WESTERN ELECTRO - ACOUSTIC LABORATORY
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SOUND TRANSMISSION LOSS TEST REPORT NO. TL15-168

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

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$^{\varepsilon 1}$, *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 15 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, one layer of 15.9 mm (5/8 inch) thick USG Type X gypsum board was 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 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 209kg (461 lbs) for a calculated surface density of 36.8 kg/m^2 (7.53 lbs./ft^2).

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-38. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-57.

Respectfully submitted,
Western Electro-Acoustic Laboratory

Approved:

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

Raul Martinez
Acoustical Test Technician

WESTERN ELECTRO-ACOUSTIC LABORATORY

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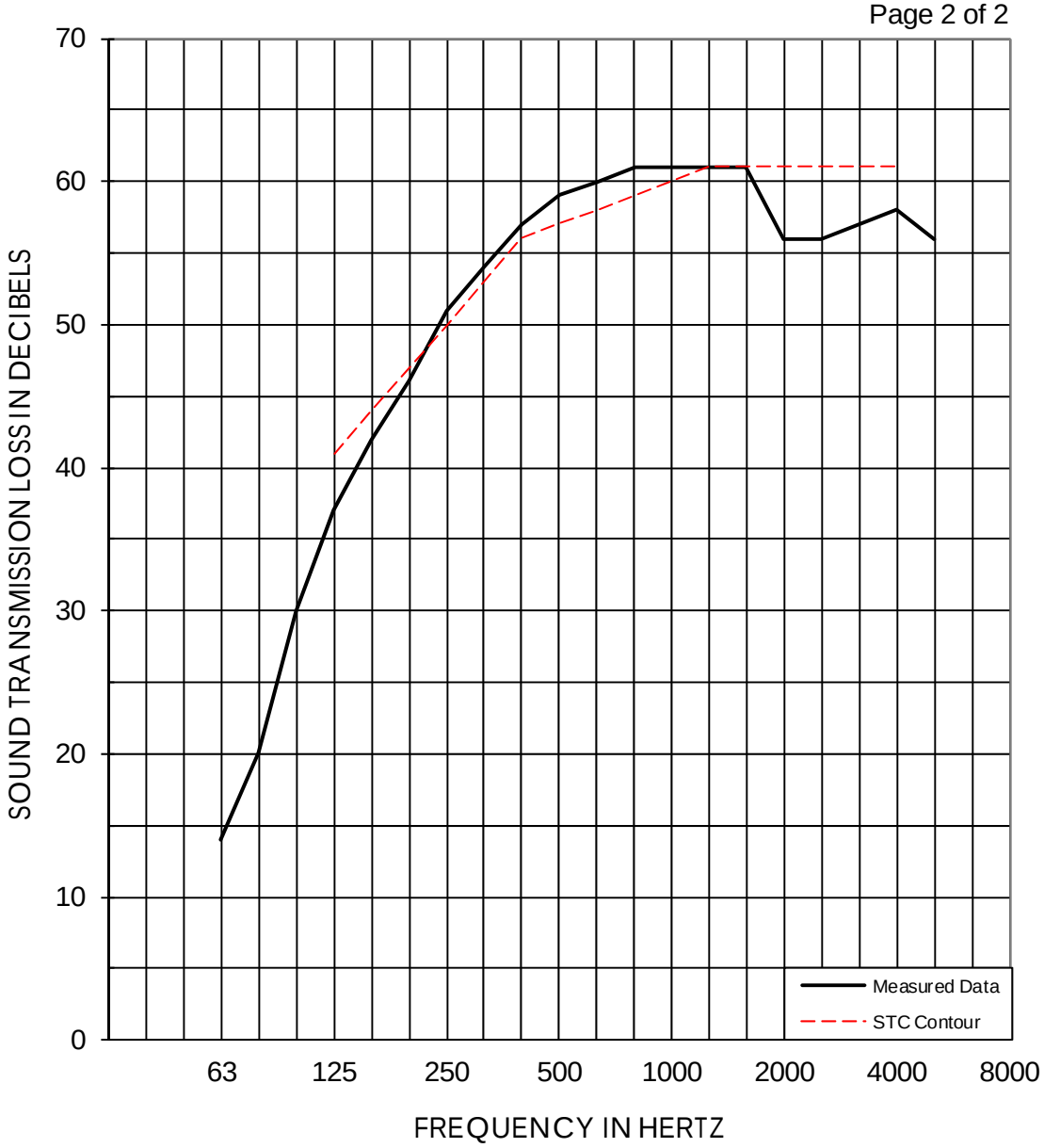

1/3 OCT BAND CNTR FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB	**14**	**20**	**30**	**37**	**42**	**46**	**51**	**54**	**57***	**59**
95% Confidence in dB	1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36	0.38
deficiencies				(4)	(2)	(1)				
1/3 OCT BAND CNTR FREQ	**630**	**800**	**1000**	**1250**	**1600**	**2000**	**2500**	**3150**	**4000**	**5000**
TL in dB	**60**	**61**	**61**	**61**	**61**	**56**	**56**	**57**	**58**	**56**
95% Confidence in dB	0.29	0.44	0.38	0.39	0.36	0.56	0.55	0.31	0.32	0.50
deficiencies				(0)	(0)	(5)	(5)	(4)	(3)	

EWR	OITC
59	38

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

Test Date: 11 March 2015
Specimen Area: 64 sq.ft.
Temperature: 71.1 deg. F
Relative Humidity: 40 %

STC
57
(24)

NVLAP LAB CODE 100256-0