WESTERN ELECTRO - ACOUSTIC LABORATORY
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TESTING • CALIBRATION • RESEARCH

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SOUND TRANSMISSION LOSS TEST REPORT NO. TL14-285 revision 1

CLIENT: **CEMCO**
263 N Covina Lane
City of Industry, CA 91744
TEST DATE: 8 July 2014

9 July 2014

INTRODUCTION

The test was performed in accordance with 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 double wall assembly constructed from metal studs and type X gypsum board. The studs were 63.5 mm (2-1/2 inch) CEMCO 18 mil (25 gauge) Viper Studs and were spaced at 610 mm (24 inches) O.C. The sill tracks were 63.5 mm (2-1/2 inch) CEMCO 18 mil (25 gauge) metal with 31.8 mm (1-1/4 inch) legs. The head tracks were 63.5 mm (2-1/2 inch) CEMCO 33 mil (20 gauge) metal with 63.5 mm (2-1/2 inch) legs. There was a 25 mm (1 inch) gap between the frames. The sills and edge studs were isolated from the test opening with 6.4 mm (1/4 inch) neoprene pads. The head tracks were screwed directly to the test chamber opening. Two layers of full width Certainteed 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 USG type X gypsum board were 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. All gypsum board was oriented vertically and the joints were staggered on opposite sides of the wall and between layers. 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. For this test the 12.7 mm (1/2 inch) gap at the top was sealed with CEMCO HOTROD (open cell backer rod), flat tape, and joint compound on both sides. 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 216 mm (8-1/2 inches) thick. The overall weight of the assembly was estimated to be 296 kg (652 lbs.) for a calculated surface density of 49.8 kg/m^2 (10.2 lbs./ft^2).

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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. Flagged values are lower limits of transmission loss. Actual transmission loss will be equal to or greater than the flagged value. The energy through the filler wall was within 6 dB of the energy through the composite wall in those frequency bands. The calculated STC rating is accurate because none of the values used to calculate the STC are flagged. The Outdoor-Indoor Transmission Class rating determined in accordance with ASTM E 1332-10a was OITC-53. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-68.

Approved:

Gary E. Mange
Laboratory Director

Respectfully submitted,
Western Electro-Acoustic Laboratory

Raul Martinez
Acoustical Test Technician

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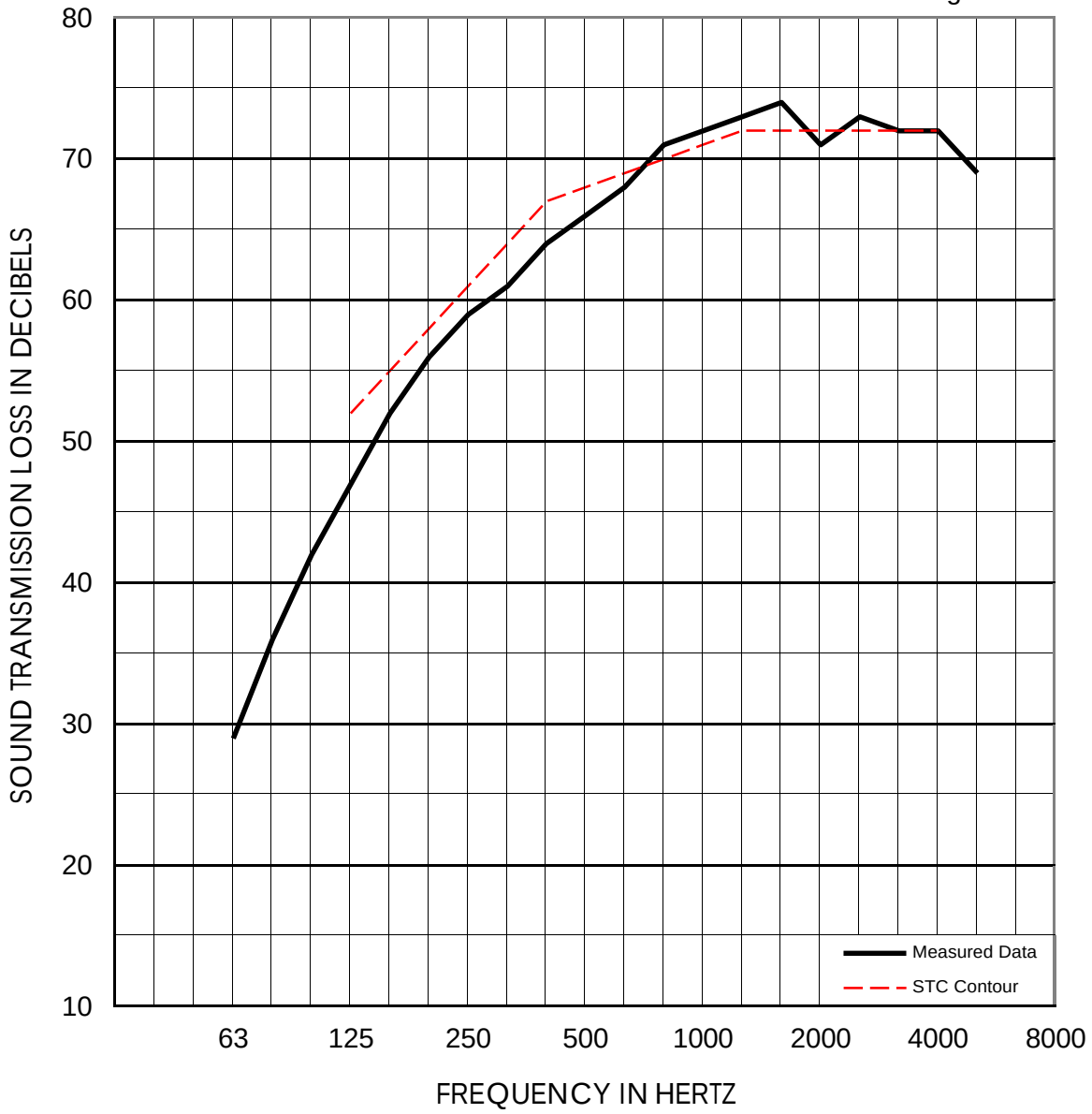

1/3 OCT BAND CNTR FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB	**29***	**36***	**42***	**47***	**52***	**56***	**59***	**61***	**64***	**66***
95% Confidence in dB	1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36	0.38
deficiencies				(5)	(3)	(2)	(2)	(3)	(3)	(2)
1/3 OCT BAND CNTR FREQ	**630**	**800**	**1000**	**1250**	**1600**	**2000**	**2500**	**3150**	**4000**	**5000**
TL in dB	**68***	**71***	**72***	**73***	**74***	**71***	**73***	**72**	**72**	**69**
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	(1)					(1)		(0)	(0)	

EWR	OITC
68	53

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

Test Date: 08 July 2014
Specimen Area: 64 sq.ft.
Temperature: 76.6 deg. F
Relative Humidity: 46 %

STC
68
(22)

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