



F7379.01-113-11-R0
ACOUSTICAL PERFORMANCE TEST REPORT
ASTM E 90, ASTM E 492, ASTM E 2179

Rendered to

REGUPOL AMERICA

Series/Model: OzoGrip® Luxury Vinyl Plank over Regupol Sonus LV200

Specimen Type: Concrete Slab - 152 mm

Overall Size: 3023 mm by 3632 mm

STC	52
IIC	51
ΔIIC	23

Test Specimen Identification:

Floor Topping: 5.17 mm OzoGrip® Luxury Vinyl Plank

Floor Underlayment: 2.08 mm Regupol Sonus LV200 Rubber Underlayment

Floor Slab: 152 mm Concrete Slab

Reference should be made to Intertek-ATI Report F7379.01-113-11 for complete test specimen description. This page alone is not a complete report.



Acoustical Performance Test Report

REGUPOL AMERICA
11 Ritter Way
Lebanon, Pennsylvania 17042

Report F7379.01-113-11
Test Date 04/20/16
Report Date 05/05/16

Project Scope

Architectural Testing, Inc., a subsidiary of Intertek (Intertek-ATI), was contracted to conduct airborne sound transmission loss, impact sound transmission, and delta impact sound transmission tests. The complete test data is included as attachments to this report. The client provided the test specimen. The specimen was constructed on the date of testing.

Test Methods

The acoustical tests were conducted in accordance with the following standards. The equipment listed in the attachments meets the requirements of the following standards.

ASTM E 90-09, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions

ASTM E 413-10, Classification for Rating Sound Insulation

ASTM E 492-09, Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine

ASTM E 2179-03 (2009), Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors

ASTM E 989-06 (2012), Classification for Determination of Impact Insulation Class (IIC)

ASTM E 2235-04 (2012) Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods

Test Procedure

All testing was conducted in the VT test chambers at Intertek-ATI located in York, Pennsylvania. The microphones were calibrated before conducting the tests.

The airborne transmission loss test was conducted in accordance with the ASTM E 90 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. Four sound pressure level measurements were made simultaneously in both rooms, at each of five microphone positions.

Test Procedure (Continued)

The impact sound transmission test was conducted in accordance with the ASTM E 492 test method. Two background noise sound pressure level, two sound pressure level measurements with the tapping machine operating at each position specified by ASTM E 492, and five sound absorption measurements were conducted at each of five microphone positions.

The delta impact insulation test was conducted in accordance with ASTM E 2179 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 E 492 with only the concrete slab installed.

The air temperature and relative humidity conditions were monitored and recorded during all measurements.

Test Conditions

Source Room		Receive Room	
Average Temperature	21.7°C	Average Temperature	22.1°C
Average Relative Humidity	46%	Average Relative Humidity	48%

Test Calculations

The STC (Sound Transmission Class), IIC (Impact Insulation Class), and ΔIIC (Delta Impact Insulation Class) ratings were calculated in accordance with ASTM E 413, ASTM E 989, and ASTM E 2179, respectively.

Test Specimen Materials and Installation Details

Material	Dimensions (mm)	Thickness (mm)	Manufacturer and Series	Quantity	Average Weight
Luxury Vinyl Plank	3023 by 3632	5.2	OzoGrip®	10.98 m ²	8.31 kg/m ²
	<i>Note: Adhered to the underlayment using Raskin Industries R88 spray adhesive</i>				
Rubber Underlayment	3023 by 3632	2.1	Regupol Sonus LV200	10.98 m ²	1.39 kg/m ²
	<i>Note: Adhered to the floor slab with Raskin Industries R88 spray adhesive with seams taped</i>				
Concrete Slab	3023 by 3632	152.0	N/A	10.98 m ²	366.18 kg/m ²
	<i>Note: The concrete slab was installed in a test frame flush to the source room.</i>				

Comments

The total weight of the floor/ceiling assembly was 4127.2 kg. Intertek-ATI will store samples of the test specimen for four years. Photographs of the test specimen are included in the attachments. A drawing of the test specimen is included in the attachments.



Intertek-ATI 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 Intertek-ATI for the entire test record retention period. The test record retention period ends four years after the test date.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report is intended to help in the client's quality assurance program, but it does not represent a continuous or exhaustive evaluation of the specimen tested or of other products or materials that were not evaluated. The statements and data provided herein do not constitute approval, disapproval, certification, or acceptance of performance or materials.

