

ACOUSTITECH ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM E90, ASTM E492, AND ASTM E2179 TESTING ON 8.0 MM CERAMIC TILE OVER SONOMAX25 SYSTEM

SPECIMEN TYPE

Concrete Slab - 203 mm

REPORT NUMBER

T3127.04-113-11-R0

TEST DATE

12/04/25

ISSUE DATE

12/18/25

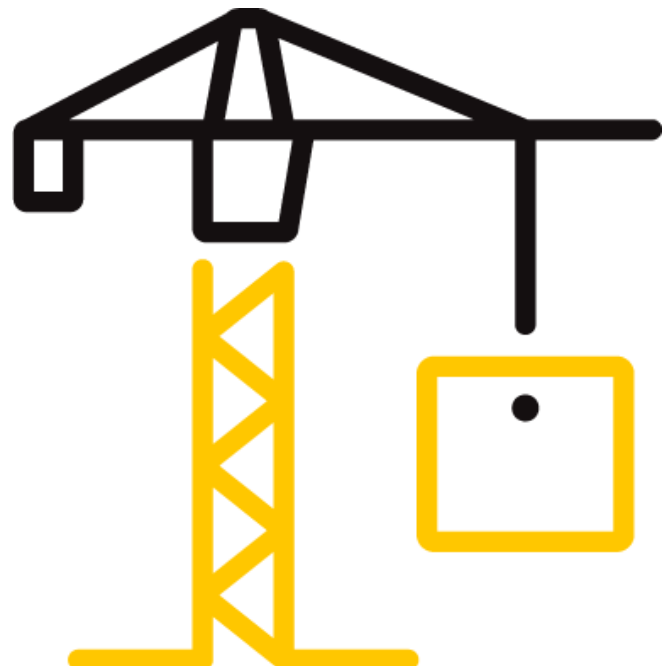
PAGES

18

DOCUMENT CONTROL

RTTDS-R-AMER-Test-2844 (03/23/22)

© 2017 INTERTEK



TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

REPORT ISSUED TO

ACOUSTITECH

150 Boulevard Leon-Vachon

St-Lambert-de-Lauzon, Quebec G0S 2W0 CANADA

SECTION 1

SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by AcoustiTECH to perform testing in accordance with ASTM E90, ASTM E492, AND ASTM E2179 on 8.0 mm Ceramic Tile over SONOMAX25 System. Results obtained are tested values and were secured by using the designated test methods. Testing was conducted in the VT test chambers at Intertek B&C located in York, Pennsylvania.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

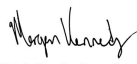
SECTION 2

SUMMARY OF TEST RESULTS

DATA FILE NO.	T3127.04
SERIES/MODEL:	8.0 mm Ceramic Tile over SONOMAX25 System
STC	61
IIC	60
ΔIIC	22
HIIC	66
ΔHIIC	33

COMPLETED BY: Morgan S. J. Kennedy
Technician - Acoustical

TITLE: Testing

SIGNATURE: 
Digitally Signed by: Morgan Kennedy

DATE: 12/18/25

REVIEWED BY: Daniel B. Mohler
Project Manager - Acoustical

TITLE: Testing

SIGNATURE: 
Digitally Signed by: Daniel Mohler

DATE: 12/18/25

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample(s) tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.



TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 3**TEST METHODS**

The specimen was evaluated in accordance with the following:

ASTM E90-23, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions*

ASTM E413-22, *Classification for Rating Sound Insulation*

ASTM E492-22, *Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine*

ASTM E2179-21, *Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors*

ASTM E989-21, *Classification for Determination of Impact Insulation Class (IIC)*

ASTM E2235-04 (2020), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

ASTM E3222-20, *Standard Classification for Determination of High-Frequency Impact Sound Ratings*

SECTION 4**MATERIAL SOURCE/INSTALLATION**

The full test specimen was assembled on the day of testing by B&C. All materials provided by the client were installed on an existing B&C assembly (Concrete Slab - 203 mm) utilizing B&C-supplied materials. The assembly was installed in a steel test frame which was installed into the opening between the source and receive rooms in the test chamber. The test frame was isolated from the structure with dense neoprene gasket.

The total weight of the floor/ceiling assembly was 6094.3 kg. B&C will store samples of the test specimen for four years. Photographs of the test specimen are included in the report. A drawing of the test specimen is included in the report.

