RIVERBANK ACOUSTICAL LABORATORIES

1512 S BATAVIA AVENUE
GENEVA, IL 60134
630-232-0104

An ALION Technical Center

RIVERBANK.ALIONSCIENCE.COM
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WALLACE CLEMENT SABINE

Test Report

FOR: **dB Sound Control**
Mt. Airy, NC

Sound Transmission Loss
RAL-TL17-052

CONDUCTED: 2017-02-09

ON: Single Layer dB-3 Barrier

TEST METHOD

Riverbank Acoustical Laboratories™ is accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) as an ISO 17025:2005 Laboratory (NVLAP Lab Code: 100227-0) and for this test procedure. The test reported in this document conformed explicitly with ASTM E90-09 (2016): "Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements." The single number rating of the specimen was calculated according to ASTM E413-16: "Classification for Rating Sound Insulation." A description of the measuring procedure and room qualifications is available upon request.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Single Layer dB-3 Barrier. A full inspection performed on the test specimen by Riverbank personnel verified the manufacturer's description.

Test Specimen

Material:	dB-3 Barrier
Dimensions:	1219.2 mm (48 in.) x 2133.6 mm (84 in.)
Thickness:	2.51 mm (0.099 in.)
Weight:	11.57 kg (25.5 lbs.)

Physical Measures

Overall Dimensions:	1.22 m (48.00 in.) wide by 2.13 m (84.00 in.) high
Overall Thickness:	2.51 mm (0.10 in.)
Overall Weight:	11.57 kg (25.50 lbs.)
Transmission Area:	2.60 m^2 (28.00 ft^2)
Mass per Unit Area:	4.44 kg/m^2 (0.91 $lbs./ft^2$)

Test Aperture

Size:	1.22 m (4.0 ft.) by 2.44 m (8.0 ft.)
Filler Wall:	Yes
Sealed:	Entire periphery (both sides) with dense mastic

Test Environment

Source Room

Volume:	178.3 m^3 (6297.6 ft^3)
Temperature:	23±0ºC (74±0ºF)
Humidity:	53±2%

Receive Room

Volume:	138.1 m^3 (4876.8 ft^3)
Temperature:	23±0ºC (73±0ºF)
Humidity:	55±1%

Requirements

Temperature:	22º C +/- 2° C, not more than 3° C change over all tests.
Humidity:	≥ 30% RH, not more than +/- 3% change over all tests.

Figure 1 – Specimen mounted in the test opening.

Figure 2 – Detail of the test specimen.

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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 transmission loss test data is within the limits set by the ASTM Standard E90-09 (2016).

FREQ.	T.L.	C.L.	DEF.	FREQ.	T.L.	C.L.	DEF.
100	18	0.82		800	24	0.14	4
125	14	0.87		1000	26	0.15	3
160	17	0.72		1250	27	0.19	3
200	16	0.55		1600	29	0.11	1
250	16	0.43	3	2000	30	0.09	
315	19	0.33	3	2500	31	0.09	
400	19	0.35	6	3150	32	0.07	
500	21	0.21	5	4000	32	0.07	
630	23	0.17	4	5000	33	0.06	

STC=26

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 = 32)
STC = SOUND TRANSMISSION CLASS

