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

Sound Transmission Loss
Test RAL™-TL93-91

ON: Fully Operable Swing Pair of Doors
With Single Surface Applied Astragal
Model STC509391

CONDUCTED: 24 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 STC509391. The overall dimensions of the specimen were nominally 2.13 m (84 in.) wide by 2.13 m (84 in.) high and 48 mm (1.875 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

DESCRIPTION OF THE SPECIMEN (con't)

adjustable "Super H" closed cell neoprene 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 mortised flush bolts and an 11 gauge formed surface mounted astragal lined with 16 mm (0.625 in.) by 38 mm (1.5 in.) neoprene 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 1 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 242 kg (534 lbs) an average of 53.8 kg/m^2 (10.9 lbs/ft^2). The transmission area used in the calculations was 4.5 m^2 (49 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 19°C (67±2°F) and 58±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	29	0.44	0	800	54	0.35	0
125	31	0.32	3	1000	54	0.31	0
160	33	0.44	4	1250	56	0.25	0
200	33	0.38	7	1600	56	0.23	0
250	36	0.35	7	2000	59	0.18	0
315	43	0.40	3	2500	61	0.15	0
400	48	0.38	1	3150	61	0.18	0
500	49	0.40	1	4000	61	0.13	0
630	52	0.36	0	5000	59	0.10	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

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