WESTERN ELECTRO - ACOUSTIC LABORATORY
TESTING • CALIBRATION • RESEARCH
25132 Rye Canyon Loop Santa Clarita, California 91355 Tel: (661) 775-3741 Fax: (661) 775-3742 www.weal.com

SOUND TRANSMISSION LOSS TEST REPORT NO. TL21-146

CLIENT: **CEMCO**
13191 Crossroads Parkway North, Suite 325
City of Industry, CA 91746

17 February 2021

TEST DATE: 4 February 2020

INTRODUCTION

The test was performed in accordance with ASTM E 90-09 (2016), *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions* and ASTM E2235-04 (2020), *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 single steel stud wall with type 'x' gypsum board, CEMCO RC1-XD resilient channel, and R-13 fiberglass insulation.

Specimen Make-up (Source to Receive)	
Layer 1	16 mm (5/8 inch) type 'x' gypsum board
Layer 2	16 mm (5/8 inch) type 'x' gypsum board
Framing and Insulation	92 mm (3-5/8 inch) CEMCO 362VXS144-18 steel studs and CEMCO 362VXT125-18 track with R-13 fiberglass batt insulation in the cavity
Resilient Attachment	13 mm (1/2 inch) CEMCO RC1-XD resilient channel
Layer 3	16 mm (5/8 inch) type 'x' gypsum board
Layer 4	16 mm (5/8 inch) type 'x' gypsum board
Installation Information	
Layer Installation	- **Layer 1:** 51 mm (2 inch) long #6 drywall screws spaced 203 mm (8 inches) on center (o.c.) at the perimeter and 305 mm (12 inches) o.c. in the field. - **Layer 2:** 29 mm (1-1/8 inch) long #6 drywall screws spaced 203 mm (8 inches) on center (o.c.) at the perimeter and 305 mm (12 inches) o.c. in the field. - **Layer 3:** 25 mm (1 inch) long #6 drywall screws spaced 305 mm (12 inches) o.c. along the resilient channel. - **Layer 4:** 41 mm (1-5/8 inch) long #6 drywall screws spaced 305 mm (12 inches) o.c. along the resilient channel. - All gypsum board was oriented vertically with joints staggered on opposite sides of the wall. - All joints and perimeters were sealed with a bead of caulking and metal foil tape.
Resilient Attachment Installation	- Channel was installed to the studs using 13 mm (1/2 inch) pan-head truss screws. - Channel was spaced vertically 610 mm (24 inches) o.c. and 51 mm (2 inches) from the top and bottom of the wall.
Framing and Insulation Installation	- Studs were spaced 406 mm (16 inches) o.c. and were screwed to the track using 13 mm (1/2 inch) pan-head truss screws. - R-13 fiberglass batt insulation was friction-fit in the stud cavities. - The frame was isolated from the test opening with 6 mm (1/4 inch) neoprene pads.

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- The overall dimensions of the specimen were 2.44 m (96 inches) wide by 2.44 m (96 inches) high by 168 mm (6-5/8 inches) thick.
- The overall weight of the assembly was estimated to be 280 kg (617 lbs.) for a calculated surface density of 47.1 kg/m^2 (9.6 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-45. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-59.

Respectfully submitted,
Approved:

Western Electro-Acoustic Laboratory

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

Raul Martinez
Acoustical Test Technician

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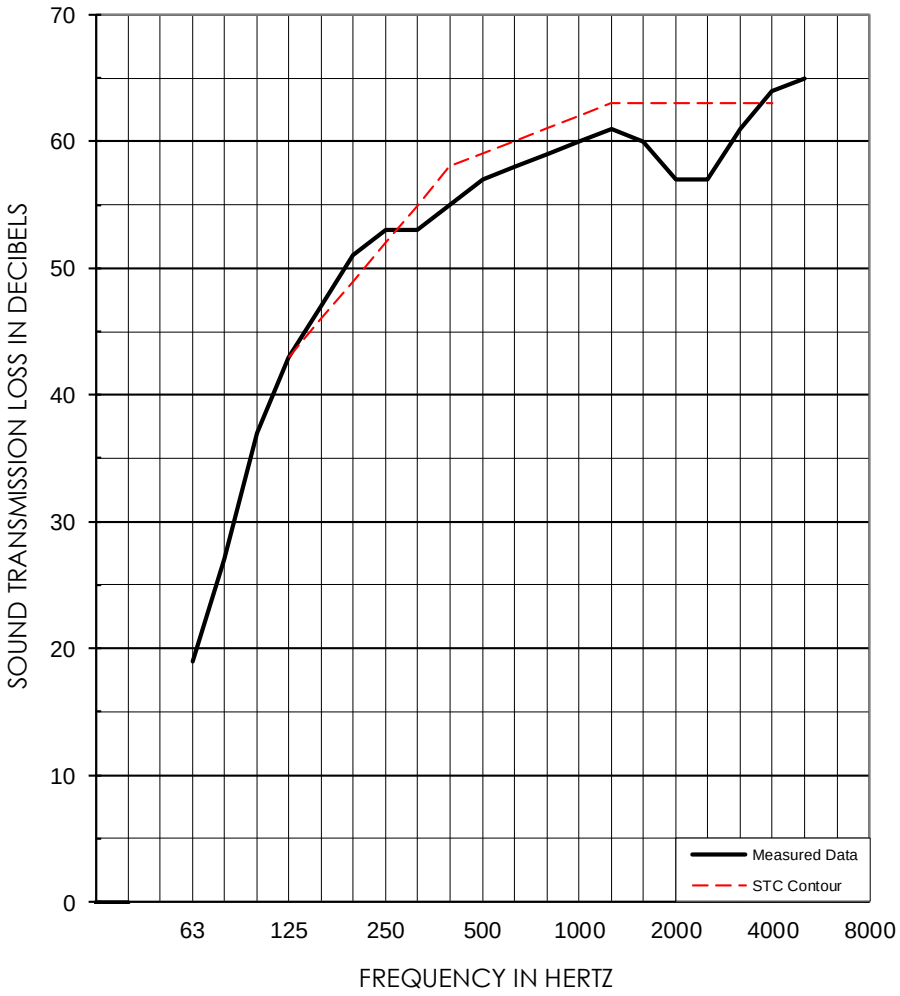

1/3 OCT BAND CNTR FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB	**19**	**27**	**37**	**43**	**47**	**51**	**53***	**53**	**55**	**57**
95% Confidence in dB	1.42	1.92	2.07	1.47	0.89	0.76	0.80	0.52	0.36	0.38
deficiencies				(0)				(2)	(3)	(2)
1/3 OCT BAND CNTR FREQ	**630**	**800**	**1000**	**1250**	**1600**	**2000**	**2500**	**3150**	**4000**	**5000**
TL in dB	**58**	**59**	**60**	**61**	**60**	**57**	**57**	**61**	**64**	**65**
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	(2)	(2)	(2)	(2)	(3)	(6)	(6)	(2)		

EWR	OITC
60	45

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

Test Date: 4 February 2021
Specimen Area: 64 sq.ft.
Temperature: 70.3 deg. F
Relative Humidity: 33 %

STC
59
(32)

NVLAP TESTING
NVLAP LAB CODE 100256-0