

# 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™-TL95-91

ON: Fully Operable Swinging  
Door Model STC539591

Page 1 of 3

CONDUCTED: 23 March 1995

### 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 1440522.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as a fully operable swinging door, Model STC539591. The unit consisted of a metal frame and a reflective panel applied to the interior face of the door panel. The overall dimensions of the specimen as measured were 914 mm (36 in.) wide by 2.13 m (84 in.) high and 76 mm (3 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 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 double magnetic seals at the head and jams. The frame had 4.7 mm (0.187 in.) steel hinge reinforcements with mud boxes. The door was hung on two full mortise cam-lift 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. The weight of the door panel as determined was 143 kg (316 lbs) an average of 73.3 kg/m<sup>2</sup> (15.0 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 20°C (68±2°F) and 61±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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NVLAP

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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.

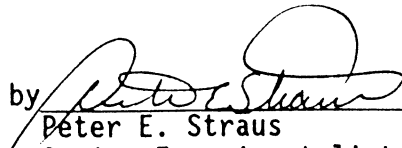
<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>	<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>
100	33	0.30	0	800	54	0.23	1
125	35	0.36	2	1000	52	0.15	4
160	39	0.40	1	1250	53	0.18	4
200	41	0.27	2	1600	56	0.18	1
250	42	0.31	4	2000	57	0.15	0
315	44	0.25	5	2500	58	0.13	0
400	49	0.32	3	3150	60	0.11	0
500	53	0.28	0	4000	62	0.09	0
630	55	0.26	0	5000	64	0.08	0

STC = 53

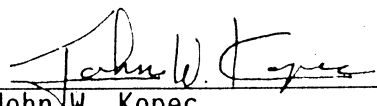
### ABBREVIATION INDEX

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

Tested &  
Reviewed by

  
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Submitted by

  
John W. Kopec  
Laboratory Manager

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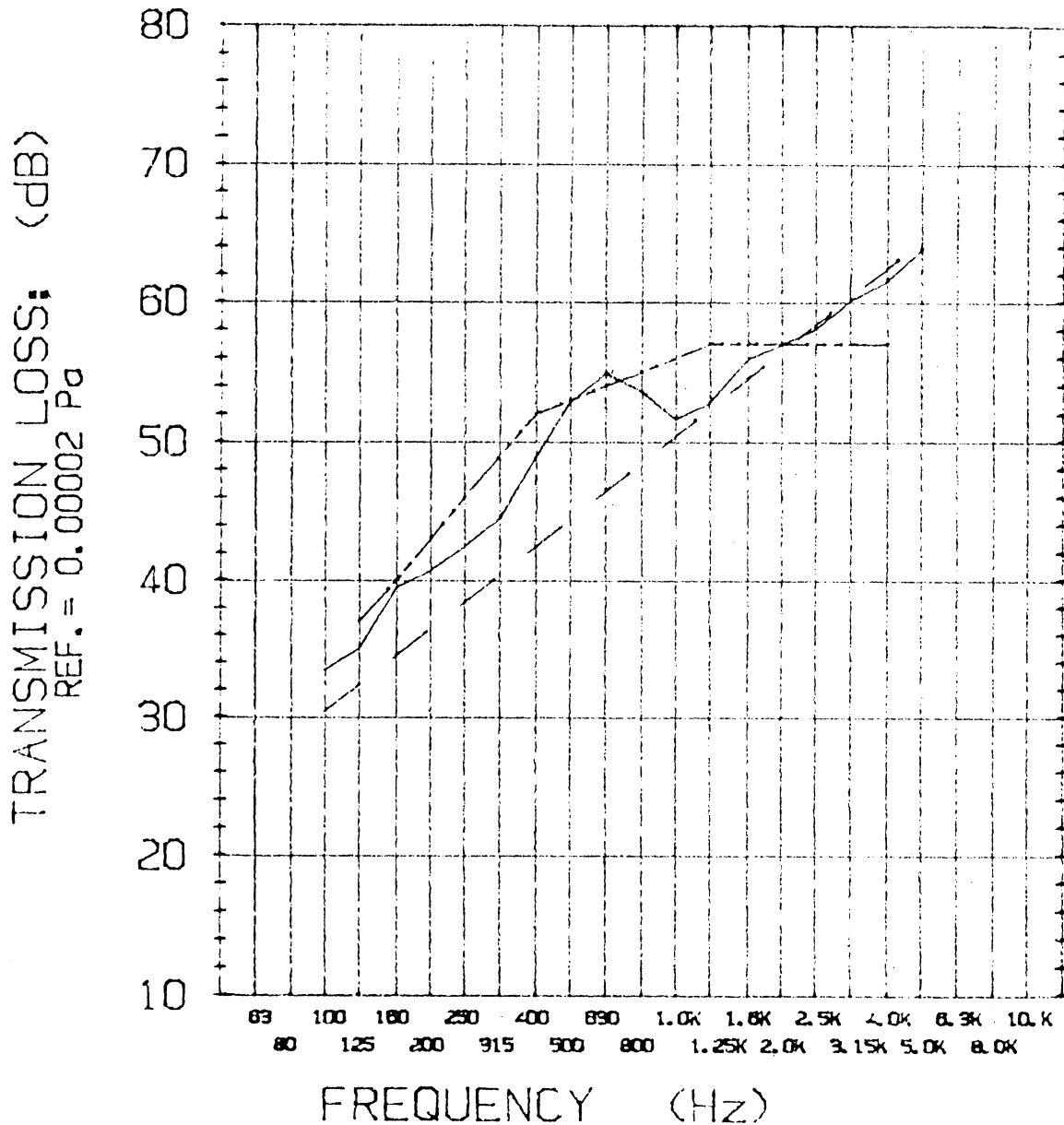
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## REPORT

### TRANSMISSION LOSS REPORT

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

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