

RSIC-1 ACOUSTIC ASSEMBLY

WALL / MULLION ASSEMBLY



DIRECT FIX TO STEEL STUD / RSIC WINDOW MULLION



RSIC-AMI STC 58

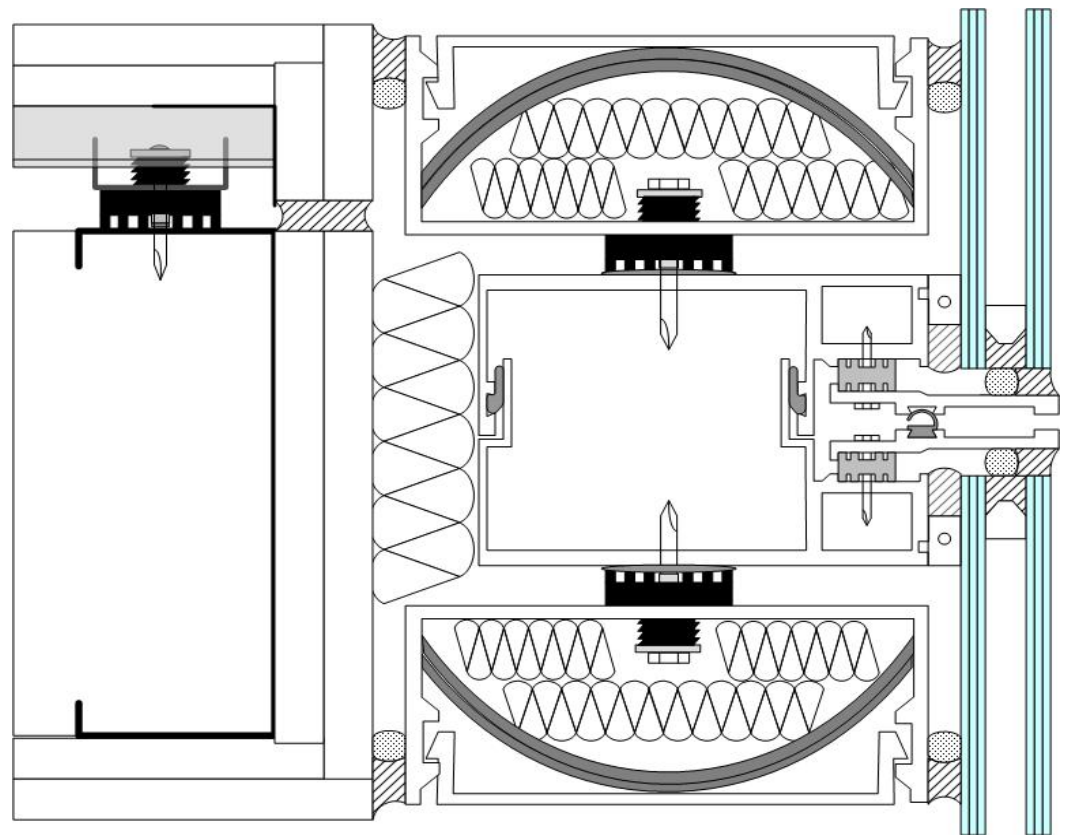
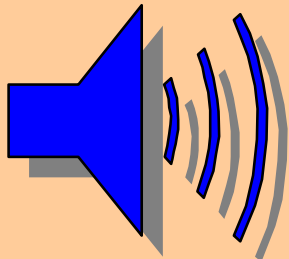
WALL CONSTRUCTION STC 64

- * 2 layers 5/8" Gypsum Board
- * 3.5" 20 Ga Steel Stud at 24" oc
- * R-19 Insulation 5.5"
- * RSIC-1 48" oc.
- * Drywall Furring Channel at 24" oc
- * 2 layers 5/8" Gypsum Board

MULLION CONSTRUCTION STC 58

- * RSIC-AMI Window mullion

RAL-TL05-167



TEST REPORT

FOR: PAC International, Inc.
Aloha, OR

Sound Transmission Loss Test
RAL™-TL05-167

ON: PAC Acoustic Curtain Wall Mullion Section with
WS-SS-FGB-RSIC-1-GB 2 x 2 Wall Panel

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CONDUCTED: 29 August 2005

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-04 and E413-04, 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 (NVLAP Lab Code: 100227-0). A description of the measuring technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the manufacturer as PAC acoustic curtain wall mullion section with WS-SS-FGB-RSIC-1-GB 2 x 2 wall panel. The overall dimensions of the specimen as measured were 1.22 m (48 in.) wide by 2.43 m (95.625 in.) high and 197 mm (7.75 in.) thick. The specimen consisted of a wall panel and treated curtain wall mullion. The specimen was placed directly in the laboratory's 1.22 m (4 ft) by 2.44 m (8 ft) test opening and was sealed on the periphery (both sides) with a dense mastic. A description of each section comprising the specimen is given as follows.

