

REPORT
3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 104103023

Date: November 1, 2019

REPORT NO. 104103023CRT-001a

**IMPACT SOUND TRANSMISSION TEST ON
KAHRS LUXURY TILES TIAGA CLW 172
OVER A WOOD JOIST FLOOR/CEILING ASSEMBLY
WITH A 0.75 INCH THICK GYPSUM CONCRETE TOPPING**

RENDERED TO

**KAHRS INTERNATIONAL. INC.
940 CENTRE CIRCLE, SUITE 1000
ALTAMONTE SPRINGS, FL 32714**

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 October 9, 2019. The material appeared to be in new, unused condition upon arrival.

AUTHORIZATION

Signed Intertek Quotation No. Qu-01014026-0

TEST METHOD

The floor system was tested in 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 test floor is a 100 sq. ft. opening that forms the horizontal separation of the two rooms, one directly above the other. The materials used in the assembly from top to bottom are:

- 0.75 inch thick Gypsum Concrete
- ¾ inch thick tongue & groove OSB decking (glued and screwed)
- 18 inch high Open Web Trusses (spaced 24 inches on center)
- 3.5 inch, unfaced insulation installed at the top of the cavities
- Dietrich RC Deluxe Resilient Channels (spaced 16 inches on center) fastened at every intersection
- One layer of 5/8 inch thick Type C Gypsum Board (taped and finished with compound)

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of Kahrs Luxury Tiles Tiaga CLW 172. The locking planks with resilient backing measured 172 mm wide by 1210 mm long by 5 mm thick. The planks weighed 7.74 kg/m².

RESULTS OF TEST

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

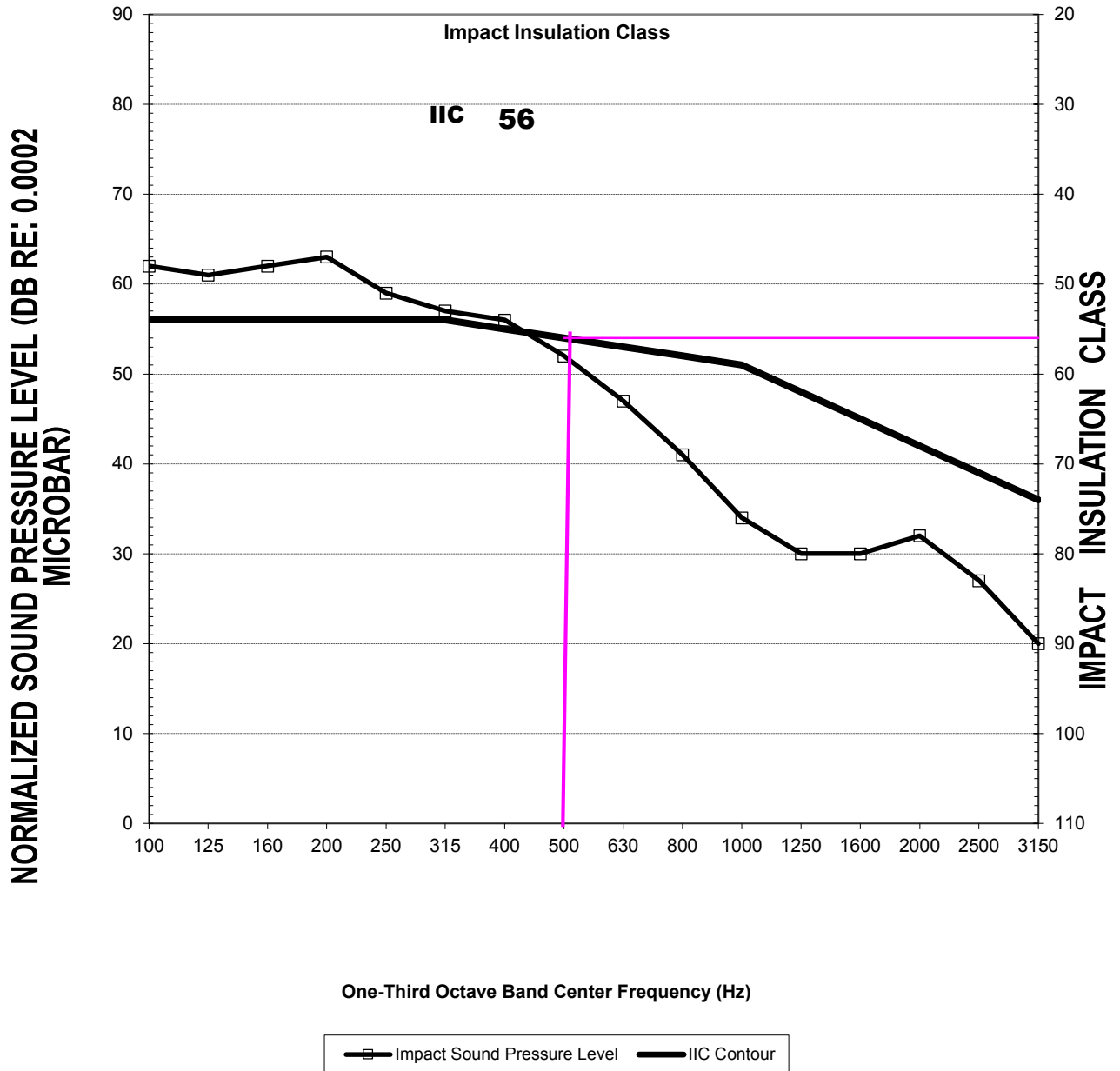
1/3 Octave Band Center Frequency Hertz	KAHRS LUXURY TILES TIAGA CLW 172 OVER A WOOD JOIST FLOOR/CEILING ASSEMBLY WITH A 0.75 INCH THICK GYPSUM CONCRETE TOPPING 1/3 Octave Band Sound Pressure Level dB re 0.0002 Microbar
100	62
125	61
160	62
200	63
250	59
315	57
400	56
500	52
630	47
800	41
1000	34
1250	30
1600	30
2000	32
2500	27
3150	20
Impact Insulation Class (IIC)	56

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 (ΔL_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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REMARKS

1. Ambient Temperature: 70°F
2. Relative Humidity: 44%

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: November 1, 2019

Report Approved by:



Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:



James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None