



SOUND TRANSMISSION LOSS TEST REPORT NO. TL13-209

CLIENT: **CEMCO**
263 N Covina Lane
City of Industry, CA 91744
TEST DATE: 28 February 2013

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1 March 2013

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 mm (3-5/8 inch) Cemco 25 gauge Viperstuds and were spaced at 610 mm (24 inches) O.C. The sill track was also 92 mm (3-5/8 inch) Cemco 25 gauge metal. At the head was a 20 gauge slotted track. The sill and edge studs were isolated from the test opening with 6.4 mm (1/4 inch) neoprene pads. The head track was screwed directly to the test chamber opening and a Cemco DDA 25 gauge steel angle with intumescent tape on the inside leg was friction fit against the track on both sides. 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 Type X gypsum board was screwed to the studs at 203 mm (8 inches) O.C. around the perimeter and 305 mm (12 inches) O.C. in the field using 31.8 mm (1-1/4 inch) drywall screws on the first layer and 41.3 mm (1-5/8 inch) drywall screws on the second layer. The first layer was oriented vertically and the second layer was oriented horizontally. On the receiving room side, Cemco 25 gauge RC-1 resilient channels were screwed to the studs horizontally and spaced at 610 mm (24 inches) O.C. The channels were oriented with the resilient leg above the screw leg. The center of the top channel was 178 mm (7 inches) below the top of the wall and the center of the bottom channel was 76 mm (3 inches) above the bottom of the wall. Above the top channel, a 152 mm (6 inch) strip of 12.7 mm (1/2 inch) thick gypsum board was installed against the track to close the 12.7 mm (1/2 inch) gap created by the channels. One layer of 15.9 mm (5/8 inch) thick Type X gypsum board was screwed to the channels at 305 mm (12 inches) O.C. with 31.8 mm (1-1/4 inch) drywall screws. The gypsum board was oriented horizontally. On both sides, a 12.7 mm (1/2 inch) gap was intentionally left at the head. On both sides, the joints and perimeters were sealed with a bead of caulking and metal foil tape except at the head. 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 152 mm (6 inches) thick. The overall weight of the assembly was estimated to be 219 kg (482 lbs) for a calculated surface density of 36.8 kg/m² (7.54 lbs./ft²).

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RESULTS OF THE MEASUREMENTS

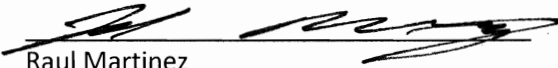
One-third octave band sound transmission loss values are plotted and tabulated on the attached sheet. ASTM minimum volume requirements are met at 80 Hz and above. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC-38. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-54.

Approved:



Gary E. Mange
Laboratory Director

Respectfully submitted,
Western Electro-Acoustic Laboratory

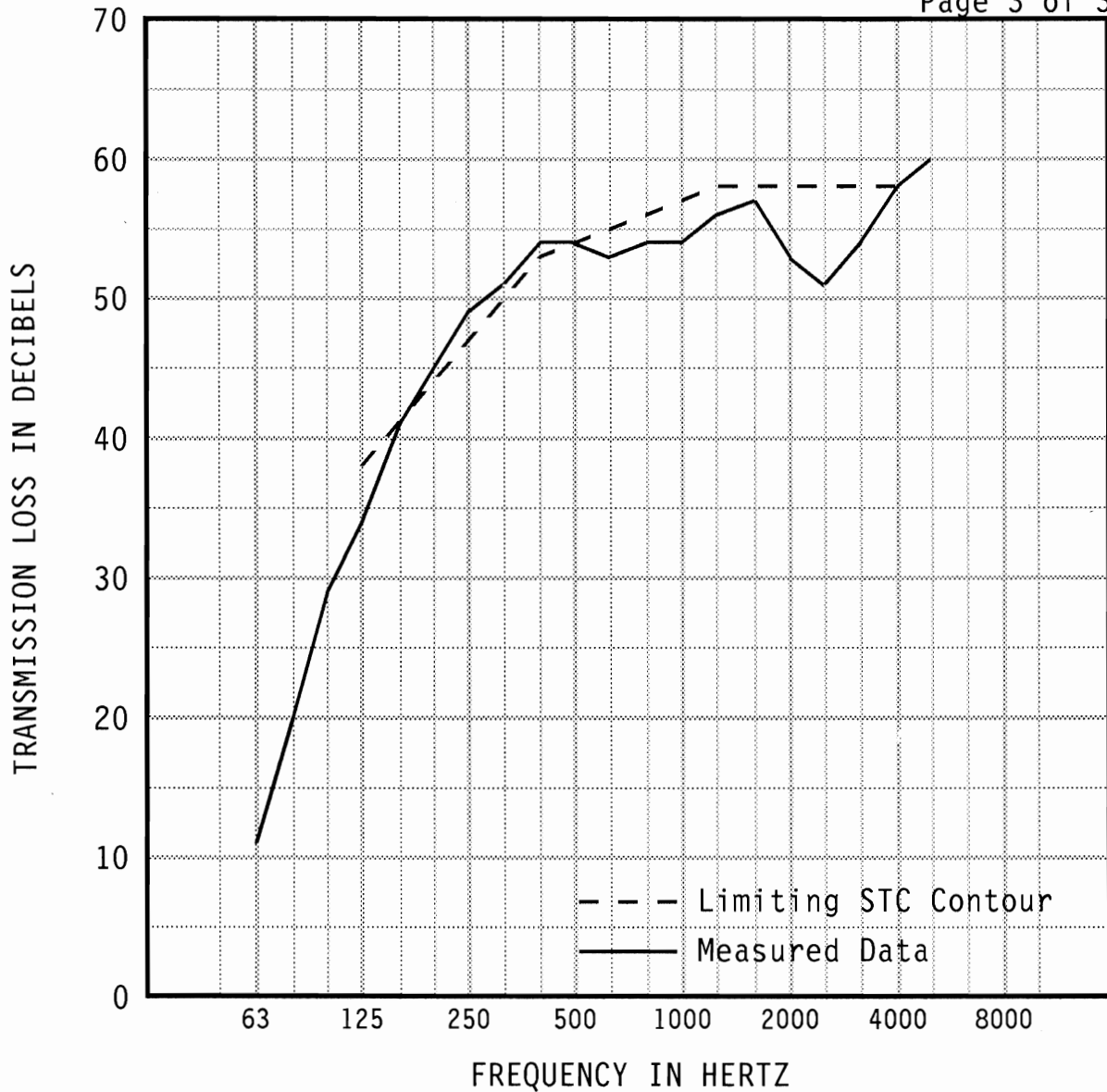


Raul Martinez
Acoustical Test Technician

WESTERN ELECTRO-ACOUSTIC LABORATORY

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1/3 OCT BND CNTR	FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB		11	20	29	34	41	45	49	51	54	54
95% Confidence in dB deficiencies		1.42	1.92	2.07	1.47 (4)	0.89 (0)	0.76	0.80	0.52	0.36	0.38 (0)
1/3 OCT BND CNTR	FREQ	630	800	1000	1250	1600	2000	2500	3150	4000	5000
TL in dB		53	54	54	56	57	53	51	54	58	60
95% Confidence in dB deficiencies		0.29 (2)	0.44 (2)	0.38 (3)	0.39 (2)	0.36 (1)	0.56 (5)	0.55 (7)	0.31 (4)	0.32 (0)	0.50

EWR	OITC	Specimen Area: 64 sq.ft. Temperature: 69.1 deg. F Relative Humidity: 32 % Test Date: 28 February 2013	STC 54 (30)
55	38		

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