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# REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 105030300

Date: January 19, 2023

**REPORT NO. 105030300CRT-005n**

**IMPACT SOUND TRANSMISSION TEST ON  
LAMINATE FLOORING OVER TEST NUMBER #292820  
ID: RUGBY PLANK FLOORING  
OVER A SIX INCH CONCRETE SLAB WITH A DROP CEILING**

**RENDERED TO**

**LUX FLOORING**

## **INTRODUCTION**

This report gives the result of an Impact Sound Transmission test on underlayment. The sample was selected and supplied by the client and received at the laboratories on January 11, 2023. The material appeared to be in new, unused condition upon arrival.

## **AUTHORIZATION**

Signed Intertek Quotation No. Qu-01259122-0

## **TEST METHOD**

The floor system was tested in general accordance with the American Society for Testing and Materials designation ASTM E492-09 (Reapproved 2016), "Standard Test Method for Laboratory Measurement of Impact Sound Transmission through Floor-Ceiling Assemblies Using the Tapping Machine". It was classified in accordance with ASTM E989-21, entitled, "Standard Classification for Determination of Single-Number Metrics for Impact Noise".

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**GENERAL**

The test method is designed to measure the impact sound transmission performance of a floor-ceiling assembly, in a controlled laboratory environment. A standard tapping machine (Bruel & Kjaer Type 3207) was placed at four positions on the test floor that forms the horizontal separation between two rooms, one directly above the other. The data obtained was normalized to a reference room absorption of 10 square meters in accordance with the test method.

The standard also prescribes a single-figure classification rating called "Impact Insulation Class, IIC" which can be used by architects, builders and code authorities for acoustical design purposes in building construction.

The IIC is obtained by matching a standard reference contour to the plotted normalized one-third octave band sound pressure levels at each test frequency. The greater the IIC rating, the lower the impact sound transmission through the floor-ceiling assembly.

**DESCRIPTION OF THE FLOOR/CEILING ASSEMBLY**

The floor/ceiling assembly system consisted of a 6 inch thick concrete floor with a drop ceiling below forming the horizontal separation between two rooms, one directly above the other. The drop ceiling consisted of 14 inch deep steel bar joists spaced 38 inches on center. The ceiling construction consisted of 2 x 4 inch wood bolted to the bar joists. The 2 x 4 inch wood was spaced 24 inches on center. Resilient channels (1/2 inch single leaf) were positioned on 16 inch centers between the furring strips and the 1/2 inch gypsum board. Sound attenuation batts (U.S.G. Thermofiber), four (4) inches in thickness were placed between the joists in the formed cavity. The receiving room below measured 1440 cubic feet.

**DESCRIPTION OF TEST SPECIMEN**

The test specimen consisted of test number #292820 ID: Rugby interlocking plank flooring with pre attached underlayment. The locking planks measured 9 inches wide by 60 3/4 inches long by 0.31 inches thick. The sample weighed 2.50 pounds per square foot.

**RESULTS OF TEST**

The data obtained in the room below the panel normalized to  $A_o = 10$  square meters, is as follows:

