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We Identify and S.T.O.P. Your Noise Problem

RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104
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WALLACE CLEMENT SABINE

TEST REPORT

FOR: **Rendered by Manufacturer and Released to:**
Acoustical Surfaces, Inc.
123 Columbia Court North
Chaska, MN 55318

Sound Transmission Loss Test
RAL™-TL07-145

ON: System (3) 2 x 4 WS, 24" on Center, 3.5" Fiberglass, Both Sides 5/8" Gold Bond® BRAND SoundBreak™ Gypsum Board

CONDUCTED: 5 June 2007

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-04 and E413-04, 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 (NVLAP Lab Code: 100227-0). A description of the measuring technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the client as System (3) 2 x 4 WS, 24" on center, 3.5" fiberglass, both sides 5/8" Gold Bond® BRAND SoundBreak™ Gypsum Board. The overall dimensions of the specimen as measured were 4.27 m (168 in.) wide by 2.74 m (108 in.) high and 121 mm (4.75 in.) thick. The specimen was installed by the manufacturer directly into the laboratory's 2.74 m (9 ft) by 4.27 m (14 ft) wood-lined steel frame and was sealed on the periphery (both sides) with a dense mastic.

The description of the specimen was as follows: The wall consisted of two-by-four wood studs with R-13 fiberglass batt insulation. Both sides had a layer of 5/8" SoundBreak™ Gypsum Board. A more detailed description of the wall assembly appears in the sections below.

Floor and Ceiling Plates: The wall had two 89 mm (3.5 in.) wide by 38 mm (1.5 in.) thick and 4.27 m (168 in.) long SPF wood plates. Plates were attached to the top and bottom of the test frame with 16d nails on nominal 610 mm (24 in.) centers.

Studs: The eight (8) 89 mm (3.5 in.) wide by 38 mm (1.5 in.) thick and 2.67 m (105 in.) long SPF wood studs were spaced on 610 mm (24 in.) centers. The studs were nailed at the top and bottom to the floor and ceiling plates. The end studs were attached to the frame with 16d nails on nominal 610 mm (24 in.) centers.

Insulation: All cavities formed by the plates and studs were lined with R-13 Kraft faced fiberglass insulation measuring 89 mm (3.5 in.) thick and 610 mm (24 in.) wide. The total weight of the insulation was 14.1 kg (31 lbs).

Gypsum Wallboard: A layer of 16 mm (0.625 in.) thick SoundBreak™ Gypsum Board was applied vertically and fastened with 41 mm (1.625 in.) long Type W drywall screws on 305 mm (12 in.) centers on both sides of the wall. Total weight of the Soundbreak™ Gypsum Board as measured was 301 kg (665 lbs.). Joints were staggered on opposite sides and covered with duct tape. Screw heads remained exposed.

The weight of the specimen as measured was 360.4 kg (794.5 lbs.), an average of 30.8 kg/m^2 (6.3 lbs/ft^2). The transmission area used in the calculations was 11.7 m^2 (126 ft^2). The source and receiving room temperatures at the time of the test were 24±1°C (75±1°F) and 51±2% relative humidity. The source and receive reverberation room volumes were 178 m^3 (6,298 ft^3) and 177 m^3 (6,255 ft^3), 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 E90-04.

FREQ.	T.L.	C.L.	DEF.	FREQ.	T.L.	C.L.	DEF.
100	17	0.43		800	57	0.19	
125	31	0.68	6	1000	58	0.16	
160	38	0.64	2	1250	60	0.15	
200	41	0.35	2	1600	63	0.10	
250	40	0.26	6	2000	64	0.08	
315	44	0.37	5	2500	65	0.07	
400	47	0.36	5	3150	63	0.08	
500	50	0.20	3	4000	63	0.07	
630	54	0.17		5000	66	0.05	

STC=53

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 (SUM OF DEF = 29)
STC = SOUND TRANSMISSION CLASS

Tested by _____ Approved by _____

Dean Victor
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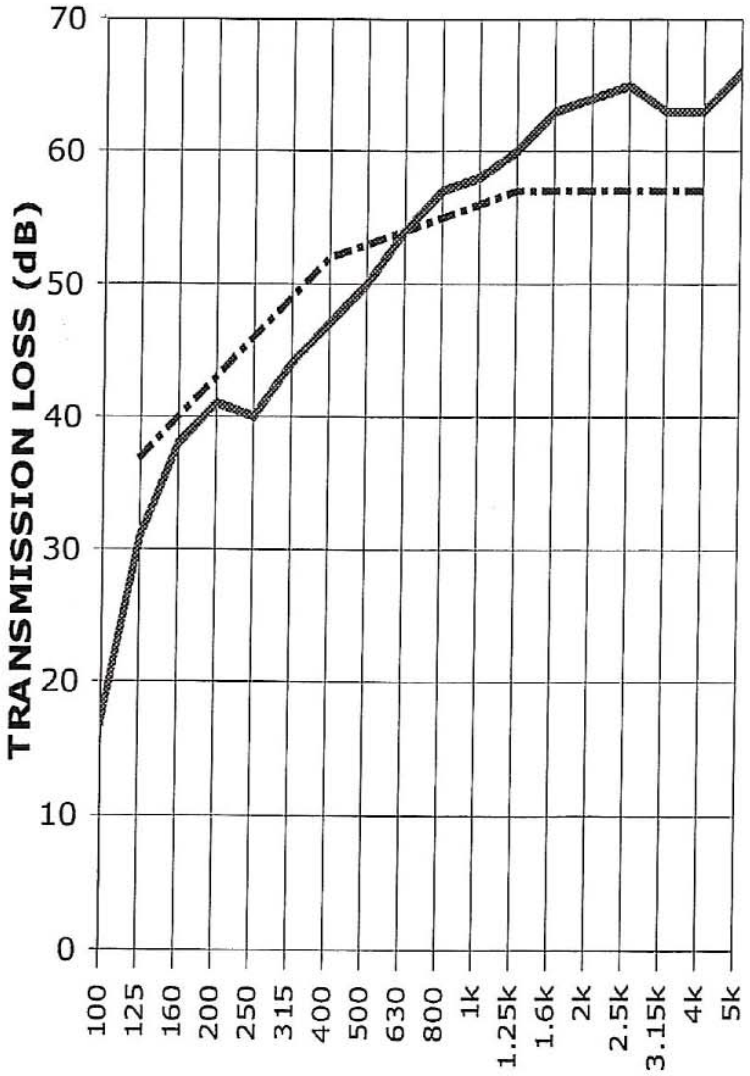
RAL - TL07-145



STC = 53

TRANSMISSION LOSS
SOUND TRANSMISSION LOSS CONTOUR