



Important Notice

In August 1, 2013, PABCO® Gypsum, a division of PABCO® building products, LLC acquired the QuietRock® business and operations from Serious Energy, Inc. Serious Energy, Inc. corporate structure and legal name changed through the years from Quiet Solution, Inc. to Serious Materials, Inc to Serious Energy, Inc. The acquisition of the QuietRock® business by PABCO® Gypsum includes the products, technical data, test reports and other intellectual property. For the avoidance of confusion, references to "Quiet Solution", "Serious Materials", or "Serious Energy" used within test reports, in general, should be understood as references to PABCO® Gypsum as of August 1, 2013.

TEST REPORT

FOR: Quiet Solution, LLC
Sunnyvale, CA

Sound Transmission Loss Test
RAL™-TL07-119

ON: QuietRock 510 H-Stud Area Separation Wall U347
with Double 16" on Center Wood Stud Walls and R-13
Fiberglass Both Sides

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CONDUCTED: 8 May 2007

REVISIONS: 29 April 2008

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 client as QuietRock 510 H-Stud area separation wall U347 with double 16" on center wood stud walls and R-13 fiberglass both sides. The overall dimensions of the specimen as measured were 4.27 m (168 in.) wide by 2.74 m (108 in.) high and 292 mm (11.5 in.) thick. The specimen was installed by the manufacturer directly into the laboratory's 2.74 m (9 ft) by 4.27 m (14 ft) wood-lined steel frame and was sealed on the periphery (both sides) with a dense mastic.

The description of the specimen was as follows: Triple wall assembly consisting of a center wall with metal studs and double layer of gypsum shaftliner and two outer walls with wood studs, single layer gypsum board and fiberglass insulation. The center wall consisted of metal H-Studs and a double layer of 25 mm (1 in.) thick gypsum board panels. The center wall was separated from the two outer wood-framed walls by a nominal 19 mm (0.75 in.) airspace provided by aluminum angle clips at the top of the wall spaced at 610 mm (24 in.) centers. The two wood-framed walls consisted of wood studs. Both sides had 12.7 mm (0.5 in.) thick QuietRock 510 board and insulation.

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Center Wall Assembly

C-Track and H-Studs

The center wall consisted of a metal C-Track and H-Stud frame assembly. The 25 ga. metal C-Track (measured as 0.018 in.) was a U-shaped channel that measured 51 mm (2 in.) wide on the base leg and 25 mm (1 in.) high on the vertical legs. The C-Track was attached to the top, bottom and sides of the laboratory's wood lined frame with 32 mm (1.25 in.) long Type S screws spaced on 610 mm (24 in.) centers. The six (6) 25 ga. H-Studs were friction fit in the C-Track. The 2.73 m (107.5 in.) long H-Studs measured 51 mm (2 in.) on the horizontal leg and nominally 38 mm (1.5 in.) long on the two vertical legs. Total weight of the C-Track was 5.9 kg (13 lbs) and total weight of the H-Studs and end runners was 10.4 kg (23 lbs). The thickness of all steel components was measured as 0.5 mm (0.02 in.).

Center Shaftliner Gypsum Board

The two layers of gypsum board panels were held in place by the U-shaped segments of the H-Studs and C-Track. Fourteen (14) pieces were 2.74 m (107.75 in.) long by 610 mm (24 in.) wide and 25 mm (1 in.) thick. The center shaftliner gypsum board weighed 441 kg (972 lbs).

Outer Wall Assemblies

Wood Studs & Plates

The wood framed walls were attached to the laboratory's wood-lined frame on both sides of the center wall. Each wall consisted of a two-by-four wood frame assembly. The actual 38 mm (1.5 in.) by 89 mm (3.5 in.) by 4.27 m (168 in.) long wood plates were attached to the top and bottom of the laboratory's wood-lined frame with 16d nails on 610 mm (24 in.) centers. The twenty four (24) 2.67 m (105 in.) long wood studs were spaced on 406 mm (16 in.) centers except for the offset studs completing the 4.27 m (168 in.) width of the test opening. The studs were attached to the wood plates with 10d nails. The four wood plates weighed 29 kg (64 lbs) and the twenty four (24) wood studs weighed 104.3 kg (230 lbs).

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NVLAP Lab Code 100227-0

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Gypsum Wallboard

On both sides, a layer of 12.7 mm (0.5 in.) thick QuietRock 510 was attached vertically to the studs with #6, 32 mm (1.25 in.) long bugle head drywall screws at 406 mm (16 in.) on center. Total weight of the QuietRock 510 board as measured was 254 kg (559.75 lbs.). All joints and seams were staggered for each board layer application. Joints were sealed with QuietSeal 350 acoustical caulk and metal taped. Screw heads remained exposed.

Insulation

R-13 fiberglass insulation was friction fit between the wood studs. The size of the insulation was 381 mm (15 in.) wide by 89 mm (3.5 in.) thick. The 20.3 m² (218 ft²) of insulation weighed 28.8 kg (63.5 lbs).

Entire Wall Assembly

Weight/Area

The weight of the specimen as measured was 875.9 kg (1,931 lbs.), an average of 74.9 kg/m² (15.3 lbs/ft²). The transmission area used in the calculations was 11.7 m² (126 ft²).

