



# LEED Pilot Credit Library

## Pilot Credit 47: Acoustic Comfort

### Pilot Credit 47: Acoustic Comfort

[Applicable Rating Systems >>](#)

[Requirements >>](#)

[Submittals >>](#)

[Additional Questions >>](#)

[Background Information >>](#)

[Changes >>](#)

### Applicable Rating Systems

This credit is available for pilot testing by the following LEED project types:

- Homes
- Mid-Rise

### Intent

Provide acoustic comfort by minimizing intruding noise into and within buildings.

### Requirements

HOMES, MID-RISE

*These requirements only apply to "acoustically sensitive" rooms, such as bedrooms, dining rooms, living rooms, and studies. ("Acoustically insensitive" rooms include bathrooms, kitchens, and hallways.) Projects may also implement the measures throughout the entire home.*

### OPTION 1. Prescriptive noise reduction methods.

Meet all of the following requirements:

- A. Mechanical systems must meet the following requirements:
  - a. Continuous ventilation fans shall have a maximum sound rating of 0.7 sones. Intermittent fans shall have a maximum sound rating of 1.5 sones, unless their maximum rated airflow exceeds 400 cfm. HVAC air handlers and remote-mounted fans are exempted, if the fans are mounted outside the habitable spaces, bathrooms, and hallways, and if there is at least 4 feet of ductwork between the fan and the intake grill.
  - b. Meet the following best-practice HVAC installation measures:
    - i. Ducts are securely attached (no loose connections between sections of ductwork).



# LEED Pilot Credit Library

## Pilot Credit 47: Acoustic Comfort

- ii. The fan housing is securely anchored.
  - iii. The damper flap closes fully, with no visible airspaces around the flap.
- B. For projects that are less than a half a mile away from any significant noise source such as (but not limited to) aircraft over-flights, highways, trains, and industry, exterior assemblies must include:
  - i. Exterior windows and doors must have a minimum STC rating of 35.
  - ii. All exterior wall penetrations must be sealed with acoustical sealant,
  - iii. and/or otherwise treated for sound control (e.g. lined elbows on vents, lined exterior ducts where feasible).
- C. Attached single family homes and multi-family homes must also meet the following:
  - a. Party walls must have a minimum STC rating of 55.
  - b. All party wall penetrations must be sealed with acoustical sealant.
    - i. Floor/ceiling assemblies must have a minimum STC *and* IIC rating of 55.

AND/OR

### **OPTION 2. Performance-based compliance requirements**

Meet all of the following. The tested levels must be met in the acoustically sensitive room that is considered the worst case condition.

- A. The maximum background noise level in the home or unit due to exterior noise sources cannot exceed 40 dBA, based on the peak hour Leq.
- B. The maximum background noise level in the home or unit due to interior noise sources (HVAC systems, lighting, and other building services operating simultaneously) shall not exceed 40 dBA, based on the peak Leq.
- C. Party walls must have a minimum NIC rating of 50.
- D. Floor-ceiling assemblies between units must have a minimum NIC *and* FIIC rating of 50.

*Ductless systems qualify for this credit.*

### **Credit Submittals**

General:

1. [Register for Pilot Credit\(s\) here.](#)
2. Register a username at [LEEDuser.com](http://LEEDuser.com), and participate in online forum



# LEED Pilot Credit Library

---

## Pilot Credit 47: Acoustic Comfort

3. [Submit feedback survey](#); supply PDF of your survey/confirmation of completion with credit documentation

### Credit Specific:

- Option 1. Provide documentation to the verification team that assemblies meet design requirements for STC levels, and HVAC equipment meets credit thresholds.
- Option 1. Verification team verifies on site that the same designed assemblies and equipment were installed.
- Option 2. Submit documentation of tested sound levels from a qualified professional.

### Additional Questions

- Why did you choose the option that you did?

### Background Information

Sound transfer is one of the biggest complaints of multi-family and attached single family living, as well as city living. Elevated noise levels increase stress and stress related health issues.