Superior Sound Control With GreenFiber Insulation

The three most important ratings used in building assembly testing are:

- STC (Sound Transmission Class) – used to rate sound transmission between two areas separated by an interior wall or in comparing the sound transmission ratings of building assemblies using different materials

- IIC (Impact Insulation Class) - used to rate the tendency of floor assemblies to transmit sound to areas below.

- OITC – (Outdoor-Inside Transmission Class) - used to rate the ability of an assembly to reduce sound from outside a structure.

As proven by independent test results, GreenFiber insulation is extremely effective in controlling sound transmission. In most cases GreenFiber's cellulose fibers prove to be superior to 4-inch Sound Control Batts - a material designed specifically for improving Sound Control ratings. If you are considering using fiberglass batts but need more STC rating points for an assembly, GreenFiber Natural Fiber Insulation is your solution.

Numerous Qualities Combine To Offer GreenFiber's Sound-Reducing Effectiveness, Including:

• Inherent density of the closed cavity Spray Applied (Wall Spray) or Dry Dense-Packed installations
• Natural tendency to reduce convection as compared to loose-fill fiberglass and fiberglass batts
• Ability to install easily around irregular construction details so as to completely fill cavity voids
• Ability to stay in place, fitting snugly against framing members and even moderate slopes

By completely filling spaces where sound can travel, GreenFiber insulation reduces sound that can pass through gaps in batt-insulated walls. It is also ideal for filling spaces in ceilings, between floors and in open attics.

A Growing Concern

Limiting sound around powder rooms, media rooms, bedrooms attic kneewalls, between floors of a multi-family structure and any other part of the home where privacy is desired is an important benefit to any home buyer. What's more, the growing trend in urban development, with its higher density housing as well as multi-family construction, makes enhancing privacy more crucial than ever.

By any measure, controlling sound transmission has never been more important. Not only does it ensure the peace and quiet homeowners desire while minimizing annoyances, but it may even have important effects on health. As stated by the World Health Organization (WHO), "The growth in noise pollution is unsustainable because it involves direct, as well as cumulative, adverse health effects." Among the problems potentially affected by noise, the WHO lists sleep disturbance, increased blood pressure and heart rate, cardiac arrhythmia, increased fatigue, depressed mood or well-being, increased stress hormone levels and decreased performance of cognitive tasks.

Addressing The Issue

As concern for environmental noise inside and outside the home continues to grow, taking steps to mitigate its effects will be increasingly important. Clearly, architects, builders and contractors who best manage sound transmission will offer their clients a significant benefit. To this end, GreenFiber is pleased to provide technical information that can help provide this advantage, including details on wall assemblies and their STC/OITC ratings. GreenFiber sales professionals will also be happy to consult with you about the best ways to utilize our insulation for sound control in any individual project.
Please see the reverse side for a comparison of how our cellulose and 4-inch Sound Control Batts perform in certain assemblies when tested at an independent laboratory. For additional information or consultation regarding your projects, please contact GreenFiber at www.greenfiber.com or 1-800 228-0024.

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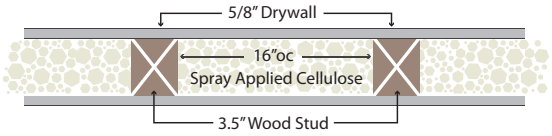
STC and OITC Ratings of All Assemblies Insulated with GreenFiber Insulation

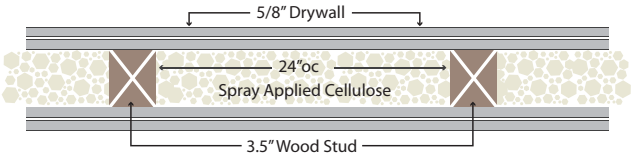
STC	OITC	Insulation	Insulation Type*	Wood Dimension	Stud Spacing	5/8" Drywall Layers	Resilient Channels
30	23	None	N	2"x4"	16" oc	Single	None
33	25	4-inch Sound Control Batt	FG	2"x4"	16" oc	Single	None
35	27	2.6 PCF Spray Applied Cellulose	C	2"x4"	16" oc	Single	None
36	26	Cellulose Dense Pack	C	2"x4"	16" oc	Single	None
35	26	Cellulose Tube Fill	C	2"x4"	16" oc	Single	None
35	26	Cellulose Drill & Fill	C	2"x4"	16" oc	Single	None
44	27	4-inch Sound Control Batt	FG	2"x4"	16" oc	Single	One Sided
44	29	2.6 PCF Spray Applied Cellulose	C	2"x4"	16" oc	Single	One Sided
35	25	None	N	2"x4"	24" oc	Single	None
38	28	4-inch Sound Control Batt	FG	2"x4"	24" oc	Single	None
39	32	2.6 PCF Spray Applied Cellulose	C	2"x4"	24" oc	Single	None
41	30	4.0 PCF Spray Applied Cellulose	C	2"x4"	24" oc	Single	None
46	28	4-inch Sound Control Batt	FG	2"x4"	24" oc	Single	One Sided
48	33	2.6 PCF Spray Applied Cellulose	C	2"x4"	24" oc	Single	One Sided
45	31	4-inch Sound Control Batt	FG	2"x4"	24" oc	Double	None
45	33	2.6 PCF Spray Applied Cellulose	C	2"x4"	24" oc	Double	None
44	36	4-inch Sound Control Batt	FG	Staggered	16" oc	Single	None
48	35	2.6 PCF Spray Applied Cellulose	C	Staggered	16" oc	Single	None
49	37	4-inch Sound Control Batt	FG	Staggered	16" oc	Single	One Sided
52	40	2.6 PCF Spray Applied Cellulose	C	Staggered	16" oc	Single	One Sided

