



**Acoustic and Insulation
Product Testing Laboratories**

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REPORT NO. A150024

Proposal No. A15008

Date: 10 July 2015

TITLE: ASTM E90 Testing Sound Damp2

Purpose

The purpose of this testing is to obtain Sound Transmission Loss data of Sound Damp2 in the submitted wall construction. Data originated from TR A090021.

Samples Submitted

2 layers of 5/8" Type X drywall on receive side; 2 layers of 5/8" Type X drywall pre-laminated with Sound Damp2; 60 oz per each 4'x 8' laminated panel assembly on source side.

Testing Method

The test method conformed explicitly to the requirements of the ASTM Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements: ASTM E90 – 04 and Classification of Rating Sound Insulation ASTM E413-04. The Owens Corning Test Method M-01Ab conforms explicitly to ASTM and NVLAP requirements and describes in detail the method used by this lab in conducting airborne sound transmission loss testing. A description of the measuring technique is available separately.

Accuracy and Accreditation

Owens Corning Acoustic and Insulation Product Testing Laboratories is accredited through the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 100109-0 for the Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements: ASTM E90-09. The precision and bias of this test method is outlined in Section 13 of the ASTM E90 Standard. The E90 standard, paragraph 13.1, states the following: "Precision – Measurements at one laboratory show that the repeatability standard deviation for complete rebuilds of wood joist floor ranged from about 1.5 to 3.5 dB in the frequency range 125 to 4 kHz. This repeatability includes normal variations in materials but minimal changes in construction techniques. The repeatability standard deviation for re-installation of a concrete slab was about 4.5 dB at 100 Hz and below, about 3dB from 125 to 630Hz, and about 1.5 dB above 630 Hz. Repeatability for this test method depends on the specimen type and not enough data



NVLAP LAB CODE 100109-0

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The information provided herein is based on controlled laboratory conditions. The test specimen identification is as provided by the client and Owens Corning Acoustic and Insulation Product Testing Laboratories accepts no responsibility for any inaccuracies therein. Owens Corning Acoustic and Insulation Product Testing Laboratories makes no warranty that the results provided herein are representative of actual use conditions. Each user should independently evaluate the data provided and make their own decision as to whether the data is reliable and representative for their service conditions.

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have been collected to allow more specific statements. From round robin testing on copies of the reference specimen described in Specification E1289, it has been determined that the reproducibility standard deviation is 2dB or less at all frequencies from 125 to 4000Hz. Further information can be found in reference (2)." Paragraph 13.2 states, "Bias – There is no bias in this test method since the true value is defined by the test method."

Details pertaining to Reverberation Suite 1 are available upon request.

Summary of Results

Summations and details of the test and test results are provided on the attached data sheet(s).

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Brief Description:	(2) layers 5/8" Type X drywall receive side; (2) layers 5/8" Type X drywall pre-laminated with Sound Damp2; 60 oz. per each 4' x 8' laminated panel assembly source side.						
Test Date :	4/3/09	Construction Date:	4/3/09	Operator:	Don Hill	File Name:	E90_09013.xls

Frequency (Hz)	Sound Transmission Loss (dB)	DEF	PR	PRC	BC	CI (dB)	FWTL
80	18		221455			5.2	N/A
100	25		63515			2.6	N/A
125	36	-1	16691			2.8	N/A
160	41		18252			1.3	N/A
200	40	-3	43341			1.0	N/A
250	45	-1	152551			0.6	N/A
315	45	-4	461879			0.8	N/A
400	49	-3	218375			0.9	N/A
500	51	-2	163261			0.8	N/A
630	54		52411			0.7	N/A
800	55		19934			1.0	N/A
1000	56		18303			0.8	N/A
1250	56	-1	34867			0.6	N/A
1600	56	-1	86554			0.7	N/A
2000	51	-6	383737			0.9	N/A
2500	52	-5	278464			0.9	N/A
3150	57		105308			0.9	N/A
4000	62		67408			1.0	N/A
5000	63		77268			0.8	N/A

Specimen STC Criteria:

Sum of deficiencies <= 32 dB	27
Largest deficiency, 8 dB	6

Data Key

- DEF** = Deficiencies, dB<stc Contour
- PR** = Power Ratio
- PRC** = Power Ratio Correction
- A** = Reported TL represents lower limit.
- Difference between specimen & filler wall < 6 dB.
- Reliable corrections cannot be made.
- a** = Corrections for transmission through the filler wall have been made.
- Blank** = No Correction Required
- BC** = Background Correction
 - C - 5 dB < L-Ln < 10 dB
 - c - L-Ln < 5 dB
- (L-level from rec. room, Ln-Background noise level)
- CI (dB)** = 95% Confidence Interval, dB
- FWTL** = Filler Wall Sound Transmission Loss dB
- STC** = Sound Transmission Class

Specimen STC 53

Filler Wall STC N/A





Test Date :	4/3/2009	Construction Date:	4/3/2009	Operator:	Don Hill	File Name:	E90_09013.xls	
Sample Area Weight:	50.64 kg/m ²	10.37 lbs./ft ²	Total Sample Weight:		995.8 lbs	452.64 Kg		
Composite Area		Sample Area		Filler Area				
8.9 m ² .	96.0 ft ²	8.9 m ²	96.0 ft ²	0.0 m ²	0.0 ft ²			
Relative Humidity	39.53%	Avg Temp:	21.76 °C	71.17 °F	Speed of Sound:	344.27 m/s	1129.46 ft/s	
Rec. Room Volume:	286.3 m ³	10110.6 ft ³	Source Room Volume:		111.3 m ³	3930.5 ft ³		
				Rec Temp °C	22.08	Source Temp °C	20.79	
Full Sample Description:	Rec Hum %	38.88	Source Hum %	41.46	Rec Temp °F	71.75	Source Temp °F	69.42

Source side: 5/8" Type FS11 drywall + 60 oz. Sound Damp2 + 5/8" Type FS11 drywall.

Frame: 2x4 wood studs, 24" o.c. with R-13 fiberglass fill w/paper facer.

Receive side: (2) layers 5/8" Type FS11 drywall.

Note: Sound Damp2 (approx. 60 oz.) was applied per manufacturer's instructions, which is to dispense and spread across entire 4'x8' drywall sheet using a low-nap paint roller. The second sheet was then applied to the treated sheet and allowed to cure in a controlled environment for 30 days. All treated sheets were allowed to acclimate to the testing facility for 24 hours prior to testing.