

URBAN SURFACES ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ASTM E2179 TESTING ON URBAN SURFACES STUDIO CLICK LVT

SPECIMEN TYPE

Concrete Slab - 152 mm

REPORT NUMBER

L3696.02-303-11-R0

TEST DATE

09/02/20

ISSUE DATE

09/21/20

RECORD RETENTION END

09/02/24

PAGES

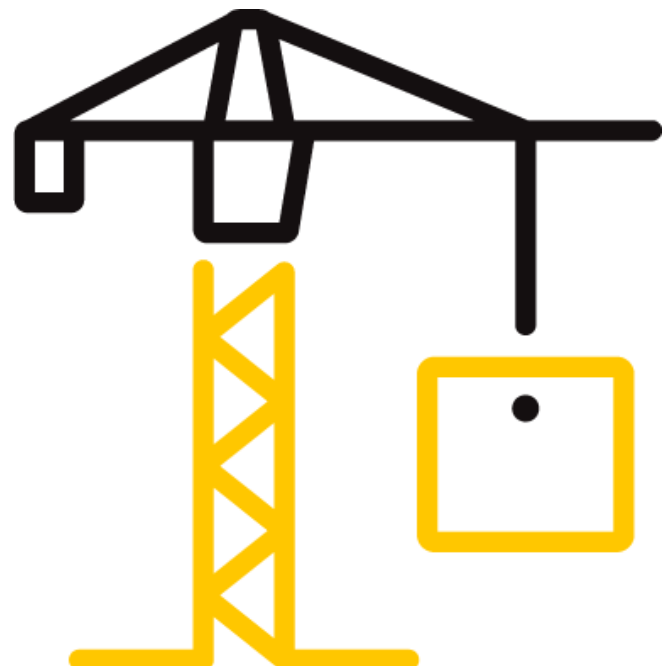
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TEST REPORT FOR URBAN SURFACES

Report No.: L3696.02-303-11-R0

Date: 09/21/20

REPORT ISSUED TO

URBAN SURFACES

1121 Olympic Drive

Corona , California 92881

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by to perform testing in accordance with ASTM E2179 on Urban Surfaces STUDIO Click LVT. 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.	L3696.02
SERIES/MODEL:	Urban Surfaces STUDIO Click LVT
ΔIIC	22

COMPLETED BY:	Marco T. Santa Rosa
TITLE:	Technician II - Acoustical Testing
SIGNATURE:	
DATE:	09/21/20

COMPLETED BY:	Leeland S. Hoover
TITLE:	Laboratory Manager - Acoustical Testing
SIGNATURE:	
DATE:	09/21/20

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SECTION 3**TEST METHOD(S)**

The specimen was evaluated in accordance with the following:

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

ASTM E2179-03(2016), *Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors*

ASTM E2235-04 (2012), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

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 - 152 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 4178.9 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.

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**SECTION 5
EQUIPMENT**

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	CAL DATE
Data Acquisition Unit	National Instruments	PXIe-4464	Data Acquisition Card	INT00396	10/19 *
Data Acquisition Unit	National Instruments	PXIe-4464	Data Acquisition Card	INT00625	11/19 *
Data Acquisition Unit	National Instruments	PXIe-4464	Data Acquisition Card	INT00393	11/19 *
Microphone Calibrator	Norsonic	1251	Pistonphone calibrator	INT00289	09/19
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00234	04/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00235	04/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00236	04/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00237	04/20
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00238	04/20
Receive Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	INT00302	08/20
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00244	05/20
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00245	05/20
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00246	05/20
Source Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	INT00247	05/20
Source Room Microphone	PCB Electronics	378B20	Microphone and Preamplifier	INT00228	05/20
Source Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	INT00301	08/20
Tapping Machine	Norsonic	Nor277	Tapping Machine	INT00225	09/19

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

VT RECEIVE ROOM VOLUME	183.69 m ³
VT SOURCE ROOM VOLUME	129.4 m ³

**SECTION 6
LIST OF OFFICIAL OBSERVERS**

NAME	COMPANY
Marco T. Santa Rosa	Intertek B&C
Leeland S. Hoover	Intertek B&C

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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 maximum and minimum temperatures and humidities of the receive room from the duration of the test are listed in Sections 10 and 11.