B&C will service this report for the entire test record retention period. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by B&C for the entire test record retention period.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 5 EQUIPMENT

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	CAL DATE	
2-Channel Analog Input	National Instruments	NI 9250	2-Channel Analog Input	INT02672	10/24	*
2-Channel Analog Input	National Instruments	NI 9250	2-Channel Analog Input	INT02673	10/24	*
2-Channel Analog Input	National Instruments	NI 9250	2-Channel Analog Input	INT02674	10/24	*
2-Channel Analog Input	National Instruments	NI 9250	2-Channel Analog Input	INT02675	10/24	*
2-Channel Analog Input	National Instruments	NI 9250	2-Channel Analog Input	INT02676	10/24	*
2-Channel Analog Input	National Instruments	NI 9250	2-Channel Analog Input	INT02677	10/24	*
2-Channel Analog Output	National Instruments	NI 9260	2-Channel Analog Output	INT02611	N/A	*
Microphone Calibrator	Norsonic	34093	Acoustical Calibrator	65105	08/24	
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	64908	01/25	
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT037389	10/24	
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT03720	10/24	
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64903	07/24	
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	64902	09/24	
Receive Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	63810	09/24	
				63811	09/24	
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	63745	07/24	
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	64340	09/24	
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT037389	10/24	
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	64909	07/24	
Source Room Microphone	PCB Electronics	378C20	Microphone and Preamplifier	64911	09/24	
Source Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	63812	11/24	
Tapping Machine	Norsonic	Nor277	Tapping Machine	INT00936	07/24	

* The calibration frequency for this equipment is every two years per the manufacturer's recommendation.

VT RECEIVE ROOM VOLUME	158.34 m ³
VT SOURCE ROOM VOLUME	190 m ³

SECTION 6 LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Morgan S. J. Kennedy	Intertek B&C
Daniel B. Mohler	Intertek B&C

TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 7

TEST PROCEDURE

The microphones were calibrated before conducting the tests. The air temperature and relative humidity conditions were monitored and recorded during all measurements. The average temperature and humidity of both the source and receive rooms are listed in Sections 10 and 11. The maximum and minimum temperatures and humidities of the receive room from the duration of the test are listed in Sections 12 through 15.

The airborne transmission loss test was conducted in accordance with the ASTM E90 test method using the single direction method. Two background noise sound pressure level and five sound absorption measurements were conducted at each of five microphone positions. Two sound pressure level measurements were made simultaneously in both rooms, at each of five microphone positions.

The impact sound transmission test was conducted in accordance with the ASTM E492 test method. Two background noise sound pressure level, two sound pressure level measurements with the tapping machine operating at each position specified by ASTM E492, and five sound absorption measurements were conducted at each of five microphone positions.

The delta impact insulation test was conducted in accordance with ASTM E2179 test method. In addition to the impact sound transmission test, two sound pressure level measurements with the tapping machine operating at each position specified by ASTM E492 with only the concrete slab installed were conducted at each of five microphone positions.

Detailed test procedures, data for flanking limit tests, repeatability measurements, and reference specimen tests are available upon request.

SECTION 8

TEST CALCULATIONS

The STC (Sound Transmission Class), IIC (Impact Insulation Class), HIIC (High-Frequency Impact Insulation Class), and Δ IIC (Delta Impact Insulation Class) ratings were calculated in accordance with ASTM E413, ASTM E989, ASTM E3222, and ASTM E2179, respectively.

TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 9

TEST SPECIMEN DESCRIPTION

MATERIAL	DIMENSIONS (mm)	THICKNESS (mm)	MANUFACTURER AND SERIES	QUANTITY	AVERAGE WEIGHT
Ceramic Tile	295.3 by 295.3	8.0	Style Selections	10.98 m ²	15.77 kg/m ²
	Note: Back-buttered and placed with light pressure onto a bed of Mapei Keraflex RS mortar on the underlayment. The mortar was set using a 6.35 mm by 6.35 mm trowel. Mapei Flexicolor CQ grout was placed into the 6.35 mm joints between the ceramic tile and wiped clean. Both the grout and mortar were allowed to cure to manufacturer's specifications.				
Tile Backerboard	1219.2 by 1219.2	9.5	USG Fiberock	10.98 m ²	8.1 kg/m ²
	Note: Screwed to the profiled slats on 203 mm centers using 25.4 mm #10 screws				
Wood Fiber Panels	1219.2 by 254	25.4	SONOMAX25	10.98 m ²	6.44 kg/m ²
	Note: Loose laid. Connected with profiled slats.				
Concrete Slab	3023 by 3632	203.2	5000 PSI	10.98 m ²	524.71 kg/m ²
	Note: Installed in a test frame flush to the source room. Mats of #5 reinforcing bars were placed 25.4 mm from both the top and bottom of the slab, with bars spaced on 305 mm centers in both directions. No noticeable shrinkage or cracking was visible on the specimen.				

TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 10

TEST RESULTS - AIRBORNE SOUND TRANSMISSION LOSS

TEST DATE	12/4/2025				
DATA FILE NO.	T3127.04				
CLIENT	AcoustiTECH				
DESCRIPTION	8 mm Style Selections Ceramic Tile, 9.5 mm USG Fiberrock Tile Backerboard, 25.4 mm SONOMAX25 Wood Fiber Panels, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	10.98 m ²	Receive Temp.	16.9°C	Source Temp.	19.7°C
TECHNICIAN	MSJK	Receive Humidity	45%	Source Humidity	45%



FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION m ²	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% SAMPLING LIMIT (dB)	NUMBER OF DEFICIENCIES
50	40.2	22.3	104	65	36	3.8	-
63	37.5	22.2	103	62	38	5.9	-
80	33.2	16.8	97	64	32	3.3	-
100	27.7	10.0	96	64	33	2.5	-
125	26.2	10.4	98	61	38	2.1	7
160	23.0	9.7	98	59	41	1.1	7
200	20.8	11.7	98	52	47	1.4	4
250	19.3	11.4	103	52	51	1.7	3
315	19.5	11.1	105	52	54	1.2	3
400	17.8	10.3	105	49	57	1.0	3
500	20.8	8.9	104	44	61	0.5	0
630	21.6	8.7	104	45	61	0.7	1
800	18.7	8.5	104	43	63	0.6	0
1000	18.8	8.5	104	42	64	0.5	0
1250	17.1	8.6	104	41	65	0.6	0
1600	16.4	8.8	104	40	66	0.5	0
2000	12.9	9.2	104	40	65	0.6	0
2500	9.0	10.4	101	35	67	0.5	0
3150	7.5	11.2	100	30	71	0.6	0
4000	7.8	12.3	100	27	74	0.7	0
5000	8.6	14.2	100	23	77	0.6	-
6300	9.5	15.8	94	16	77	0.8	-
8000	10.1	23.3	93	13	77	0.8	-
10000	11.0	23.3	87	10	74	1.1	-
STC Rating	61	(Sound Transmission Class)			Sum of Deficiencies	28	

Notes:

- 1) Receive Room levels less than 6 dB above the Background levels are highlighted in yellow.
- 2) Specimen TL levels listed in red are potentially limited by the laboratory flanking limit.
- 3) Specimen TL levels listed in blue indicate the lower limit of the transmission loss.
- 4) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

TEST REPORT FOR ACOUSTITECH

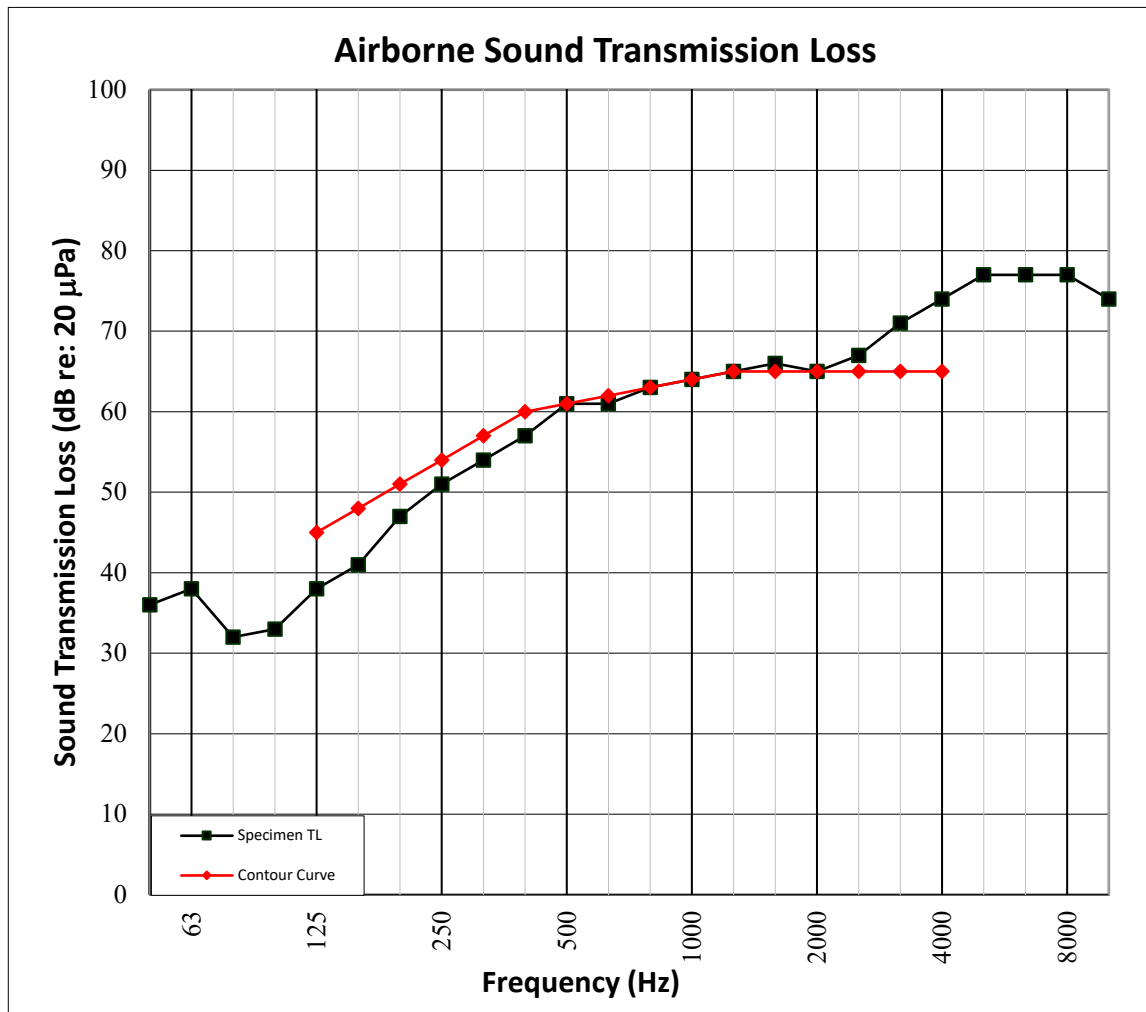
Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 11

