

TEST REPORT

FOR: Quiet Solution, LLC
Sunnyvale, CA

Sound Transmission Loss Test
RAL™-TL07-017

ON: ID 12: QuietRock 528 (QR 528), 24" on Center Wood
Stud Wall with R-13 Fiberglass and 5/8" Type X
Gypsum

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CONDUCTED: 22 January 2007

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 ID 12: QuietRock 528 (QR 528), 24" on center wood stud wall with R-13 fiberglass and 5/8" Type X gypsum. The overall dimensions of the specimen as measured were nominally 2.46 m (97 in.) wide by 2.74 m (108 in.) high and 121 mm (4.75 in.) thick. The specimen was installed by the client directly into the laboratory's 2.74 m (9 ft) by 4.27 m (14 ft) wood-lined steel frame. A substantial filler wall was used in the remaining open area. Both the filler wall and test specimen were sealed on the periphery (both sides) with dense mastic.

The description of the specimen was as follows: The wall consisted of a 2 x 4 wood stud wall with R-13 fiberglass batt insulation. One side of the wall was finished with 5/8 inch Type X gypsum board and the other side was finished with QuietSolutions QR 528. A more detailed description of the wall assembly appears in the sections below.

Floor Ceiling Plates, Studs and Insulation: The wall had two 89 mm (3.5 in.) wide by 38 mm (1.5 in.) thick and 2.44 m (96 in.) long SPF wood plates. Plates were attached to the top and bottom of the test frame with 12d nails on 610 mm (24 in.) centers. Five (5) 89 mm (3.5 in.) wide by 38 mm (1.5 in.) thick and 2.67 m (105 in.) long SPF wood studs spaced on 610 mm (24 in.) centers were attached to the floor and ceiling plates with 12d nails. The total weight of the wood used was 28 kg (61 lbs). All cavities formed by the plates and studs were lined with Kraft faced R-13 fiberglass insulation measuring 89 mm (3.5 in.) thick. The total weight of the insulation was 8.2 kg (18 lbs).

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Gypsum Wallboard: On one side, a layer of 16 mm (0.625 in.) thick Type X gypsum board was applied vertically to the studs. On the other side, a layer of 16 mm (0.625 in.) thick QR 528 board was applied vertically to the studs. The boards were attached to the studs with #6, 41 mm (1.625 in.) long bugle head drywall screws at 406 mm (16 in.) on centers. Total weight of the gypsum board as measured was 68.7 kg (151.5 lbs.). Total weight of the QR 528 board as measured was 107 kg (236 lbs.). All joints and seams were staggered for each board layer application. Joints were sealed with QuietSeal 350 (QS 350) acoustical caulk and metal taped. Screw heads remained exposed.

The weight of the specimen as measured was 212 kg (466.75 lbs.), an average of 31.4 kg/m² (6.4 lbs/ft²). The transmission area used in the calculations was 6.7 m² (72.5 ft²). The source and receiving room temperatures at the time of the test were 20±1°C (68±1°F) and 54±2% 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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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	16	0.88		800	52	0.16	
125	31	0.57	3	1000	53	0.12	
160	38	0.69		1250	54	0.14	
200	37	0.60	3	1600	54	0.08	
250	40	0.38	3	2000	51	0.10	3
315	45	0.38	1	2500	52	0.10	2
400	44	0.34	5	3150	54	0.06	
500	49	0.28	1	4000	53	0.06	1
630	50	0.15	1	5000	56	0.05	