TEST CONDITIONS

The source and receiving room temperatures at the time of the test were 23°C (74°F) and 51±1% relative humidity. The source and receive reverberation room volumes were 178 m³ (6,298 ft³) and 177 m³ (6,255 ft³), respectively.

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Alion Science and Technology

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

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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	35	0.89		800	73	0.31	
125	45	0.49	8	1000	75	0.18	
160	49	0.58	7	1250	77	0.12	
200	53	0.52	6	1600	79	0.15	
250	57	0.53	5	2000	81	0.24	
315	62	0.33	3	2500	86*	0.62	
400	66	0.38	2	3150	90*	0.16	
500	69	0.19		4000	91***	0.23	
630	70	0.24		5000	88***	0.57	

STC=69

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 = 31)

STC = SOUND TRANSMISSION CLASS

* = CORRECTION APPLIED FOR BACKGROUND NOISE LEVEL

*** = INDICATES LOWER LIMIT DUE TO BACKGROUND CORRECTION

Tested by Marc Sciaky Approved by David L. Moyer
Marc Sciaky David L. Moyer
Experimentalist Laboratory Manager

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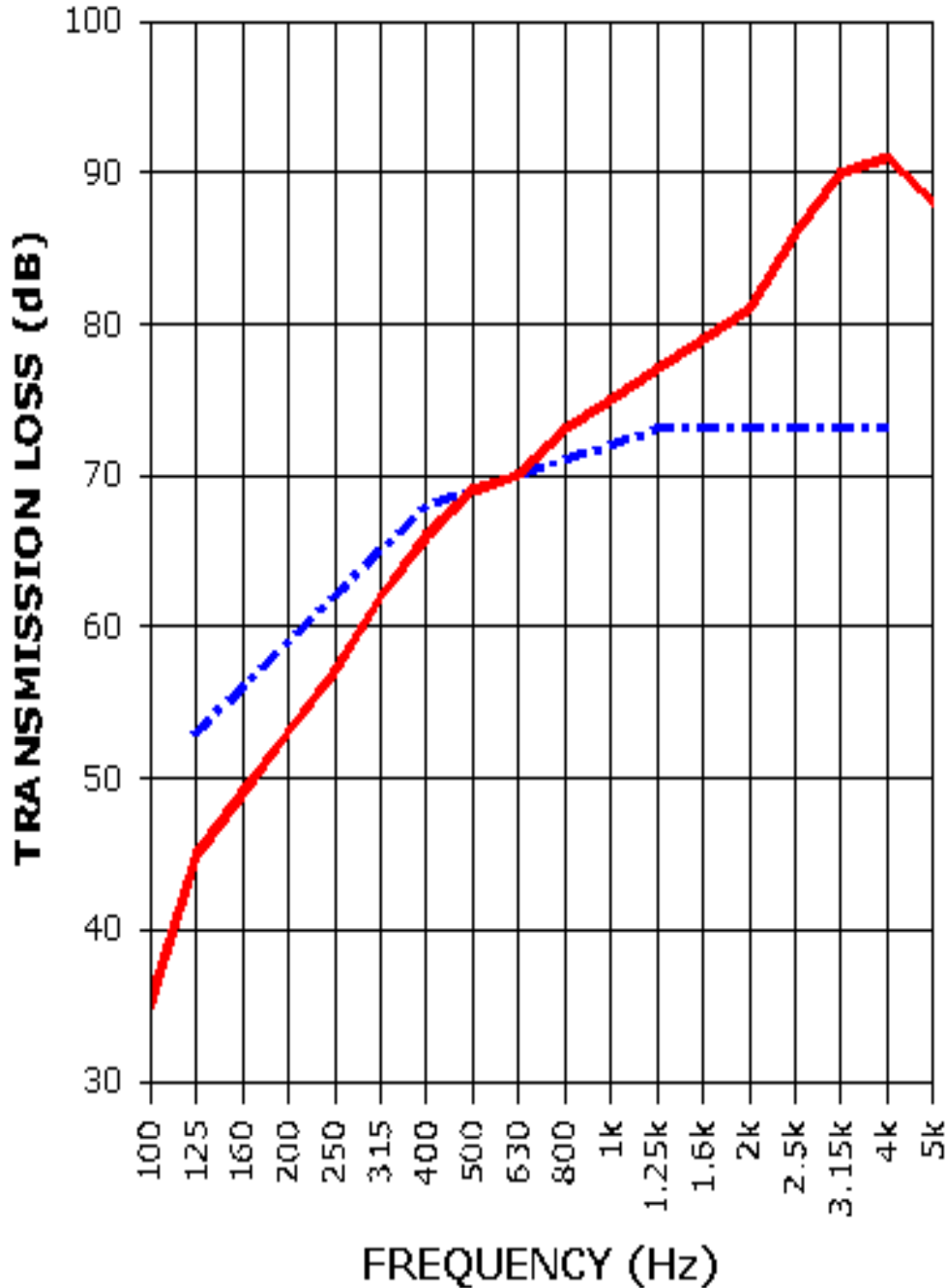


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TEST REPORT

**SOUND TRANSMISSION REPORT
RAL - TL07-119**



STC= 69

— TRANSMISSION LOSS
- - - SOUND TRANSMISSION LOSS CONTOUR

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