

# 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™-TL93-93

ON: Fully Operable Swing Pair of Doors  
With Single Surface Applied Astragal  
Model STC509393

Page 1 of 4

CONDUCTED: 25 March 1993

### 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 1330658.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as a fully operable swing pair of doors, Model STC509393. The overall dimensions of the specimen were nominally 2.13 m (84 in.) wide by 2.13 m (84 in.) high and 54 mm (2.125 in.) thick. The specimen was placed directly in the client's adapter frame and tested in the 2.44 m (8 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 bottoms of the doors had fixed felt seals and adjustable "Super H" closed cell neoprene

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

seals. Each door was hung on two 127 mm (5.0 in.) full mortise cam-lift hinges. The active door was equipped with a functional heavy duty cylindrical lockset. The inactive door was equipped with top and bottom full-mortise flush bolts. Each active and inactive door leaf was equipped with a mortised integral astragal comprised of 13 mm (0.5 in.) by 19 mm (0.75 in.) beveled sponge neoprene held in place with an 116A flat astragal, running full height of door. 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. A visual inspection verified the manufacturer's description of the specimen. A manufacturer's description and detailed drawing file number 0699, page 2 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 two door panels as determined was 243 kg (536 lbs) an average of 54.0 kg/m<sup>2</sup> (10.9 lbs/ft<sup>2</sup>). The transmission area used in the calculations was 4.5 m<sup>2</sup> (49 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 19°C (67±2°F) and 58±2% relative humidity.

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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### 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.

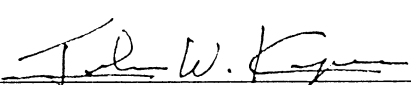
<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>	<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>
100	31	0.40	0	800	52	0.37	0
125	32	0.40	2	1000	51	0.26	2
160	35	0.40	2	1250	55	0.25	0
200	34	0.38	6	1600	57	0.26	0
250	37	0.41	6	2000	58	0.23	0
315	43	0.35	3	2500	60	0.16	0
400	47	0.43	2	3150	61	0.14	0
500	49	0.35	1	4000	62	0.10	0
630	51	0.40	0	5000	62	0.09	0

STC = 50

### 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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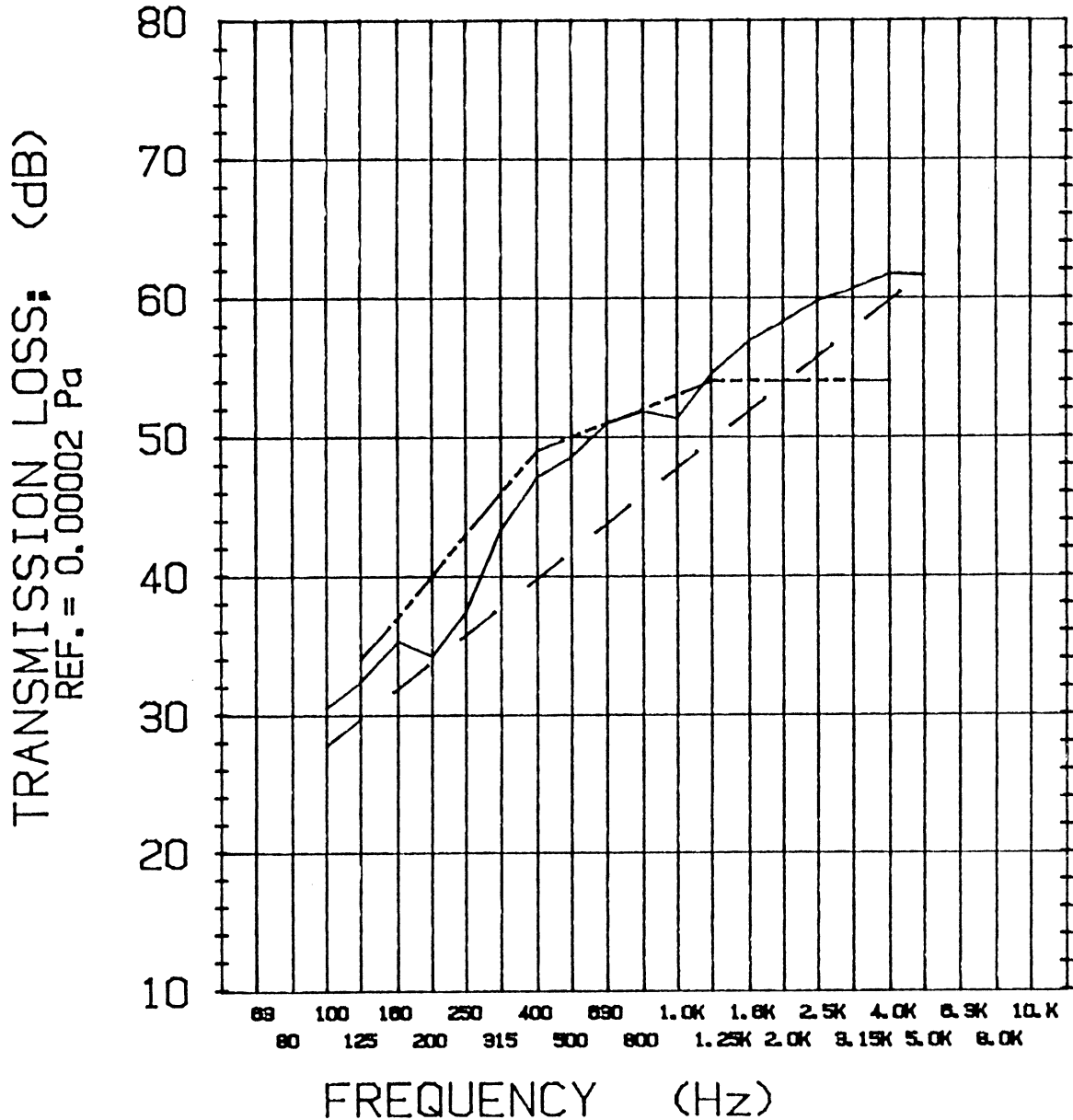
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- TRANSMISSION LOSS
- SOUND TRANSMISSION CLASS CONTOUR
- - MASS LAW CONTOUR

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