



REPORT

3933 US ROUTE 11 CORTLAND, NEW YORK 13045

Order No. 100206852

Date: October 8, 2010

REPORT NO. 100206852CRT-002

**IMPACT SOUND TRANSMISSION TEST ON
1/2 INCH ENGINEERED HARDWOOD FLOORING OVER
INSULAYMENT UNDERLAYMENT
OVER A SIX INCH CONCRETE SLAB**

RENDERED TO

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INTRODUCTION

This report gives the result of an Impact Sound Transmission test ½ inch engineered hardwood flooring over Insulayment underlayment. The sample was selected and supplied by the client and received at the laboratories on September 29, 2010. The sample appeared to be in new, unused condition upon arrival.

AUTHORIZATION

Intertek Quote No. 500254824.

TEST METHOD

The specimen was tested in general accordance with the American Society for Testing and Materials designation ASTM E2179-09, "Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors".

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TEST METHOD – Cont'd

Two vertically adjacent rooms are used: the upper one being designated the source room and the lower one the receiving room (10,000 ft³). A standard concrete floor is installed in an opening between them. The rooms and the floor installation are designed so the only significant sound radiation into the receiving room is from the standard concrete floor.

A standard tapping machine is placed and activated on the standard concrete floor and the impact sound pressure levels are measured in the room below. The floor covering to be evaluated is then placed on the standard concrete floor and the impact sound pressure levels measured again.

The differences in impact sound pressure level are used to calculate two single number ratings. The first is an IIC rating calculated for the covering installed on the reference concrete floor. The second rating, Δ IIC, represents the calculated reduction in IIC when the covering is placed on the reference concrete floor, that is the improvement in IIC due to the covering.

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 ½ inch thick engineered hardwood flooring over Insulayment fiber pad underlayment. The ½ inch thick engineered hardwood flooring planks were 5 inches wide in random lengths and weighed 1.58 lbs/sq. ft. The flooring was identified as Virginia Mill Works Co. VMHS ENG Potomac Plank Birch ½ x 5. The underlayment was 0.11 inches thick and weighed 0.16 lbs/sq. ft. The underlayment and engineered hardwood were adhered with Bostik Ultra-Set SingleStep hardwood adhesive, moisture vapor, and sound protection.



RESULTS OF TESTS

1/3 Octave Band Center Frequency <u>Hertz</u>	<u>1/3 Octave Band Sound Pressure Level dB re 0.0002 Microbar</u>				
	Bare Concrete	Floor Tested	Difference in dB	Reference Floor	Final Array
100	65.5	64.7	0.8	67.0	66.2
125	69.0	68.6	0.4	67.5	67.1
160	71.3	70.1	1.2	68.0	66.8
200	72.0	71.5	0.5	68.5	68.0
250	73.1	71.7	1.4	69.0	67.6
315	74.1	72.1	2.0	69.5	67.5
400	74.1	70.9	3.2	70.0	66.8
500	74.6	68.8	5.8	70.5	64.7
630	74.7	64.5	10.2	71.0	60.8
800	75.8	59.7	16.1	71.5	55.4
1000	77.0	57.2	19.8	72.0	52.2
1250	79.0	51.9	27.1	72.0	44.9
1600	80.9	47.8	33.1	72.0	38.9
2000	83.4	47.9	35.5	72.0	36.5
2500	83.2	45.9	37.3	72.0	34.7
3150	82.9	45.2	37.7	72.0	34.3

Impact Insulation Class (IIC)* 48

Calculated improvement in Impact Insulation Class: IIC 48 – IIC 28 = △ IIC 20

*Classified in accordance with ASTM E989-06, entitled, “Standard Classification for Determination of Impact Insulation Class (IIC)”.

The uncertainty limit of the impact noise test data 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 on the range from 500 to 3150 Hz.



REMARKS

- 1. Ambient Temperature: 70 °F
- 2. Relative Humidity: 54%

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: October 8, 2010

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Attachments: None