WESTERN ELECTRO - ACOUSTIC LABORATORY
A division of Veneklasen Associates, Inc.

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. TL14-124

CLIENT: **MI Windows & Doors**
7555 E State Route 69
Prescott, AZ 86314
TEST DATE: 28 January 2014

28 March 2014

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$^{\varepsilon 1}$, *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 MI Windows EC147 Polyvinyl Chloride (PVC) Vinyl Casement window assembly. (According to the manufacturer, this product is also produced as a Series BB147, and HM147.) The specimen was installed by fastening the mounting fin around the entire perimeter to the wood edge of the test chamber opening. The assembly was sealed into the test chamber opening with latex caulking under the mounting fin and a heavy duct seal putty around the entire perimeter on the receiving room side. The glazing consisted of a nominal 19 mm (3/4 inch) dual glazed unit which was 3 mm (1/8 inch) double strength exterior glass, 13 mm (1/2 inch) air space with a SuperSpacer, and 3 mm (1/8 inch) double strength interior glass. The unit was glazed into its frame using glazing tape and a vinyl snap in bead. The weather stripping used on the operable panel was a row of 300 high 187 back (.300 in. x .187 in.) fin seal on the full exterior perimeter. The weather stripping used on the frame was two rows of foam filled vinyl bulb seals around the full interior perimeter. The net outside frame dimensions of the window assembly were 610 mm (24 inches) wide by 1.50 m (59 inches) high by 82.6 mm (3-1/4 inches) deep. The overall weight of the assembly was 21.3 kg. (47 lbs.) for a calculated surface density of 23.3 kg/m^2 (4.78 lbs./ft^2). The weep holes were normal without covers.

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-24. The Sound Transmission Class rating determined in accordance with ASTM E 413-10 was STC-31.

Approved:

Gary E. Mange
Laboratory Director

Respectfully submitted,
Western Electro-Acoustic Laboratory

Raul Martinez
Acoustical Test Technician

NVLAP LAB CODE 100256-0

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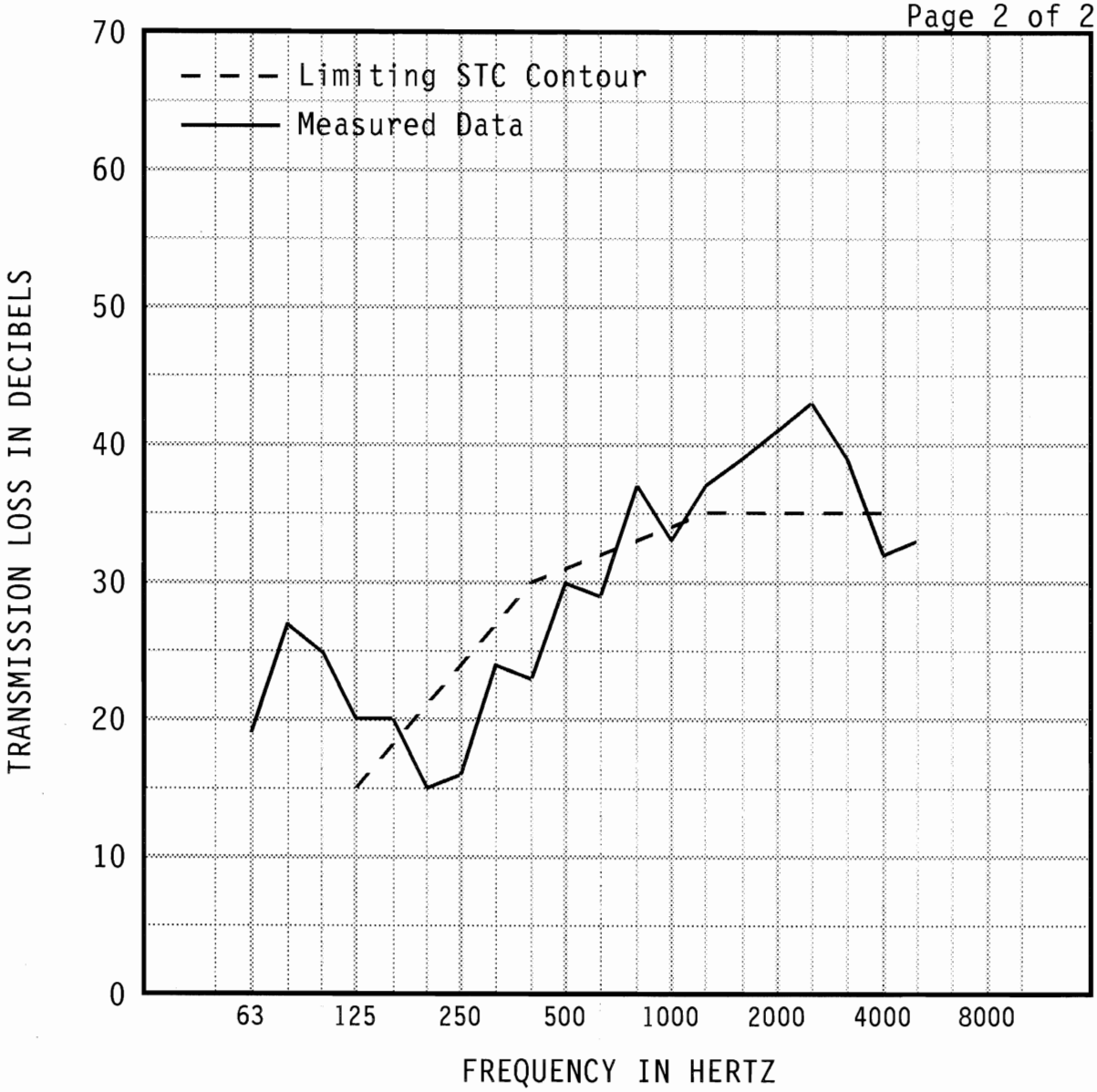
Report No. TL14-124



1/3 OCT BND CNTR FREQ	63	80	100	125	160	200	250	315	400	500
TL in dB	*19	*27	25	20	20	15	16	24	23	30
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						(6)	(8)	(3)	(7)	(1)

1/3 OCT BND CNTR FREQ	630	800	1000	1250	1600	2000	2500	3150	4000	5000
TL in dB	29	37	33	37	39	41	43	39	32	33
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	(3)		(1)						(3)	

EWR	OITC
31	24

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

Specimen Area: 9.83 sq.ft.
Temperature: 70.2 deg. F
Relative Humidity: 42 %
Test Date: 28 January 2014

STC
31
(32)

NVLAP

NVLAP LAB CODE 100256-0

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June 2011

Subject: **Casement and Awning Windows**

To Whom It May Concern:

We have several clients which build their casement and awning windows from the same extrusions and using the same weather strip configuration. If a casement window and an awning window are constructed from the identical extrusions and with the same weather strip configuration, the acoustical performance should be identical with a given glass package and similar sized windows. Our test results confirm this theory. Several of our clients test one configuration and use the test results to represent both window types. Western Electro-Acoustic Laboratory (WEAL) deems this acceptable if the windows use identical parts.

I would be happy to speak with anyone who has questions about this subject. Please feel free to call me.

Sincerely,

Western Electro-Acoustic Laboratory

Gary E. Mange
Laboratory Director