PAC Acoustic Curtain Wall Mullion Section

The acoustic curtain wall mullion section consisted of a curtainwall vertical mullion, RSIC-AMI (Acoustic Mullion Isolator) clips and barrier insulated cover pieces. The full height 2.43 m (95.625 in.) high hollow aluminum mullion profile measured nominally 102 mm (4 in.) wide and 76 mm (3 in.) deep. For each side of the mullion spaced at 1.22 m (48 in.) on center. For each side of the vertical mullion three RSIC-AMI clips spaced nominally at 1.22 m (48 in.) on center were fastened through a 2.3 mm (0.09 in.) thick base channel to the face of the mullion. The clips on each side created a nominal 12 mm (0.5 in.) airspace between the vertical mullion and the base channel. Two layers of Engineered Mass (EM), nominal 32 oz/sq. ft, 6.4 mm (0.25 in.) thick barrier material was placed inside the base channel plate in a crescent (convex) shape so as to bridge over the RSIC-AMI mounting screw. The space between the EM and the base channel was filled with fiberglass acoustical insulation materials. The 1.6 mm (0.062 in.) aluminum

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TEST REPORT

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covers were fastened to the channel along the sides into the flange of the channels. The overall dimensions of the cover and pan assembly were nominally 124 mm (4.825 in.) wide by 41 mm (1.625 in.) deep.

Wall Panel

The wall specimen was designated by the client as Wall System – Load bearing steel studs 3.625" x 20 ga. (0.033") x 1.625" flange, fiberglass batt insulation 6", RSIC-1, drywall furring channels 7/8" x 25 ga., gypsum board 5/8" 2 x 2, UL Design U419 & U423, STC 64 Design. A visual inspection verified the manufacturer's description of the specimen. The description of the specimen was as follows: The wall consisted of 92 mm (3.625 in.) steel studs at 508 mm (20 in.) centers with 156 mm (6.25 in.) thick R-19 fiberglass batt insulation and a double layer of 16 mm (0.625 in.) Firecode 'C' Type X gypsum board on the receive side. RSIC-1 clips and drywall channel ("DWC") were used on the source side with a double layer of 16 mm (0.625 in.) Firecode 'C' Type X gypsum board. On the side of the wall panel being mated with the mullion section, the exposed vertical stud was covered with two layers of 16 mm (0.625 in.) gypsum board and a caulked sectional break maintained between the RSIC suspended gypsum board and the direct mounted gypsum board and studs.

The overall dimensions of the mullion section as measured were 124 mm (4.875 in.) wide by 2.43 m (95.625 in.) high and 184 mm (7.25 in.) thick, and the section weighed 32 kg (70.5 lbs.). The overall dimensions of the wall panel as measured were 1.08 m (42.5 in.) wide by 2.43 m (95.5 in.) high and 203 mm (8 in.) thick, and the wall panel weighed 139 kg (308.5 lbs.). The cavity between the mullion and the wall panel was filled with fiberglass insulation and the exposed vertical seams on the face of each side were sealed with an acoustical caulk. A manufacturer's detailed drawing is maintained on file.

The weight of the entire specimen as measured was 173.7 kg (383 lbs.), an average of 58.7 kg/m² (12 lbs/ft²). The transmission area used in the calculations was 3 m² (32 ft²). The source and receiving room temperatures at the time of the test were 25°C (78±1°F) and 51±1% relative humidity. The source and receive reverberation room volumes were 178 m³ (6,298 ft³) and 140 m³ (4,930 ft³), respectively.

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Alion Science and Technology

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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 is within the limits set by the ASTM Standard E90-04.