*(N) None, (FG) Fiberglass, (C) Cellulose

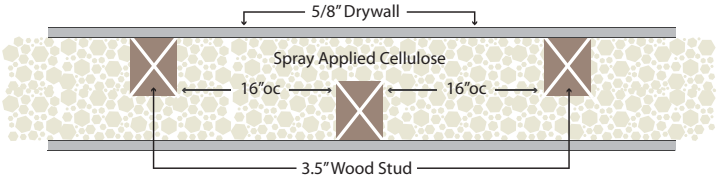
Single Drywall Construction



Double Drywall Construction



Single Staggered Drywall Construction



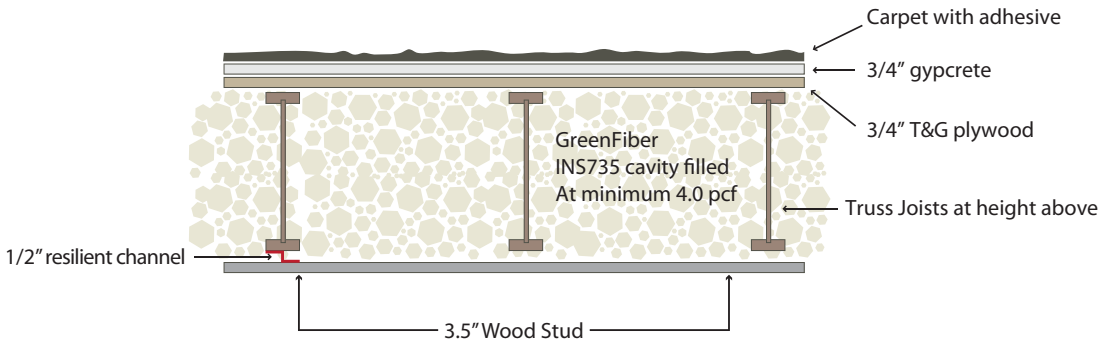
Architectural Testing, Inc., Report No. A2954.01-113-11
The acoustical tests were conducted in accordance with the following:
ASTM E 90-09 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions
ASTM E 413-04 Classification for Rating Sound Insulation
ASTM E 1332-90 Standard for Determination of Outdoor-Indoor Transmission Class
ASTM E 2235-04 Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods

greenfiber®

STC and IIC Ratings of UL M512, 1 Hour Unrestrained Fire-Resistance Rated Truss Joist Floor Assembly Containing GreenFiber INS735 Insulation

Truss Joist Floor Tests*

uss Height	Basic construction outline	STC	IIC
16"	16" Truss Joists, 24" oc, with 1/2" RC and 5/8" Type X Drywall below, and 3/4" T&G plywood and 3/4" 3310 gypcrete above and 3/8" padded Bigelow carpet on top. Cavities filled with 4.0 pcf INS735.	53	56
12"	12" Truss Joists, 24" oc, with 1/2" RC and 5/8" Type X Drywall below, and 3/4" T&G plywood and 3/4" 3310 gypcrete above and 3/8" padded Bigelow carpet on top. Cavities filled with 4.0 pcf INS735.	54	53



Tests Conducted by Architectural Testing, Inc. Report Pending
The acoustical tests were conducted in accordance with the following:
ASTM E 90-09 Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions
ASTM E 413-04 Classification for Rating Sound Insulation
ASTM E 492-09 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine
ASTM E 989-06 Standard Classification for Determination of Impact Insulation Class

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