

# RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE  
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104  
FOUNDED 1918 BY  
WALLACE CLEMENT SABINE

## TEST REPORT

FOR: WIDGETCO, INC.  
Houston, TX

Impact Sound Transmission  
RAL™-IN13-013

CONDUCTED: 15 March 2013

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ON: WidgetCo® 6mm Cork Underlayment over 6 Inch Concrete Slab

### TEST METHOD

The measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E492-09 and E989-06 (2012), as well as other pertinent standards. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure (NVLAP Lab Code: 100227-0). A description of the measuring technique is available separately.

### DESCRIPTION OF THE SPECIMEN

The test specimen was designated by the client as WidgetCo® 6mm Cork Underlayment over 6 inch concrete slab. The description of the specimen was as follows: From the top to bottom, the floor consisted of 6.00 mm (0.24 in.) thick cork underlayment over the 152 mm (6 in.) thick concrete laboratory reference slab. The test specimen did not include any finished floor surface or ceiling assembly.

The overall dimensions of the specimen were 4.27 m (14 ft) wide by 6.10 m (20 ft) long and 158.39 mm (6.24 in.) thick. The specimen was constructed directly in the laboratory's 4.27 m (14 ft) by 6.10 m (20 ft) test opening and was sealed on the periphery (above and below) with dense mastic. The area of the specimen was 26 m<sup>2</sup> (280 ft<sup>2</sup>). The weight of the entire specimen as calculated was 8,674.1 kg (19,122.8 lbs.), an average of 333.5 kg/m<sup>2</sup> (68.3 lbs/ft<sup>2</sup>).

The source room temperature at the time of the test was 21±0°C (71±1°F) and 50±0% relative humidity. The receiving room temperature at the time of the test was 20±0°C (69±1°F) and 52±1% relative humidity. The source and receive reverberation room volumes were 139.6 m<sup>3</sup> (4,929.5 ft<sup>3</sup>) and 87.0 m<sup>3</sup> (3,072.7 ft<sup>3</sup>), respectively.



NVLAP Lab Code 100227-0

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### Flooring

The floor specimen consisted of cork underlayment tiles labeled: WidgetCo® 6mm Cork Underlayment 6-U6mm-Box-US. The area included forty seven (47) pieces, each measured 609.6 mm (24 in.) wide by 914.4 mm (36 in.) long by 6.00 mm (0.24 in.) thick. The specimen was laid loose over the laboratory reference slab. Edges were held together with 2" tape. The total weight of the floor specimen was 33.0 kg (72.75 lbs.).

### 6" Concrete Reference Slab

The concrete slab sub-floor consisted of ten nominally 610 mm (24 in.) wide by 4.23 m (166.5 in.) long by 152 mm (6 in.) thick wire-reinforced concrete slabs. Total weight of the concrete slabs was 8641 kg (19,050 lbs.). After installation, the underside of the seam between each slab was sealed with acoustical caulk; the entire perimeter was sealed with dense laboratory mastic. The remaining gap at the perimeter and between each slab was filled with general purpose sand. Ready mix joint compound was used to seal and level the slab surface (top).



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### TEST RESULTS

Sound pressure levels at 1/3 octave intervals, normalized to 10 square meters, are given in tabular form. The impact insulation class, IIC, was computed in accordance with ASTM E989-06 and ASTM E492-09.

| <u>FREQ.</u> | <u>Ln</u> | <u>C.L.</u> | <u>DEV</u> | <u>FREQ.</u> | <u>Ln</u> | <u>C.L.</u> | <u>DEV</u> |
|--------------|-----------|-------------|------------|--------------|-----------|-------------|------------|
| 100          | 69        | 0.62        | 8          | 800          | 34        | 0.55        |            |
| 125          | 62        | 0.79        | 1          | 1000         | 34        | 0.31        |            |
| 160          | 64        | 0.59        | 3          | 1250         | 25        | 0.48        |            |
| 200          | 65        | 0.70        | 4          | 1600         | 19        | 0.52        |            |
| 250          | 65        | 1.06        | 4          | 2000         | 11        | 1.14        |            |
| 315          | 63        | 0.66        | 2          | 2500         | 6         | 1.50        |            |
| 400          | 61        | 0.53        | 1          | 3150         | 5         | 1.75        |            |
| 500          | 54        | 0.59        |            | 4000         | 4         | 1.71        |            |
| 630          | 46        | 0.73        |            | 5000         | 6         | 1.41        |            |

