intertek
Total Quality. Assured.

LATICRETE INTERNATIONAL ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM E90 AND ASTM E492 TESTING ON
CERAMIC TILE OVER LATICRETE 170 10 MM RUBBER UNDERLAYMENT

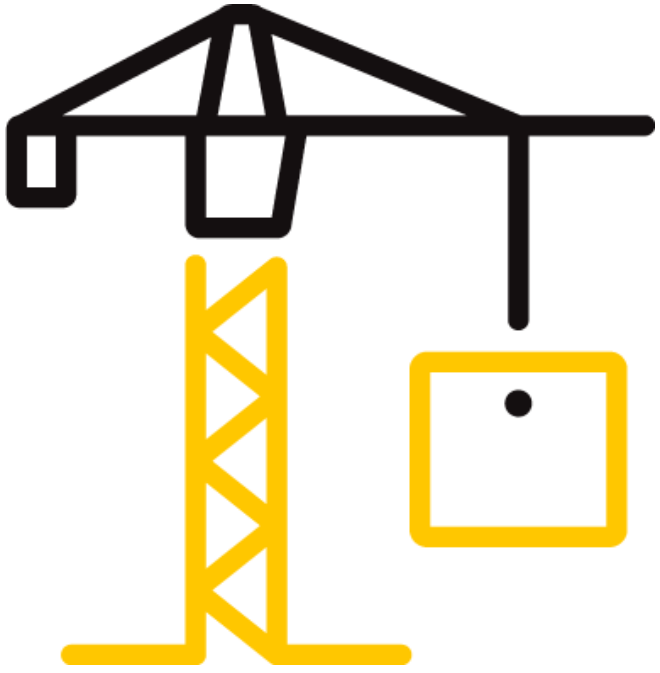
SPECIMEN TYPE
Concrete Slab - 203 mm

REPORT NUMBER
I7419.04-113-11-R0

TEST DATE
08/13/18

ISSUE DATE
08/29/25

PAGES
15



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

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR LATICRETE INTERNATIONAL
Report No.: I7419.04-113-11-R0
Date: 08/29/25

REPORT ISSUED TO

LATICRETE INTERNATIONAL
One Laticrete Park North - 91 Amity Road
Bethany, Connecticut 06524-3423

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted to perform testing in accordance with ASTM E90 AND ASTM E492 on Ceramic Tile over Laticrete 170 10 mm Rubber Underlayment. This report is a reissue in the name of Laticrete International through written authorization from the original report holder. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted in the VT test chambers at Intertek B&C located in Lake Forest, California.

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.	I7419.01
SERIES/MODEL:	Ceramic Tile over Laticrete 170 10 mm Rubber Underlayment
STC	56
IIC	54
HIIC	58

COMPLETED BY:	Corey S. Kohler	**REVIEWED BY:**	Daniel B. Mohler
TITLE:	Technician - Acoustical Testing	**TITLE:**	Project Manager - Acoustical Testing
SIGNATURE:	Digitally Signed by: Corey Kohler	**SIGNATURE:**	Digitally Signed by: Daniel Mohler
DATE:	08/29/25	**DATE:**	08/29/25

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR LATICRETE INTERNATIONAL
Report No.: I7419.04-113-11-R0
Date: 08/29/25

SECTION 3
TEST METHODS

The specimen was evaluated in accordance with the following:

ASTM E90-09 (2016), *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions*

ASTM E413-16, *Classification for Rating Sound Insulation*

ASTM E492-09(2016)e1, *Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine*

ASTM E989-06 (2012), *Classification for Determination of Impact Insulation Class (IIC)*

ASTM E2235-04 (2012), *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 original 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 6117.2 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.

This report is reissued in the name of Laticrete International through written authorization from the original report holder. The original Report No. is I7419.01-303-11.

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.

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 5
EQUIPMENT

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	CAL DATE
Data Acquisition Unit	National Instruments	PXIe-1073	Data Acquisition Card	INT00626	10/17
Microphone Calibrator	Norsonic	1251	Pistonphone calibrator	INT00127	06/17
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00229	03/18
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00230	03/18
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00231	03/18
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00232	03/18
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00233	03/18
Receive Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	INT00301	04/18
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00248	04/17
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00249	04/17
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00250	04/17
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00251	04/17
Source Room Microphone	PCB Electronics	378C20	Microphone and Preamplifier	63741	04/17
Source Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	INT00302	04/18
Tapping Machine	Look Line	EM50	Tapping Machine	INT00936	12/17

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

VT RECEIVE ROOM VOLUME	183.18 m^3
VT SOURCE ROOM VOLUME	129.4 m^3

SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Leeland S. Hoover	Intertek B&C
Bradlay D. Hunt	Intertek B&C
David A. Pendleton	Intertek B&C
Marco T. Santa-Rosa	Intertek B&C
Triston N. Dees	Intertek B&C

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

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 and 13.

