USG Corporate Innovation Center

Construction Systems Laboratory
700 North Highway 45 • Libertyville, IL 60048-1296 • (847) 970-5200

TEST REPORT

Sound Transmission

Test Number: Wall STC - 170701 **Test Date:** July 11, 2017
Tested For: GPL - Naveen Punati **Project:** TY-1943

Test Method

ASTM E90-09, "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements." STC per ASTM E413-10.

Sample ID:

Sample 1

Assembly Description 1SCX5V_4SCH34(24)_1SLX8V

Single layer 5/8 Firecode Type X source side, 20 ga. steel C-H studs 24" oc, single layer 1 in. Liner Panel

System Assembly consists of:

USG SHEETROCK® Cavity Shaft Wall System - System "A" with 4" studs and single layer of 5/8" USG SHEETROCK® Firecode Type X Gypsum Panels screw attached to the "C" section of a single row of 4" 20ga USG 400CH20-34 studs and 1" USG SHEETROCK® Liner Panels friction fit into the "H" section of the studs. The studs were held in place with 20 ga USG Steel J-Runner and CEMCO FAS J-Track. The framing consisted of 102 mm (4 in.) steel studs installed 610 mm (24 in.) on center. The thickness of the studs was measured as 0.85 mm (0.034 in.) thick. A steel floor runner was installed a the bottom of the wall and a CEMCO FAS J-Track runner was attached to the top of the wall. The FAS J-Track had a full length intumescent strip at the top of the track. The floor and ceiling runners were attached with 32 mm (1 1/4 in.) Type S screws at 51 mm (2 in.) from the ends and at 914 mm (36 in.) centers. End studs were attached to the frame with three (3) 32 mm (1 1/4 in.) Type S screws. Total weight of the framing, as measured, was 29.6 kg (65.2 lbs). A 76 mm (3 in.) wide by 76 mm (3 in.) strip of SAFB Thermafiber was compressed in the full length of the FAS J-Track as illustrated in the UL HW-D-0625 design. On the source side of the wall, a single layer of 5/8" SHEETROCK® Firecode Type X Gypsum Panels was attached vertically. The layer was attached with 32 mm (1 1/4 in.) long Type S screws spaced 305 mm (12 in.) on center in the field and 203 (8 in.) on center at the perimeter. Total weight of the gypsum panels, as measured, was 213 kg (470 lbs). On the receive side, shaft wall liner face, the interface between the panels anf the "H" section of the studs or J-Runners was left untreated as in normal construction. On the source side, joints were sealed with acoustical caulk and metal tape. Screw heads were covered with metal tape. Only the bottom horizontal and two vertical ends of the specimen (both sides) were sealed with dense mastic.

Assembly Details

Length:	96 in	Specimen Area:	72 sq. ft	
Height:	108 in	Partition Thickness:	4.63 in	(framing, board & any cavity fill)
		Total Assembly Weight:	536.1 lb	

Tested By: Chester Chatman

Approved By: D. Moyer

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Room Conditions	**Source Room**		**Receive Room**	
Temperature:	72.5 °F	22.5 °C	71.6 °F	22.0 °C
Relative Humidity:	80.0 %		55.0 %	
Volume:	4541.7 ft^3	128.6 m^3	7236.2 ft^3	204.9 m^3

Instrumentation	**Source Room**	**Receive Room**
Microphone:	B&K Type 4942 C 1 SN: 2741254	B&K Type 4942 C 1 SN: 2741257

Test Results

Frequency (Hz)	TL (dB)	Deficiency (dB)	95% Confidence Limit of TL (dB)
100	15		
125	24	2	1.57
160	24	5	1.07
200	29	3	1.36
250	33	2	0.68
315	34	4	0.32
400	39	2	0.49
500	43	-	0.44
630	44	-	0.16
800	46	-	0.16
1000	47	-	0.17
1250	45	1	0.15
1600	45	1	0.22
2000	42	4	0.15
2500	41	5	0.15
3150	45	1	0.23
4000	47	-	0.17
5000	47		

* Indicates correction due to low (less than 5 dB) signal-to-noise level in the receiving room. TL's are not affected by flanking transmission.