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FOR INTERTEK-ATI:

Eric A. Thompson
Technician II - Acoustical Testing

Jordan Strybos
Project Manager - Acoustical Testing

Attachments (9 Pages): This report is complete only when all attachments are included.

** Stated by Client/Manufacturer*

N/A - Non Applicable



Revision Log

<u>Revision</u>	<u>Date</u>	<u>Page(s)</u>	<u>Description</u>
R0	05/05/16	N/A	Original Report Issue

Attachments

Instrumentation

Instrument	Manufacturer	Model	ATI Number	Date of Calibration
Data Acquisition Unit	National Instruments	PXI-1033	63763	06/14 *
Microphone Calibrator	Norsonic	1251	INT00127	01/16
Receive Room Microphone	Scantek	378B20	63748	05/15
Receive Room Microphone	PCB Piezotronics	378B20	63744	05/15
Receive Room Microphone	PCB Piezotronics	378B20	63745	05/15
Receive Room Microphone	PCB Piezotronics	378B20	63746	05/15
Receive Room Microphone	PCB Piezotronics	378B20	63747	05/15
Receive Room Environmental Indicator	Comet	T7510	63810	10/15
			63811	10/15
Source Room Microphone	PCB Piezotronics	378C20	65968	12/15
Source Room Microphone	PCB Piezotronics	378C20	65586	02/16
Source Room Microphone	PCB Piezotronics	378C20	65617	05/15
Source Room Microphone	PCB Piezotronics	378B20	64340	07/15
Source Room Microphone	PCB Piezotronics	378C20	65969	12/15
Source Room Environmental Indicator	Comet	T7510	63812	11/15
Tapping Machine	Look Line s.r.l.	EM50 (TM50)	65351	02/16

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

Test Chambers

VT Receive Room Volume	158.86 m ³
VT Source Room Volume	190 m ³



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AIRBORNE SOUND TRANSMISSION LOSS

ASTM E 90



Test Date	04/20/16
Data File No.	F7379.01
Client	Regupol America
Description	5.17 mm OzoGrip® Luxury Vinyl Plank, 2.08 mm Regupol Sonus LV200 Rubber Underlayment, 152 mm Concrete Slab
Specimen Area	10.98 m ²
Technician	Eric A. Thompson

Freq (Hz)	Background SPL (dB)	Absorption (m ²)	Source SPL (dB)	Receive SPL (dB)	Specimen TL (dB)	95% Confidence Limit	Number of Deficiencies
80	43.1	16.0	109	67	41	3.30	-
100	34.0	13.3	106	66	40	1.70	-
125	33.2	9.8	105	68	38	1.10	0
160	29.6	9.6	108	71	38	1.80	1
200	23.7	11.9	105	71	34	1.50	8
250	24.6	10.1	105	62	44	1.10	1
315	25.3	9.2	106	59	48	0.70	0
400	20.3	8.4	104	59	46	0.90	5
500	22.0	8.1	105	56	50	0.60	2
630	21.1	7.7	105	56	51	0.70	2
800	19.7	7.8	104	51	55	0.40	0
1000	17.1	7.8	104	47	60	0.60	0
1250	12.7	7.7	105	43	64	0.50	0
1600	8.7	7.7	104	41	66	0.50	0
2000	5.3	8.5	104	39	67	0.40	0
2500	4.9	9.5	102	37	67	0.40	0
3150	4.7	10.4	103	35	70	0.40	0
4000	4.8	11.8	104	32	72	0.40	0
5000	5.4	13.9	104	29	74	0.50	-
6300	5.8	18.5	97	18	78	0.70	-
8000	6.2	23.6	96	14	80	0.90	-
10000	6.4	30.1	91	7	81	0.60	-