Tested by _____
Marc Sciaky
Experimentalist

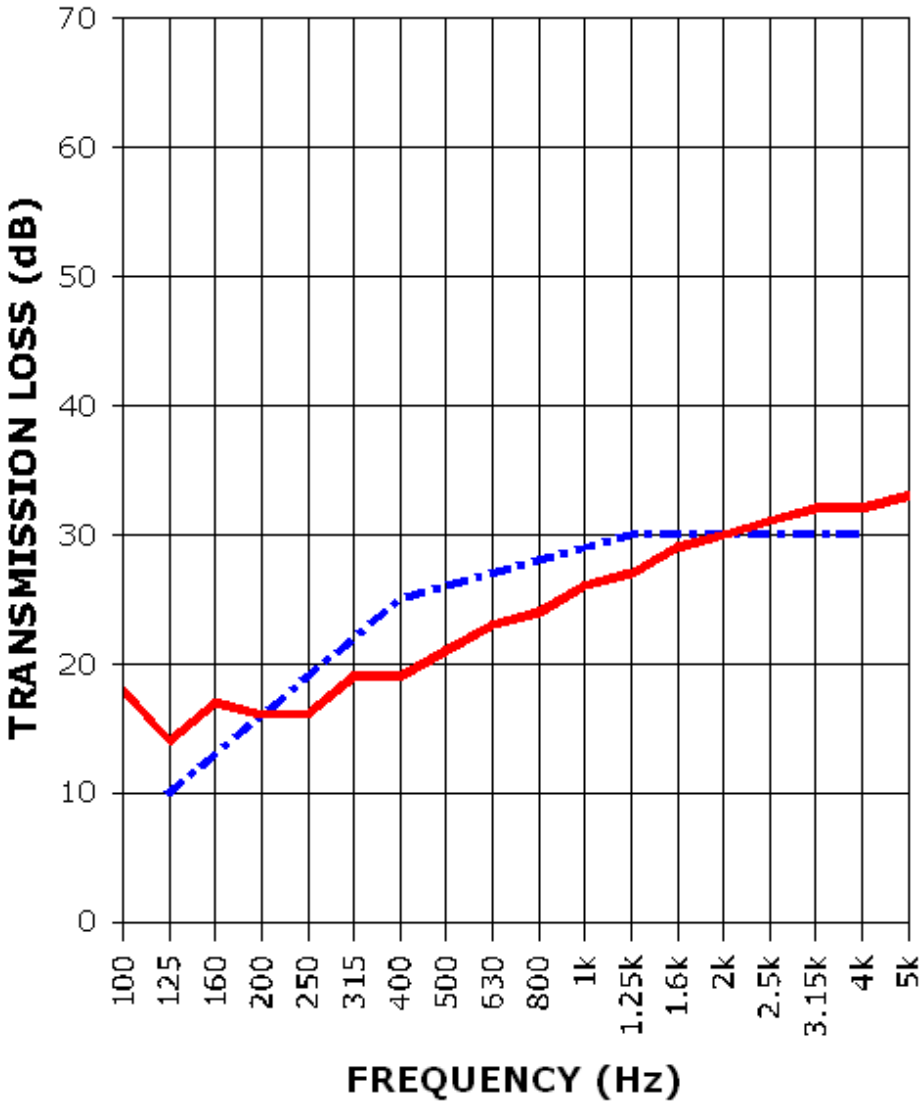
Report by _____
Miles Possing
Acoustician

Approved by _____
Eric P. Wolfram
Laboratory Manager

Digitally signed by Eric Wolfram
DN: cn=Eric Wolfram, o=Alion Science and Technology, ou=Riverbank Acoustical Laboratories, email=ewolfram@alionscience.com, c=US
Date: 2017.03.01 14:37:47 -06'00'

SOUND TRANSMISSION REPORT

Single Layer dB-3 Barrier



STC=26

TRANSMISSION LOSS
SOUND TRANSMISSION LOSS CONTOUR

dB Sound Control
2017-02-09

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APPENDIX A: Extended Frequency Range Data

Specimen: Single Layer dB-3 Barrier (See Full Report)

The following non-accredited data were obtained in accordance with ASTM E90-09 (2016), but extend beyond the defined frequency range of 100Hz to 5,000Hz. These unofficial results are representative of the RAL test environment only and intended for research & comparison purposes.

1/3 Octave Band Center Frequency (Hz)	**Sound Transmission Loss** (dB)	**Uncertainty** (95% ±)
31.5	6	1.05
40	15	0.75
50	11	0.96
63	9	0.80
80	9	1.56
100	18	0.82
125	14	0.87
160	17	0.72
200	16	0.55
250	16	0.43
315	19	0.33
400	19	0.35
500	21	0.21
630	23	0.17
800	24	0.14
1000	26	0.15
1250	27	0.19
1600	29	0.11
2000	30	0.09
2500	31	0.09
3150	32	0.07
4000	32	0.07
5000	33	0.06
6300	34	0.08
8000	35	0.07
10000	36	0.07
12500	38	0.10

APPENDIX B: Instruments of Traceability
Specimen: Single Layer dB-3 Barrier (See Full Report)

Description	Model	Serial Number	Date of Certification	Calibration Due
Bruel & Kjaer Pulse Analyzer - System4	Type 3560-C	2639093	2016-07-26	2017-07-26
Bruel & Kjaer Mic And Preamp E	Type 4943-B-001	2311441	2016-03-17	2017-03-17
Bruel & Kjaer Pistonphone	Type 4228	2781248	2016-07-25	2017-07-25
Omega Digital Thermo-Hygrometer A	Model # RH411	H0102487	2016-08-12	2017-08-12
Omega Digital Thermo-Hygrometer D	Model # RH411	H0102210	2016-07-13	2017-07-13

END