



SINCE 1896

REPORT

Intertek ETL SEMKO

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

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**IMPACT SOUND TRANSMISSION TEST AND
CLASSIFICATION OF CERAMIC TILES
OVER QQ STEP SOFT 05 035 UNDERLAYMENT ON
OVER A SIX INCH CONCRETE SLAB**

RENDERED TO

**KEENE BUILDING PRODUCTS
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INTRODUCTION

This report gives the results of an Impact Sound Transmission test and the determination of the Impact Insulation Class of Ceramic Tiles over QQ Step Soft 05 035 underlayment on a six inch thick concrete slab. The ceramic tiles and underlayment were selected and supplied by the client and received at the laboratories on December 7, 2006. The samples appeared to be in new, unused condition upon arrival.

AUTHORIZATION

Signed Intertek Quotation No. 500017703.

TEST METHOD

The sample was tested in accordance with the American Society for Testing and Materials designation ASTM E492-04, "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 E989-89 (Re-approved 1999), entitled, "Standard Classification for Determination of Impact Insulation Class (IIC)".

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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 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 SPECIMEN

The test specimen consisted of Ceramic Tiles (12 inch square by 5/16 inch thick) installed with Latex Modified Thin Set and grouted (48 hour curing time) over QQ Step Soft 05 035 (nominal 7/32 inch thick reconstituted rubber) which was direct glued to the concrete.

RESULTS OF TEST OVER A 6 INCH CONCRETE SLAB

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

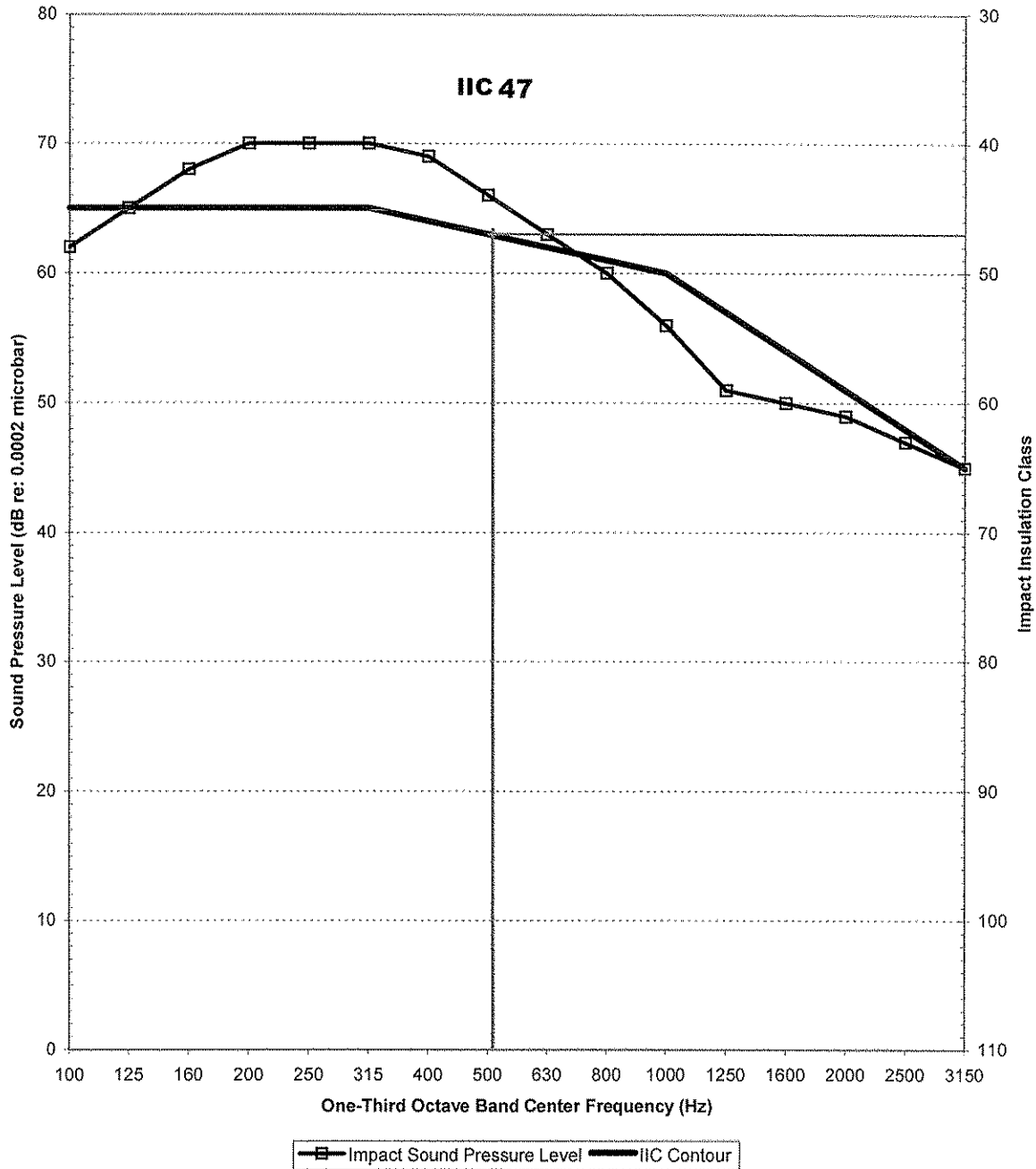
<u>1/3 Octave Band Center Frequency Hertz</u>	<u>1/3 Octave Band Sound Pressure Level dB re 0.0002 Microbar</u>
100	62
125	65
160	68
200	70
250	70
315	70
400	69
500	66
630	63
800	60
1000	56
1250	51
1600	50
2000	49
2500	47
3150	45
Impact Insulation Class (IIC)	47

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 3500.

CERAMIC TILES OVER QQ STEP SOFT 05 035 UNDERLAYMENT

Impact Insulation Class



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REMARKS

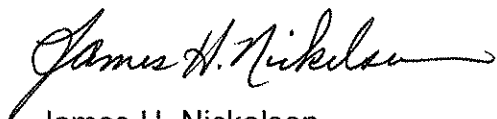
1. Curing Period: Glue / Thin Set / Grout – 72 hours
2. Ambient Temperature: 71 °F
3. Relative Humidity: 44%

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.

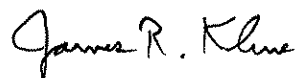
Date of Test: January 22, 2007

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Attachments: None