



Acoustical Surfaces, Inc.

SOUNDPROOFING, ACOUSTICS, NOISE & VIBRATION CONTROL SPECIALISTS

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Order No. J99031102

December 10, 1999

REPORT NO. J99031102-004

IMPACT SOUND TRANSMISSION TEST AND CLASSIFICATION OF A SAMPLE OF LAMINATE FLOORING WITH QUIET FLOOR™ UNDERLAYMENT

RENDERED BY THE MANUFACTURER AND RELEASED TO:

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

INTRODUCTION

This report gives the results of an Impact Sound Transmission test on one sample of laminate flooring with Quiet Floor™ underlayment. The sample was selected and supplied by the client and was received at the laboratories on December 3, 1999. The sample appeared to be in new, unused condition upon arrival.

AUTHORIZATION

Purchase Order No. 141737.

TEST METHOD

The specimen was tested in accordance with the American Society for Testing and Materials designations ASTM E492-90, "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 1994), 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 six inch thick concrete test floor that forms the horizontal separation between two rooms, one directly above the other.

The drop ceiling consisted of 14 inch deep steel bar joists spaced 38 inches on center. The ceiling construction consisted of 2 x 4 inch wood bolted to the bar joists. The 2 x 4 inch wood was spaced 24 inches on center. Resilient channels (1/2 inch single leaf) were positioned on 16 inch centers between the furring strips and the 1/2 inch gypsum board. Sound attenuation batts (U.S.G. Thermofiber), four (4) inches in thickness were placed between the joists in the formed cavity. The receiving room below measured 1440 cubic feet. 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 TEST SPECIMEN

The test specimen consisted of an 6 X 6 foot sample of the following combination:

Flooring

Flooring Underlayment

Laminate
Flooring

Quiet Floor™ (1/8 inch thick)



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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 Hz	1/3 Octave Band Sound Pressure Level dB re 0.0002 Microbar Normalized to $A_o=10$ sq. M.
100	60
125	58
160	61
200	58
250	56
315	58
400	51
500	44
630	41
800	36
1000	30
1250	27
1600	22
2000	20
2500	20
3150	18

Impact Insulation Class (IIC)

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RESULTS OF TEST

1. Aging Period: None
2. Ambient Temperature: 68°F
3. Relative Humidity: 40%



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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: December 7, 1999

Report Approved By:

Norman H Bay, Manager
Acoustical Testing