



SOUND TRANSMISSION LOSS TEST REPORT NO. TL18-302

CLIENT: **ClarkDietrich**
9050 Centre Pointe Drive, #400
West Chester, Ohio 45069

25 June 2018

TEST DATE: 20 June 2018

INTRODUCTION

The test was performed in accordance with ASTM E 90-09 (2016), *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions* and ASTM E2235-04 (2012), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*. Copies of the test standard are available at www.astm.org. The test chamber source and receiving room volumes are 204 and 148.4 cubic meters respectively. Western Electro-Acoustic Laboratory is accredited by the United States Department of Commerce, National Institute of Standards and Technology under the National Voluntary Accreditation Program (NVLAP) Lab Code 100256-0 for this test procedure. This test report relates only to the item(s) tested. This report must not be used to claim product certification, approval, or endorsement by WEAL, NVLAP, NIST or any agency of the federal government.

DESCRIPTION OF TEST SPECIMEN

The test specimen was a single stud wall assembly constructed from 92 mm (3-5/8 inch) ClarkDietrich ProSTUD® 25 (25-gauge EQ) steel studs with 92 mm (3-5/8 inch) ClarkDietrich ProTRAK® 25 (25-gauge EQ) steel track, Owens Corning R-13 unfaced fiberglass batt insulation in the stud cavities, 13 mm (1/2 inch) thick ClarkDietrich RC-Deluxe resilient channel, and USG Sheetrock® Brand Firecode® Type 'X' gypsum board.

TEST CONFIGURATION

Source Room Layers	Source Room Resilient Channel	Stud Configuration	Receiving Room Layers
1 layer 16 mm (5/8 inch) USG Sheetrock® Brand Firecode® Type 'X' gypsum board	13 mm (1/2 inch) ClarkDietrich RC-Deluxe resilient channel	92 mm (3-5/8 inch) ClarkDietrich ProSTUD® 25 (25-gauge EQ) steel studs with 92 mm (3-5/8 inch) ClarkDietrich ProTRAK® 25 (25- gauge EQ) steel track with Owens Corning R-13 unfaced fiberglass batt insulation	1 layer 16 mm (5/8 inch) USG Sheetrock® Brand Firecode® Type 'X' gypsum board

- The 92 mm (3-5/8 inch) ClarkDietrich ProSTUD® 25 (25-gauge EQ) steel studs were spaced 610 mm (24 inches) on center (O.C.) and screwed into the ClarkDietrich ProTRAK® 25 (25-gauge EQ) steel track with 13 mm (1/2 inch) truss screws. Owens Corning R-13 unfaced fiberglass batt insulation was installed in the stud cavities. The frame was isolated from the test opening with 6 mm (1/4 inch) neoprene pads.
- On the source side, ClarkDietrich RC-Deluxe resilient channel was screwed to the studs using 13 mm (1/2 inch) metal framing screws. The resilient channel was 13 mm (1/2 inch) thick. The resilient channel was installed per manufacturer's instructions and was oriented with the resilient leg above the screw leg. The resilient channel was spaced 76 mm (3 inches) from the top and bottom of the wall with a maximum spacing of 610 mm (24 inches) vertically.
- On the source side, one layer of 16 mm (5/8 inch) USG Sheetrock® Brand Firecode® Type 'X' gypsum board was screwed to the resilient channel using 25 mm (1 inch) long #6 drywall screws spaced 305 mm (12 inches) O.C. along the channel.
- On the receiving side, one layer of 16 mm (5/8 inch) USG Sheetrock® Brand Firecode® Type 'X' gypsum board was screwed to the studs using 29 mm (1-1/8 inch) long #6 drywall screws spaced 203 mm (8 inches) O.C. along the perimeter and 305 mm (12 inches) O.C. in the field.

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- All gypsum board was oriented vertically with joints staggered on opposite sides. All the gypsum board joints were sealed with a bead of latex caulking and metal foil tape. All screw heads were covered with metal foil tape.
On both sides around the perimeter of the assembly, a 6 mm (1/4 inch) gap was maintained and sealed with a bead of latex caulking and metal foil tape.
The overall dimensions of the wall assembly were 2.44 m (96 inches) wide by 2.44 m (96 inches) high by 137 mm (5-3/8 inches) thick.
The overall weight of the assembly was estimated to be 150 kg (330 lbs.) for a calculated surface density of 25.2 kg/m² (5.2 lbs./ft²).