Sound Transmission Class (STC): 42

Total Deficiencies: 30

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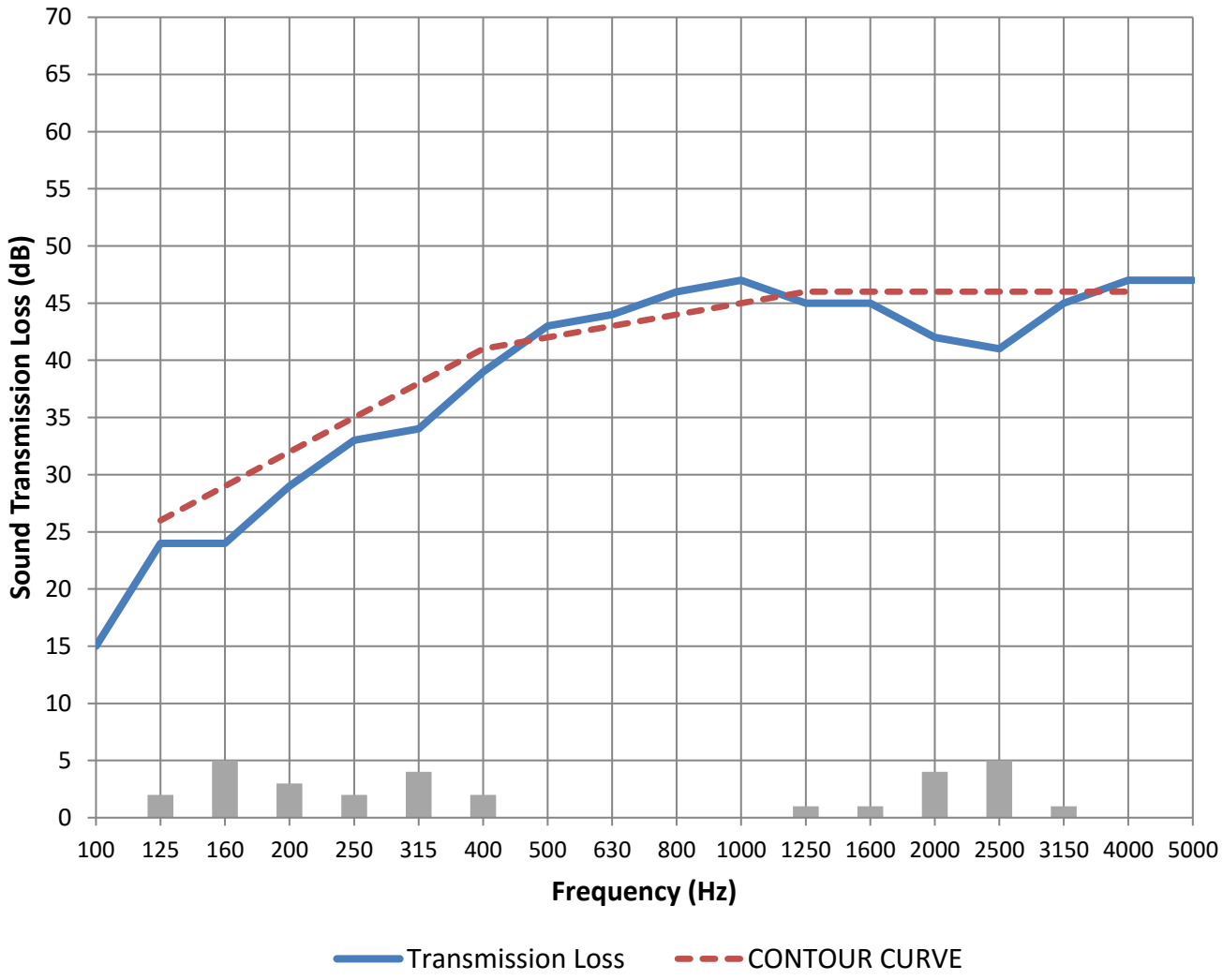

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