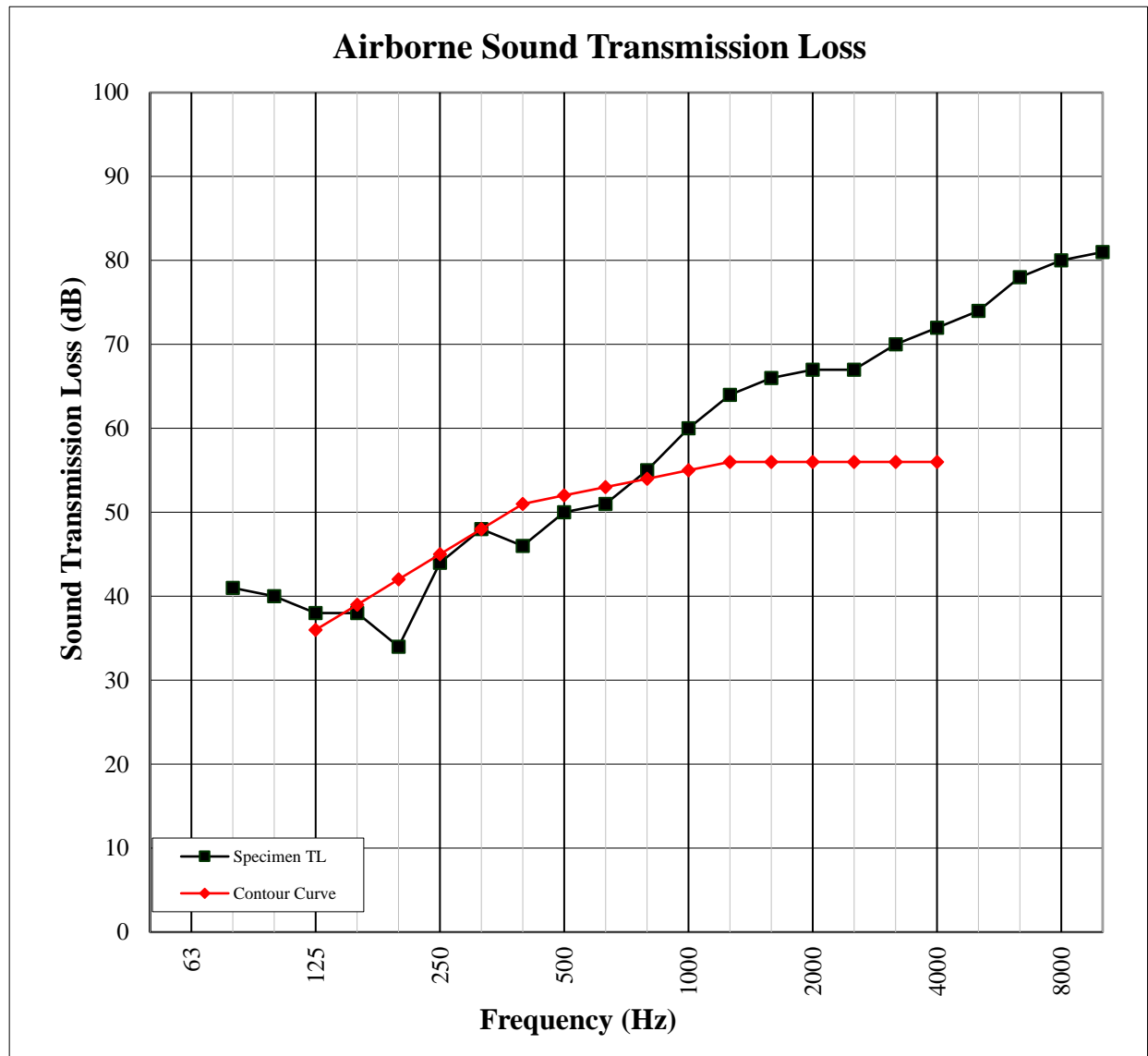
STC Rating **52** (*Sound Transmission Class*)

Deficiencies **19** (*Sum of Deficiencies*)

- Notes:**
- 1) Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.
 - 2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
 - 3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

AIRBORNE SOUND TRANSMISSION LOSS
ASTM E 90

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IMPACT SOUND TRANSMISSION
ASTM E 492

Test Date	04/20/16
Data File No.	F7379.01
Client	Regupol America
Description	5.17 mm OzoGrip® Luxury Vinyl Plank, 2.08 mm Regupol Sonus LV200 Rubber Underlayment, 152 mm Concrete Slab
Specimen Area	10.98 m ²
Technician	Eric A. Thompson