RESULTS OF THE MEASUREMENTS

One-third octave band sound transmission loss values are plotted and tabulated on the attached sheet. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC-35. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-54.

Approved:

Handwritten signature of Stephen A. Martin

Stephen A. Martin, Ph.D., P.E.
Laboratory Director

Respectfully submitted,
Western Electro-Acoustic Laboratory

Handwritten signature of Raul Martinez

Raul Martinez
Acoustical Test Technician



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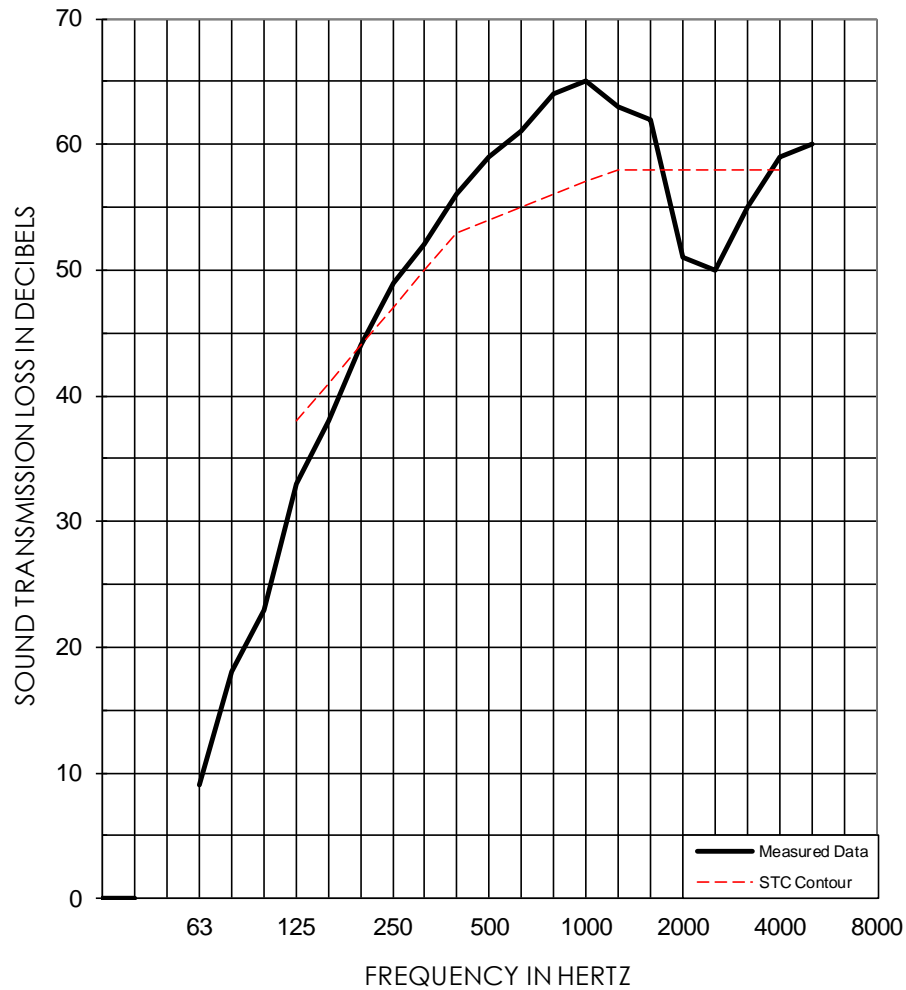
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1/3 OCT BAND CNTR FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB	9	18	23	33	38	44	49	52	56	59
95% Confidence in dB deficiencies	1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36	0.38
1/3 OCT BAND CNTR FREQ	630	800	1000	1250	1600	2000	2500	3150	4000	5000
TL in dB	61	64	65	63	62	51	50	55	59	60
95% Confidence in dB deficiencies	0.29	0.44	0.38	0.39	0.36	0.56	0.55	0.31	0.32	0.50
EWR	OITC	Test Date: 20 June 2018 Specimen Area: 64 sq.ft. Temperature: 75.9 deg. F Relative Humidity: 45 %								STC
55	35	* Minimum estimate of transmission loss. Measurement limited by filler wall. Actual TL will be equal or greater than value reported.								54 (26)

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