



**E8883.02-113-11-R0**  
**ACOUSTICAL PERFORMANCE TEST REPORT**  
**ASTM E 492**

**Rendered to**

**REGUPOL AMERICA**

**Series/Model: Regupol® 6 mm SonusWave™ Impact Sound Underlayment**

**Specimen Type: 152 mm Concrete Slab with Drop Ceiling**

**Overall Size: 3023 mm by 3632 mm**

**IIC 68**

**Test Specimen Identification:**

Floor Topping: 12.7 mm Mannington Lexington Hickory Engineered Wood

Floor Underlayment: 6 mm Regupol® SonusWave™ Impact Sound Underlayment

Floor Slab: 152 mm Concrete Slab

Main Beams: 43 mm Armstrong HD8906 Drywall Main Beam

Cross Tees: 37.3 mm Armstrong XL8945P Cross Tee

Insulation: 88.9 mm Johns Manville Kraft Faced R-13 Fiberglass Insulation

Ceiling: 15.9 mm USG SHEETROCK® Brand FIRECODE® C core Gypsum Panel

Reference should be made to Intertek-ATI Report E8883.02-113-11 for complete test specimen description. This page alone is not a complete report.



## Acoustical Performance Test Report

REGUPOL AMERICA  
33 Keystone Drive  
Lebanon, Pennsylvania 17042

**Report** E8883.02-113-11  
**Test Date** 06/18/15  
**Report Date** 07/06/15

### Project Scope

Architectural Testing, Inc., a subsidiary of Intertek (Intertek-ATI), was contracted to conduct impact sound transmission test. 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 492-09, Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine

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

### Test Conditions

Source Room		Receive Room	
Average Temperature	22.6°C	Average Temperature	21.4°C
Average Relative Humidity	56%	Average Relative Humidity	55%

### Test Calculations

The IIC (Impact Insulation Class) rating was calculated in accordance with ASTM E 989.

### Test Specimen Materials and Installation Details

Material	Dimensions (mm)	Thickness (mm)	Manufacturer and Series	Quantity	Average Weight
Engineered Wood	914.4 by 127	12.7	Mannington Lexington Hickory	10.98 m <sup>2</sup>	6.59 kg/m <sup>2</sup>
	<i>Note: Loose laid.</i>				
SonusWave™ Impact Sound Underlayment	1219.2 by 3023	6.0	Regupol®	10.98 m <sup>2</sup>	3.05 kg/m <sup>2</sup>
	<i>Note: Loose laid.</i>				
Concrete Slab	3023 by 3632	152.0	N/A	10.98 m <sup>2</sup>	366.18 kg/m <sup>2</sup>
	<i>Note: The concrete slab was installed in a test frame flush to the source room.</i>				
Drywall Main Beam	38.1 by 2870	43.0	Armstrong HD8906	10.9 lin m	0.45 kg/m
	<i>Note: Twelve gauge hanger wires were attached to the bottom side of the concrete at twelve locations and then to the main beams. The hanger wire was twisted around itself a minimum of three times within 76 mm creating a 305 mm plenum. The main beams measured steel thickness is 0.5 mm.</i>				
Cross Tee	38.3 by 1219	37.3	Armstrong XL8945P	27.2 lin m	0.45 kg/m
	<i>Note: Inserted into the main beams on 607 mm centers. The cross tee measured steel thickness is 0.5 mm.</i>				
Fiberglass Insulation	2962 by 584	88.9	Johns Manville Kraft Faced R-13	10.98 m <sup>2</sup>	1.33 kg/m <sup>2</sup>
	<i>Note: Loose laid onto the ceiling grid system.</i>				
Gypsum Panel	1219 by 3023	15.9	USG SHEETROCK® Brand FIRECODE® C core	10.98 m <sup>2</sup>	11.9 kg/m <sup>2</sup>
	<i>Note: The gypsum panels were fastened to the ceiling beams on 304.8 mm centers with 25.4 Type S bugle head screws. The seams of the gypsum panels were sealed with Pecora AC-20 FTR caulk and covered with pressure sensitive tape.</i>				

## Comments

The total weight of the floor/ceiling assembly was 4289 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:

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Daniel B. Mohler  
Technician II - Acoustical Testing

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Bradlay D. Hunt  
Project Manager - Acoustical Testing

