



# WESTERN ELECTRO - ACOUSTIC LABORATORY

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TESTING • CALIBRATION • RESEARCH

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## SOUND TRANSMISSION LOSS TEST REPORT NO. TL13-208

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

Page 1 of 2  
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<sup>e1</sup>, *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](http://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 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 both sides 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 on each side was oriented vertically and the second layer on both sides was oriented horizontally. The joints were staggered on opposite sides of the wall. 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 156 mm (6-1/8 inches) thick. The overall weight of the assembly was estimated to be 281 kg (620 lbs) for a calculated surface density of 47.3 kg/m<sup>2</sup> (9.69 lbs./ft<sup>2</sup>).

### 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-52.

Approved:

  
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Gary E. Mange  
Laboratory Director

Respectfully submitted,  
Western Electro-Acoustic Laboratory

  
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Raul Martinez  
Acoustical Test Technician

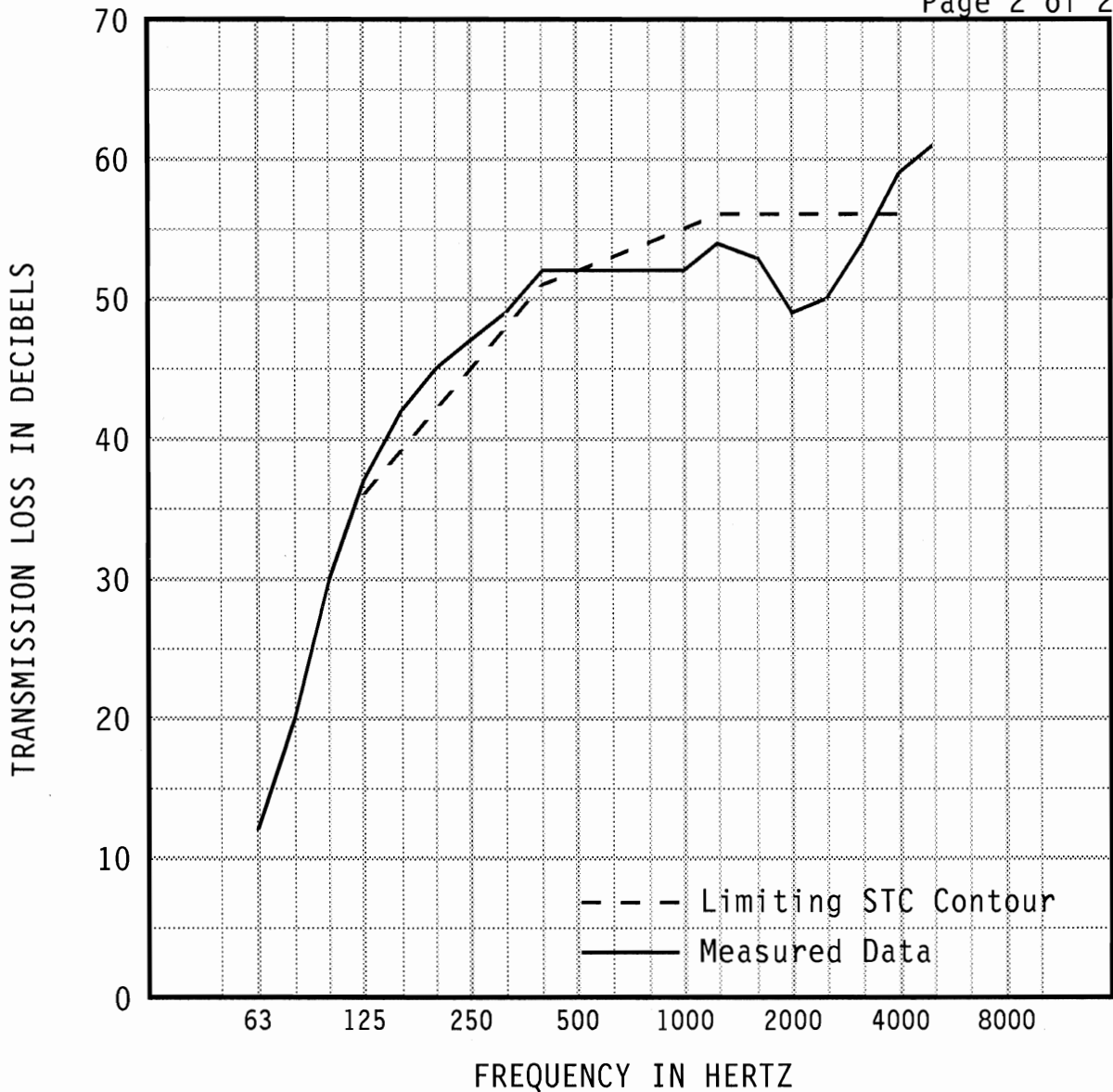
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1/3 OCT BND CNTR	FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB		12	20	30	37	42	45	47	49	52	52
95% Confidence in dB deficiencies		1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36	0.38 (0)
1/3 OCT BND CNTR	FREQ	630	800	1000	1250	1600	2000	2500	3150	4000	5000
TL in dB		52	52	52	54	53	49	50	54	59	61
95% Confidence in dB deficiencies		0.29 (1)	0.44 (2)	0.38 (3)	0.39 (2)	0.36 (3)	0.56 (7)	0.55 (6)	0.31 (2)	0.32	0.50

EWR	OITC
54	38

Specimen Area: 64 sq.ft.  
 Temperature: 68.5 deg. F  
 Relative Humidity: 35 %  
 Test Date: 28 February 2013

STC
52
(26)

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