Freq (Hz)	Background SPL (dB)	Absorption (m ²)	Normalized Impact SPL (dB)	95% Confidence Limit	Number of Deficiencies
80	42.4	16.0	54	3.5	-
100	35.8	12.5	56	1.9	0
125	31.7	9.9	58	1.1	0
160	27.1	9.7	63	1.7	2
200	23.7	11.5	69	1.7	8
250	24.5	10.3	65	1.0	4
315	23.5	9.4	64	1.5	3
400	18.6	8.4	64	0.8	4
500	20.2	8.3	61	0.8	2
630	21.2	7.7	58	0.4	0
800	19.4	7.8	54	0.5	0
1000	16.3	7.7	49	0.5	0
1250	12.1	7.7	43	0.9	0
1600	7.5	7.7	36	0.4	0
2000	4.5	8.5	27	0.6	0
2500	4.2	9.6	23	1.1	0
3150	4.3	10.4	16	1.0	0
4000	4.7	11.8	9	0.8	-
5000	5.3	13.9	7	0.7	-
6300	5.8	18.3	7	0.2	-
8000	6.3	23.9	8	0.3	-
10000	6.4	30.0	9	0.5	-

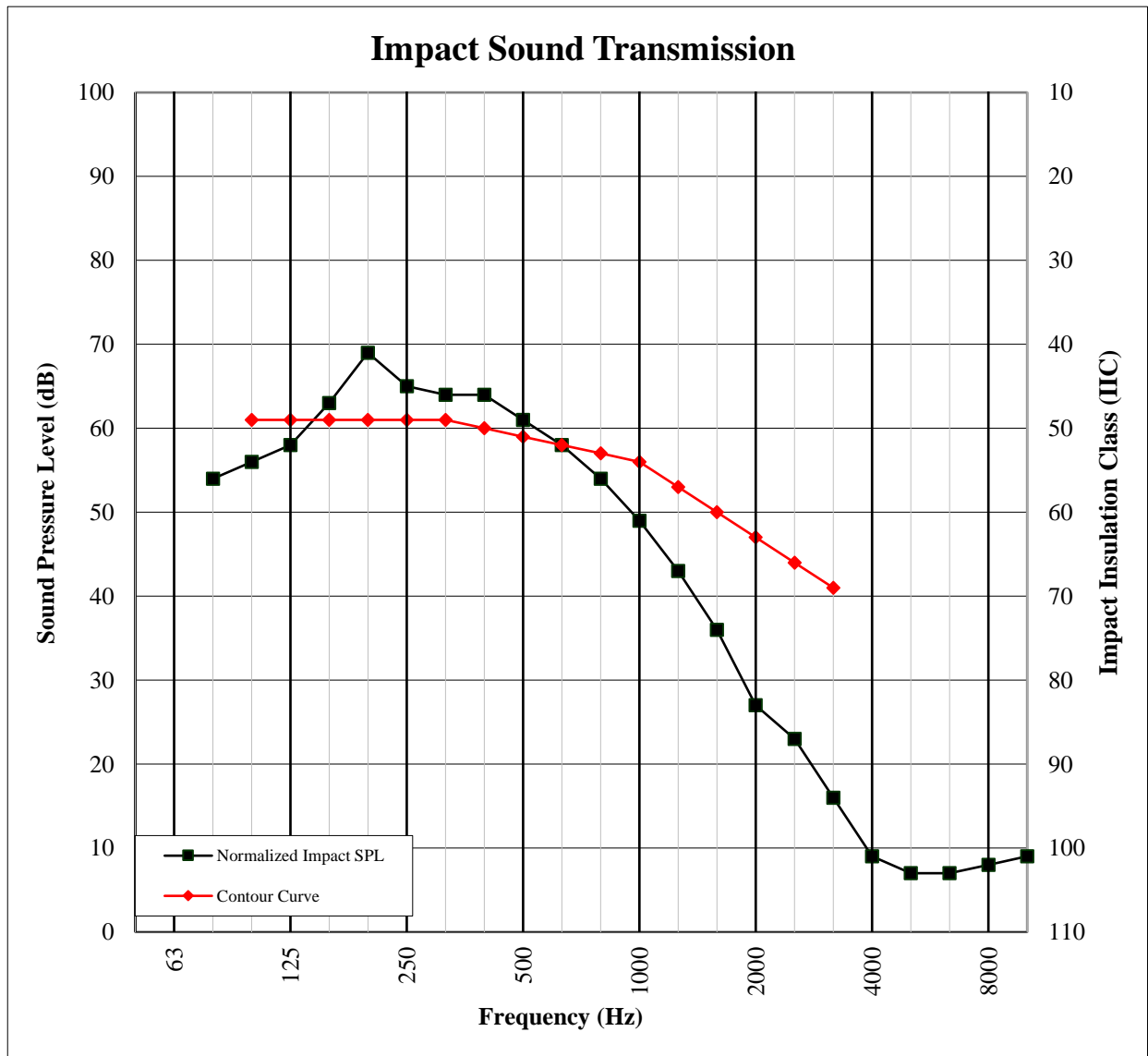
IIC Rating **51** *(Impact Insulation Class)*