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.

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), and HIIC (High-Frequency Impact Insulation Class) ratings were calculated in accordance with ASTM E413, ASTM E989, and ASTM E3222, respectively.

intertek
Total Quality. Assured.

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR LATICRETE INTERNATIONAL
Report No.: I7419.04-113-11-R0
Date: 08/29/25

SECTION 9
TEST SPECIMEN DESCRIPTION

MATERIAL	DIMENSIONS (mm)	THICKNESS (mm)	MANUFACTURER AND SERIES	QUANTITY	AVERAGE WEIGHT
Ceramic Tile	301.6 by 301.6	8.2	Daltile	11.15 m²	16.4 kg/m²
	Note: Placed with light pressure onto a bed of mortar on the underlayment. The mortar was set using a 6.35 mm by 6.35 mm trowel. Sanded grout was placed into the 6.35 mm joints between the tiles and wiped clean. Both the grout and mortar were allowed to cure to manufacturer's specifications.				
Rubber Underlayment	3048 by 1219.2	10.0	Laticrete 170	11.15 m²	7.52 kg/m²
	Note: Loose laid				
Concrete Slab	3023 by 3632	203.2	5000 PSI	11.15 m²	524.71 kg/m²
	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.				

intertek
Total Quality. Assured.

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR LATICRETE INTERNATIONAL

Report No.: I7419.04-113-11-R0
Date: 08/29/25

SECTION 10

TEST RESULTS - AIRBORNE SOUND TRANSMISSION LOSS

IAS ACCREDITED Testing Laboratory

TEST DATE	8/13/2018				
DATA FILE NO.	I7419.01				
CLIENT	Laticrete International				
DESCRIPTION	8.2 mm Daltile Ceramic Tile, 10 mm Laticrete 170 Rubber Underlayment, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	11.15 m²	**Receive Temp.**	11.5°C	**Source Temp.**	12.8°C
TECHNICIAN	DAP	**Receive Humidity**	31%	**Source Humidity**	31%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION m²	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% SAMPLING LIMIT	NUMBER OF DEFICIENCIES
50	28.4	7.2	96	60	39	2.1	-
63	32.8	7.3	100	63	39	2.2	-
80	28.0	5.7	101	60	44	1.6	-
100	28.8	5.9	104	66	41	1.8	-
125	27.8	4.4	101	68	38	1.0	2
160	20.5	5.6	99	66	36	0.9	7
200	16.0	6.6	98	63	38	0.6	8
250	13.6	7.2	97	56	43	0.6	6
315	13.2	7.6	100	53	49	0.7	3
400	12.0	7.3	101	50	53	0.6	2
500	11.7	6.5	100	45	58	0.4	0
630	10.6	6.2	95	36	63	0.3	0
800	10.0	6.4	94	34	63	0.4	0
1000	8.2	6.4	96	29	69	0.4	0
1250	8.2	6.7	97	29	70	0.3	0
1600	8.4	7.0	97	27	73	0.4	0
2000	5.4	7.7	98	26	74	0.2	0
2500	5.4	8.7	98	24	76	0.3	0
3150	5.7	13.8	98	21	78	0.1	0
4000	5.7	11.2	97	18	80	0.3	0
5000	5.9	13.8	94	12	82	0.4	-
6300	6.3	17.7	93	11	80	0.4	-
8000	6.6	24.2	93	10	82	0.6	-
10000	6.7	31.3	93	8	81	0.6	-
STC Rating	**56**	*(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

