



E1550.04-113-11-R0
ACOUSTICAL PERFORMANCE TEST REPORT
ASTM E 492

Rendered to

REGUPOL AMERICA

Series/Model: Regupol Sonus LV200 Underlayment

Specimen Type: Floor/Ceiling Assembly

Overall Size: 3023 mm by 3632 mm

IIC 55

Test Specimen Identification:

Floor Topping: 5 mm MP Global Products Luxury Vinyl Plank Flooring
Floor Underlayment: 2.04 mm Regupol Sonus LV 200 Rubber Underlayment
Subfloor Topping: 25.4 mm Hacker 3310 Gypsum Concrete Gypsum Concrete
Subfloor: 18.8 mm OSB Sheathing
Insulation: 88.9 mm Knauf EcoBatt® R13 Fiberglass Insulation
Joist: 235 mm 2x10 Dimensional Lumber
Ceiling Isolation: 0.7 mm ClarkDietrich RC Deluxe™ Resilient Channel
Ceiling: 16.3 mm CertainTeed Type C Gypsum Board

Reference should be made to Architectural Testing, Inc. Report E1550.04-113-11 for complete test specimen description.



Acoustical Performance Test Report

REGUPOL AMERICA
33 Keystone Drive
Lebanon, Pennsylvania 17042

Report	E1550.04-113-11
Test Date	11/12/14
Report Date	01/21/15
Record Retention End Date	11/12/18

Project Scope

Regupol America contracted Architectural Testing to conduct an impact sound transmission test. A summary of the results is listed in the Test Results section, and the complete test data is included as attachments to this report. The client provided the test specimen.

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 Architectural Testing, Inc. 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 twenty 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

Receive Room			
Maximum Temperature	17.9 °C	Maximum Relative Humidity	64%
Minimum Temperature	17.9 °C	Minimum Relative Humidity	64%
Average Temperature	17.9 °C	Average Relative Humidity	64%

Test Calculations

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

Test Specimen Materials

Material	Dimensions (mm)	Thickness (mm)	Manufacturer and Series	Quantity	Average Weight
Luxury Vinyl Plank Flooring	914.4 by 152.4	5.0	MP Global Products	10.98 m ²	9.28 kg/m ²
	<i>Note: Installed per manufacturer's loose lay installation.</i>				
Rubber Underlayment	3048 by 1219.2	2.0	Regupol Sonus LV 200	10.98 m ²	1.27 kg/m ²
	<i>Note: Loose laid</i>				
Gypsum Concrete	3023 by 3632	25.4	Hacker 3310 Gypsum Concrete	10.98 m ²	4.61 kg/m ²
	<i>Note: Poured directly on top of the OSB sheathing, cured a minimum of 14 days.</i>				
OSB Sheathing	1219 by 2438	18.8	N/A	10.98 m ²	10.25 kg/m ²
	<i>Note: Fastened to joists with 76 mm by 3 mm framing nails on 203 mm centers along perimeter and 305 mm centers in the field.</i>				
R13 Fiberglass Insulation	2940 by 406	88.9	Knauf EcoBatt®	10.98 m ²	1.03 kg/m ²
	<i>Note: Laid directly over resilient channels.</i>				
2x10 Dimensional Lumber	2940 by 38.1	235.0	N/A	26.5 lin m	4.3 kg
	<i>Note: Fastened to perimeter frame on 406 mm centers using 18 gauge joist hangers and 9 gauge 31.75 mm nails.</i>				
Resilient Channel	68.6 by 2902	0.7	ClarkDietrich RC Deluxe™	23.2 lin m	0.72 kg
	<i>Note: Fastened perpendicular to joists on 406 mm centers with 25.4 mm type S screws.</i>				
Type C Gypsum Board	1219 by 29.3	16.3	CertainTeed	10.35 m ²	11.65 kg/m ²
	<i>Note: Fastened to the resilient channels on 305 mm centers with 31.8 type S screws.</i>				

Comments

The total weight of the floor/ceiling assembly was 541.6 kg. Architectural Testing 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.



Architectural Testing 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 Architectural Testing for the entire test record retention period.

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 may not be reproduced, except in full, without the written approval of Architectural Testing.

