



SOUND TRANSMISSION LOSS TEST REPORT NO. TL20-416

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

10 September 2020

TEST DATE: 14 August 2020

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 (2020), *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 consisted of a ClarkDietrich ProSTUD® and ProTRAK® 30mil single steel stud wall assembly with ClarkDietrich RC Deluxe® resilient channel, Type 'X' gypsum board installed on both sides of the assembly, and batt insulation in the stud cavity.

TEST CONFIGURATION

Source Room Layers	Resilient Framing	Stud Framing	Receiving Room Layers
2 layers 16 mm (5/8 inch) Type 'X' gypsum board	13 mm (1/2 inch) ClarkDietrich RC Deluxe® resilient channel with standard pre-drilled holes punched in the mounting flange of the channel	92 mm (3-5/8 inch) ClarkDietrich ProSTUD® and ProTRAK® 30mil single steel studs spaced 610 mm (24 inches) on center with R-13 batt insulation in the cavity	2 layers 16 mm (5/8 inch) Type 'X' gypsum board

- The framing consisted of 92 mm (3-5/8 inch) ClarkDietrich ProSTUD® 30mil single steel studs that were spaced 610 mm (24 inches) on center (O.C.) and were screwed to the ClarkDietrich ProTRAK® 30mil steel track with 12 mm (1/2 inch) truss screws. Unfaced R-13 fiberglass 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® standard resilient channel was installed per the manufacturer's instructions.
 - The channel was screwed to the studs using 11 mm (7/16 inch) pan framing head screws.
 - The channel was spaced 51 mm (2 inches) from the bottom track, 152 mm (6 inches) from the top track, and 610 mm (24 inches) O.C. vertically up the studs.
 - The channel had standard pre-drilled holes punched in the mounting flange of the channel.
- On the source side, two layers of 16 mm (5/8 inch) Type 'X' gypsum board were screwed to the channel.
 - The base layer was screwed using 25 mm (1 inch) long #6 drywall screws spaced at 305 mm (12 inches) O.C. along the channel.



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- The outer layer was screwed using 41 mm (1-5/8 inch) long #6 drywall screws offset from the first layer and spaced at 305 mm (12 inches) O.C. along the channel.
- On the receiving side, two layers of 16 mm (5/8 inch) Type 'X' gypsum board were screwed to the studs.
 - The base layer was screwed using 29 mm (1-1/8 inch) long #6 drywall screws spaced at 203 mm (8 inches) O.C. around the perimeter and 305 mm (12 inches) O.C. in the field.
 - The outer layer was screwed using 41 mm (1-5/8 inch) long #6 drywall screws offset from the first layer and spaced at 203 mm (8 inches) O.C. around the perimeter and 305 mm (12 inches) O.C. in the field.
- All gypsum board was oriented vertically with joints staggered on opposite sides. All gypsum board joints were sealed with a bead of latex caulking and metal foil tape. All screw heads were covered with 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 168 mm (6-5/8 inches) thick.
- The overall weight of the assembly was estimated to be 283.1 kg (624.1 lbs.) for a calculated surface density of 47.6 kg/m² (9.8 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 45. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC 58.

Approved:

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

Respectfully submitted,
Western Electro-Acoustic Laboratory

Raul Martinez
Acoustical Test Technician



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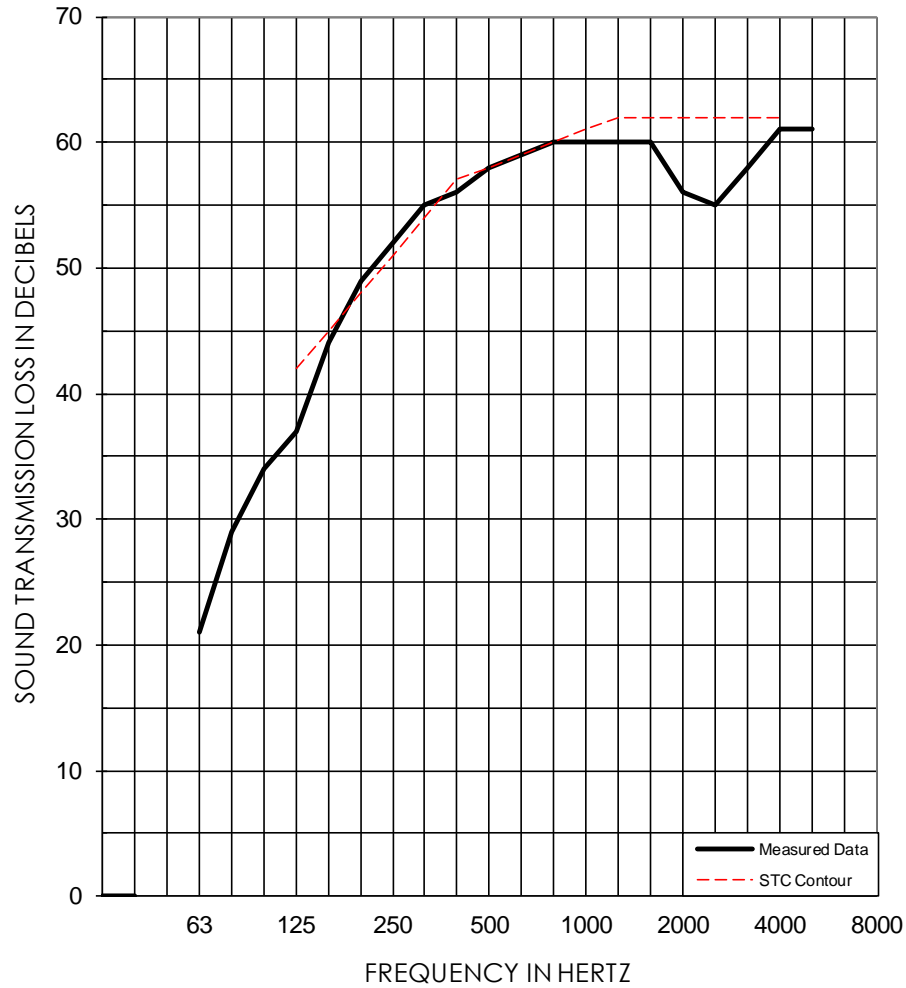
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1/3 OCT BAND CNTR FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB	21	29	34	37	44	49	52	55	56	58
95% Confidence in dB deficiencies	1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36	0.38

1/3 OCT BAND CNTR FREQ	630	800	1000	1250	1600	2000	2500	3150	4000	5000
TL in dB	59	60	60	60	60	56	55	58	61	61
95% Confidence in dB deficiencies	(0)	(0)	(1)	(2)	(2)	(6)	(7)	(4)	(1)	

EWR	OITC	Test Date: 14 August 2020	STC
59	45	Specimen Area: 64 sq.ft.	58
		Temperature: 78.4 deg. F	(30)
		Relative Humidity: 35 %	