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™-TL85-204

ON: Fully Operable Dual Glazed
Swinging Fire Door Model STC4985204

CONDUCTED: 5 August 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 STC4985204 and consisted of a metal frame and fully operable swinging door. The overall dimensions of the door panel as measured were 90.81 cm (35.75 in.) wide by 2.12 m (83.5 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 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 had 4.76 mm (0.187 in.) steel hinge reinforcements w/mud boxes. The door was hung on two 12.7 cm (5.0 in.) full mortise cam lift hinges and was equipped with a functional heavy duty cylindrical lockset. The dual glazed portion of the door consisted of a nominal 0.19 m^2 (300 in^2) viewing area made up of a 9.52 mm (0.375 in.) thick piece of laminated glass followed by a 19.05 mm (0.75 in.) airspace and a 6.35 mm (0.25 in.) thick piece of laminated wire glass. The lites were retained by 18 gauge formed stops and closed cell sponge neoprene gaskets. 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

DESCRIPTION OF THE SPECIMEN (con't)

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 131.54 kg (290 lbs) an average of 68.16 kg/m^2 (13.99 lbs/ft^2). The transmission area used in the calculations was 1.93 m^2 (20.73 ft^2). The open area as measured was 86.36 cm (34 in.) wide by 2.11 m (83 in.) high. The specimen was opened and closed at least ten times, and the test was conducted with no further adjustments. Manufacturer's detailed drawings are maintained on file. The room temperature at the time of the test was 24°C (76°F) and 80% relative humidity.

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	30	0.40	0	800	51	0.26	0
125	29	0.24	4	1000	45	0.24	7
160	32	0.35	4	1250	48	0.17	5
200	35	0.37	4	1600	52	0.15	1
250	42	0.33	0	2000	54	0.21	0
315	45	0.32	0	2500	54	0.17	0
400	47	0.37	1	3150	51	0.11	2
500	49	0.23	0	4000	53	0.10	0
630	53	0.26	0	5000	54	0.09	0

STC = 49

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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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