For ARCHITECTURAL TESTING, INC:

Leeland S. Hoover
Technician II - Acoustical Testing

Bradlay D. Hunt
Project Manager - Acoustical Testing

Attachments (5)

** Stated by Client/Manufacturer*

N/A - Non Applicable



Revision Log

<u>Revision</u>	<u>Date</u>	<u>Page(s)</u>	<u>Description</u>
R0	01/21/15	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 *
Receive Room Microphone	PCB Piezotronics	378B20	64340	04/14
Receive Room Microphone	PCB Piezotronics	378B20	63744	04/14
Receive Room Microphone	PCB Piezotronics	378B20	63745	04/14
Receive Room Microphone	PCB Piezotronics	378B20	63746	04/14
Receive Room Microphone	PCB Piezotronics	378B20	63747	04/14
Receive Room Environmental Indicator	Comet	T7510	63810	09/14
Receive Room Environmental Indicator	Comet	T7510	63811	09/14
Microphone Calibrator	Norsonic	1251	Y002919	06/14
Tapping Machine	Norsonic	N-211	Y003242	03/14

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

Test Chambers

VT Receive Room Volume	156.5 m ³
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IMPACT SOUND TRANSMISSION
ASTM E 492

Test Date	11/12/14
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Client	Regupol America
Description	5 mm MP Global Products Luxury Vinyl Plank Flooring, 2.04 mm Regupol Sonus LV 200 Rubber Underlayment, 25.4 mm Hacker 3310 Gypsum Concrete Gypsum Concrete, 18.8 mm OSB Sheathing, 88.9 mm Knauf EcoBatt® R13 Fiberglass Insulation, 235 mm 2x10 Dimensional Lumber, 0.7 mm ClarkDietrich RC Deluxe™ Resilient Channel, 16.3 mm CertainTeed Type C Gypsum Board
Specimen Area	10.98 m ²
Technician	Leeland S. Hoover

Freq (Hz)	Background SPL (dB)	Absorption (m ²)	Normalized Impact SPL (dB)	95% Confidence Limit	Number of Deficiencies
80	56.1	17.7	63	4.8	-
100	51.8	10.7	61	1.8	4
125	48.2	10.4	62	1.5	5
160	46.6	9.8	61	2.7	4
200	44.1	11.0	60	5.1	3
250	42.7	10.8	60	7.6	3
315	42.5	9.3	59	10.6	2
400	42.5	8.3	58	10.3	2
500	43.7	7.8	57	9.0	2
630	41.9	7.6	54	10.2	0
800	40.6	7.8	51	11.4	0
1000	39.0	7.5	47	11.1	0
1250	36.5	7.7	43	8.3	0
1600	30.6	7.7	37	7.5	0
2000	25.7	8.4	34	8.3	0
2500	21.5	9.5	31	8.0	0
3150	17.2	10.1	23	10.0	0
4000	13.0	11.4	16	9.1	-
5000	10.8	13.4	12	7.1	-
6300	8.2	17.2	10	4.5	-
8000	7.5	23.2	9	1.2	-
10000	7.2	29.0	9	0.4	-

IIC Rating **55** (*Impact Insulation Class*)
Deficiencies **25** (*Sum of Deficiencies*)

