

BHDP

04.18.2019

To Whom it May Concern,

BHDP and its design partners are excited to be teamed with Jefferson Development Group to bring a new building to Louisville, KY for our client. It is our understanding that the Authorities Having Jurisdiction have some concerns about the noise inside and around the building. BHDP is designing the building with acoustic concerns in mind, especially since this facility will be primarily used for higher education.

BHDP is designing the exterior skin of the building in accordance with ASHRAE 90.1 energy calculations. As a part of meeting those requirements the exterior skin of the building will have 2" of rigid foam insulation and 6" of batt insulation that will provide both thermal value and acoustical mitigation against exterior noise. While exterior wall assemblies are not traditionally rated for a Sound Transmission Class (STC), the exterior wall will have the following STC properties:

- The core of the wall (metal studs with gypsum board and batt insulation) will be constructed similar to an STC 45 rating.
- The 2" continuous rigid board insulation has an STC rating of approximately 20-30.
- The z-channel assembly that holds the exterior skin provides limited metal to metal contact similar to tested interior resilient channel assemblies that increase the STC rating by 3.
- The fiber cement panels have an STC rating of approximately 10-20.

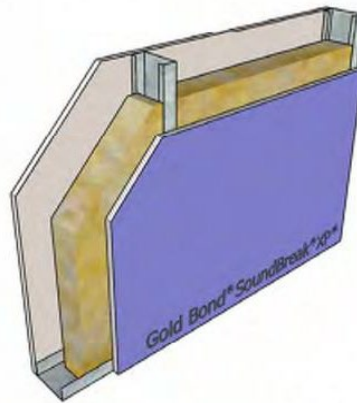
In a study performed in 2001 by Bradley, J.S. for the Library of Congress, and STC rating of 60 or more would be "Good soundproofing; most sounds do not disturb neighboring residents." While we do not have a tested assembly for this specific exterior wall application, we believe that our exterior wall assembly has an increased STC ratings beyond a base wall and approaches, if not exceeds, and STC of 60.

The exterior glazing/fenestrations of the building will be double pane glass that also have acoustical properties above and beyond historic single pane glazing.

Furthermore, the interior of the building of the building will have additional sound mitigation strategies.

1. Interior room partitions shall be a min. of STC 54, equivalent to the following assembly:

Figure 47



STC-54

RAL-TL07-389

Framing: 3-5/8" steel studs, 25 gauge, 24" o.c.

Insulation: 3" mineral wool

Side 1: 5/8" Fire-Shield Gypsum Board

Side 2: 5/8" SoundBreak XP Gypsum Board

UL Design: V438, U465 - 1 hour

2. Offices and other spaces shall be a min. of STC 47, equivalent to the following assembly:

Figure 44



STC-47

NGC 2386

Framing: 3-5/8" steel studs, 25 gauge, 24" o.c.

Insulation: 2-1/2" glass fiber

Side 1: 5/8" Fire-Shield Gypsum Board

Side 2: 5/8" Fire-Shield Gypsum Board

UL Design: V438, U465 - 1 hour

We believe the acoustics of the building have been addressed to comply with the Kentucky Building Code and a professional standard of care.

Please feel free to contact BHDP if additional questions arise.

Very truly yours



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