



LEED for Schools: Design

IEQ PREREQUISITE 3: MINIMUM ACOUSTICAL PERFORMANCE

All fields and uploads are required unless otherwise noted.

THRESHOLD ATTEMPTED

Points Attempted: 0

BACKGROUND NOISE

Select one of the following:

- ☒ **ASHRAE standard (software/calculations):** The project team will document compliance using calculations/software simulation based on the 2007 HVAC Applications ASHRAE Handbook, Chapter 47.
- ☐ **ANSI standard (narrative):** The project team will document compliance using ANSI Standard S12.60-2002.

Upload the summary report from the simulations/calculations based on 2007 HVAC Applications ASHRAE Handbook, Chapter 47 on Sound and Vibration Control that shows a background noise level of 45 dBA or lower is met in classrooms and other core learning spaces. NOTE: dBA may be rounded to the nearest whole number.

Upload

Files: 1

TIP: The "Space Usage" table is a required General Submittal. Be sure to consider contextual overlaps (e.g., with identification of core learning spaces) when documenting compliance with IEQp3.

REVERBERATION TIME

Select all that apply to the project building:

- ☒ The project building includes small core learning spaces (under 20,000 cubic feet).
- ☐ The project building includes large core learning spaces (20,000 cubic feet or greater).

SMALL CORE LEARNING SPACES

Select one or more of the following:

- ☒ **NRC Table***: The project team will complete a table to confirm that the total area of materials in the room with a Noise Reduction Coefficient (NRC) of 0.70 or higher equals or exceeds the ceiling area.
- ☐ **ANSI Calculations**: The project team will calculate the reverberation time of small core learning spaces according to the requirements of ANSI Standard S12.60-2002.
- ☐ **ANSI Measurements**: The project team will measure the reverberation time of small core learning spaces according to the requirements of ANSI Standard S12.60-2002.

** NOTE: if the core learning space is: a) not rectilinear, b) has a sloped or non-flat ceiling, or c) has a ceiling height that is 12 feet or more above the finish floor, then only the latter two options are available (ANSI Calculations or Measurements).*

NRC TABLE

Complete the table below with information to demonstrate that each room meets reverberation time requirements. Rooms may be grouped into a single room type if their construction are identical.

Table. NRC Reverberation Time

Core Learning Space/Model #1

| Core Learning Space Room ID(s) | Room Length (ft) | Room Width (ft) | Area of lights, diffusers, and grilles on ceiling (SF) |
|---|----------------------|--|--|
| Classrooms 16,17,18,19 | 35 | 22 | 92 |
| | Material Description | Area of Material (SF) | NRC Coefficient |
| Material #1 | ACT | 608 | 0.7 |
| Ceiling Area (SF) Omits lights, diffusers, and grilles | 678 | Area of NRC Material (SF) (must equal or exceed ceiling area) | 608 |

Add RowDelete Row

Add core learning space/modelDelete core learning space/model

Core Learning Space/Model #1

| Core Learning Space Room ID(s) | Room Length (ft) | Room Width (ft) | Area of lights, diffusers, and grilles on ceiling (SF) |
|---|----------------------|--|--|
| Classroom 11 | 22 | 14 | 42 |
| | Material Description | Area of Material (SF) | NRC Coefficient |
| Material #1 | ACT | 266 | 0.7 |
| Ceiling Area (SF) Omits lights, diffusers, and grilles | 266 | Area of NRC Material (SF) (must equal or exceed ceiling area) | 266 |

Add RowDelete Row

Save Form

Add core learning space/model

Delete core learning space/model

Core Learning Space/Model #1

| Core Learning Space Room ID(s) | Room Length (ft) | Room Width (ft) | Area of lights, diffusers, and grilles on ceiling (SF) |
|---|----------------------|--|--|
| Offices 13,14 | 14 | 10 | 32 |
| | Material Description | Area of Material (SF) | NRC Coefficient |
| Material #1 | ACT | 118 | 0.7 |
| Ceiling Area (SF) Omits lights, diffusers, and grilles | 108 | Area of NRC Material (SF) (must equal or exceed ceiling area) | 118 |

Add Row

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Add core learning space/model

Delete core learning space/model

Upload manufacturer information (cutsheets) demonstrating the sound absorption coefficient of the materials listed in the table.

Upload

Files: 1

ADDITIONAL DETAILS

- ☐ Special circumstances preclude documentation of prerequisite compliance with the submittal requirements outlined in this form.
- ☐ The project team is using an alternative compliance approach in lieu of standard submittal paths.

SUMMARY

IEQ Prerequisite 3: Minimum Acoustical Performance Compliance Documented

Y

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