



WESTERN ELECTRO - ACOUSTIC LABORATORY

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TESTING • CALIBRATION • RESEARCH

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SOUND TRANSMISSION LOSS TEST REPORT NO. TL15-166

CLIENT: **CEMCO**
263 N Covina Lane
City of Industry, CA 91744
TEST DATE: 11 March 2015

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12 June 2015

INTRODUCTION

The methods and procedures used for each test conform to the provisions and requirements of ASTM E 90-09, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions* and ASTM E2235-04^{e1}, *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 wall assembly constructed from metal studs, resilient channels, and Type X gypsum board. The metal studs were 92.1 mm (3-5/8 inch) Cemco 33 mil studs and were spaced at 610 mm (24 inches) O.C. The sill and head tracks were 92.1 mm (3-5/8 inch) Cemco viper metal with a 31.8 mm (1-1/4 inch) flange. The frame was isolated from the test opening with 6.4 mm (1/4 inch) neoprene pads. Full width R-13 un-faced fiberglass batts, 89 mm (3-1/2 inch) thick, were installed in the stud spaces. On the source room side, two layers of 15.9 mm (5/8 inch) thick USG Type X gypsum board were screwed to the studs at 203 mm (8 inches) O.C. around the perimeter and 610 mm (24 inches) O.C. in the field using 28.6 mm (1-1/8 inch) drywall screws on the first layer and 50.8 mm (2 inch) drywall screws on the second layer. On the receiving room side, CEMCO 18 mil RC-1X single leg resilient channels were screwed to the studs horizontally at 610 mm (24 inches) O.C. The slots on the channel were 52.4 mm (2-1/16 inches) long separated by 23.0 mm (29/32 inch) of steel. The center of the top channel was 76.2 mm (3 inches) below the top of the wall and the center of the bottom channel was 76.2 mm (3 inches) above the bottom of the wall. Two layers of 15.9 mm (5/8 inch) thick USG Type X gypsum board were screwed to the resilient channels at 203 mm (8 inches) O.C. around the perimeter and 610 mm (24 inches) O.C. in the field using 28.6 mm (1-1/8 inch) drywall screws on the first layer and 50.8 mm (2 inch) drywall screws on the second layer. All gypsum board was oriented vertically. On both sides, the joints and perimeters were sealed with a bead of 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 140 mm (5-1/2 inches) thick. The overall weight of the assembly was estimated to be 284kg (626 lbs) for a calculated surface density of 47.8 kg/m² (9.78 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-44. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-58.

Approved:

Respectfully submitted,
Western Electro-Acoustic Laboratory

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

Raul Martinez
Acoustical Test Technician

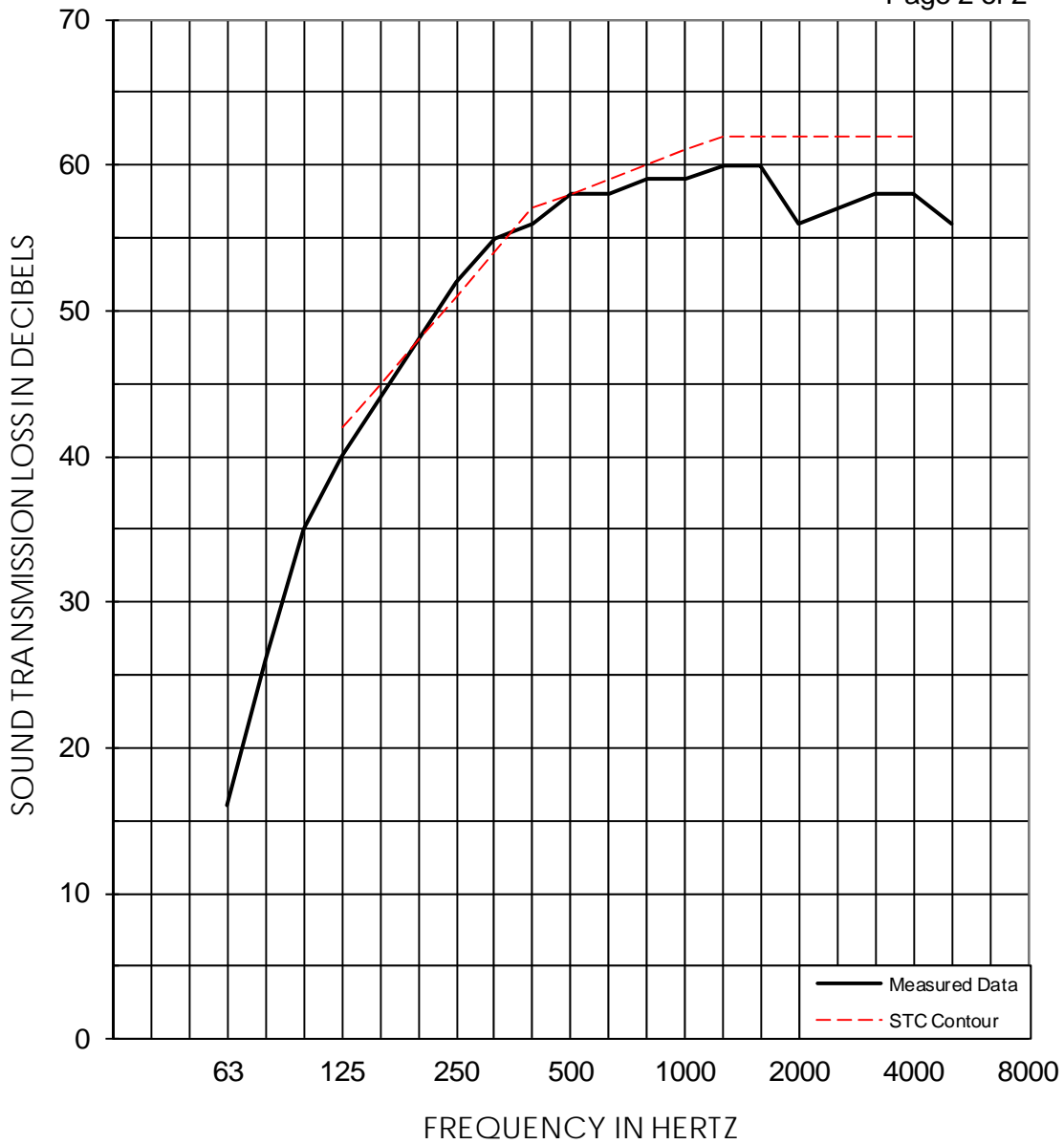
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1/3 OCT BAND CNTR FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB	16	26	35	40	44	48	52	55*	56	58
95% Confidence in dB deficiencies	1.42	1.92	2.07	1.47 (2)	0.89 (1)	0.76 (0)	0.80	0.52	0.36 (1)	0.38 (0)
1/3 OCT BAND CNTR FREQ	630	800	1000	1250	1600	2000	2500	3150	4000	5000
TL in dB	58	59	59	60	60	56	57	58	58	56
95% Confidence in dB deficiencies	0.29 (1)	0.44 (1)	0.38 (2)	0.39 (2)	0.36 (2)	0.56 (6)	0.55 (5)	0.31 (4)	0.32 (4)	0.50
EWR	OITC	Test Date: 11 March 2015 Specimen Area: 64 sq.ft. Temperature: 70.5 deg. F Relative Humidity: 40 %								STC
59	44									58 (31)

* Minimum estimate of transmission loss. Measurement limited by filler wall. Actual TL will be equal or greater than value reported.