TEST RESULTS - AIRBORNE SOUND TRANSMISSION LOSS GRAPH

TEST DATE	12/4/2025				
DATA FILE NO.	T3127.04				
CLIENT	AcoustiTECH				
DESCRIPTION	8 mm Style Selections Ceramic Tile, 9.5 mm USG Fiberrock Tile Backerboard, 25.4 mm SONOMAX25 Wood Fiber Panels, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	10.98 m ²	Receive Temp.	16.9°C	Source Temp.	19.7°C
TECHNICIAN	MSJK	Receive Humidity	45%	Source Humidity	45%



TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 12
TEST RESULTS - IMPACT SOUND TRANSMISSION

TEST DATE	12/4/2025				
DATA FILE NO.	T3127.04				
CLIENT	AcoustiTECH				
DESCRIPTION	8 mm Style Selections Ceramic Tile, 9.5 mm USG Fiberrock Tile Backerboard, 25.4 mm SONOMAX25 Wood Fiber Panels, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	10.98 m ²	Maximum Temp.	17°C	Minimum Temp.	16.8°C
TECHNICIAN	MSJK	Max. Humidity	46%	Min. Humidity	44%



FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION m ²	NORMALIZED IMPACT SPL (dB)	95% SAMPLING LIMIT (dB)	NUMBER OF DEFICIENCIES
50	39.9	21.4	54	2.1	-
63	37.2	18.4	50	3.6	-
80	37.8	15.8	52	2.6	-
100	33.6	9.9	56	1.8	4
125	28.6	9.6	58	2.1	6
160	23.2	9.8	59	1.2	7
200	21.5	11.4	57	1.0	5
250	18.8	11.6	57	1.3	5
315	19.2	11.3	52	0.6	0
400	18.0	10.2	50	0.4	0
500	20.8	8.9	47	0.5	0
630	18.9	8.7	45	0.5	0
800	19.0	8.4	44	0.7	0
1000	19.8	8.4	43	0.6	0
1250	18.1	8.5	40	0.4	0
1600	16.5	8.7	37	0.5	0
2000	12.6	9.4	33	0.5	0
2500	8.9	10.4	29	0.6	0
3150	7.5	11.2	23	0.9	0
4000	7.8	12.2	18	1.0	-
5000	8.6	14.1	12	0.9	-
6300	9.5	15.6	11	0.7	-
8000	10.2	23.3	13	0.7	-
10000	11.0	23.3	13	0.6	-
IIC Rating	60	<i>(Impact Insulation Class)</i>		Sum of Deficiencies	27

Notes: Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.