Attachments (5 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	07/06/15	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	Y002919	06/14
Receive Room Microphone	PCB Piezotronics	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 63811	09/14
Source Room Microphone	PCB Piezotronics	378B20	63738	04/15
Source Room Microphone	PCB Piezotronics	378B20	63739	04/15
Source Room Microphone	PCB Piezotronics	378B20	63740	04/15
Source Room Microphone	PCB Piezotronics	378B20	63742	04/15
Source Room Microphone	PCB Piezotronics	378B20	63741	04/15
Source Room Environmental Indicator	Comet	T7510	63812	09/14
Tapping Machine	Look Line s.r.l.	EM50 (TM50)	65351	11/14

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

### Test Chambers

VT Receive Room Volume	155.77 m <sup>3</sup>
VT Source Room Volume	190 m <sup>3</sup>



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**IMPACT SOUND TRANSMISSION**  
ASTM E 492

<b>Test Date</b>	06/18/15
<b>Data File No.</b>	E8883.02
<b>Client</b>	Regupol America
<b>Description</b>	12.7 mm Mannington Lexington Hickory Engineered Wood, 6 mm Regupol® SonusWave™ Impact Sound Underlayment, 152 mm Concrete Slab, 43 mm Armstrong HD8906 Drywall Main Beam, 37.3 mm Armstrong XL8945P Cross Tee, 88.9 mm Johns Manville Kraft Faced R-13 Fiberglass Insulation, 15.9 mm USG SHEETROCK® Brand FIRECODE® C core Gypsum Panel
<b>Specimen Area</b>	10.98 m <sup>2</sup>
<b>Technician</b>	Daniel B. Mohler

