

RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

OF
IIT RESEARCH INSTITUTE

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

REPORT

FOR: Skyfold

Sound Transmission Loss Test
RAL™-TL01-280

ON: Skyfold Autolift Wall System, 10.25 Inches

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CONDUCTED: 13 November 2001

REVISION: 6 February 2003

TEST METHOD

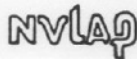
Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-99 and E413-87, as well as other pertinent standards. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure. A description of the measuring technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Skyfold Autolift Wall System, 10.25 inches. The overall dimensions of the specimen as measured were 4.27 m (168 in.) wide by 2.63 m (103.5 in.) high and 260 mm (10.25 in.) thick. The specimen was installed by the manufacturer directly into a 2.74 m (9 ft) by 4.27 m (14 ft) wood-lined steel frame.

A description of the specimen was as follows: The wall consisted of five panels on each side of a 146 mm (5.75 in.) airspace. The space between the vertical planes of panels contained two pantograph type lifting mechanisms and a T-bar. The wall folded and raised vertically to the top of the test opening. The lifting action was provided by use of an electric motor attached by cable to the T-bar. Average weight of the panels was 32.6 kg (71.9 lbs) each. Nominal dimensions of the panels were 4.24 m (166.75 in.) long by 559 mm (22 in.) high by 57 mm (2.25 in.) thick. Each panel consisted of a 0.8 mm (0.032 in.) galvanized steel face sheet, a 19 mm (0.75 in.) honeycomb paper fill core, and a 0.5 mm (0.018 in.) galvanized steel backer sheet. Attached to the interior face of each panel was 38 mm (1.5 in.) thick semi-rigid glass fiber (identified as Manson AKI board, density 28.8 kg/m³ (5.9 lbs/ft³)). The panels were hinged at two locations each. In the closed position, there was 13 mm (0.5 in.) overlap between the panels. The panel joints were sealed with 13 mm (0.5 in.) by 6 mm (0.25 in.) expanded cross-linked polyethylene foam. The panels were sealed to the test frame around the vertical perimeter using 3 mm (0.125 in.) thick rubber bulb seals which measured nominally 19 mm (0.75 in.) in the closed position. The panels were sealed to the test frame around the top and bottom perimeter using 2 mm (0.08 in.) thick rubber bulb seals which measured nominally 38 mm (1.5 in.) at the top and 35 mm (1.375 in.) at the bottom in the closed position. Laboratory personnel performed a full inspection

THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.



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on the test specimen. Prior to testing the operable wall was opened and closed at least five times, and the test was conducted with no further adjustments.

The weight of the specimen as measured was 462 kg (1,017.5 lbs.), an average of 41 kg/m² (8.4 lbs/ft²). The transmission area used in the calculations was 11.2 m² (121 ft²). The source and receiving room temperatures at the time of the test were 22±2°C (72±2°F) and 59±2% relative humidity. The source and receive reverberation room volumes were 179m³ (6,298 ft³) and 177 m³ (6,255 ft³), respectively.

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TEST RESULTS

Sound transmission loss values are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages. The precision of the TL test data is within the limits set by the ASTM Standard E90-99.

<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>	<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>
100	31	0.18	0	800	48	0.36	5
125	33	0.24	2	1000	51	0.25	3
160	37	0.21	1	1250	55	0.28	0
200	41	0.35	0	1600	58	0.21	0
250	44	0.33	0	2000	58	0.20	0
315	47	0.31	0	2500	59	0.18	0
400	47	0.35	3	3150	59	0.15	0
500	46	0.34	5	4000	58	0.16	0
630	45	0.34	7	5000	58	0.14	0

STC=51

ABBREVIATION INDEX

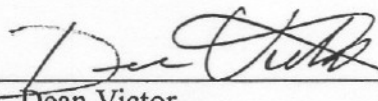
FREQ. = FREQUENCY, HERTZ, (cps)

