

# 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: Overly Door Co.  
Greensburg, PA

Sound Transmission Loss Test  
RAL™-TL12-041

ON: Fully Operable Swinging Door, Model STC4612041

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CONDUCTED: 22 February 2012

### 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.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as a fully operable swinging door, Model STC4612041. The overall dimensions of the specimen as measured were nominally 908 mm (35.75 in.) wide by 2.13 m (83.688 in.) high and 44.5 mm (1.75 in.) thick. The specimen was placed directly in the client's adapter frame and tested in the 1.22 m (4 ft) by 2.44 m (8 ft) test opening. The adapter frame was sealed on the surface faces and periphery (both sides) with dense mastic.

The manufacturer's description of the specimen was as follows:

On both the hinge and lock edges of the door, the outer skin was isolated from the inner skin by a 9.5 mm (0.375 in.) by 12.7 mm (0.5 in.) rubber insert. The door was equipped with a Zero #362 automatic door bottom. The 14 gauge metal frame was equipped with single "H" seals of felt/neoprene composition at the head and jambs. The frame also had 4.7 mm (0.187 in.) steel hinge reinforcements with mud boxes. The door was hung on three 127 mm (5.0 in.) full mortise heavy weight level swing hinges and was equipped with a functional heavy duty cylindrical lockset. A manufacturer's description is maintained on file. At the request of the manufacturer the details of the construction were purposely withheld from this report in order that the manufacturer may control full proprietary rights regarding the product. A visual inspection verified the manufacturer's description of the specimen. The specimen was opened and closed at least five times, and the test was conducted with no further adjustments.

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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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The weight of the specimen as measured was 93.9 kg (207 lbs.), an average of 48.6 kg/m<sup>2</sup> (10 lbs/ft<sup>2</sup>). The transmission area used in the calculations was 2.0 m<sup>2</sup> (21 ft<sup>2</sup>). The source and receiving room temperatures at the time of the test were 22±1°C (72±1°F) and 51±1% relative humidity. The source and receive reverberation room volumes were 178 m<sup>3</sup> (6,298 ft<sup>3</sup>) and 132 m<sup>3</sup> (4,660 ft<sup>3</sup>), 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 E90-09.


<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	1.01		800	45	0.15	3
125	34	0.50		1000	41	0.17	8
160	39	0.85		1250	44	0.14	6
200	38	0.70		1600	49	0.10	1
250	42	0.54		2000	53	0.08	
315	47	0.33		2500	53	0.12	
400	48	0.38		3150	51	0.11	
500	47	0.20		4000	52	0.08	
630	47	0.24		5000	54	0.07	

STC=46

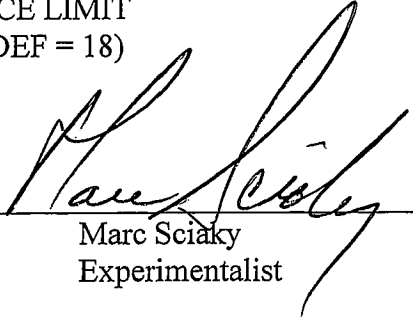
### ABBREVIATION INDEX

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 = 18)  
STC = SOUND TRANSMISSION CLASS

Tested by

  
Dean Victor  
Senior Experimentalist

Approved by

  
Marc Sciaky  
Experimentalist

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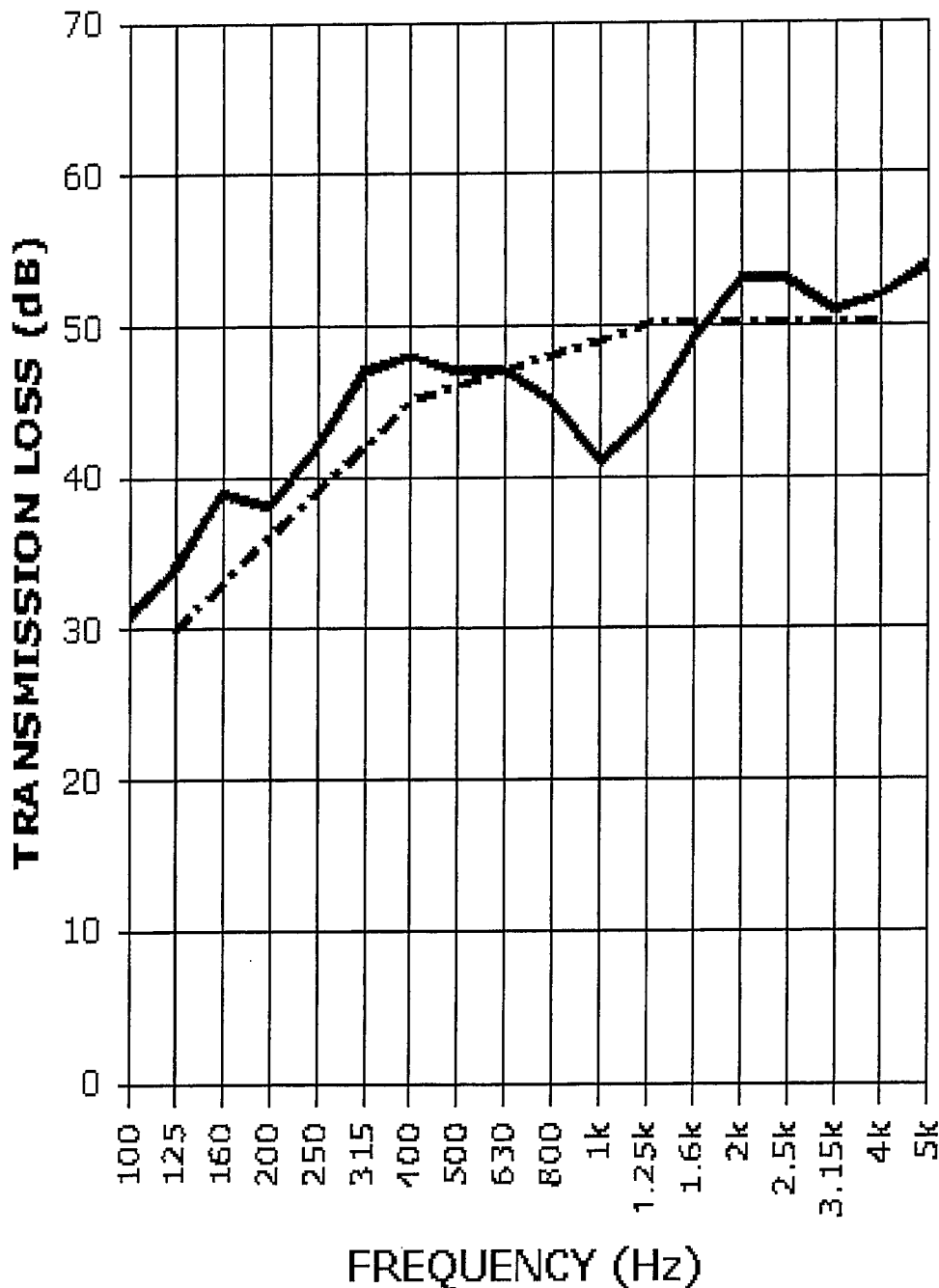
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## TEST REPORT SOUND TRANSMISSION REPORT RAL - TL12-041



STC= 46



TRANSMISSION LOSS  
SOUND TRANSMISSION LOSS CONTOUR

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