



LEED 2009 for Schools New Construction and Major Renovation

IEQ CREDIT 9: ENHANCED ACOUSTICAL PERFORMANCE

All fields and uploads are required unless otherwise noted.

BACKGROUND NOISE

This static sample form has been modified for offline access. All sections of the form are visible. Sample forms are for reference only.

Select one of the following:

- ☐ **ASHRAE standard.** The project team will document compliance using methods based on the 2007 HVAC Applications ASHRAE Handbook, Chapter 47.
- ☐ **ANSI standard.** The project team will document compliance using ANSI Standard S12.60-2002.

Upload IEQc9-4. Provide the summary report from the simulations/calculations/measurements, based on 2007 HVAC Applications ASHRAE Handbook, Chapter 47 on Sound and Vibration Control, demonstrating a background noise level of 40 dBA or lower is met in classrooms and other core learning spaces. *Note: Must be consistent with IEQ Prerequisite 3.*

Upload L-16. Provide a description of the methodologies and acoustical design of the project building that will ensure compliance with ANSI Standard S12.60-2002 for a background noise level of 40 dBA in classrooms and other core learning spaces. Descriptions can include, but are not limited to: placement of VAV boxes, acoustical treatment of ductwork, treatment of ceiling systems, partition construction, flooring and wall surfaces.

SOUND TRANSMISSION CLASS

Select one or more of the following:

- ☐ **Path 1. ANSI Calculations/ Specifications.** The project team will demonstrate through calculations, specifications and construction details, based upon the requirements of ANSI Standard S12.60-2002, that each of the classrooms and core learning spaces meets the STC requirements.
- ☐ **Path 2. ANSI Measurements.** The project team will demonstrate through measurements based upon the requirements of ANSI Standard S12.60-2002, that each of the classrooms and core learning spaces meets the STC requirements.

Complete the table below to demonstrate that the STC calculations, specifications, or measurements for each core learning space meet the requirements outlined in section 4.5 of ANSI Standard S12.60-2002. For Path 1, the STC rating of each structural assembly which is a composite of multiple elements must be calculated based on Table D.2 of the standard. Rooms may be grouped into a single room type if their floor assemblies, ceiling assemblies, wall assemblies and adjacent spaces are identical.

Table IEQc9-1. STC Assembly Ratings

Core Learning Space/Model # 1

Core Learning Space Room ID(s)		Space Adjacent to Assembly	STC of Assembly	Required STC	STC Compliance
	Wall Assembly #1				
	Wall Assembly #2				
	Wall Assembly #3				
	Wall Assembly #4				
	Floor Assembly				
	Ceiling Assembly				
	Windows				

Describe the source(s) of the STC information reported in Sound Transmission Class Requirements table.

Upload IEQc9-1. Provide construction details and/or other supporting documentation to demonstrate how the STC ratings listed in the table above are achieved.

Upload IEQc9-2. Provide the report from the post-construction measurements based on ANSI s12.60-2002 Annex E5 that confirm the STC ratings listed in the table above.

Floor plans or drawings that identify and highlight the locations of the core learning spaces are required to document credit compliance. The classroom identifications shown on the floor plan(s) must correspond to the identifications listed in the table. The floor plan below is a linked submittal. (If no document is present, or if the document does not include the required information, upload a document which meets the requirements.)

Upload L-1. Provide representative floor plan(s) for the project building.

Select one of the following:

- ☐ The floor plan above highlights the location and identification of core learning spaces that correspond to the spaces described in the table above.
- ☐ A different document is better suited for this requirement.

Upload IEQc9-3. Provide floor plans or drawings highlighting the location and identification of core learning spaces that correspond to the spaces described in the Sound Transmission Class Requirements Table.

ADDITIONAL DETAILS

- ☐ Special circumstances preclude documentation of credit compliance with the submittal requirements outlined in this form.

SPECIAL CIRCUMSTANCES

Describe the circumstances limiting the project team's ability to provide the submittals required in this form. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

Upload IEQc9-SC. Provide any additional documentation that supports the claim to special circumstances. (Optional)

- ☐ The project team is using an alternative compliance approach in lieu of standard submittal paths.

ALTERNATIVE COMPLIANCE PATH

Describe the alternative compliance path used by the project team. Include justification that this path meets the credit intent and requirements. Be sure to reference what additional documentation has been provided, if any. Non-standard documentation will be considered upon its merits.

Upload IEQc9-ACP. Provide any additional documents that support the alternative compliance path approach. (Optional)

- ☐ The project team is using the above alternative compliance path to document exemplary performance of IEQ Credit 9.
- ☐ The project team is pursuing exemplary performance of IEQc9.

EXEMPLARY PERFORMANCE

Select one of the following:

- ☐ **Option 1.** The project team demonstrates exemplary performance by achieving an outdoor background noise level of 55dBA or less for playgrounds and 60dBA or less for athletic fields and all other school grounds.
- ☐ **Option 2.** The project team demonstrates exemplary performance by achieving an indoor background noise level of 35dBA or less.

Upload IEQc9-EP. Provide the following to demonstrate exemplary performance compliance:

- 1) A description of school location and the local environment, detailing exterior noise sources;
- 2) Exterior sound level measurements at playground and athletic field locations submitted as peak hour Leq during a typical day or Ldn; and
- 3) A narrative describing the project team's review and analysis of the local area (municipal, county or state) zoning and long-range land use plans to determine if other noise impacting uses are planned in the vicinity of the development site (such as highways, industrial zoning, etc..

- ☐ The uploaded summary report from the simulations/calculations based on 2007 HVAC Applications ASHRAE Handbook, Chapter 47 OR the ANSI standard narrative completed above, based on Standard S12.60-2002, demonstrates an indoor background noise level of 35dBA or less.

SUMMARY

IEQ Credit 9: Enhanced Acoustical Performance Points Documented:

IEQ Credit 9: Enhanced Acoustical Performance Exemplary Performance Documented:

- ☐ The project team reserves one point in the Innovation in Design credit category for exemplary performance in IEQ Credit 9.