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 Δ IIC (Delta Impact Insulation Class) rating was calculated in accordance with ASTM E2179.

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SECTION 9

TEST SPECIMEN DESCRIPTION

MATERIAL	DIMENSIONS (mm/inch)	THICKNESS (mm/inch)	MANUFACTURER AND SERIES	QUANTITY	AVERAGE WEIGHT
Click Luxury Vinyl Tile	177.8 by 1219.2	5.3	Urban Surfaces STUDIO	11.15 m ²	8.59 kg/m ²
	Note: Loose laid				
Concrete Slab	3023 by 3632	152.4	5000 PSI	11.15 m ²	366.18 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				

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SECTION 10

TEST RESULTS - DELTA IMPACT INSULATION



TEST DATE	9/2/2020				
DATA FILE NO.	L3696.02				
CLIENT	Urban Surfaces				
DESCRIPTION	5.25 mm Urban Surfaces STUDIO Click Luxury Vinyl Tile, 152.4 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	11.15 m ²	Maximum Temp.	22.5°C	Minimum Temp.	21.8°C
TECHNICIAN	MTSR	Max. Humidity	47%	Min. Humidity	45%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION m ²	NORMALIZED IMPACT SPL BARE (dB)	95% CONF LIMIT	NORMALIZED IMPACT SPL SPEC (dB)	95% CONF LIMIT	RESULT ARRAY L _{ref,c}	NUMBER OF DEFICIENCIES
100	22.6	6.5	55.8	1.3	54.5	1.4	66.0	4
125	26.4	4.6	59.3	1.7	58.5	2.0	67.0	5
160	21.0	5.1	65.6	0.6	63.2	0.8	66.0	4
200	18.8	6.7	69.2	1.0	67.0	1.2	66.0	4
250	23.2	7.5	71.3	0.9	68.7	0.9	66.0	4
315	21.3	7.4	70.0	0.9	65.7	0.8	65.0	3
400	21.7	7.4	70.0	0.6	63.9	0.6	64.0	3
500	20.9	6.2	68.4	0.3	59.0	0.4	61.0	1
630	21.7	6.3	70.4	0.4	54.7	0.4	55.0	0
800	18.7	6.5	71.7	0.3	50.4	0.2	50.0	0
1000	21.0	6.4	72.1	0.4	49.7	0.4	50.0	0
1250	20.0	6.6	73.3	0.5	46.5	0.5	45.0	0
1600	18.2	7.0	74.5	0.4	45.8	0.4	43.0	0
2000	15.3	7.8	74.5	0.5	41.0	0.5	38.0	0
2500	13.2	8.8	74.7	0.4	35.8	0.5	33.0	0
3150	11.7	9.6	74.9	0.6	32.4	0.5	29.0	0
ΔIIC Rating	22	<i>(Delta Impact Insulation Class)</i>			Sum of Deficiencies		28	