TEST REPORT FOR ACOUSTITECH

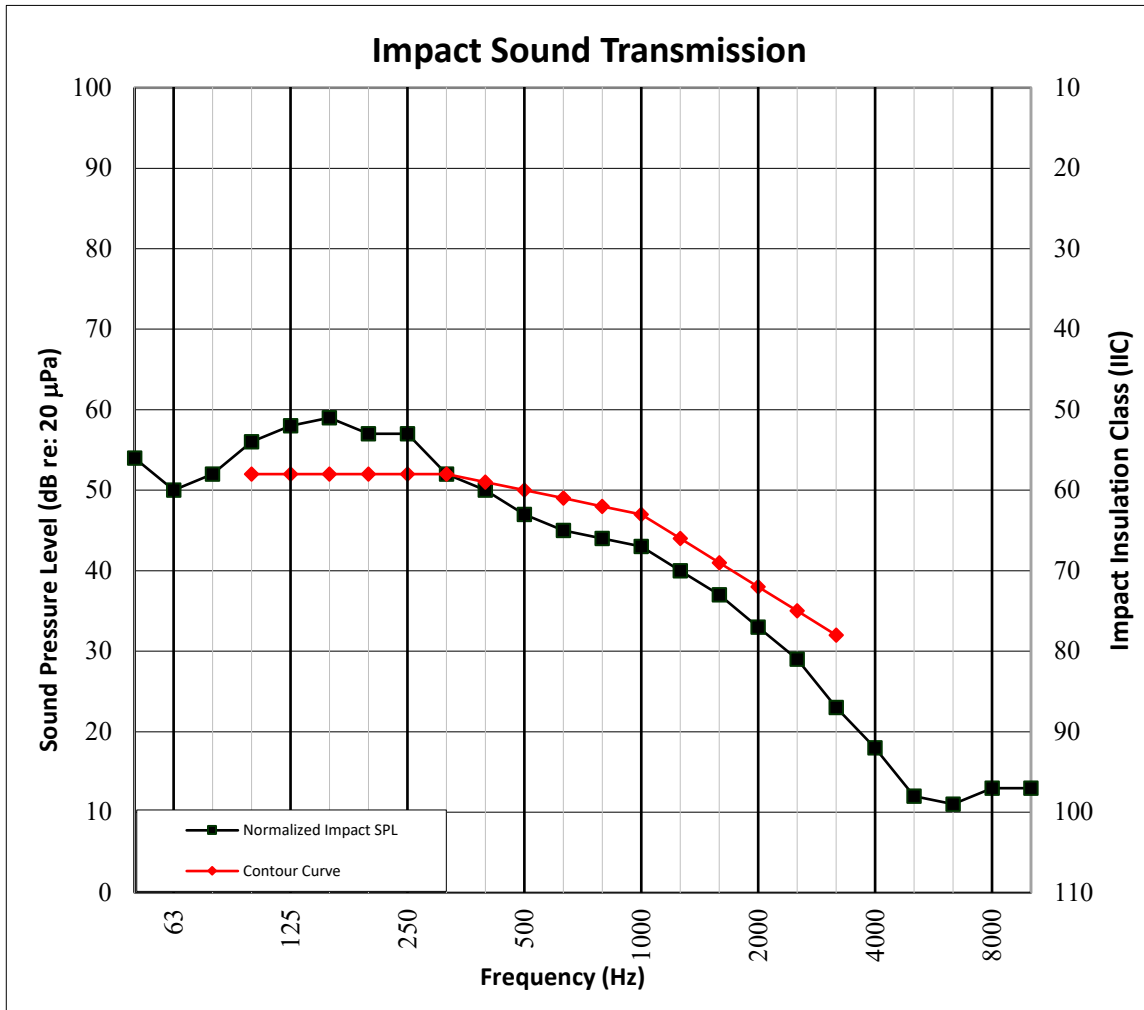
Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 13

TEST RESULTS - IMPACT SOUND TRANSMISSION GRAPH

TEST DATE	12/4/2025			
DATA FILE NO.	T3127.04			
CLIENT	AcoustiTECH			
DESCRIPTION	8 mm Style Selections Ceramic Tile, 9.5 mm USG Fiberrock Tile Backerboard, 25.4 mm SONOMAX25 Wood Fiber Panels, 203.2 mm 5000 PSI Concrete Slab			
SPECIMEN AREA	10.98 m ²	Maximum Temp.	17°C	Minimum Temp. 16.8°C
TECHNICIAN	MSJK	Max. Humidity	46%	Min. Humidity 44%



TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 14
TEST RESULTS - HIGH-FREQUENCY IMPACT SOUND TRANSMISSION

TEST DATE	12/4/2025				
DATA FILE NO.	T3127.04				
CLIENT	AcoustiTECH				
DESCRIPTION	8 mm Style Selections Ceramic Tile, 9.5 mm USG Fiberrock Tile Backerboard, 25.4 mm SONOMAX25 Wood Fiber Panels, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	10.98 m ²	Maximum Temp.	17°C	Minimum Temp.	16.8°C
TECHNICIAN	MSJK	Max. Humidity	46%	Min. Humidity	44%



FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION m ²	NORMALIZED IMPACT SPL (dB)	95% SAMPLE CONFIDENCE LIMIT (dB)	NUMBER OF DEFICIENCIES
400	18.0	10.2	50	0.4	5.0
500	20.8	8.9	47	0.5	3.3
630	18.9	8.7	45	0.5	2.0
800	19.0	8.4	44	0.7	2.3
1000	19.8	8.4	43	0.6	1.5
1250	18.1	8.5	40	0.4	1.9
1600	16.5	8.7	37	0.5	2.3
2000	12.6	9.4	33	0.5	0.8
2500	8.9	10.4	29	0.6	0.0
3150	7.5	11.2	23	0.9	0.0
HIIC Rating	66	<i>(High-Frequency Impact Insulation Class)</i>		Sum of Deficiencies	19.1

Notes: Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.

TEST REPORT FOR ACOUSTITECH

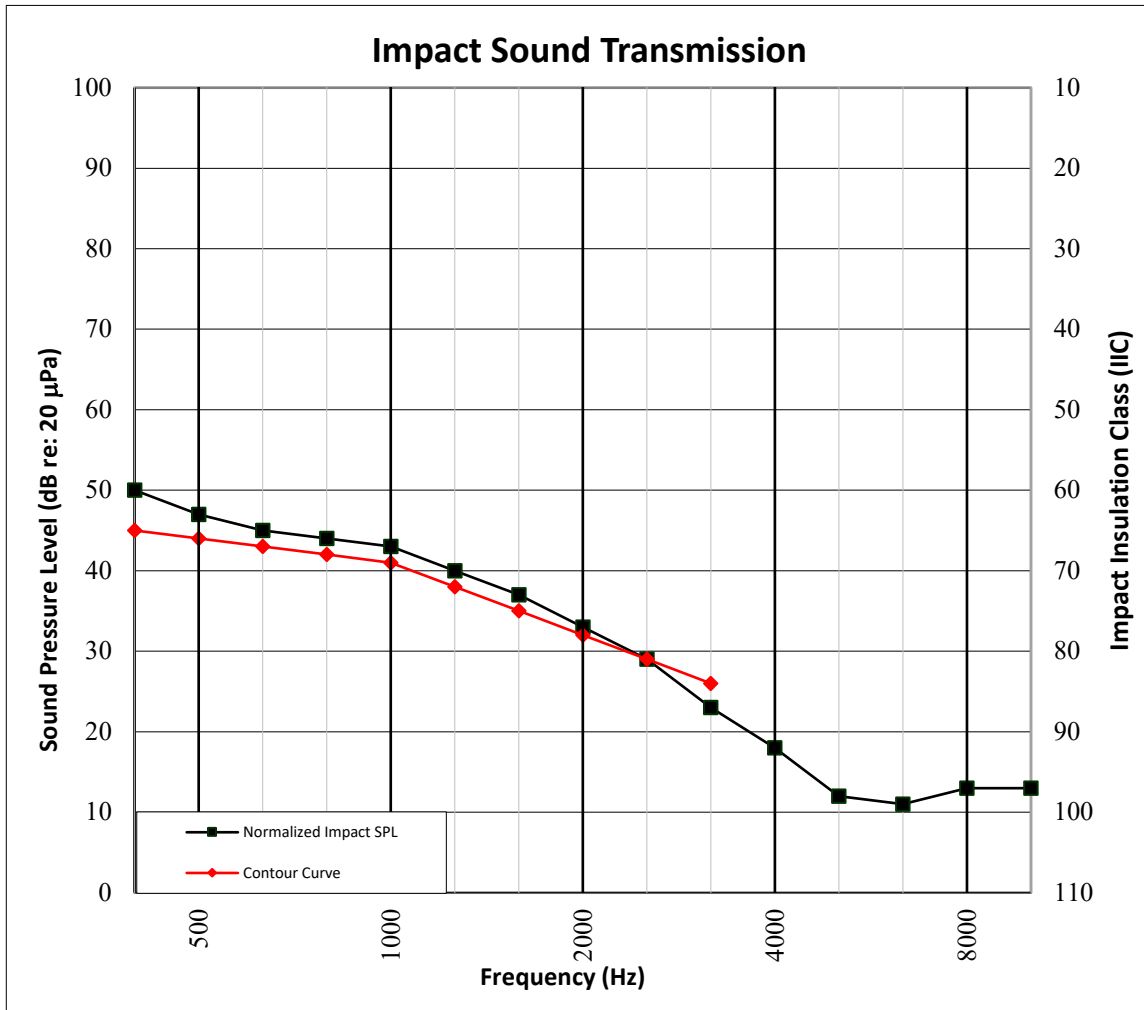
Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 15