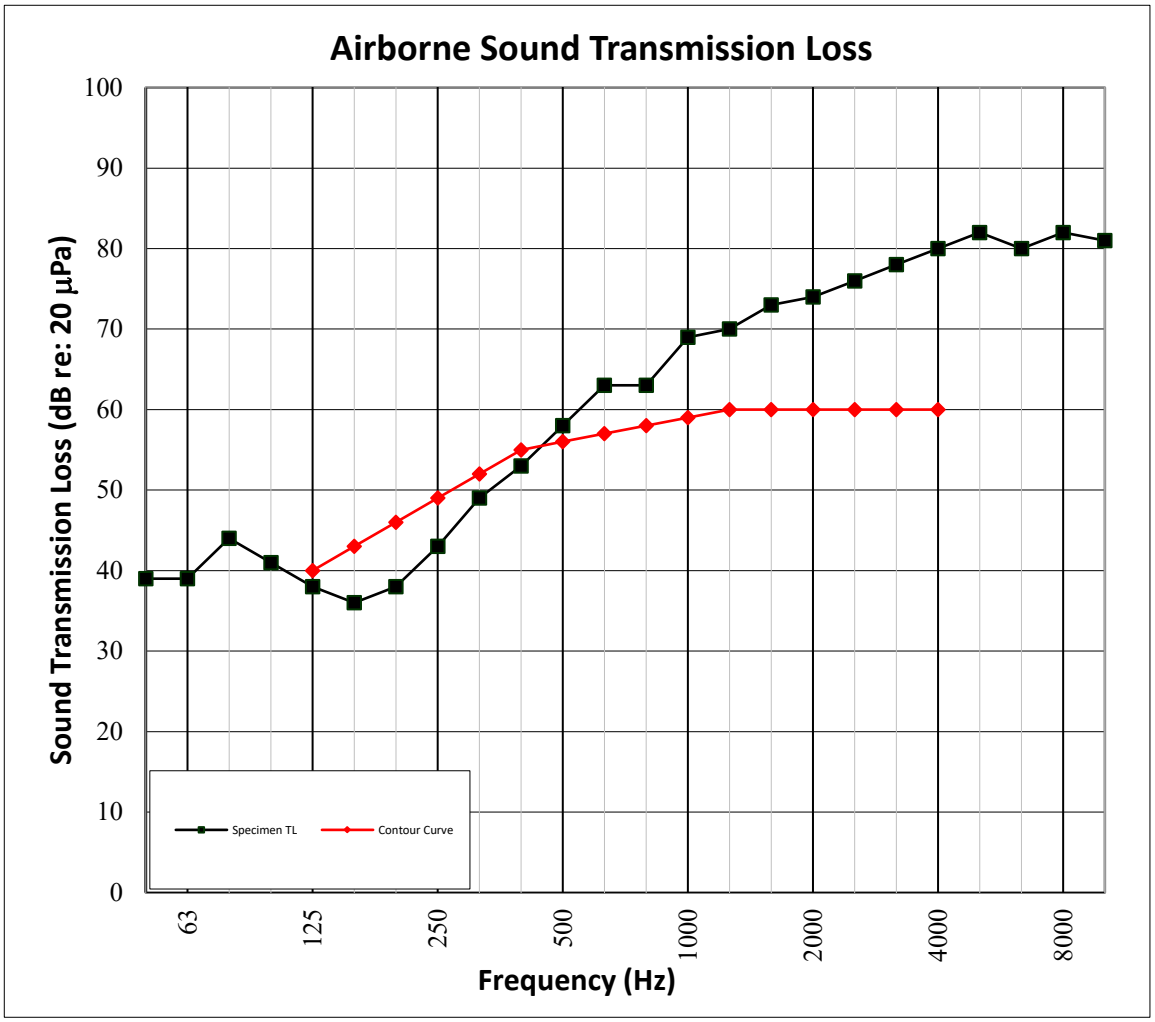
25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR LATICRETE INTERNATIONAL
Report No.: I7419.04-113-11-R0
Date: 08/29/25

SECTION 11
TEST RESULTS - AIRBORNE SOUND TRANSMISSION LOSS GRAPH

TEST DATE	8/13/2018				
DATA FILE NO.	I7419.01				
CLIENT	Laticrete International				
DESCRIPTION	8.2 mm Daltile Ceramic Tile, 10 mm Laticrete 170 Rubber Underlayment, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	11.15 m²	**Receive Temp.**	11.5°C	**Source Temp.**	12.8°C
TECHNICIAN	DAP	**Receive Humidity**	31%	**Source Humidity**	31%



intertek
Total Quality. Assured.

