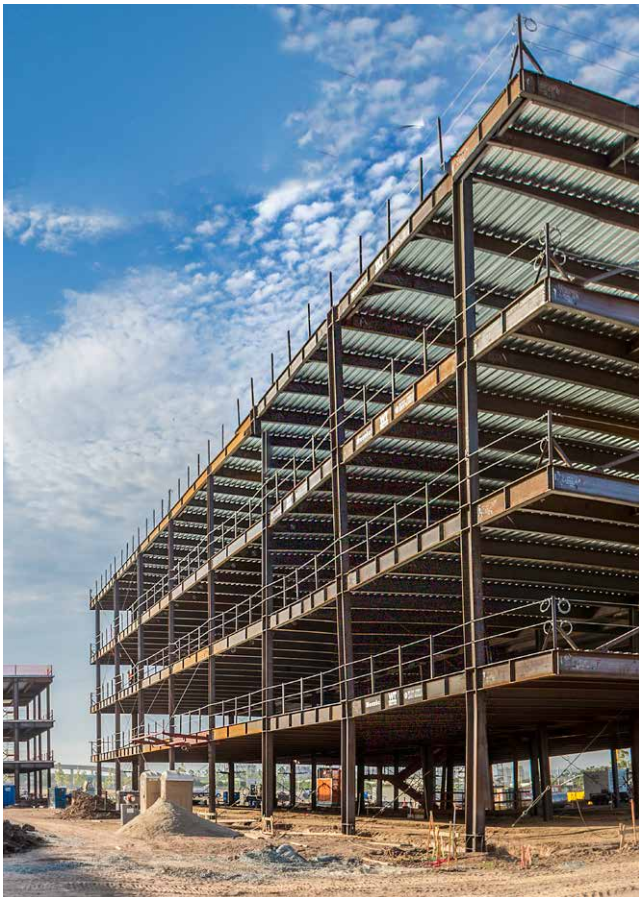

General Benefits of Composite Steel Deck

ASC Steel Deck has a firm understanding of the benefits composite steel deck provides in building construction. The strength of composite steel deck slab, relative to its light weight, makes it the clear building material of choice when compared to the alternative cast-in-place concrete approach. Composite steel deck serves a dual function as it provides both concrete reinforcement and a concrete form, while serving as a working platform through the erection process. Moreover, projects designed with a composite deck system simply go up faster. The versatility, recyclable content, structural performance, and ease of installation makes steel deck the ideal building material for building owners, architects, and engineers.

Aesthetic Value of Steel Deck

ASC Steel Deck products offer the beauty of exposed steel as an added benefit to the structural performance required of building designs. Our new Smooth Series™ cellular deck offers a blemish free beam-to-pan rivet attachment, providing a clean surface ideal for an exposed steel design. When noise reduction is a necessity, ASC Steel Deck's Acustadek® panels offer acoustical noise reduction capabilities with aesthetic features which complement its use on exposed applications. Acustadek® is generally preferred in high noise areas such as airports, schools, gymnasiums, and concert halls. Acustadek® can contribute to LEED v4.1 EQ Credit Acoustic Performance Option 2.

Offering a Full Line of Steel Deck Products

ASC Steel Deck is the only steel deck manufacturer on the West Coast which offers a full line of light-gauge structural and deep deck products. From the typical 1½" to 3" roof and composite floor deck, to concrete form deck, to long spanning deep deck profiles, ASC Steel Deck’s extensive product offer meets the needs of the most complex conditions and demands for structural performance and design.