IIC=51

### ABBREVIATION INDEX

FREQ. = FREQUENCY, HERTZ, (cps)

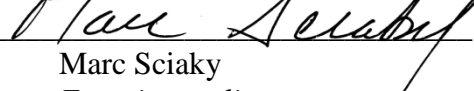
Ln = NORMALIZED IMPACT SOUND PRESSURE LEVEL, dB

C.L. = UNCERTAINTY IN dB, FOR A 95% CONFIDENCE LIMIT

DEV. = DEVIATION, dB > IIC CONTOUR (SUM OF DEV = 23 )

IIC = IMPACT INSULATION CLASS

\* = INDICATES A CORRECTION HAS BEEN APPLIED TO DATA  
DUE TO BACKGROUND NOISE LEVELS

Tested by  Approved by Eric P. Wolfram  
Marc Sciaky  
Experimentalist  
Eric P. Wolfram  
Laboratory Manager



NVLAP Lab Code 100227-0

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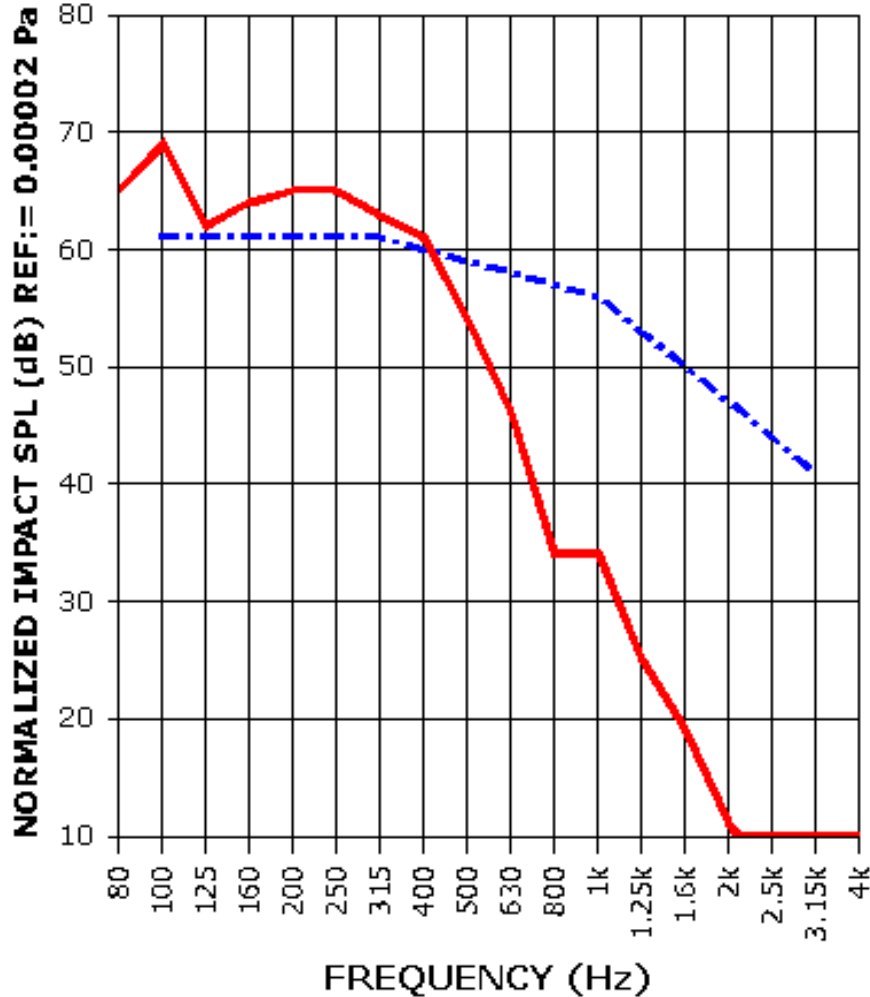
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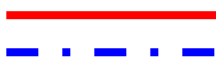
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### IMPACT SOUND TRANSMISSION

WidgetCo® 6mm Cork Underlayment over 6 inch concrete slab



IIC=51



IMPACT SOUND PRESSURE LEVEL  
IMPACT INSULATION CLASS CONTOUR



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