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR LATICRETE INTERNATIONAL

Report No.: I7419.04-113-11-R0
Date: 08/29/25

SECTION 12

TEST RESULTS - IMPACT SOUND TRANSMISSION

IAS ACCREDITED Testing Laboratory

TEST DATE	8/13/2018				
DATA FILE NO.	I7419.01				
CLIENT	Laticrete International				
DESCRIPTION	8.2 mm Daltile Ceramic Tile, 10 mm Laticrete 170 Rubber Underlayment, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	11.15 m²	**Maximum Temp.**	11.5°C	**Minimum Temp.**	11.5°C
TECHNICIAN	DAP	**Max. Humidity**	31%	**Min. Humidity**	31%

FREQ (Hz)	**BACKGROUND SPL** (dB)	**ABSORPTION** m²	**NORMALIZED IMPACT SPL** (dB)	**95% SAMPLING LIMIT**	**NUMBER OF DEFICIENCIES**
50	27.1	6.3	54	1.3	-
63	32.6	7.5	52	1.5	-
80	27.0	5.8	51	1.3	-
100	27.3	6.3	53	1.5	0
125	27.0	4.5	56	1.1	0
160	20.1	5.7	62	0.8	4
200	15.1	6.4	66	0.6	8
250	12.4	7.1	66	0.8	8
315	11.8	7.7	60	0.6	2
400	10.0	7.5	58	0.2	1
500	10.5	6.3	58	0.4	2
630	10.2	6.1	54	0.4	0
800	9.8	6.3	53	0.4	0
1000	7.8	6.4	47	0.3	0
1250	8.0	6.6	43	0.4	0
1600	8.2	7.0	39	0.5	0
2000	5.0	7.7	33	0.4	0
2500	5.0	8.7	30	0.4	0
3150	5.5	13.8	29	0.3	0
4000	5.6	11.2	28	0.6	-
5000	5.8	13.9	24	0.9	-
6300	6.3	17.6	13	0.8	-
8000	6.6	24.2	11	0.6	-
10000	6.7	30.9	12	0.9	-
IIC Rating	**54**	*(Impact Insulation Class)*		**Sum of Deficiencies**	**25**

