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REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 103930499 Date: August 16, 2021

REPORT NO. 103930499CRT-17ta

IMPACT SOUND TRANSMISSION TEST ON
TEST NUMBER #275003
ID: 9" SPC LUXURY VINYL 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 flooring. The sample was selected and supplied by the client and received at the laboratories on March 24, 2021. The material appeared to be in new, unused condition upon arrival.

AUTHORIZATION

Signed Intertek Quotation No. Qu-00974967-0

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 E989-18, entitled, "Standard Classification for Determination of Single-Number Metrics for Impact Noise".

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 275003 ID: 9” SPC Luxury Vinyl Flooring. The locking planks with resilient backing measured 60 inches long by 9 inches wide by 6.5 mm thick. The flooring weighed 2.14 lbs./ft^2.

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 Hertz	**TEST NUMBER #275003** **ID: 9" SPC LUXURY VINYL FLOORING** 1/3 Octave Band Sound Pressure Level dB re 0.0002 Microbar
100	53
125	56
160	57
200	55
250	56
315	53
400	52
500	51
630	48
800	45
1000	40
1250	36
1600	32
2000	27
2500	23
3150	17
Impact Insulation Class (IIC)	61

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 ($\triangle L_n$) 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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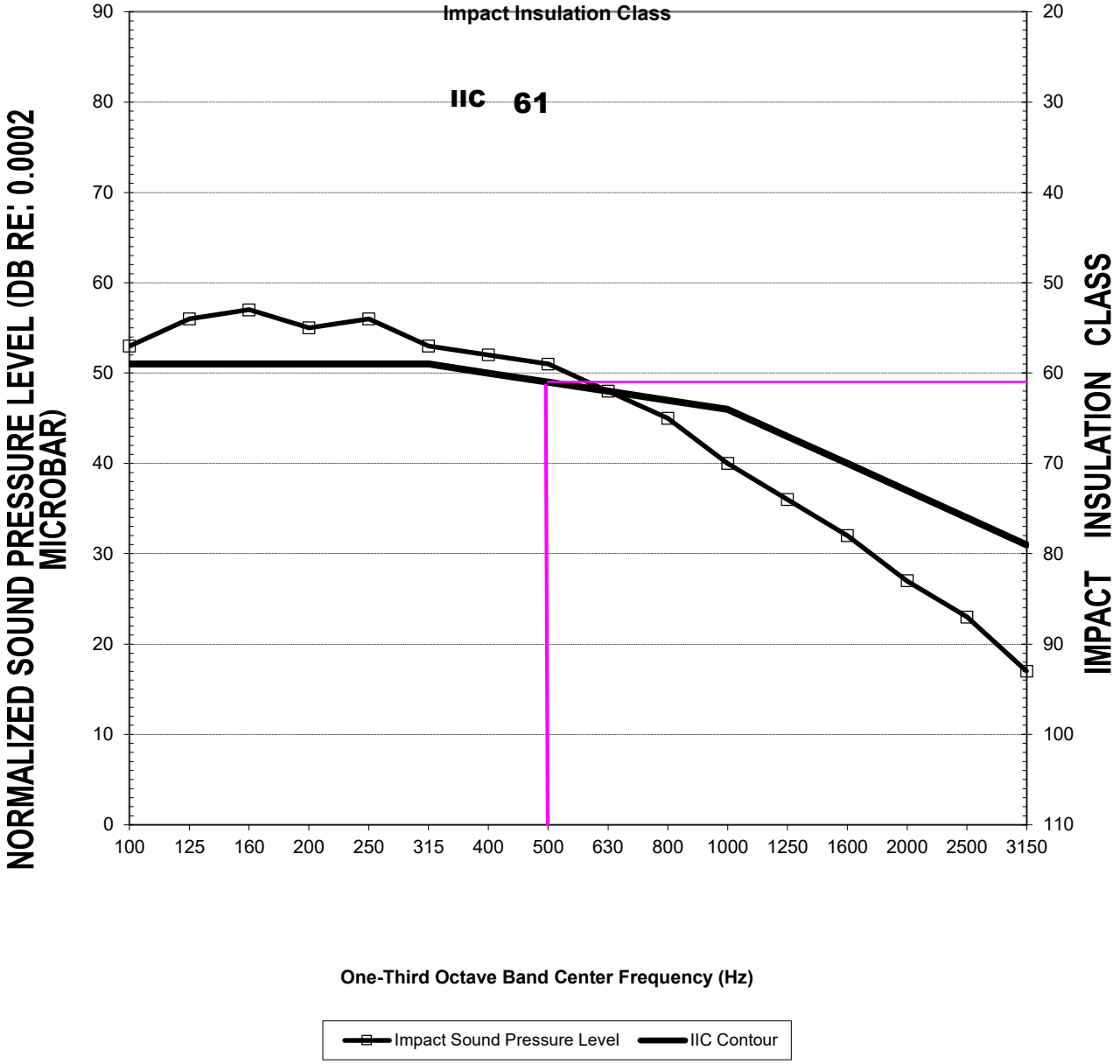

LUX FLOORING

REMARKS

1. Ambient Temperature: 70°F
2. Relative Humidity: 35%

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: March 29, 2021

Report Approved by:

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Acoustical Testing

Report Reviewed By:

James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None