RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

TEST REPORT

FOR: **Kelly Klosure Systems**
Fremont, NE

Sound Transmission Loss
RAL™-TL12-135

CONDUCTED: 25 June 2012

ON: Wall Panel with 2 inch Mineral Wool Insulation

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-09 and E413-10, 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.

The source room temperature at the time of the test was 25±1ºC (77±1ºF) and 46±2% relative humidity. The receiving room temperature at the time of the test was 24±1ºC (76±1ºF) and 46±1% 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.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Wall Panel with 2 inch Mineral Wool Insulation. The overall dimensions of the specimen were nominally 2.44 m (96.00 in.) wide by 2.74 m (108.00 in.) high and 127.00 mm (5.00 in.) thick.

The specimen was installed directly into the laboratory's 2.74 m (9 ft) by 4.27 m (14 ft) wood-lined steel frame. A substantial filler wall was used in the remaining open area. Both the filler wall and test specimen were sealed on the periphery (both sides) with dense mastic.

The manufacturer's description of the specimen was as follows: 8' x 9' wall section consisting of (3) 3' x 8' Kelly Klosure Panels. L2x2x1/8 Steel Angle frame painted with red primer. 28 Ga. G-90 flat galvanized steel liner 2" semi-rigid mineral wool board, 12 lbs per cubic foot density. 29 Ga Galvalume exterior sheeting, ¾" high rib profile. Steel frames bolted at panel joints, no sealant applied at overlapping joints. A full inspection was performed on the test specimen by Riverbank personnel, verifying the manufacturer's description. The weight of the specimen as measured was 162.4 kg (358.0 lbs.), an average of 24.3 kg/m^2 (5.0 lbs/ft^2). The transmission area used in the calculations was 6.7 m^2 (72 ft^2).

RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

TEST REPORT

Kelly Klosure Systems
25 June 2012

RAL™-TL12-135

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 E90-09.

FREQ.	T.L.	C.L.	DEF.	FREQ.	T.L.	C.L.	DEF.
100	13	0.50		800	39	0.15	
125	15	0.59	1	1000	43	0.16	
160	15	0.92	4	1250	47	0.19	
200	15	0.51	7	1600	50	0.11	
250	19	0.39	6	2000	52	0.08	
315	24	0.31	4	2500	54	0.08	
400	26	0.44	5	3150	55	0.05	
500	29	0.16	3	4000	57	0.08	
630	34	0.18		5000	59	0.09	

STC=32

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 = 30)
STC = SOUND TRANSMISSION CLASS