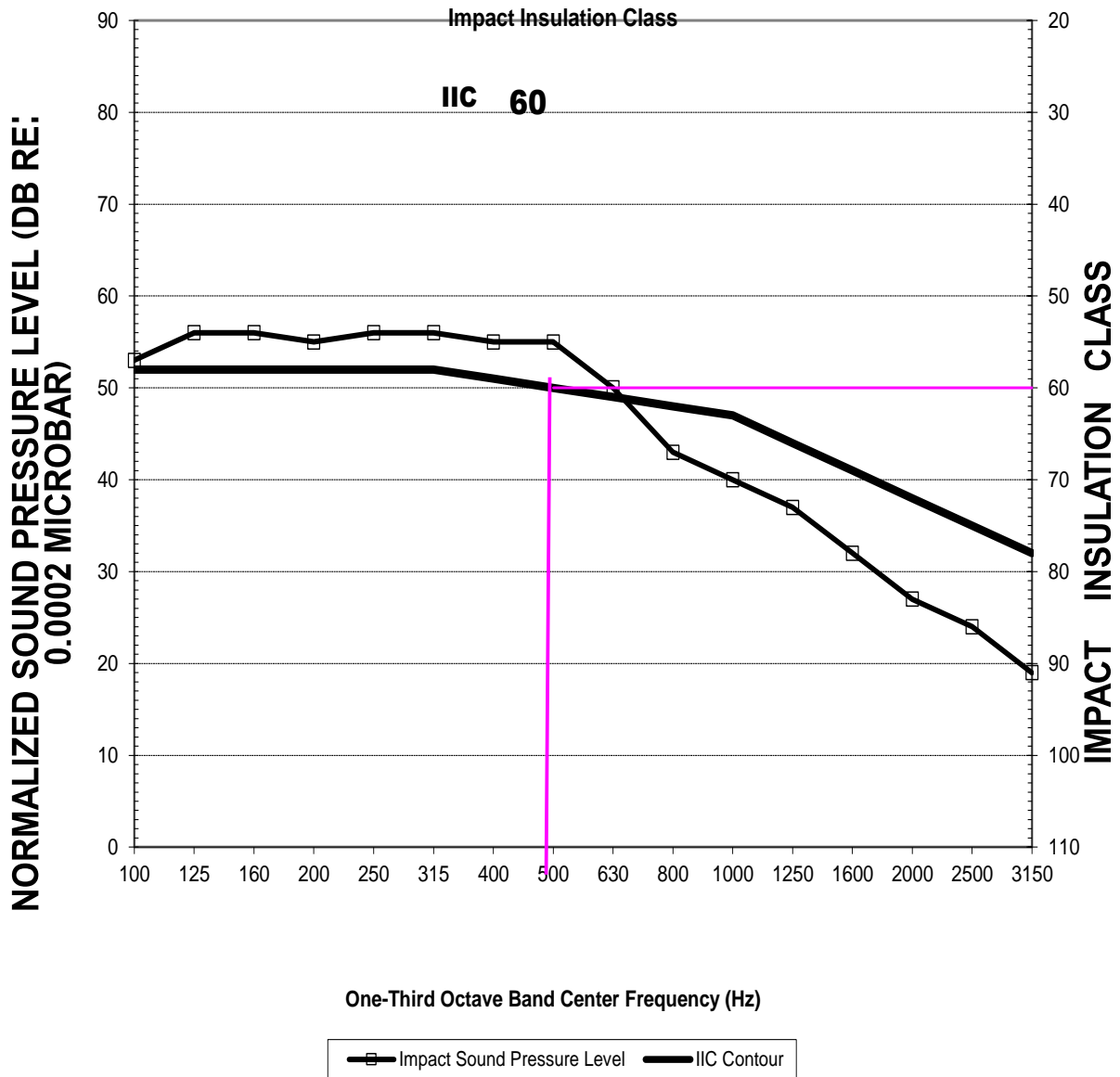
1/3 Octave Band Center Frequency <u>Hertz</u>	<b>TEST NUMBER #292820</b> <b>ID: RUGBY PLANK FLOORING</b> 1/3 Octave Band Sound Pressure <u>Level dB re 0.0002 Microbar</u>
100	53
125	56
160	56
200	55
250	56
315	56
400	55
500	55
630	50
800	43
1000	40
1250	37
1600	32
2000	27
2500	24
3150	19
Impact Insulation Class (IIC)	60

**PRECISION**

The 95% uncertainty level for each tapping machine location is less than 3 dB for the 1/3 octave bands centered in the range from 100 to 400 Hz and less than 2.5 dB for the bands centered in the range from 500 to 3150 Hz.

For the floor/ceiling construction, the 95% uncertainty limits ( $\Delta L_n$ ) for the normalized sound pressure levels were determined to be less than 2 dB for the 1/3 octave bands centered in the range from 100 to 3150 Hz.

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**LUX FLOORING**

## REMARKS

1. Ambient Temperature: 70°F
2. Relative Humidity: 30%

## CONCLUSION

The test method employed for this test has no pass-fail criteria; therefore, the evaluation of the test results is left to the discretion of the client.

Date of Test: January 16, 2023

Report Approved by:



Joey Esce  
Project Engineer  
Acoustical Testing

Report Reviewed By:



Brian Cyr  
Engineer  
Acoustical Testing

Attachments: None