RIVERBANK ACOUSTICAL LABORATORIES

OF

IIT RESEARCH INSTITUTE

1512 BATAVIA AVENUE
GENEVA, ILLINOIS 60134

312/232-0104

FOUNDED 1918 BY
WALLACE CLEMENT SABINE

REPORT

FOR: Overly Manufacturing Company

Sound Transmission Loss
Test RAL™-TL85-82

ON: A Fully Operable Swinging
Door Model STC458582

CONDUCTED: 10 April 1985

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the American Society for Testing and Materials Designations E90-83 and E413-73, as well as other pertinent standards. Riverbank Acoustical Laboratories has been accredited by U.S. Department of Commerce, National Bureau of Standards under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure. A description of the measuring technique is available separately. The serial number of the measuring microphone was 792729.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as Model STC458582 and consisted of a metal frame and fully operable swinging door. The overall dimensions of the door panel as measured were 90.17 cm (35.5 in.) wide by 2.12 m (83.63 in.) high and 4.44 cm (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 periphery (both sides) with a dense mastic. The manufacturer's description of the specimen was as follows:

The 14 gauge metal frame was equipped with single "H" seals of felt/neoprene composition at the head and jambs of each door. The frame also had 4.76 mm (0.187 in.) steel hinge reinforcements w/mud boxes. The door was hung on three 11.43 cm (4.5 in.) full mortise extra heavy hinges and was equipped with a functional heavy duty cylindrical lockset. A Reese Automatic Door Bottom Model #521 was surfaced on the interior side of the door. A visual inspection verified the manufacturer's description of the specimen. A detailed itemized description is on file and has been intentionally withheld from this report in order that the manufacturer may control full proprietary rights regarding their product. A full inspection was not performed in order to preserve the condition of the test specimen. The weight of the door panel as measured was 105.46 kg (232.5 lbs) an average of 55.21 kg/m^2 (11.29 lbs/ft^2). The transmission area used in the calculations was 1.91 m^2 (20.6 ft^2). The specimen was opened and closed at least ten times, and the test was conducted with no further adjustments. A manufacturer's description and detailed drawings are maintained on file. The room temperature at the time of the test was 21°C (69°F) and 45% relative humidity.

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TEST RESULTS

Sound transmission loss values are tabulated at the eighteen standard frequencies. An explanation of the sound transmission class rating, a graphic presentation of the data, and additional information appears on the following pages. The precision of the TL test data are within the limits set by the ASTM Standard E90-83.

FREQ.	T.L.	C.L.	DEF.	FREQ.	T.L.	C.L.	DEF.
100	29	0.28	0	800	45	0.21	2
125	29	0.32	0	1000	43	0.21	5
160	31	0.27	1	1250	44	0.20	5
200	34	0.25	1	1600	44	0.16	5
250	40	0.25	0	2000	45	0.13	4
315	42	0.24	0	2500	47	0.12	2
400	44	0.27	0	3150	49	0.11	0
500	44	0.24	1	4000	49	0.08	0
630	45	0.21	1	5000	50	0.06	0

STC = 45

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

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Revised 5/19/88

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