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

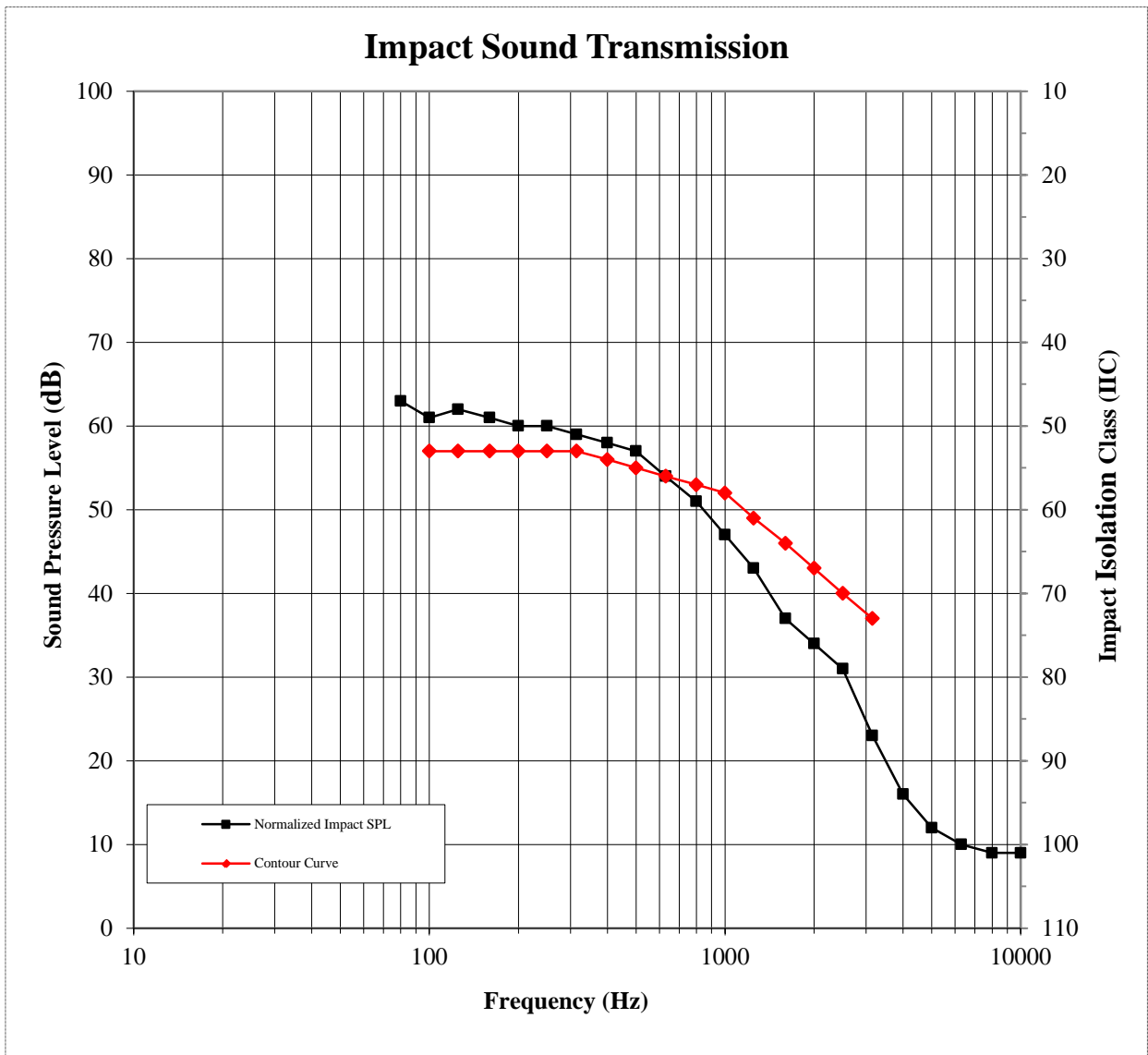


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Specimen Area	10.98 m ²
Technician	Leeland S. Hoover



Photographs

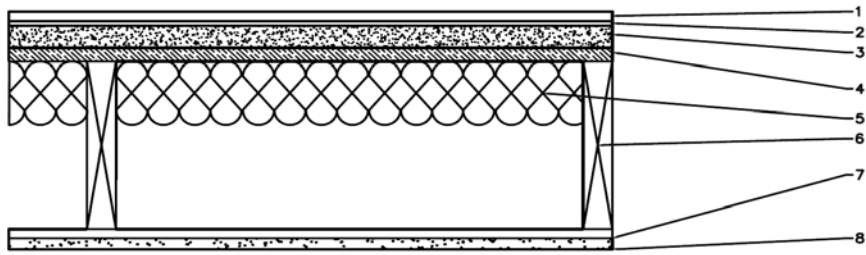


Source Room View of Test Specimen Installation



Receive Room View of Test Specimen Installation

Drawing



- 1-Floor topping
- 2-Underlayment
- 3-Gypsum Concrete
- 4-Subfloor
- 5-Insulation
- 6-Joist
- 7-Ceiling Isolation
- 8-Ceiling