# REPORT

**3933 US ROUTE 11   CORTLAND, NEW YORK  13045**

Order No. 104103032

Date:  November 1, 2019

## REPORT NO.  104103032CRT-002b

## IMPACT SOUND TRANSMISSION TEST ON
## KAHRS LUXURY TILES SAREK CLW 218
## OVER A SIX INCH CONCRETE SLAB

### 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 specimen was tested in general accordance with the American Society for Testing and Materials designation ASTM E2179-09 (Reapproved 2016), "Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors".

**TEST METHOD** – Cont'd

Two vertically adjacent rooms are used: the upper one being designated the source room and the lower one the receiving room (10,000 ft$^3$).  A standard concrete floor is installed in an opening between them.  The rooms and the floor installation are designed so the only significant sound radiation into the receiving room is from the standard concrete floor.

A standard tapping machine is placed and activated on the standard concrete floor and the impact sound pressure levels are measured in the room below.  The floor covering to be evaluated is then placed on the standard concrete floor and the impact sound pressure levels measured again.

The differences in impact sound pressure level are used to calculate two single number ratings. The first is an IIC rating calculated for the covering installed on the reference concrete floor. The second rating, △IIC, represents the calculated reduction in IIC when the covering is placed on the reference concrete floor, that is the improvement in IIC due to the covering.


**DESCRIPTION OF THE FLOOR/CEILING ASSEMBLY**

The floor system consisted of a six inch thick concrete slab that forms the horizontal separation between two rooms.  The slab is not isolated from the receiving room walls.


**DESCRIPTION OF TEST SPECIMEN**

The test specimen consisted of Kahrs Luxury Tiles Sarek CLW 218.  The locking planks with resilient backing measured 218 mm wide by 1210 mm long by 6 mm thick.  The planks weighed 9.78 kg/m$^2$.

**RESULTS OF TESTS**

**KAHRS LUXURY TILES SAREK CLW 218**

1/3 Octave Band Sound Pressure
Level dB re 0.0002 Microbar

| 1/3 Octave Band Center Frequency Hertz | Bare Concrete | Floor Tested | Difference in dB | Reference Floor | Final Array |
|---|---|---|---|---|---|
| 100 | 65.0 | 64.7 | 0.3 | 67.0 | 66.7 |
| 125 | 68.3 | 66.9 | 1.4 | 67.5 | 66.1 |
| 160 | 70.9 | 69.2 | 1.7 | 68.0 | 66.3 |
| 200 | 71.1 | 68.5 | 2.6 | 68.5 | 65.9 |
| 250 | 72.1 | 69.2 | 2.9 | 69.0 | 66.1 |
| 315 | 73.6 | 69.2 | 4.4 | 69.5 | 65.1 |
| 400 | 73.2 | 66.7 | 6.5 | 70.0 | 63.5 |
| 500 | 74.0 | 63.6 | 10.4 | 70.5 | 60.1 |
| 630 | 74.4 | 59.6 | 14.8 | 71.0 | 56.2 |
| 800 | 75.1 | 58.8 | 16.3 | 71.5 | 55.2 |
| 1000 | 76.5 | 54.5 | 22.0 | 72.0 | 50.0 |
| 1250 | 78.6 | 50.4 | 28.2 | 72.0 | 43.8 |
| 1600 | 80.5 | 48.7 | 31.8 | 72.0 | 40.2 |
| 2000 | 82.4 | 45.2 | 37.2 | 72.0 | 34.8 |
| 2500 | 82.0 | 39.6 | 42.4 | 72.0 | 29.6 |
| 3150 | 81.0 | 33.3 | 47.7 | 72.0 | 24.3 |

Impact insulation Class (IIC)*                                                           50

**Calculated improvement in Impact Insulation Class:  IIC 50 – IIC 28 = △IIC 22**

*Classified in accordance with ASTM E989-18, entitled, "Standard Classification for Determination of Single-Number Metrics for Impact Noise".

The uncertainty limit of the impact noise test data 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 on the range from 500 to 3150 Hz.

## 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:                                        Report Reviewed By:

Brian Cyr                                                        James R. Kline
Engineer                                                         Engineer/Quality Supervisor
Acoustical Testing                                          Acoustical Testing

Attachments:  None