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

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

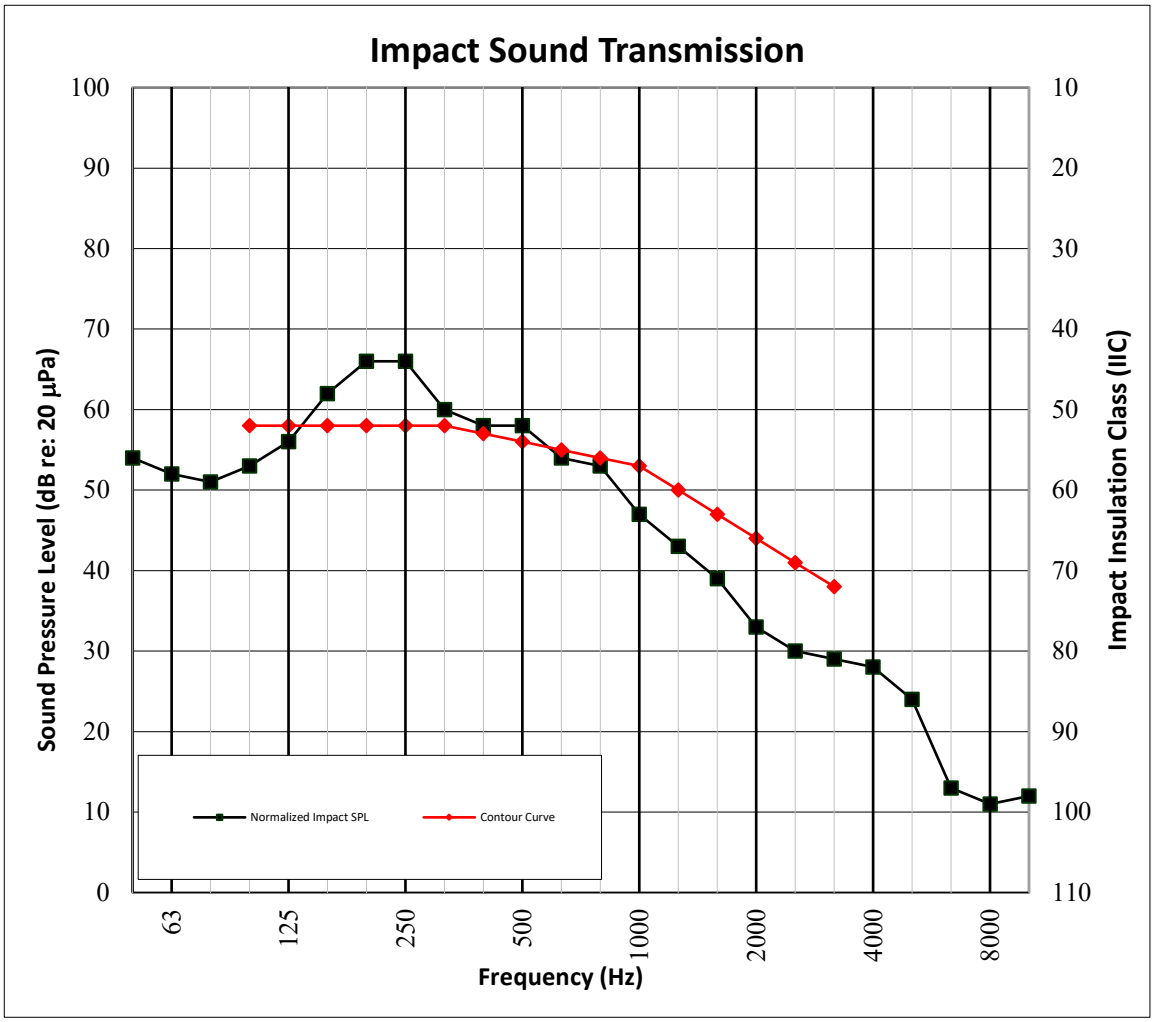
TEST REPORT FOR LATICRETE INTERNATIONAL

Report No.: I7419.04-113-11-R0
Date: 08/29/25

SECTION 13

TEST RESULTS - IMPACT SOUND TRANSMISSION GRAPH

TEST DATE	8/13/2018				
DATA FILE NO.	I7419.01				
CLIENT	Laticrete International				
DESCRIPTION	8.2 mm Daltile Ceramic Tile, 10 mm Laticrete 170 Rubber Underlayment, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	11.15 m²	**Maximum Temp.**	11.5°C	**Minimum Temp.**	11.5°C
TECHNICIAN	DAP	**Max. Humidity**	31%	**Min. Humidity**	31%



intertek
Total Quality. Assured.

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR LATICRETE INTERNATIONAL

Report No.: I7419.04-113-11-R0
Date: 08/29/25

SECTION 14

TEST RESULTS - HIGH-FREQUENCY IMPACT SOUND TRANSMISSION

IAS ACCREDITED Testing Laboratory

TEST DATE	8/13/2018				
DATA FILE NO.	I7419.01				
CLIENT	Laticrete International				
DESCRIPTION	8.2 mm Daltile Ceramic Tile, 10 mm Laticrete 170 Rubber Underlayment, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	11.15 m²	**Maximum Temp.**	11.5°C	**Minimum Temp.**	11.5°C
TECHNICIAN	DAP	**Max. Humidity**	31%	**Min. Humidity**	31%

FREQ (Hz)	**BACKGROUND SPL** (dB)	**ABSORPTION** m²	**NORMALIZED IMPACT SPL** (dB)	**95% SAMPLE CONFIDENCE LIMIT**	**NUMBER OF DEFICIENCIES**
400	10.0	7.5	58	0.2	4.5
500	10.5	6.3	58	0.4	6.3
630	10.2	6.1	54	0.4	2.7
800	9.8	6.3	53	0.4	3.2
1000	7.8	6.4	47	0.3	0.0
1250	8.0	6.6	43	0.4	0.0
1600	8.2	7.0	39	0.5	0.0
2000	5.0	7.7	33	0.4	0.0
2500	5.0	8.7	30	0.4	0.0
3150	5.5	13.8	29	0.3	0.0
HIIC Rating	**58**	*(High-Frequency Impact Insulation Class)*		**Sum of Deficiencies**	**16.7**

