RIVERBANK ACOUSTICAL LABORATORIES

OF

IIT RESEARCH INSTITUTE

1512 BATAVIA AVENUE
GENEVA, ILLINOIS 60134

708/232-0104

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

REPORT

FOR: Overly Manufacturing Company

ON: Fully Operable Swinging
Door Model STC499590

Sound Transmission Loss
Test RAL™-TL95-90

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 STC499590. 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 the surface faces and periphery (both sides) with a dense mastic. The manufacturer's description of the specimen was as follows:

On both the lock and hinge 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 top and bottom edge caps were 16 gauge steel channels filled with rockwool. 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 magnetic seals 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 two 127 mm (5.0 in.) full mortise cam-lift hinges. The door was not equipped with a positive latching mechanism and was held closed by the magnetic gaskets. 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 105 kg (231 lbs) an average of 53.8 kg/m^2 (11.0 lbs/ft^2). The transmission area used in the calculations was 1.95 m^2 (21 ft^2). 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.

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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.

FREQ.	T.L.	C.L.	DEF.	FREQ.	T.L.	C.L.	DEF.
100	31	0.36	0	800	50	0.21	1
125	33	0.46	0	1000	47	0.21	5
160	38	0.34	0	1250	46	0.15	7
200	41	0.34	0	1600	48	0.17	5
250	44	0.30	0	2000	51	0.16	2
315	44	0.28	1	2500	54	0.12	0
400	45	0.30	3	3150	55	0.12	0
500	48	0.26	1	4000	54	0.09	0
630	50	0.27	0	5000	57	0.07	0

STC = 49

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: Peter E. Straus, Senior Experimentalist
Submitted by: John W. Kopec, Laboratory Manager

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