USG
Interior
Panel &
Finishing
Solutions

SOUND PERFORMANCE SELECTOR GUIDE

USG SHEETROCK® BRAND
ULTRALIGHT PANELS
FIRECODE® X

Sound transmission loss tests were conducted by an accredited laboratory for acoustical performance under laboratory conditions in accordance with ASTM E90 and ASTM E413. It is important to follow best practices for sound control design and installation in order to obtain optimal installed acoustical performance. A basic rule is that sound performance is compromised any place where air can pass. Best practices include but are not limited to:

- All perimeters not covered with joint compound and tape shall be sealed with USG Sheetrock® Brand Acoustical Sealant, including between the floor and the base of the wallboard.
- The number and size of penetrations in a partition should be minimized and all openings should be completely sealed.
- Electrical boxes installed on adjacent sides of a partition should not be back-to-back or in the same stud cavity. Any unused openings in boxes should be sealed.
- Solid wood or mineral core doors with gasketed frames can help the acoustical performance of the system.
- Use of lightweight steel framing instead of wood studs.
- Addition of fiberglass or mineral wool sound control insulation in the stud cavities.
- Use of resilient channels to structurally isolate the wallboard panels from the framing.

More specific information regarding sound control design and construction can be found in the *USG Gypsum Construction Handbook* and Gypsum Association publication, *Fire Resistance Design Manual* (GA-600).

GENERAL ACOUSTIC PERFORMANCE GUIDELINES

While some differences in STC value may be seen in the comparison data for wall assemblies, the differences are minimal and likely due to standard variations[1] in laboratory testing. Additionally, it has been found that the human ear cannot detect variances in sound levels that are less than 3 dB, as shown in the following chart.

Change in Sound Level	Change in Apparent Loudness
1-2 dB	Indiscernible
3 dB	Just perceptible
5 dB	Clearly noticeable
10 dB	Twice as loud (or quiet)
20 dB	Four times as loud (or quiet)

Note:
1. Based on an inter-laboratory comparison, the reproducibility standard deviation for reference specimens tested per ASTM E90, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Element*, was found to be 2 dB or less in the test frequency range.

TESTED ASSEMBLIES

25-GAUGE STEEL STUDS

Product	UL Type Designation
USG Sheetrock® Brand UltraLight Panels Firecode® X	ULX
USG Sheetrock® Brand Firecode® X Panels (traditional)	SCX

Description	Plan View	System Thickness	STC	Sound Test	UL Type Designation
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Single layer both sides		4-7/8 in.	48	RAL-TL15-064	ULX
			48	RAL-TL11-074	SCX

USG
IT'S YOUR WORLD. BUILD IT.®

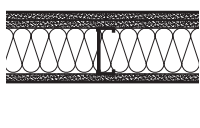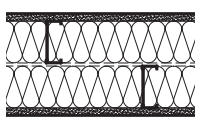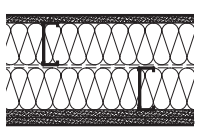| Description	Plan View	System Thickness	STC	Sound Test	UL Type Designation
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Resilient channel, single layer both sides		5-3/8 in.	51	USG-151202	ULX
			52	RAL-TL11-073	SCX
5/8" USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Double layer, single layer		5-1/2 in.	51	RAL-TL15-041	ULX
			52	RAL-TL11-075	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Double layer both sides		6-1/8 in.	54	RAL-TL15-042	ULX
			53	RAL-TL11-126	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Resilient channel, double layer both sides		6-5/8 in.	57	USG-161006	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Double layer, triple layer		6-3/4 in.	55	USG-160723	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Resilient channel, double layer, triple layer		7-1/4 in.	57	USG-161007	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Triple layer both sides		7-3/8 in.	56	USG-160724	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs staggered 16 in. OC 3.5 in. fiberglass insulation both cavities Single layer both sides		8-5/8 in.	58	USG-160904	ULX
			61	USG-160912	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs staggered 16 in. OC 3.5 in. fiberglass insulation both cavities Single layer, double layer		10-1/8 in.	62	USG-160905	ULX
			64	USG-160915	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 25 ga. steel studs staggered 16 in. OC 3.5 in. fiberglass insulation both cavities Double layer both sides		10-3/4 in.	65	USG-160906	ULX
			66	USG-160918	SCX
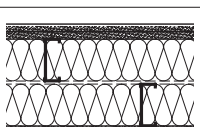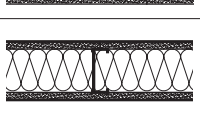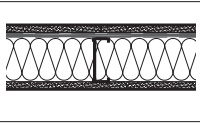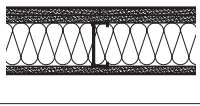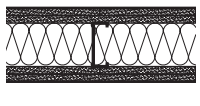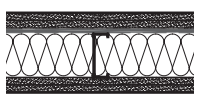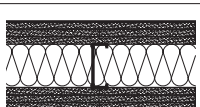
Product	UL Type Designation
USG Sheetrock® Brand UltraLight Panels Firecode® X	ULX
USG Sheetrock® Brand Firecode® X Panels (traditional)	SCX