Deficiencies **23** *(Sum of Deficiencies)*

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

IMPACT SOUND TRANSMISSION
ASTM E 492

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Specimen Area	10.98 m ²
Technician	Eric A. Thompson





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DELTA IMPACT INSULATION
ASTM E 2179

Test Date	04/20/16
Data File No.	F7379.01
Client	Regupol America
Description	5.17 mm OzoGrip® Luxury Vinyl Plank, 2.08 mm Regupol Sonus LV200 Rubber Underlayment, 152 mm Concrete Slab
Specimen Area	10.98 m ²
Technician	Eric A. Thompson

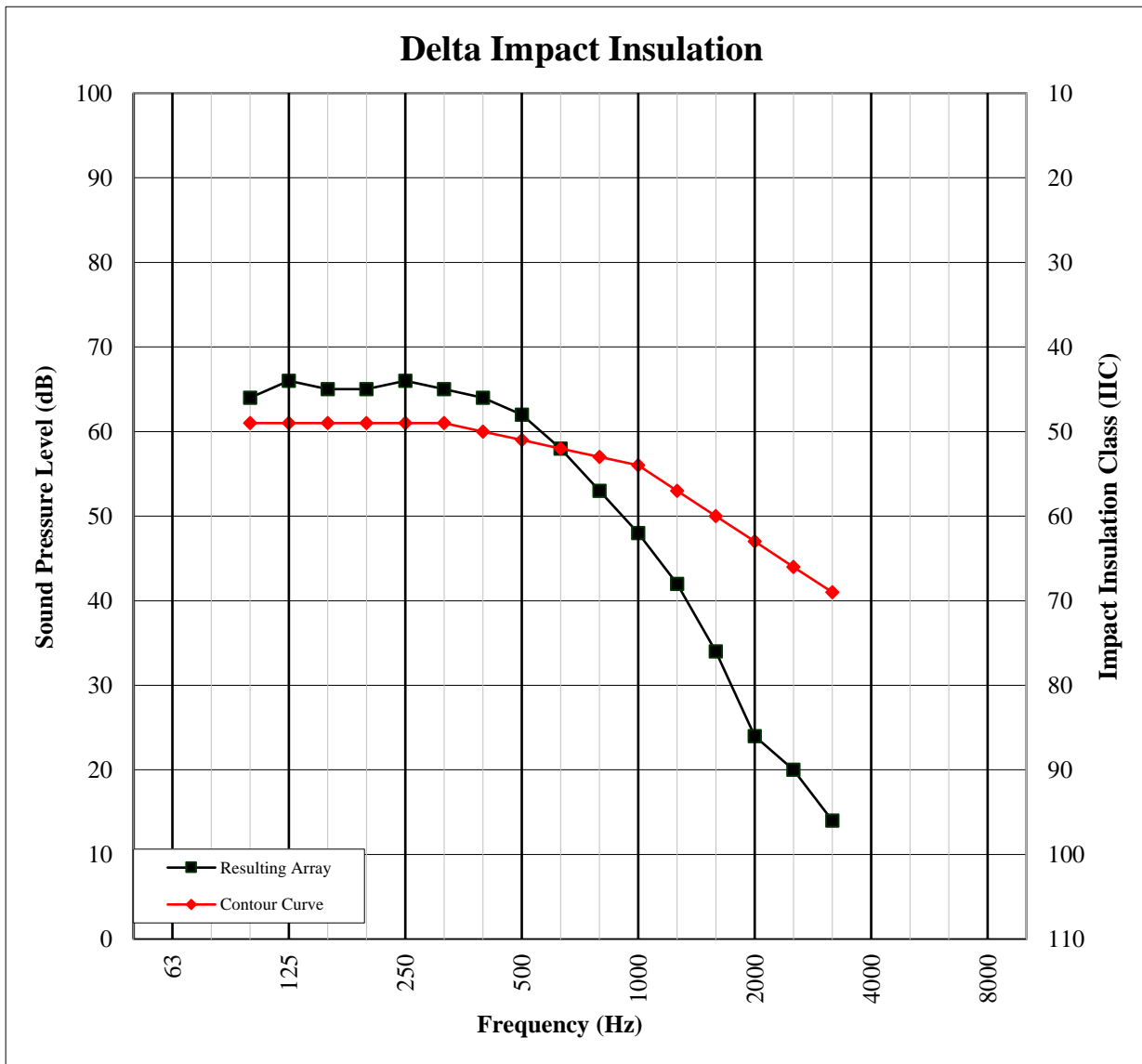
Freq (Hz)	Bkgrd SPL (dB)	Absorption (Square Meters)	Normalized Impact SPL BARE (dB)	95% Conf Limit	Normalized Impact SPL SPEC (dB)	95% Conf Limit	Resulting Array L _{ref,c}	No. of Defici- encies
100	35.8	12.5	58.8	1.4	56.0	1.1	64	3
125	31.7	9.9	59.0	0.4	57.9	1.1	66	5
160	27.1	9.7	66.5	2.1	63.3	1.2	65	4
200	23.7	11.5	71.7	1.4	68.7	1.8	65	4
250	24.5	10.3	68.6	3.2	65.5	2.7	66	5
315	23.5	9.4	68.4	1.7	63.9	1.0	65	4
400	18.6	8.4	70.2	0.6	64.0	1.0	64	4
500	20.2	8.3	69.2	0.9	60.7	0.8	62	3
630	21.2	7.7	71.3	1.0	58.2	1.1	58	0
800	19.4	7.8	72.5	1.2	54.3	1.8	53	0
1000	16.3	7.7	72.8	1.0	49.0	0.6	48	0
1250	12.1	7.7	73.1	1.6	43.2	0.7	42	0
1600	7.5	7.7	73.8	1.4	36.3	0.8	34	0
2000	4.5	8.5	74.4	0.6	26.8	0.4	24	0
2500	4.2	9.6	74.7	0.9	22.8	0.2	20	0
3150	4.3	10.4	74.0	1.6	15.7	0.5	14	0