Tested by _____ Approved by _____

Marc Sciaky
Experimentalist

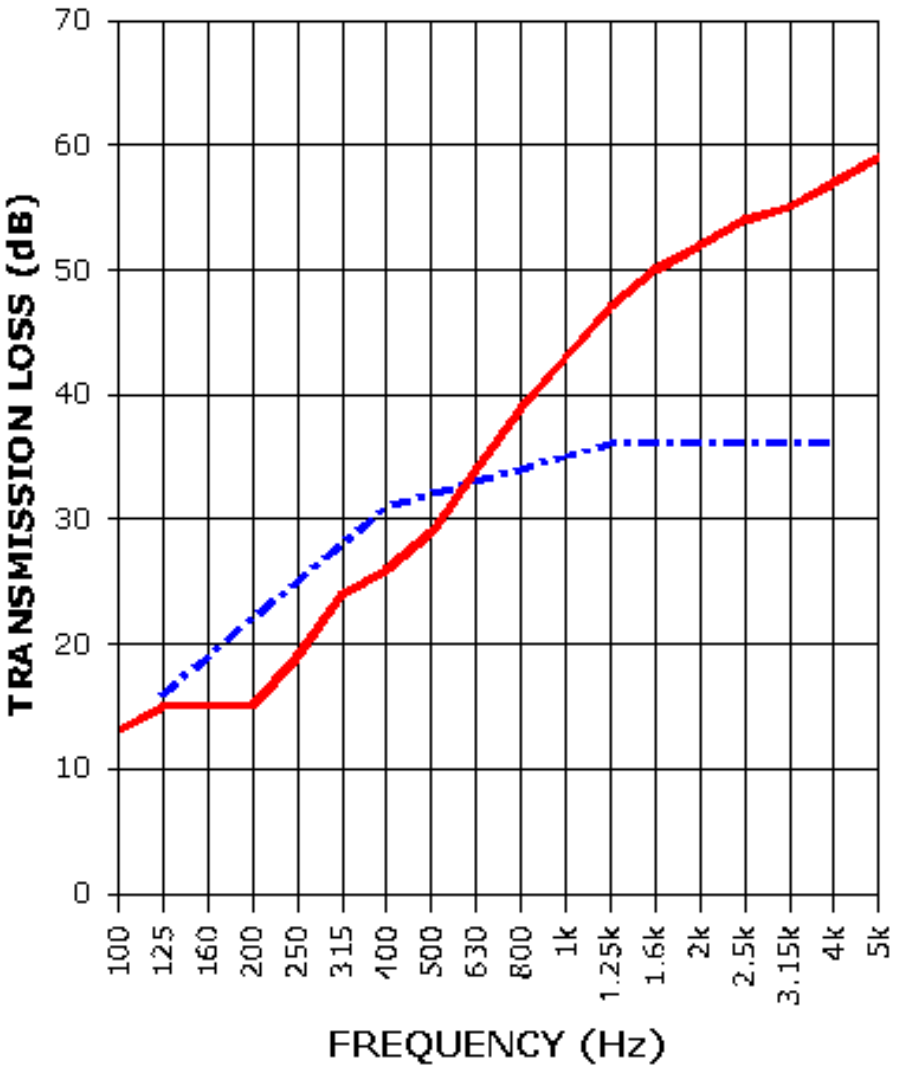
Eric P Wolfram
Laboratory Manager

TEST REPORT

Kelly Klosure Systems
25 June 2012

RAL™-TL12-135

SOUND TRANSMISSION REPORT
RAL – TL12-135



STC=32
OITC=23
TRANSMISSION LOSS
SOUND TRANSMISSION LOSS CONTOUR

Appendix A to ASTM E90 Sound Transmission Loss Test
Additional Frequency Data for Transmission Loss Testing

Product Description: Wall Panel with 2 inch Mineral Wool Insulation (See full report)

As requested by the client, transmission loss (TL) values were calculated at additional test frequencies. Although the measurements were made in accordance with the procedures described in ASTM E90-04, they do not qualify as part of the standard. Since the results are representative of the test environment only, they are unofficial and intended for research and development guidelines rather than for commercial purposes. The transmission loss values at the additional frequencies were as follows:

	RAL™-TL12-135
1/3 Octave Center Frequency (Hz)	Sound Transmission Loss (dB)
50	15
63	15
80	17
6300	61
8000	63
10000	63

Appendix B **to ASTM E90 Sound Transmission Loss Test**
OITC Determination (Outdoor Indoor Transmission Class)

Product Description: Wall Panel with 2 inch Mineral Wool Insulation (See full report)

CLASSIFICATION

Unless otherwise designated, the Outdoor Indoor Transmission Class (OITC) determination as reported below was made with explicit conformity to the procedures described in the ASTM E1332-90 test standard. Test Method ASTM E90-09 was used to obtain the sound transmission loss data. This rating is based on an average transportation noise source spectrum and an A-weighted sound level reduction, either of which may be inappropriate for some applications.

One-third Octave Band Center Frequency, Hz	Reference Sound Spectrum, dB	Test Specimen Transmission Loss, dB
80	103	17
100	102	13
125	101	15
160	98	15
200	97	15
250	95	19
315	94	24
400	93	26
500	93	29
630	91	34
800	90	39
1000	89	43
1250	89	47
1600	88	50
2000	88	52
2500	87	54
3150	85	55
4000	84	57

*OITC=**23***