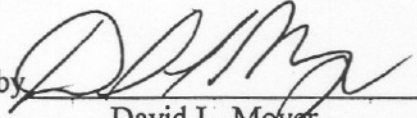
T.L. = TRANSMISSION LOSS, dB

C.L. = UNCERTAINTY IN dB, FOR A 95% CONFIDENCE LIMIT

DEF. = DEFICIENCIES, dB<STC CONTOUR

STC = SOUND TRANSMISSION CLASS

Tested by 
Dean Victor
Senior Experimentalist

Approved by 
David L. Moyer
Laboratory Manager

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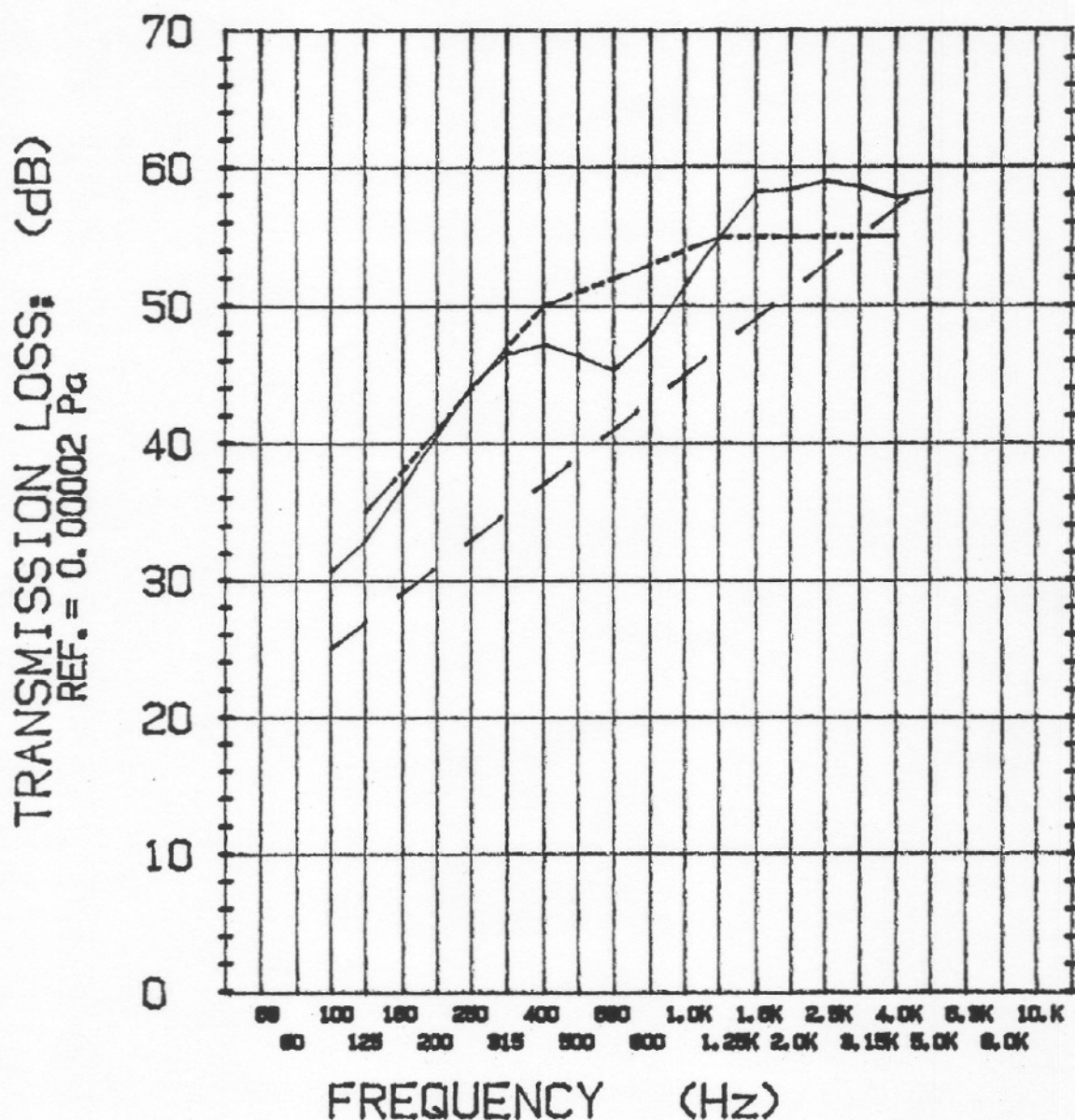
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- TRANSMISSION LOSS
- SOUND TRANSMISSION CLASS CONTOUR
- - - MASS LAW CONTOUR

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