TEST RESULTS - HIGH-FREQUENCY IMPACT SOUND TRANSMISSION GRAPH

TEST DATE	12/4/2025			
DATA FILE NO.	T3127.04			
CLIENT	AcoustiTECH			
DESCRIPTION	8 mm Style Selections Ceramic Tile, 9.5 mm USG Fiberrock Tile Backerboard, 25.4 mm SONOMAX25 Wood Fiber Panels, 203.2 mm 5000 PSI Concrete Slab			
SPECIMEN AREA	10.98 m ²	Maximum Temp.	17°C	Minimum Temp. 16.8°C
TECHNICIAN	MSJK	Max. Humidity	46%	Min. Humidity 44%



TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 16
TEST RESULTS - DELTA IMPACT INSULATION

TEST DATE	12/4/2025				
DATA FILE NO.	T3127.04				
CLIENT	AcoustiTECH				
DESCRIPTION	8 mm Style Selections Ceramic Tile, 9.5 mm USG Fiberrock Tile Backerboard, 25.4 mm SONOMAX25 Wood Fiber Panels, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	10.98 m ²	Maximum Temp.	17°C	Minimum Temp.	16.8°C
TECHNICIAN	MSJK	Max. Humidity	46%	Min. Humidity	44%



FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION m ²	NORMALIZED IMPACT SPL BARE (dB)	95% CONF LIMIT	NORMALIZED IMPACT SPL SPEC (dB)	95% SAMPL LIMIT	RESULT ARRAY L _{ref,c}	NUMBER OF DEFICIENCIES
100	33.6	9.9	58.7	2.6	55.7	2.2	64.0	2
125	28.6	9.6	54.9	1.5	57.7	2.6	70.0	8
160	23.2	9.8	60.9	1.1	59.4	1.5	67.0	5
200	21.5	11.4	66.1	1.2	56.8	1.3	59.0	0
250	18.8	11.6	66.4	1.7	56.6	1.6	59.0	0
315	19.2	11.3	62.7	1.1	51.9	0.7	59.0	0
400	18.0	10.2	65.3	0.4	50.0	0.4	55.0	0
500	20.8	8.9	65.1	0.5	47.3	0.6	53.0	0
630	18.9	8.7	64.9	0.7	45.0	0.6	51.0	0
800	19.0	8.4	67.4	0.7	44.3	0.8	48.0	0
1000	19.8	8.4	67.7	0.9	42.5	0.7	47.0	0
1250	18.1	8.5	68.8	0.7	39.9	0.6	43.0	0
1600	16.5	8.7	68.3	0.7	37.3	0.7	41.0	0
2000	12.6	9.4	68.8	0.7	32.8	0.6	36.0	0
2500	8.9	10.4	69.5	0.8	28.8	0.8	31.0	0
3150	7.5	11.2	69.0	1.1	23.3	1.1	26.0	0
ΔIIC Rating	22	(Delta Impact Insulation Class)				Sum of Deficiencies	15	
ΔHIIC Rating	33	(Delta High-Frequency Impact Insulation Class)				Sum of Deficiencies	15	

Notes: Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.

