



# Acoustical Surfaces, Inc.

**SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS**

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Order No. J20052639

July 5, 2001

REPORT NO. J20052639-003

**FIELD IMPACT SOUND TRANSMISSION TEST  
AND CLASSIFICATION OF FLOORING  
OVER AN EIGHT INCH THICK CONCRETE  
SLAB FLOOR/CEILING**

**RENDERED BY MANUFACTURER AND RELEASED TO:**

**ACOUSTICAL SURFACES INC.  
123 COLUMBIA COURT NORTH • SUITE 201  
CHASKA, MN 55318**

## INTRODUCTION

This report gives the results of a Field Impact Sound Transmission test and Classification of flooring over an eight inch thick concrete slab floor/ceiling. The testing was performed in a multi-level building under construction located at 28099 Perdido Beach Blvd., Orange Beach, AL 36561.

## AUTHORIZATION

Purchase Order No. 9216.

## TEST METHOD

The specimen was tested in accordance with the American Society for Testing and Materials designations ASTM E1007-97, "Standard Test Method for Field Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures", and classified in accordance with ASTM E989-89 (Re-approved 1999), 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 and associated supporting structures in field situations. A standard tapping machine (B&K Type 3204) was placed at four positions on the test specimen which formed the horizontal separation between two rooms, one directly above the other. The data obtained was normalized to reference room absorption of 10 square meters in accordance with the test method.

The standard also prescribes a single-figure classification rating called “Field Impact Insulation Class, FIIC”, which can be used by architects, builders, and code authorities for acoustical design purposes in building construction.

The FIIC 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 FIIC rating, the lower the impact sound transmission through the floor-ceiling assembly.

## **DESCRIPTION OF TEST SPECIMEN**

The test specimen consisted of Armstrong Laminate Flooring over Quiet Floor™ Underlayment over the 8 inch thick post tension slab (4000 psi) concrete subfloor.

The description of the test specimen was supplied by the client.

The receiving room had a volume of approximately 61 m<sup>3</sup> and contained surfaces of sheetrock, concrete and glass.



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### RESULTS OF TEST

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

1/3 Octave Band Center Frequency Hz	1/3 Octave Band Sound Pressure Level dB re 0.0002 Microbar
100	53.7
125	56.8
160	54.9
200	59.9
250	54.6
315	59.5
400	51.8
500	46.0
630	45.0
800	38.6
1000	34.0
1250	35.8
1600	35.4
2000	32.8
2500	31.8
3150	26.8

Field Impact Insulation Class (FIIC)

60

### REMARKS

Ambient Temperature: 86°F

Relative Humidity: 74%



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## 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: June 21, 2001

Report Approved By:

James R, Kline, Technician  
Acoustical Testing