Description	Plan View	System Thickness	STC	Sound Test	UL Type Designation
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 16 in. OC 3.5 in. fiberglass insulation Single layer both sides		4-7/8 in.	44	USG-150919	ULX
			45	RAL-TL12-194	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 16 in. OC 3.5 in. fiberglass insulation Resilient channel, single layer both sides		5-3/8 in.	49	USG-151205	ULX
			50	RAL-TL12-197	SCX

Description	Plan View	System Thickness	STC	Sound Test	UL Type Designation
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 16 in. OC 3.5 in. fiberglass insulation Double layer, single layer		5-1/2 in.	46	USG-150807	ULX
			47	RAL-TL12-195	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs staggered 16 in. OC 3.5 in. fiberglass insulation both cavities Single layer both sides		8-5/8 in.	59	USG-160848	ULX
			60	USG-160901	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs staggered 16 in. OC 3.5 in. fiberglass insulation both cavities Single layer, double layer		10-1/8 in.	62	USG-160849	ULX
			63	USG-160902	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs staggered 16 in. OC 3.5 in. fiberglass insulation both cavities Double layer both sides		10-3/4 in.	64	USG-160850	ULX
			65	USG-160903	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Single layer both sides		4-7/8 in.	48	USG-150923	ULX
			45	RAL-TL12-202	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Resilient channel, single layer both sides		5-3/8 in.	50	USG-151203	ULX
			51	RAL-TL12-203	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Double layer, single layer		5-1/2 in.	50	USG-160727	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Double layer both sides		6-1/8 in.	52	USG-160730	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Resilient channel, double layer both sides		6-5/8 in.	57	USG-160839	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Double layer, triple layer		6-3/4 in.	54	USG-160731	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Resilient channel, double layer, triple layer		7-1/4 in.	58	USG-160843	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 3-5/8 in. 20 ga. steel studs 24 in. OC 3.5 in. fiberglass insulation Triple layer both sides		7-3/8 in.	55	USG-160732	ULX
			Not Tested		SCX

Product	UL Type Designation
USG Sheetrock® Brand UltraLight Panels Firecode® X	ULX
USG Sheetrock® Brand Firecode® X Panels (traditional)	SCX

Description	Plan View	System Thickness	STC	Sound Test	UL Type Designation
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 2 x 4 wood studs 16 in. OC Single layer both sides		4-3/4 in.	33	USG-151234	ULX
			32	RAL-TL11-129	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 2 x 4 wood studs 16 in. OC 3.5 in. fiberglass insulation Single layer both sides		4-3/4 in.	36	USG-151235	ULX
			34	RAL-TL11-130	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 2 x 4 wood studs 16 in. OC 3.5 in. fiberglass insulation Resilient channel, single layer both sides		5-1/4 in.	47	USG-151240	ULX
			48	RAL-TL11-083	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 2 x 4 wood studs 16 in. OC 3.5 in. fiberglass insulation Double layer, single layer		5-3/8 in.	38	USG-151236	ULX
			37	RAL-TL11-084	SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 2 x 4 wood studs 16 in. OC 3.5 in. fiberglass insulation Resilient channel, single layer, double layer		5-7/8 in.	50	USG-151238	ULX
			Not Tested		SCX
5/8 in. USG Sheetrock® Brand Type X Gypsum Panels 2 x 4 wood studs 16 in. OC 3.5 in. fiberglass insulation Resilient channel, double layer both sides		6-1/2 in.	54	RAL-TL15-063	ULX
			Not Tested		SCX

PRODUCT INFORMATION
See usg.com for the most up-to-date product information.

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SAFETY FIRST!
Follow good safety and industrial hygiene practices during handling and installation of all products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read Safety Data Sheets and related literature on products before specification and/or installation.

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