TEST REPORT FOR ACOUSTITECH

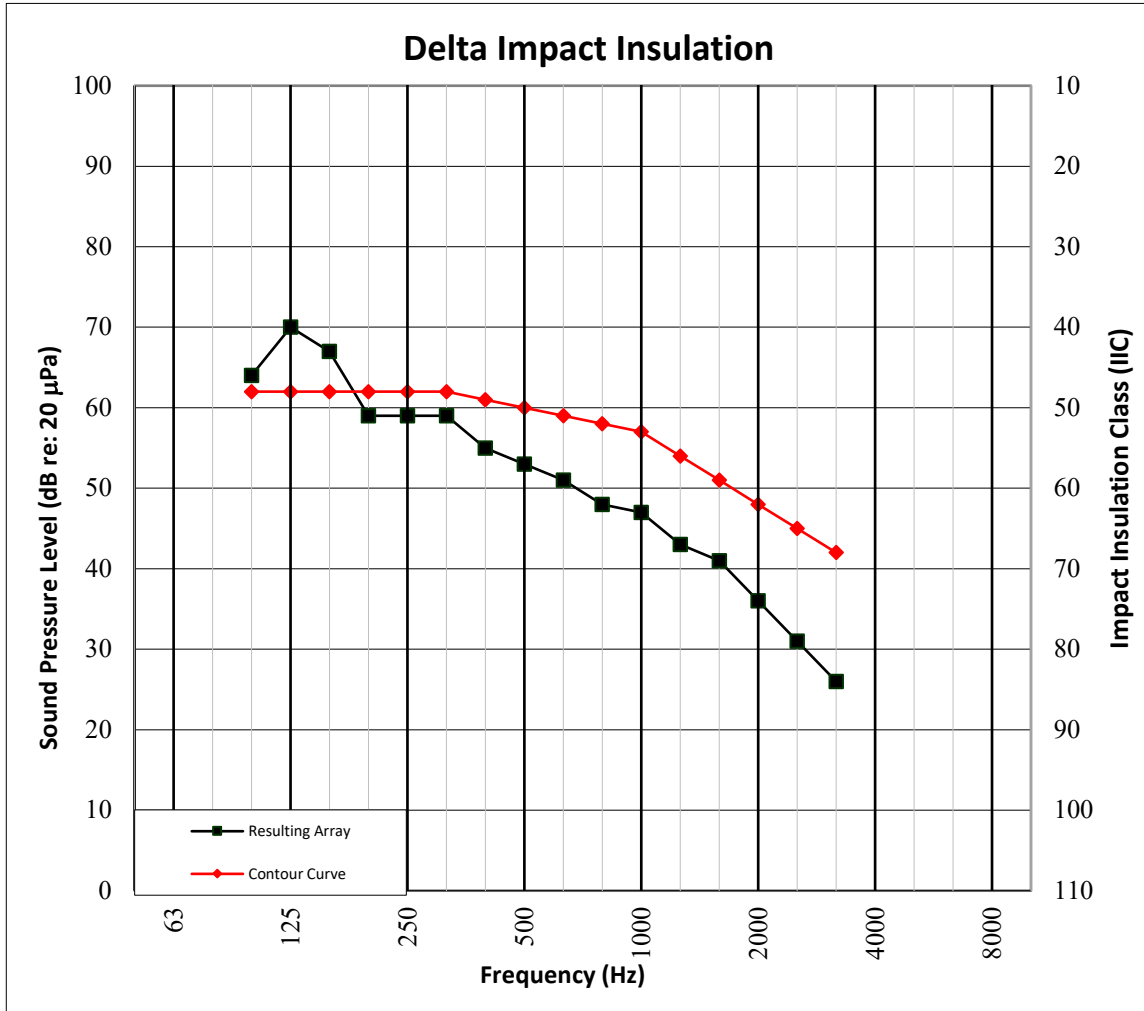
Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 17

TEST RESULTS - DELTA IMPACT INSULATION GRAPH

TEST DATE	12/4/2025			
DATA FILE NO.	T3127.04			
CLIENT	AcoustiTECH			
DESCRIPTION	8 mm Style Selections Ceramic Tile, 9.5 mm USG Fiberrock Tile Backerboard, 25.4 mm SONOMAX25 Wood Fiber Panels, 203.2 mm 5000 PSI Concrete Slab			
SPECIMEN AREA	10.98 m ²	Maximum Temp.	17°C	Minimum Temp. 16.8°C
TECHNICIAN	MSJK	Max. Humidity	46%	Min. Humidity 44%



TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 18

PHOTOGRAPHS



Photo No. 1

Source Room View of Test Specimen Installation



Photo No. 2

Receive Room View of Test Specimen Installation

TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 19

PHOTOGRAPHS (CONTINUED)



Photo No. 3
Construction of Test Specimen

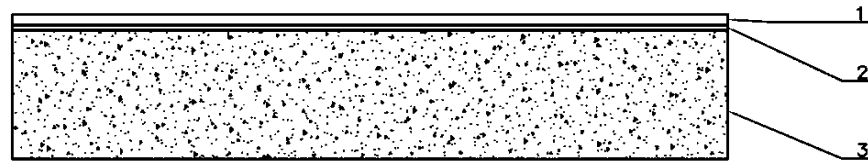
TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 20

DRAWING



- 1-Floor Topping
- 2-Underlayment
- 3-Concrete Slab



Total Quality. Assured.

130 Derry Court
York, PA 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR ACOUSTITECH

Report No.: T3127.04-113-11-R0

Date: 12/18/25

SECTION 21

REVISION LOG

REVISION #	DATE	PAGES	DESCRIPTION
R0	12/18/25	N/A	Original Report Issue