



SOUND TRANSMISSION LOSS TEST REPORT NO. TL17-293

CLIENT: Safti-Seal Inc.
5806 119th Ave SE Suite A, #381
Bellevue, WA 98006
TEST DATE: 12 May 2017

1 June 2017

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(2012), 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 following components were used in the construction of the specimen:

- USG Type X gypsum board, R-13 fiberglass insulation, 20 and 25 Gauge metal track and studs, and Safti-Seal composite intumescent Strip.

TEST Configuration

Table with 5 columns: Source Side, Stud, (empty), Stud, Receive Side. Row 1: 16 mm (5/8 inch) USG Type X 2 layers, 63.5 mm (2-1/2 inch) 25 ga metal studs with R-13 faced fiberglass insulation, 25 mm (1 inch) airspace, 63.5 mm (2-1/2 inch) 25 ga metal studs with R-13 faced fiberglass insulation, 16 mm (5/8 inch) USG Type X

- The studs were 63.5 mm (2-1/2 inch) 25 ga metal studs and were spaced at 609.6 mm (24 inches) O.C. The top tracks were 20ga metal slotted profile 63.5 mm (2-1/2 inch) with 63.5 mm (2 1/2 inch) long flanges and 38.1 mm (1-1/2 inch) slots 25.4 mm (1 inch) O.C. on both flanges. The sill tracks were 63.5 mm (2-1/2 inch) 25ga metal with 31.75 mm (1-1/4 inch) flanges. All track and edge studs were screwed directly to the test chamber opening 609.6 mm (24 inches) O.C.
On the source room side:
Two layers of 15.9 mm (5/8 inch) thick type X gypsum boards were screwed to the studs at 203.2 mm (8 inches) O.C. around the perimeter and 304.8 mm (12 inches) O.C in the field using 41.3 mm (1-5/8 inch) drywall screws. All gypsum was oriented vertically and the joints were staggered between layers.
A 25.4 mm (1 inch) gap was left between the walls.
On the receive room side:
A layer of 15.9 mm (5/8 inch) thick type X gypsum board was screwed to the studs at 203.2 mm (8 inches) O.C. around the perimeter and 304.8 mm (12 inches) O.C in the field using 41.3 mm (1-5/8 inch) drywall screws. The gypsum was oriented vertically.



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- On both sides:
  - At the head of wall a minimum 12.7 mm (1/2 inch) gap was left above the gypsum board on both sides. For this test, the top gaps on both sides were intentionally left open to expose Safti-Seal composite Safti-Strip joint protection applied to top track.

On both sides, the vertical joints, vertical edges, and sill joints were sealed with a bead of acoustical caulk and covered with 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 155.6 mm (6-1/8 inches) thick. The overall weight of the assembly was estimated to be 145 kg (336 lbs.) for a calculated surface density of 25.6 kg/m<sup>2</sup> (5.25 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-49. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-63.

Approved:

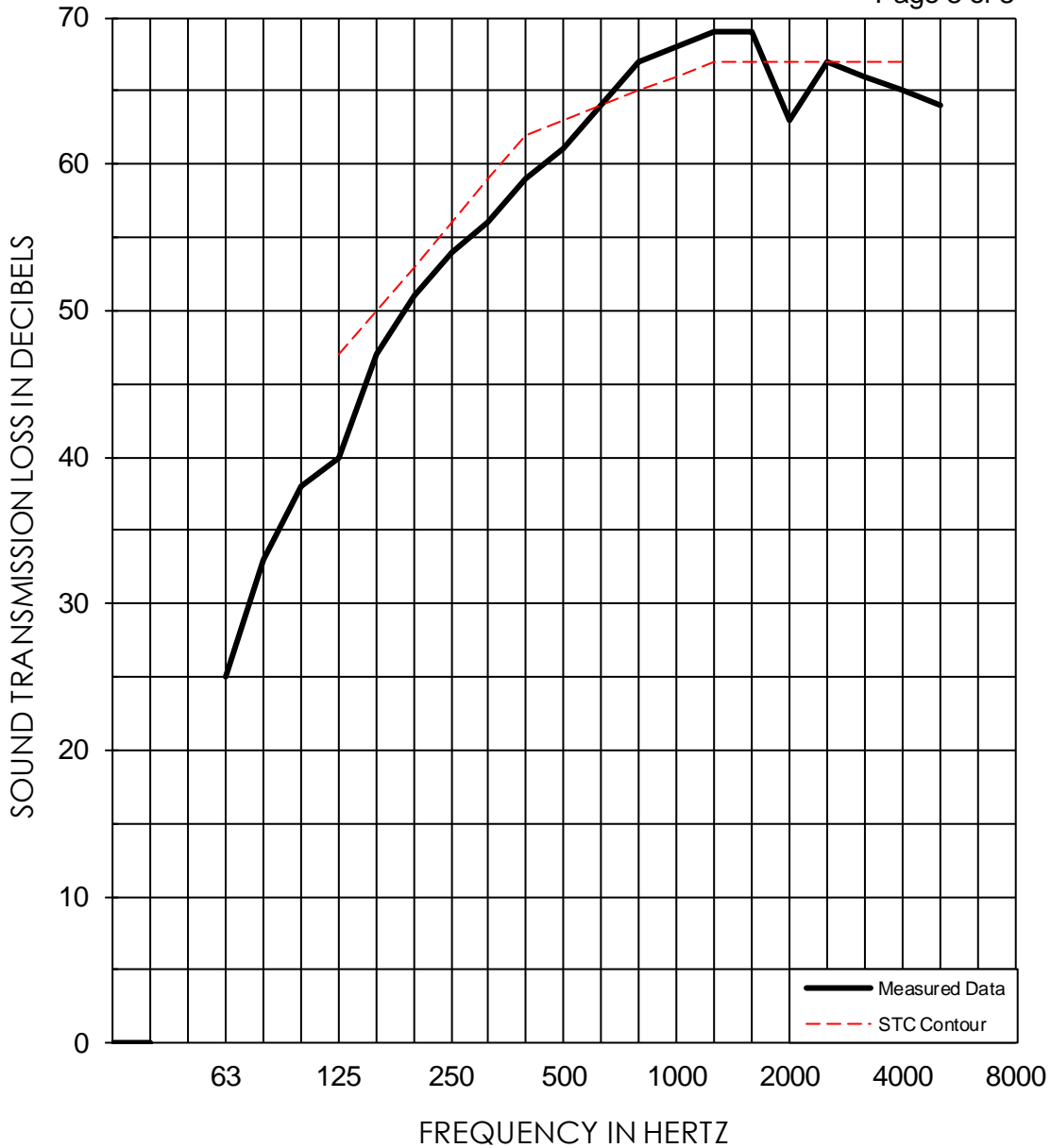
Respectfully submitted,  
Western Electro-Acoustic Laboratory

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

Raul Martinez  
Acoustical Test Technician

# WESTERN ELECTRO-ACOUSTIC LABORATORY

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<b>1/3 OCT BAND CNTR FREQ</b>	<b>63</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>160</b>	<b>200</b>	<b>250</b>	<b>315</b>	<b>400</b>	<b>500</b>
TL in dB	<b>25</b>	<b>33</b>	<b>38</b>	<b>40</b>	<b>47</b>	<b>51*</b>	<b>54*</b>	<b>56*</b>	<b>59*</b>	<b>61*</b>
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
				(7)	(3)	(2)	(2)	(3)	(3)	(2)
<b>1/3 OCT BAND CNTR FREQ</b>	<b>630</b>	<b>800</b>	<b>1000</b>	<b>1250</b>	<b>1600</b>	<b>2000</b>	<b>2500</b>	<b>3150</b>	<b>4000</b>	<b>5000</b>
TL in dB	<b>64*</b>	<b>67*</b>	<b>68*</b>	<b>69*</b>	<b>69</b>	<b>63</b>	<b>67</b>	<b>66</b>	<b>65</b>	<b>64</b>
95% Confidence in dB deficiencies	0.29	0.44	0.38	0.39	0.36	0.56	0.55	0.31	0.32	0.50
	(0)					(4)	(0)	(1)	(2)	
<b>EWR</b>	<b>OITC</b>	Test Date: 12 May 2017 Specimen Area: 64 sq.ft. Temperature: 72.5 deg. F Relative Humidity: 45 %								<b>STC</b>
63	49									63 (29)

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