

REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

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**IMPACT SOUND TRANSMISSION TEST AND
CLASSIFICATION OF CERAMIC TILE OVER
dB-4LOORING UNDERLAYMENT
ON A SIX INCH CONCRETE SLAB**

RENDERED TO

**UNITED PLASTICS CORPORATION
PO BOX 807
511 HAY STREET
MOUNT AIRY, NC 27030**

INTRODUCTION

This report gives the results of an Impact Sound Transmission test and the determination of the Impact Insulation Class of ceramic tile over dB-4LOORING underlayment. The underlayment was selected and supplied by the client and received at the laboratories on March 25, 2009. The sample appeared to be in a new, unused condition.

AUTHORIZATION

Signed Intertek Quotation No. 500138564.

TEST METHOD

The floor system was tested in general 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 E989-06, entitled, "Standard Classification for Determination of Impact Insulation Class (IIC)".

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TEST METHOD – Cont'd

The method is designed to measure the impact sound transmission performance of a floor-ceiling assembly, in a controlled laboratory environment. A standard tapping machine (B & K Type 3204) was placed at four positions on a 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 TEST SPECIMEN

The test specimen consisted of ceramic tiles over dB-4LOORING underlayment. The underlayment was a composition of EVA and needle fiber (recycled). The ceramic tiles measured 12 inches square and were 5/16 inches thick. The underlayment was 0.28 inches thick and weighed 0.93 lbs/sq. ft. The underlayment was installed with the rubber side facing down and the tile installed onto the fiber side with tile adhesive applied per the manufacturer's instructions.



RESULTS OF TEST

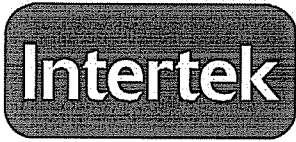
The data obtained in the room below the panel normalized to $A_0 = 10$ square meters, is as follows:

<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	67
160	68
200	69
250	67
315	62
400	59
500	57
630	52
800	50
1000	48
1250	49
1600	47
2000	44
2500	43
3150	39
Impact Insulation Class (IIC)	51

PRECISION

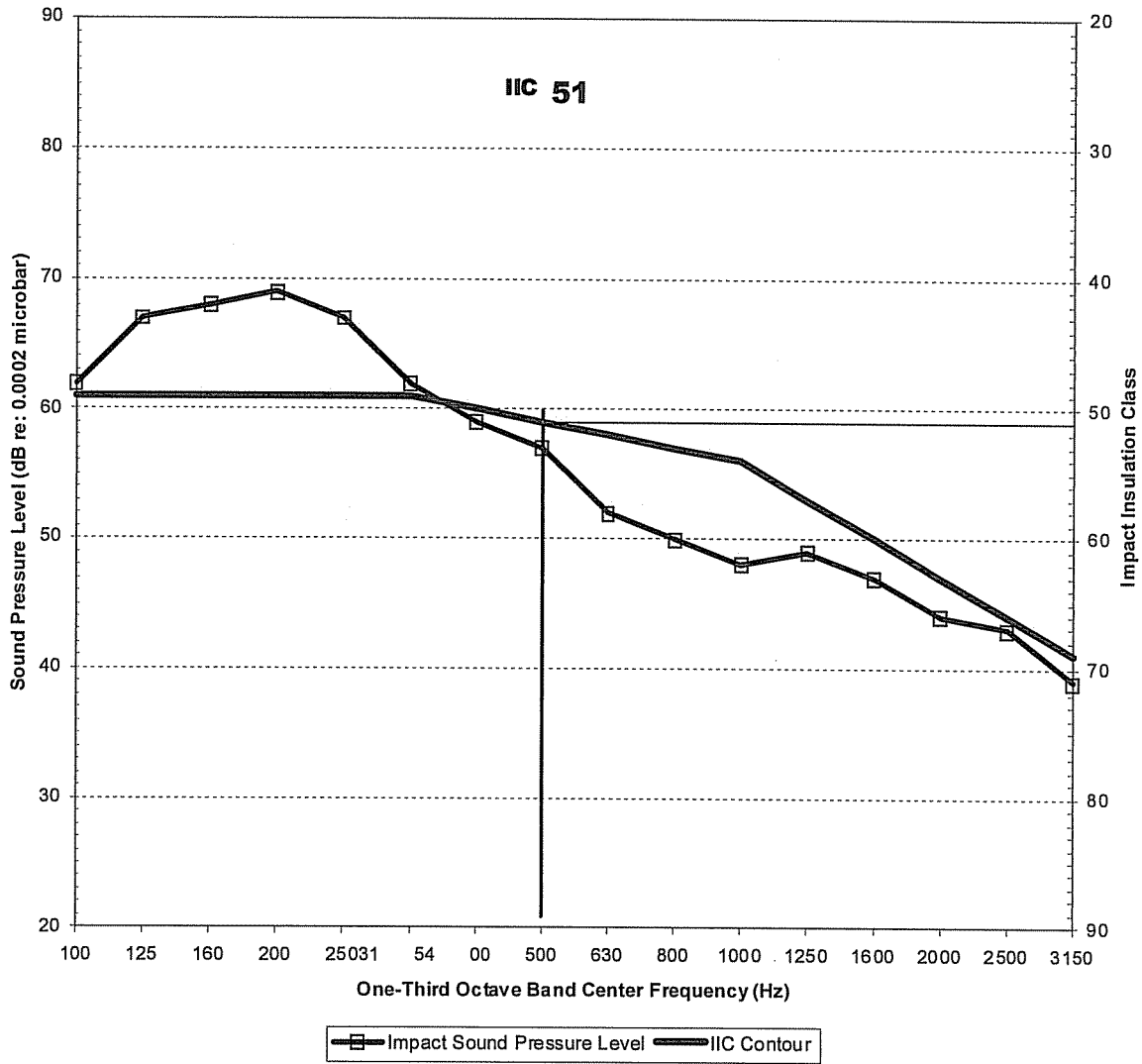
The 95% uncertainty level for each tapping machine location is less than 3 dB for the 1/3 octave bands centered in the range from 100 to 400 Hz and less than 2.5 dB for the bands centered in the range from 500 to 3150 Hz.

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.

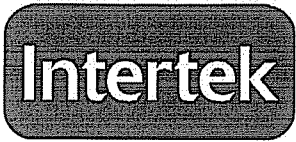


CERAMIC TILES OVER dB-4 FLOORING UNDERLAYMENT OVER 6 INCH CONCRETE

Impact Insulation Class



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REMARKS

- 1. Curing Period: None.
- 2. Ambient Temperature: 70°F
- 3. Relative Humidity: 25%

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 31, 2009

Report Approved by:

Brian Cyr
Engineer
Acoustical Testing

Report Reviewed By:

James R. Kline
Engineer/Quality Supervisor
Acoustical Testing

Attachments: None