ΔIIC Rating **23** *(Delta Impact Insulation Class)*
Deficiencies **32** *(Sum of Deficiencies)*

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

DELTA IMPACT INSULATION
ASTM E 2179

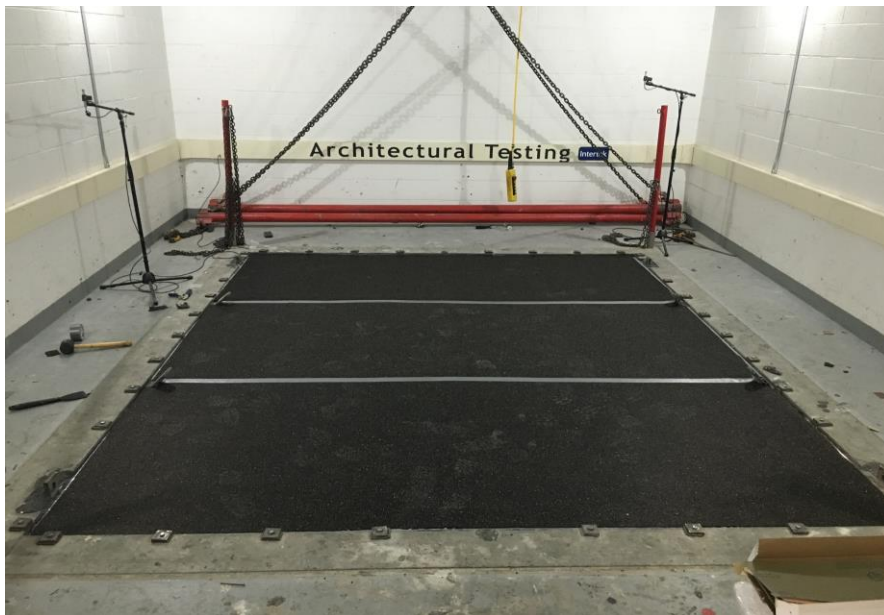
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Photographs

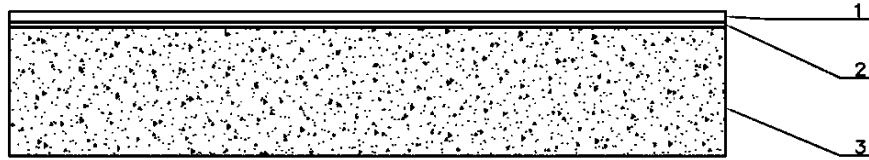


Source Room View of Test Specimen Installation



Construction of Test Specimen

Drawing



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