<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	39	0.61		800	59	0.18	1
125	41	0.43	1	1000	61	0.16	
160	44	0.47	1	1250	61	0.14	1
200	45	0.48	3	1600	61	0.14	1
250	48	0.47	3	2000	61	0.10	1
315	51	0.31	3	2500	62	0.08	
400	54	0.26	3	3150	64	0.08	
500	55	0.30	3	4000	66	0.13	
630	58	0.24	1	5000	67	0.31	

STC=58

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 (SUM OF DEF = 22)
STC = SOUND TRANSMISSION CLASS

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Tested by _____ Approved by _____

Marc Sciaky
Senior Technician

David L. Moyer
Laboratory Manager

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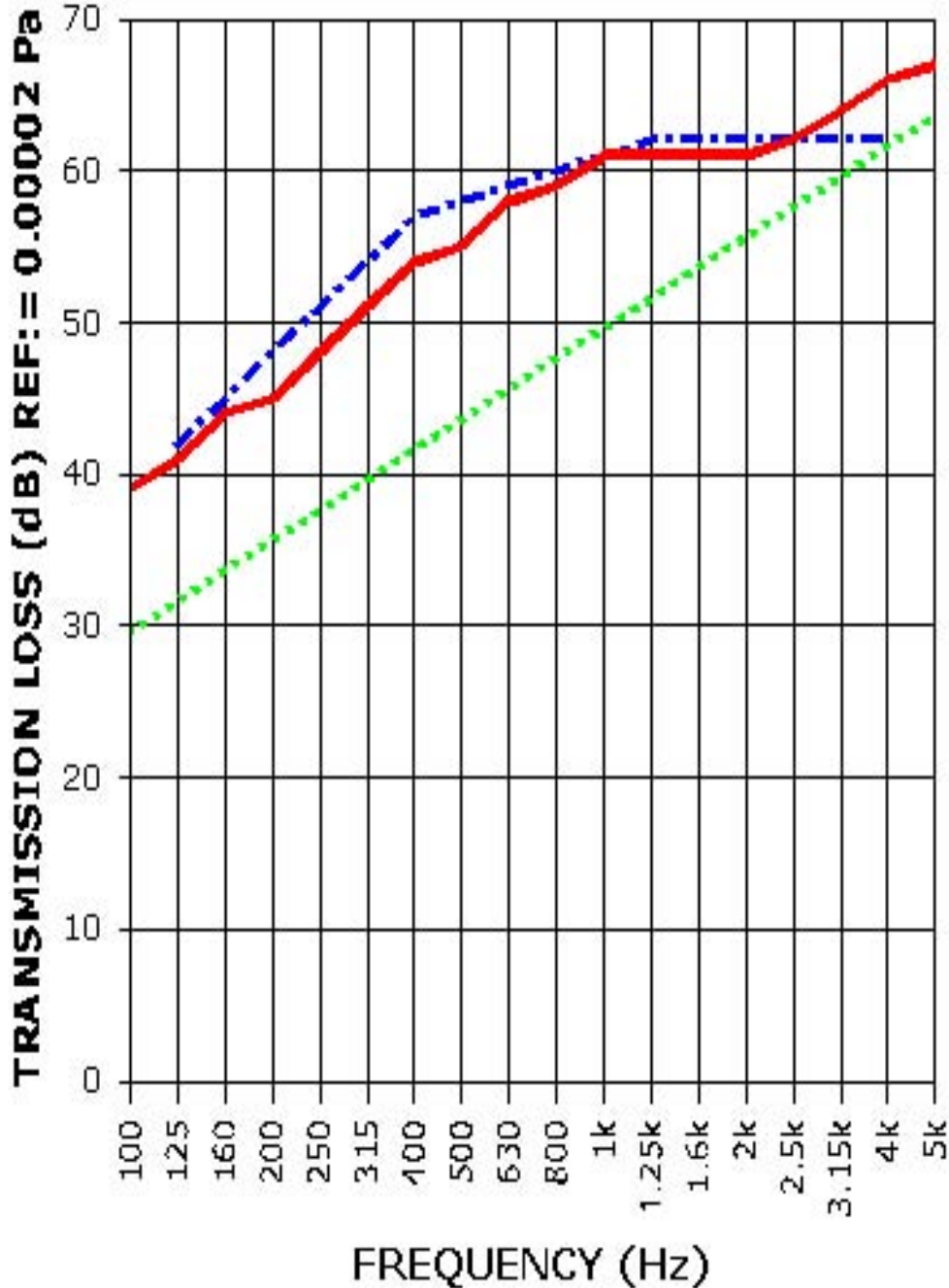
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TEST REPORT

SOUND TRANSMISSION REPORT
RAL - TL05-167



STC = 58

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

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