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

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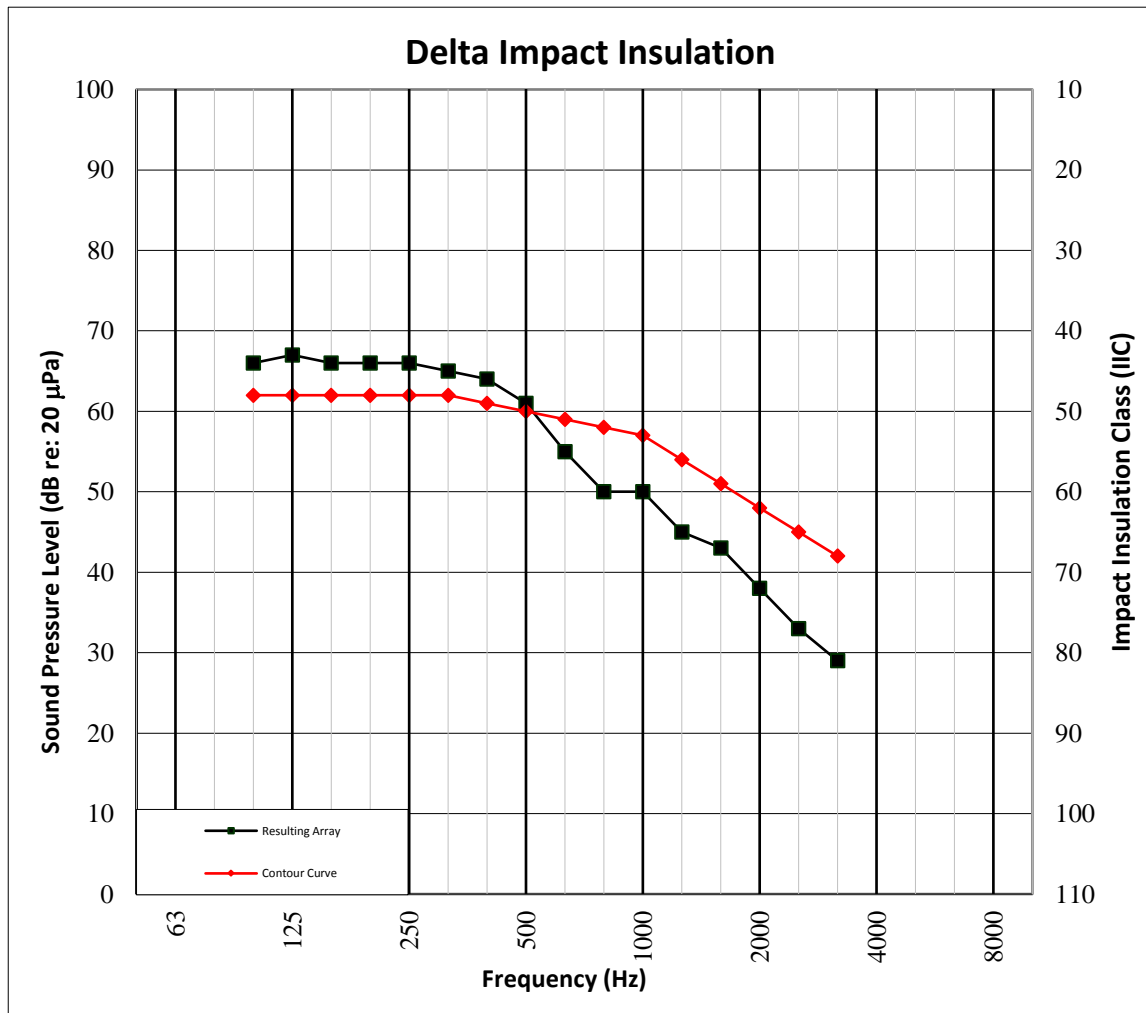
Date: 09/21/20

SECTION 11

TEST RESULTS - DELTA IMPACT INSULATION GRAPH



TEST DATE	9/2/2020				
DATA FILE NO.	L3696.02				
CLIENT	Urban Surfaces				
DESCRIPTION	5.25 mm Urban Surfaces STUDIO Click Luxury Vinyl Tile, 152.4 mm 5000 PSI Concrete Slab				
SPECIMEN AREA	11.15 m ²	Maximum Temp.	22.5°C	Minimum Temp.	21.8°C
TECHNICIAN	MTSR	Max. Humidity	47%	Min. Humidity	45%



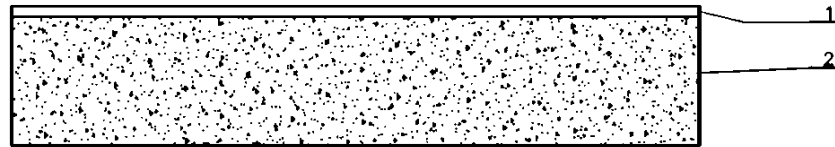
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SECTION 13

DRAWING



1-Floor Topping

2-Concrete Slab

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SECTION 14

REVISION LOG

REVISION #	DATE	PAGES	DESCRIPTION
R0	09/21/20	N/A	Original Report Issue