



REPORT

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3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 3176443

Date: March 24, 2009

REPORT NO. 3176443CRT-002

**IMPACT SOUND TRANSMISSION TEST AND
CLASSIFICATION OF VINYL FLOORING OVER
VC300 UNDERLAYMENT
ON A WOOD JOIST FLOOR/CEILING ASSEMBLY**

RENDERED TO

**SOUND SEAL, INC.
50 HP ALMGREN DRIVE
AGAWAM, MA 01001**

INTRODUCTION

This report gives the results of an Impact Sound Transmission Test and Classification on vinyl flooring over VC300 underlayment over a wood joist floor/ceiling assembly with a 1½ inch gypsum concrete topping. The underlayment was selected and supplied by the client and received at the laboratories on March 23, 2009. The sample appeared to be in new, unused condition upon arrival.

AUTHORIZATION

Signed Intertek Quotation No. 500141931.

TEST METHOD

The specimen 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 E989-06, entitled, "Standard Classification for Determination of Impact Insulation Class (IIC)".

GENERAL

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 3207) 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 test floor is a 100 sq. ft. opening that forms the horizontal separation of the two rooms, one directly above the other. The structural members are open webbed wood floor trusses, 16 inches deep installed 24 inches on center. The sub flooring is 5/8 inch thick plywood. The bridging is a continuous 2 x 4 nailed to the bottom chord and the sides of the diagonals with 2 inch long nails. Single leaf RC-1 resilient channels (2½ inch x ½ inch) were spaced 16 inches on center and attached to the bottom chord by screws. The insulation is 5½ inches of fiberglass. The ceiling is gypsum board, 5/8 inches thick, with the long edges located between the joists perpendicular to the resilient channels. Short edges are staggered by 4 ft. Sheets are fastened to the resilient channels by means of 1½ inch screws located ½ inch away from the edge and 3 inches from the long edges; screws are spaced 6 inches on center. Joints are taped and finished with two layers of compound.

The topping over the plywood sub-floor is 1½ inches of gypsum concrete.

DESCRIPTION OF TEST SPECIMEN

The test specimen consisted of a vinyl floor over VC300 underlayment. The vinyl was 0.09 inches in thickness and weighed 0.45 lbs/sq. ft. The underlayment was 0.125 inches in thickness and weighed 0.30 lbs/sq. ft.

RESULTS OF TEST

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 Hz</u>	<u>1/3 Octave Band Sound Pressure Level dB re 0.0002 Microbar</u>
100	63
125	59
160	60
200	61
250	63
315	62
400	57
500	53
630	44
800	32
1000	24
1250	23
1600	23
2000	23
2500	24
3150	25
Impact Insulation Class (IIC)	55

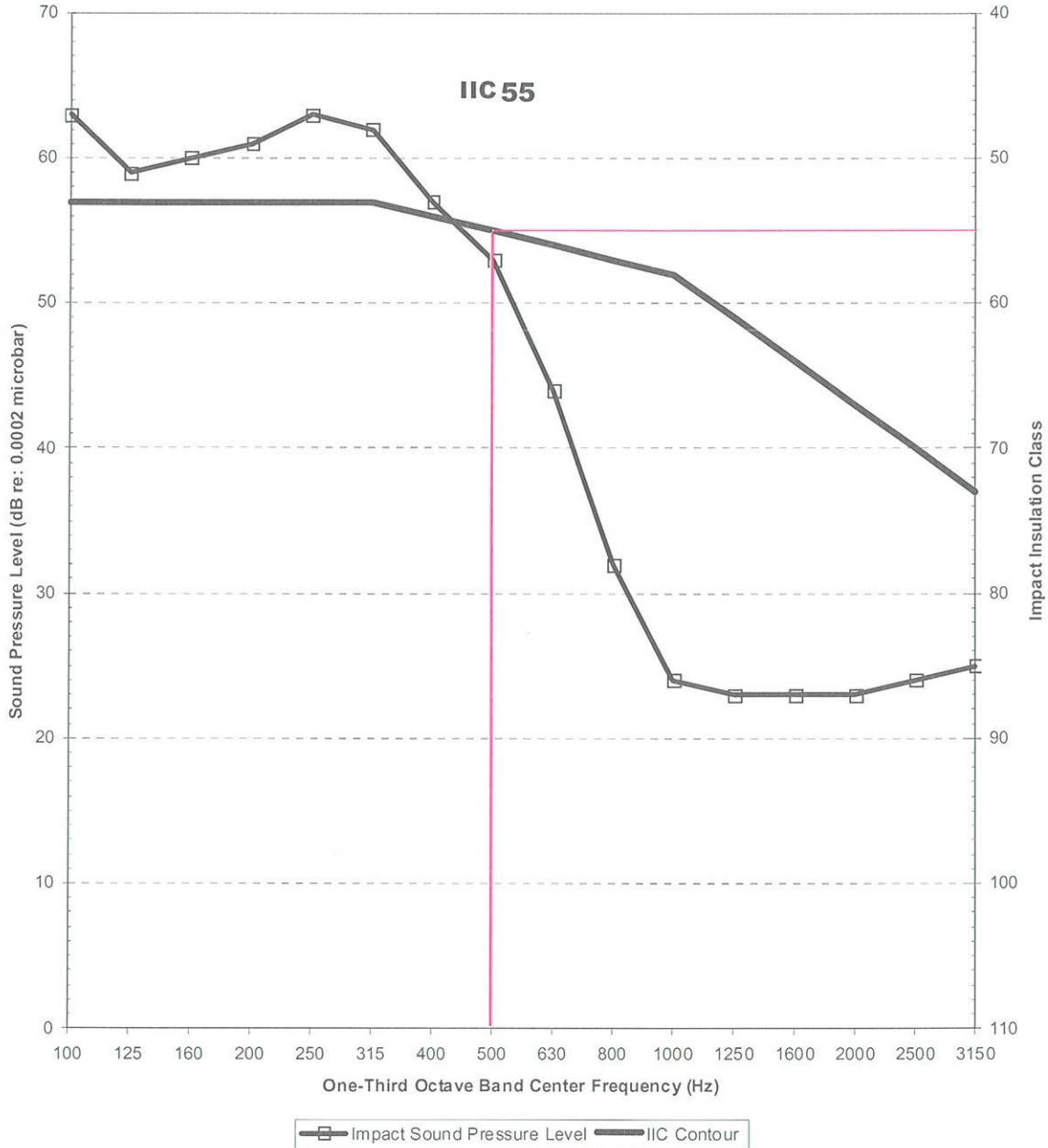
The 95% uncertainty level for each tapping machine location is less than 3 dB for the 1/3 octave bands centered in the range from 100 to 400 Hz and less than 2.5 dB for the bands centered in the range from 500 to 3150 Hz.

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.

RESULTS OF TEST (cont'd)

VINYL FLOORING OVER VC300 UNDERLAYMENT

Impact Insulation Class



SOUND SEAL, INC.

REMARKS

1. Aging Period: 7 Days, Gypsum Concrete.
2. Ambient Temperature: 70°F
3. Relative Humidity: 31%

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.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test: March 24, 2009

Report Approved by:



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Engineer
Acoustical Testing

Report Reviewed By:



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Attachments: None