STC=50

ABBREVIATION INDEX

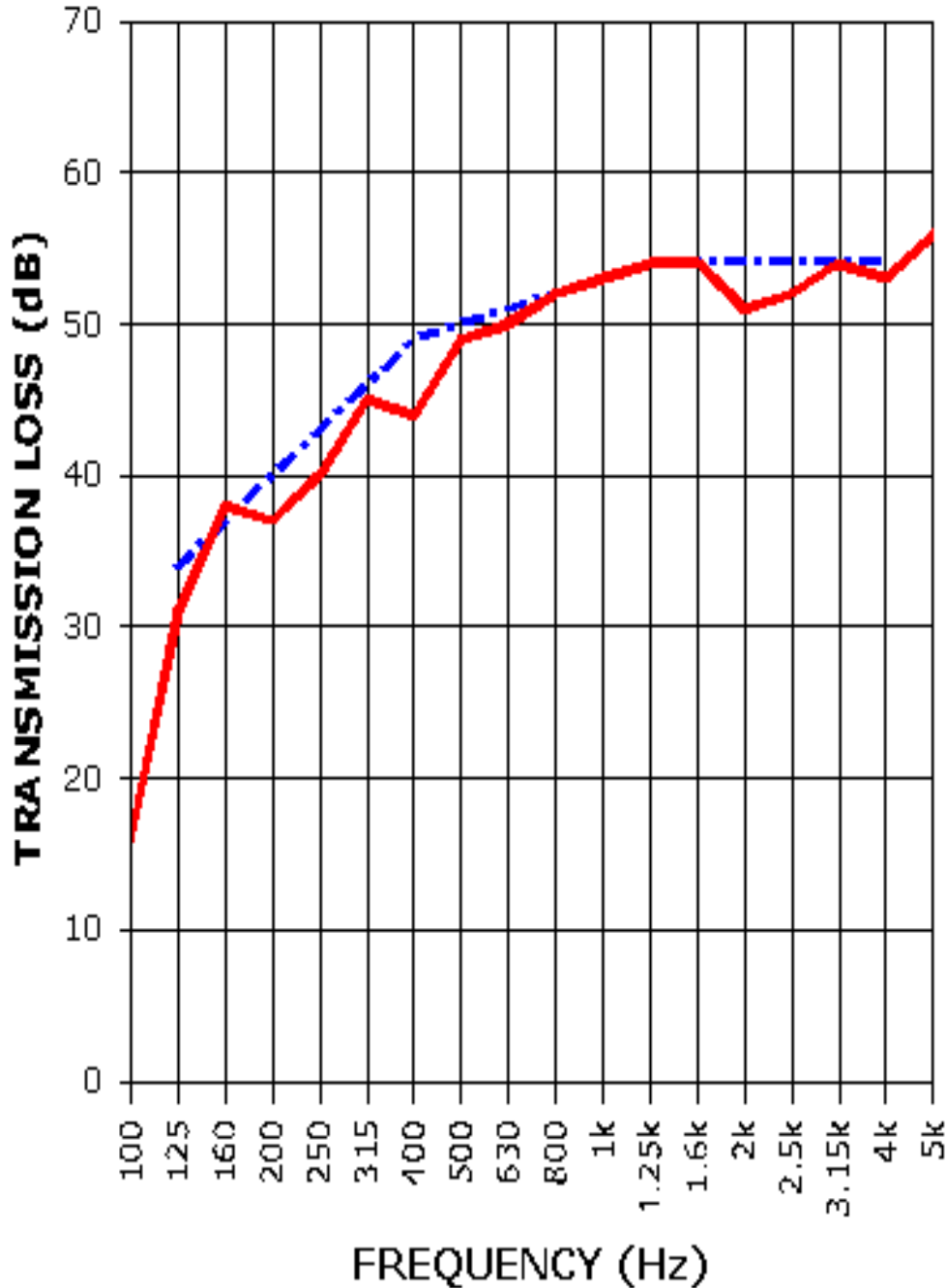
FREQ. = FREQUENCY, HERTZ, (cps)
T.L. = TRANSMISSION LOSS, dB
C.L. = UNCERTAINTY IN dB, FOR A 95% CONFIDENCE LIMIT
DEF. = DEFICIENCIES, dB<STC CONTOUR (SUM OF DEF = 23)
STC = SOUND TRANSMISSION CLASS

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

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TEST REPORT

**SOUND TRANSMISSION REPORT
RAL - TL07-017**



STC= 50



TRANSMISSION LOSS
SOUND TRANSMISSION LOSS CONTOUR

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NVLAP Lab Code 100227-0

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