



LEED v4.1 Indoor Environmental Quality (EQ) EQc9 Credit Acoustic Performance for ASC Steel Deck

Applicable Credits:

Eqc9 Acoustic Performance (1 Point) ASC Steel Deck Acustadek® products provide the same noise reduction performance of common Mineral Fiber, Fiberglass, and Bio Acoustic ceiling tile systems. Acustadek products meeting LEED v4.1 Acoustic Performance as follows:

Acustadek products are part of a holistic approach to reducing the noise level in a building. All Acustadeks have been tested for sound absorption characteristics of the assemblies. Results are commonly presented as a Noise Reduction Coefficient (NRC). The use of Acustadek in combination with other materials will create the best overall quiet environment and meet LEED v4.1 Credit requirements. An experienced acoustic designer is key to developing overall performance criteria using Acustadek products. Refer to the Acustadek chapter in our Roof Deck Catalog, page 198, for more information https://ascsd.com/wp-content/uploads/DL022_RoofDeck-Catalog.pdf

EQ Prerequisite Minimum Acoustic Performance (required for Schools)

All Acustadek products have been tested for sound absorption characteristics of assemblies. Most Acustadek profile and perforation types meet or exceed the LEED v4.1 prerequisite threshold of .70 Noise Reduction Coefficient (NRC) or greater. Refer to the Sound Absorption Data chart on page 200 in our Roof Deck Catalog for more information https://ascsd.com/wp-content/uploads/DL022_RoofDeck-Catalog.pdf

1) Classrooms and Core Learning Spaces \leq 20,000 Cubic Feet

EQc9.1 OPTION 1. For each room, confirm that the total surface area of acoustic wall panels, ceiling finishes, and other sound-absorbent finishes equals or exceeds the total ceiling area of the room (excluding lights, diffusers, and grilles). Materials must have an NRC of 0.70 or higher to be included in the calculation.

EQc9.2 OPTION 2. Acustadek products may contribute to achievement of Option 2 in combination with other materials in each room. An experienced acoustic designer should confirm by completing calculations as described in ANSI Standard S12.60-2010 that rooms are designed to meet reverberation time requirements as specified in that standard.

2) Classrooms and Core Learning Spaces \geq 20,000 Cubic Feet

Acustadek products may contribute to achievement of this space type in combination with other materials in each room. An experienced acoustic designer should confirm by completing calculations as described in the NRC-CNRC Construction Technology Update No. 51, Acoustical Design of Rooms for Speech (2002).

Notable References:

LEED v4.1 *Minimum Acoustic Performance Prerequisite* is required for Schools only and addresses HVAC Background noise, Exterior noise, and Reverberation time. For Classrooms and Core Learning Spaces < 20,000 Cubic Feet (566 Cubic Meters):

Option 1 is typically used for regularly shaped rooms.

Option 2 is typically used for irregularly shaped rooms, or for custom solutions under unique conditions.

The LEED v4.1 *Acoustic Performance Credit* is optional for all LEED NC projects, and addresses HVAC Background noise, Sound Transmission, Exterior noise, Reverberation time, Sound Reinforcement and Masking Systems, and additional Privacy concerns for Healthcare projects. Credit requirements are extensive and vary between project types.

Composite sound transmission class (STCC) ratings are used and vary according to adjacencies between rooms with varying functions (for example, an office next to a hallway).

Reverberation time requirements use Absorption coefficients instead of NRC ratings. Acustadek products' contribution will be unique for every project and Absorption coefficients can be found on page 200 in our Roof Deck Catalog at https://ascsd.com/wp-content/uploads/DL022_RoofDeck-Catalog.pdf.