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

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

<table>
<thead>
<tr>
<th></th>
<th>Receive Room</th>
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<tbody>
<tr>
<td>Maximum Temperature</td>
<td>17.9 °C</td>
</tr>
<tr>
<td>Minimum Temperature</td>
<td>17.9 °C</td>
</tr>
<tr>
<td>Average Temperature</td>
<td>17.9 °C</td>
</tr>
<tr>
<td>Maximum Relative Humidity</td>
<td>64%</td>
</tr>
<tr>
<td>Minimum Relative Humidity</td>
<td>64%</td>
</tr>
<tr>
<td>Average Relative Humidity</td>
<td>64%</td>
</tr>
</tbody>
</table>

### Test Calculations

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

### Test Specimen Materials

<table>
<thead>
<tr>
<th>Material</th>
<th>Dimensions (mm)</th>
<th>Thickness (mm)</th>
<th>Manufacturer and Series</th>
<th>Quantity</th>
<th>Average Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luxury Vinyl Plank Flooring</td>
<td>914.4 by 152.4</td>
<td>5.0</td>
<td>MP Global Products</td>
<td>10.98 m²</td>
<td>9.28 kg/m²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note: Installed per manufacturer's loose lay installation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rubber Underlayment</td>
<td>3048 by 1219.2</td>
<td>2.0</td>
<td>Regupol Sonus LV 200</td>
<td>10.98 m²</td>
<td>1.27 kg/m²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note: Loose laid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gypsum Concrete</td>
<td>3023 by 3632</td>
<td>25.4</td>
<td>Hacker 3310 Gypsum Concrete</td>
<td>10.98 m²</td>
<td>4.61 kg/m²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note: Poured directly on top of the OSB sheathing, cured a minimum of 14 days.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSB Sheathing</td>
<td>1219 by 2438</td>
<td>18.8</td>
<td>N/A</td>
<td>10.98 m²</td>
<td>10.25 kg/m²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R13 Fiberglass Insulation</td>
<td>2940 by 406</td>
<td>88.9</td>
<td>Knauf EcoBatt®</td>
<td>10.98 m²</td>
<td>1.03 kg/m²</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note: Laid directly over resilient channels.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2x10 Dimensional Lumber</td>
<td>2940 by 38.1</td>
<td>235.0</td>
<td>N/A</td>
<td>26.5 lin m</td>
<td>4.3 kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Note: Fastened to perimeter frame on 406 mm centers using 18 gauge joist hangers and 9 gauge 31.75 mm nails.</td>
<td></td>
<td></td>
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<tr>
<td>Resilient Channel</td>
<td>68.6 by 2902</td>
<td>0.7</td>
<td>ClarkDietrich RC Deluxe™</td>
<td>23.2 lin m</td>
<td>0.72 kg</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Note: Fastened perpendicular to joists on 406 mm centers with 25.4 mm type S screws.</td>
<td></td>
<td></td>
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<tr>
<td>Type C Gypsum Board</td>
<td>1219 by 29.3</td>
<td>16.3</td>
<td>CertainTeed</td>
<td>10.35 m²</td>
<td>11.65 kg/m²</td>
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<tr>
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<td></td>
<td></td>
<td>Note: Fastened to the resilient channels on 305 mm centers with 31.8 type S screws.</td>
<td></td>
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### 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
<table>
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<th>Page(s)</th>
<th>Description</th>
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<td>R0</td>
<td>01/21/15</td>
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This report produced from controlled document template ATI 00629(c), Revised 08/11/14.
## Instrumentation

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<th>Manufacturer</th>
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*The calibration frequency for this equipment is every two years per the manufacturer's recommendation.*

## Test Chambers

| VT Receive Room Volume | 156.5 m³ |
### Impact Sound Transmission

**ASTM E 492**

**Test Date:** 11/12/14  
**Data File No.:** E1550.04  
**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 m²  
**Technician:** Leeland S. Hoover

<table>
<thead>
<tr>
<th>Freq (Hz)</th>
<th>Background SPL (dB)</th>
<th>Absorption (m²)</th>
<th>Normalized Impact SPL (dB)</th>
<th>95% Confidence Limit</th>
<th>Number of Deficiencies</th>
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<tr>
<td>80</td>
<td>56.1</td>
<td>17.7</td>
<td>63</td>
<td>4.8</td>
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<td>100</td>
<td>51.8</td>
<td>10.7</td>
<td>61</td>
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<td>125</td>
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<td>7.2</td>
<td>29.0</td>
<td>9</td>
<td>0.4</td>
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</tr>
</tbody>
</table>

**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.
### Test Details

**Test Date:** 11/12/14  
**Data File No.:** E1550.04  
**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 m²  
**Technician:** Leeland S. Hoover
Photographs

Source Room View of Test Specimen Installation

Receive Room View of Test Specimen Installation
1-Floor topping
2-Underlayment
3-Gypsum Concrete
   4-Subfloor
   5-Insulation
   6-Joist
7-Ceiling Isolation
8-Ceiling