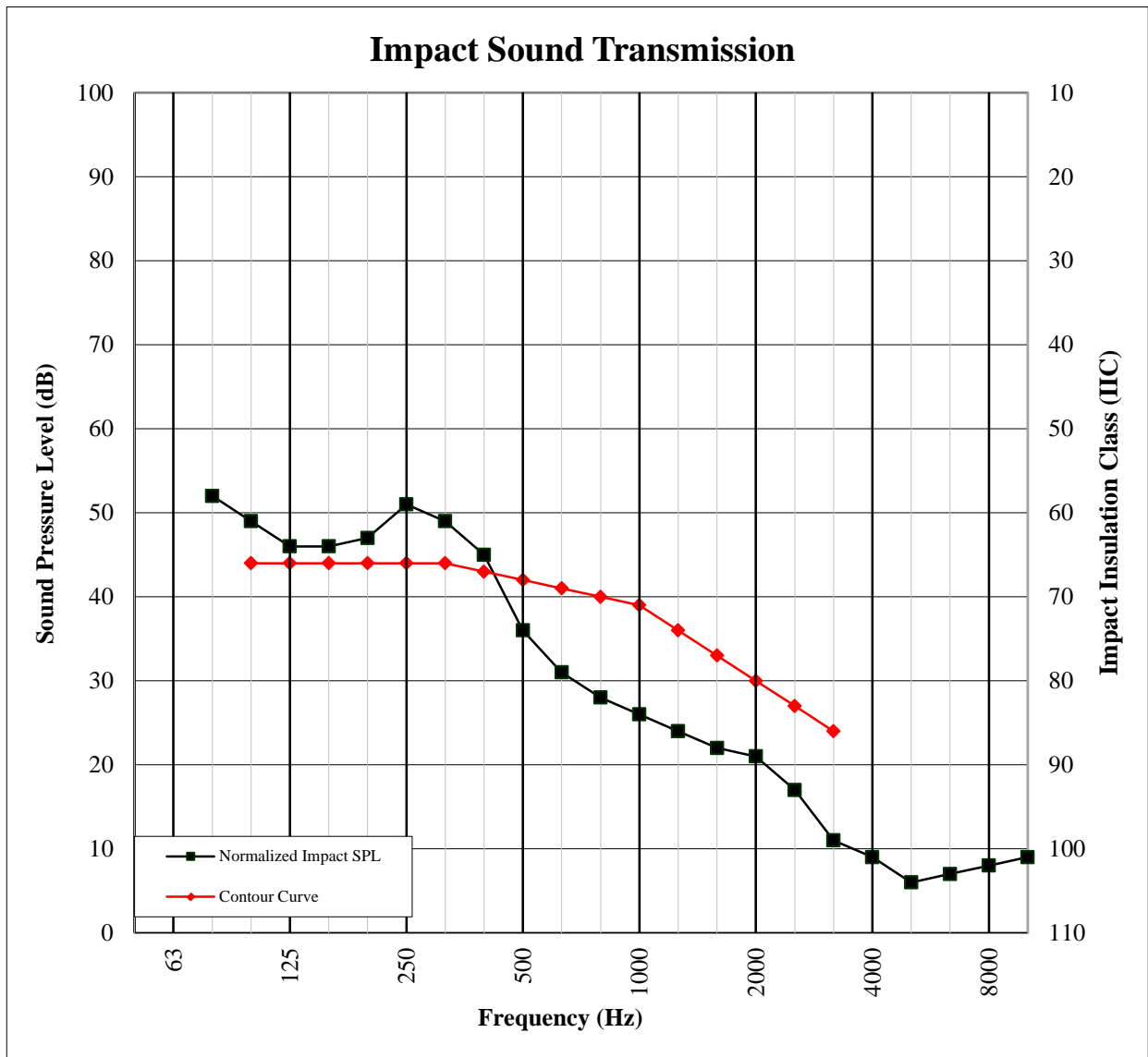
<b>Freq</b> (Hz)	<b>Background SPL</b> (dB)	<b>Absorption</b> (m <sup>2</sup> )	<b>Normalized Impact SPL</b> (dB)	<b>95% Confidence Limit</b>	<b>Number of Deficiencies</b>
80	53.8	17.0	52	3.7	-
100	46.4	13.3	49	2.1	5
125	39.6	9.6	46	1.5	2
160	33.8	8.8	46	1.4	2
200	30.6	10.1	47	1.2	3
250	29.8	9.3	51	1.9	7
315	28.5	10.0	49	1.2	5
400	26.3	8.7	45	1.2	2
500	24.3	8.3	36	0.2	0
630	23.9	8.0	31	0.4	0
800	24.0	8.2	28	0.4	0
1000	25.5	8.0	26	0.3	0
1250	26.8	8.2	24	0.3	0
1600	23.7	8.5	22	0.3	0
2000	16.8	9.2	21	0.6	0
2500	13.1	10.2	17	0.3	0
3150	11.5	10.5	11	0.3	0
4000	9.0	12.1	9	0.5	-
5000	7.0	13.7	6	0.5	-
6300	6.8	17.4	7	0.5	-
8000	6.8	22.3	8	0.6	-
10000	6.5	27.9	9	0.7	-

**IIC Rating**      **68**      *(Impact Insulation Class)*  
**Deficiencies**    **26**      *(Sum of Deficiencies)*

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

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**Photographs**

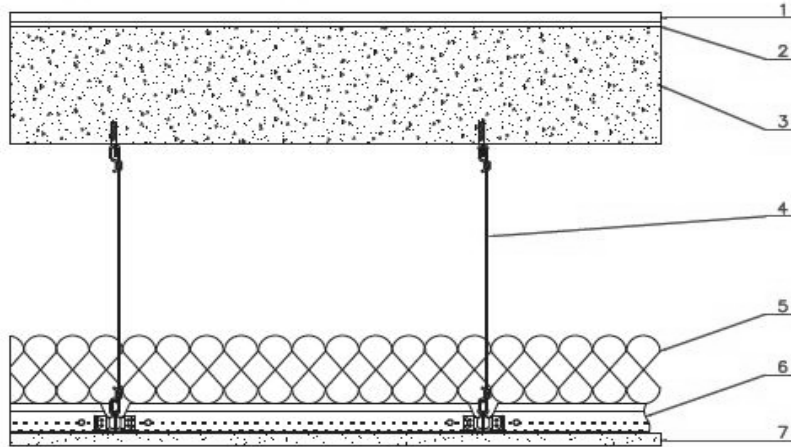


**Source Room View of Test Specimen Installation**



**Source Room View of Test Specimen Installation**

### Drawing



- 1-Floor Topping
- 2-Underlayment
- 3-Concrete Slab
- 4-Hanger Wire
- 5-Insulation
- 6-Ceiling Grid
- 7-Ceiling