

# RIVERBANK ACOUSTICAL LABORATORIES

1512 BATAVIA AVENUE  
GENEVA, ILLINOIS 60134

OF  
IIT RESEARCH INSTITUTE

708/232-0104  
FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

## REPORT

FOR: Overly Manufacturing Company

Sound Transmission Loss  
Test RAL™-TL92-151

ON: Fully Operable Dual Glazed  
Swinging Fire Door Model STC4692151

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CONDUCTED: 24 April 1992

### TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-90 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. The microphone used was a Bruel & Kjaer serial number 792729.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as a fully operable dual glazed swinging fire door, Model STC4692151. The overall dimensions of the door panel were nominally 914 mm (36 in.) wide by 2.13 m (84 in.) high and 44 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 both sides with a dense mastic. The manufacturer's description of the specimen was as follows:

The bottom of the door had a fixed felt seal and an adjustable "Super H" closed cell neoprene seal. The 14 gauge metal frame was equipped with single "H" seals of felt/neoprene composition at the head and jambs. The frame also

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### DESCRIPTION OF THE SPECIMEN (con't)

had 4.7 mm (0.187 in.) steel hinge reinforcements with mud boxes. The door was hung on two 127 mm (5.0 in.) full mortise cam-lift hinges and was equipped with a functional heavy duty cylindrical lockset. A dual glazed portion of the door consisted of a nominal 0.19 m<sup>2</sup> (300 in<sup>2</sup>) viewing area made up of a 12.7 mm (0.5 in.) thick piece of laminated glass followed by a 19 mm (0.75 in.) airspace and a 6.4 mm (0.25 in.) thick piece of laminated glass. The lights were retained by 16 gauge formed stops and closed cell sponge neoprene gaskets. A visual inspection verified the manufacturer's description of the specimen. A manufacturer's description and detailed drawing file number 0629, page 9 of 9 are 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 full inspection was not performed in order to preserve the condition of the test specimen. The weight of the door panel as determined was 136.5 kg (301 lbs) an average of 70 kg/m<sup>2</sup> (14.3 lbs/ft<sup>2</sup>). The transmission area used in the calculations was 1.95 m<sup>2</sup> (21 ft<sup>2</sup>). The specimen was opened and closed at least five times, and the test was conducted with no further adjustments. The source and receiving room temperatures at the time of the test were 21°C (70±2°F) and 60±2% relative humidity.

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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 are within the limits set by the ASTM Standard E90-90.

<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	32	0.34	0	800	50	0.30	0
125	28	0.35	2	1000	48	0.26	1
160	32	0.43	1	1250	51	0.23	0
200	28	0.42	8	1600	52	0.23	0
250	34	0.41	5	2000	56	0.18	0
315	39	0.40	3	2500	60	0.18	0
400	44	0.41	1	3150	57	0.13	0
500	46	0.38	0	4000	58	0.11	0
630	50	0.31	0	5000	59	0.10	0

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  
STC = SOUND TRANSMISSION CLASS

Reviewed by

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NVLAQ

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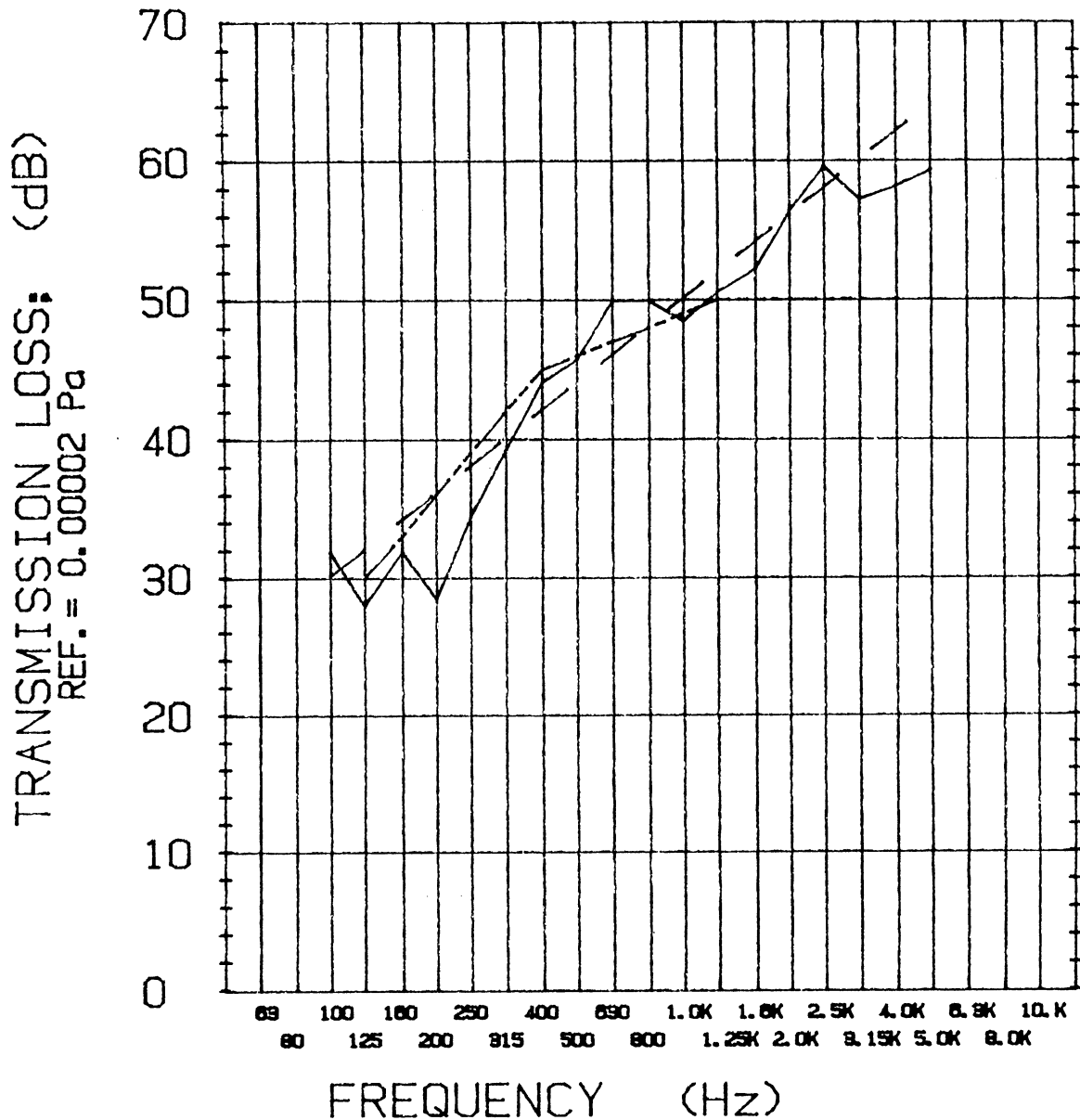
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- SOUND TRANSMISSION CLASS CONTOUR
- - - - MASS LAW CONTOUR

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