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

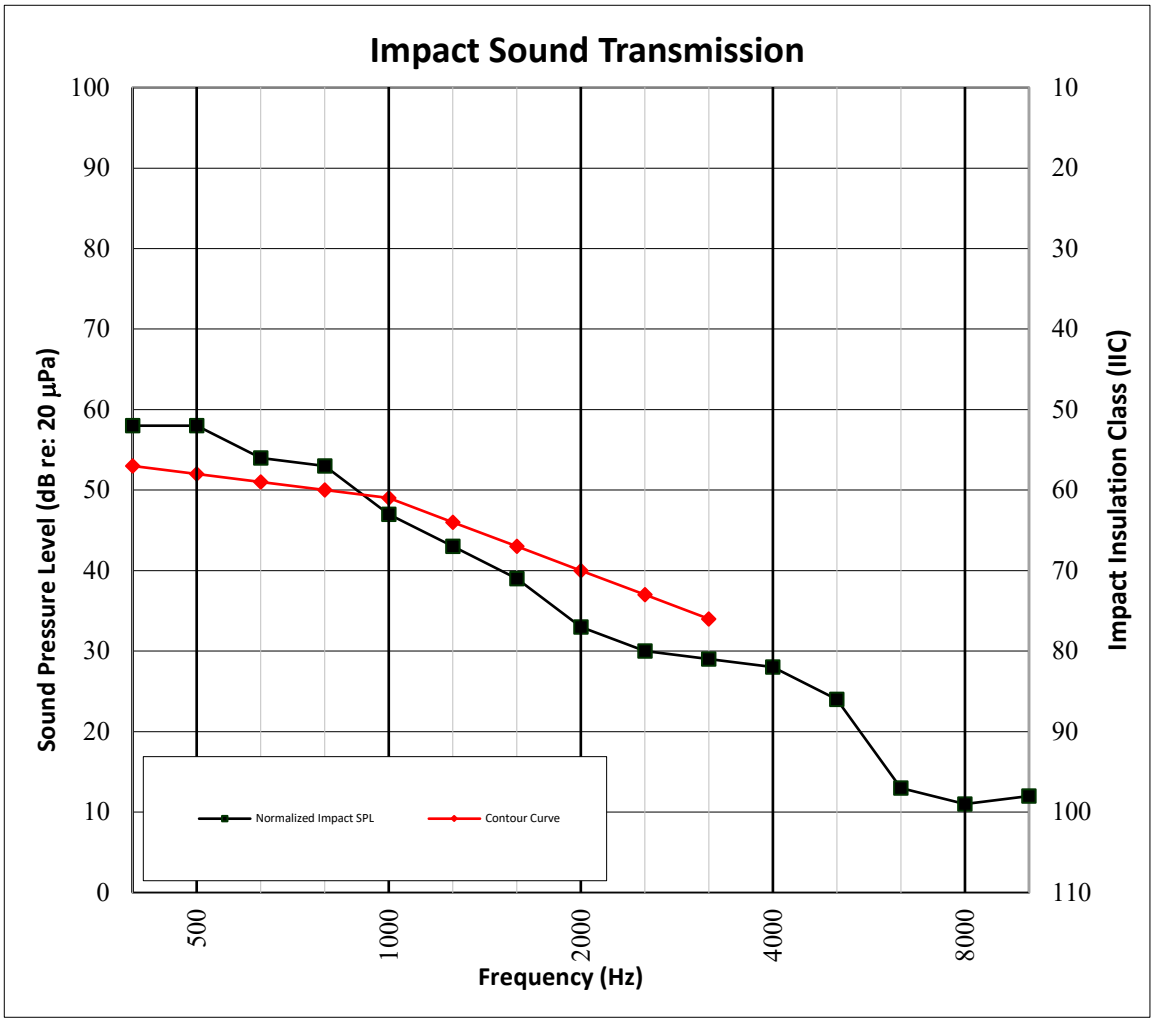
25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR LATICRETE INTERNATIONAL
Report No.: I7419.04-113-11-R0
Date: 08/29/25

SECTION 15
TEST RESULTS - HIGH-FREQUENCY IMPACT SOUND TRANSMISSION GRAPH

TEST DATE	8/13/2018				
DATA FILE NO.	I7419.01				
CLIENT	Laticrete International				
DESCRIPTION	8.2 mm Daltile Ceramic Tile, 10 mm Laticrete 170 Rubber Underlayment, 203.2 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	11.15 m²	**Maximum Temp.**	11.5°C	**Minimum Temp.**	11.5°C
TECHNICIAN	DAP	**Max. Humidity**	31%	**Min. Humidity**	31%



25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 16
PHOTOGRAPHS

Photo No. 1
Source Room View of Test Specimen Installation

Photo No. 2
Receive Room View of Test Specimen Installation

25800 Commercentre Dr.
Lake Forest, CA 92630

Telephone: 949-469-5190
Facsimile: 717-764-4129
www.intertek.com/building

SECTION 18

REVISION LOG

REVISION #	DATE	PAGES	DESCRIPTION
R0	08/29/25	N/A	Original Report Issue - Reissue of Report No. I7419.01-303-11 in the name of Laticrete International.