

Client Nordic Engineered Wood
1100 Ave des Canadiens-de-Montreal
Montreal QC H3B 2S2

Specimen Small patch of laminate floor on Roberts Soft Stride on 38 mm precast concrete slab on 17 mm SonusWave placed on a OSB wood raft on top of glulam decking (89 mm)

Specimen ID A1-008253-35SF

Construction Date April 14, 2016

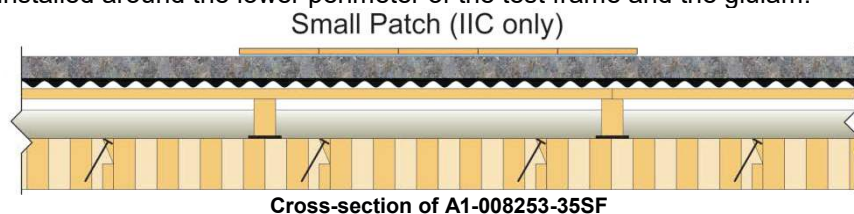
Specimen Description

Covering (small patch): 8 mm click laminate flooring was installed on Roberts® Soft Stride closed cell foam. The patch covered an approximate area of 4 m² in the middle of the floor.

Topping: A 38 mm (1-1/2") precast concrete slab was placed on 17 mm Regupol® SonusWave™ on top of 18 mm (23/32") OSB sheeting. The OSB sheets screwed down with the long side perpendicular to the 38 mm x 64 mm (2x3) wood battens, with the narrow side down, using 50 mm (2") long #10 wood screws spaced 150 mm (6") o.c. along the edges and 200 mm (8") o.c. in the field. Wood battens spaced at 610 mm (24") o.c. and glued to 10 mm rubber membrane were installed at the bottom.

Fill: A 6 mil polyethylene sheet was put down on the CLT and the wood batten and resilient layer were installed directly on top (floating). 50 mm (2") of dry silica sand (#71) filled the cavity of the batten leaving a 12 mm (1/2") air gap between the OSB and the sand.

Glulam Decking: The specimen was composed of 13 glued-laminated timber (glulam) decking panels nominally 384 mm wide x 89 mm thick x 3890 mm long (15" x 3-1/2" x 153"). The combined panels filled the entire floor opening of the test frame. The glulam decking panels were joined using 90 mm (3-1/2") long common nails spaced 300 mm (12") on centre along the joints. The glulam decking floor was resting on the lip of the test frame and was not fastened to the test frame. The air gaps between the edges of the glulam decking floor and the test frame were filled with glass fiber insulation and covered with cloth tape. Duct putty was installed around the lower perimeter of the test frame and the glulam.



Specimen Properties

Element	Actual thickness (mm)	Mass (kg)	Mass/length, area or volume
8 mm Click Laminate Flooring	8	*	8.6 kg/m ²
2 mm Roberts® Soft Stride Closed Cell Foam	2	*	0.1 kg/m ²
38 mm Precast Concrete Slab	38	1 905	98.6 kg/m ²
17 mm Regupol® SonusWave™	17	157	8.1 kg/m ²
18 mm OSB Tongue and Groove Sheeting	18	202	10.5 kg/m ²
38 mm x 64 mm Wood Battens	64	47	0.3 kg/m
10 mm Rubber Membrane	10	21	7.7 kg/m ²
50 mm Silica Sand (#71)	*50	1 385	77.2 kg/m ²
6 mil Polyethylene Sheeting	0	2	0.1 kg/m ²
89 mm Glulam Decking	89	971	50.2 kg/m ²
Total	246	*	251.5 kg/m²

* Mass of small patch not added to total floor mass.

Test Results – Normalized Impact Sound Pressure Levels (Non-Standard)

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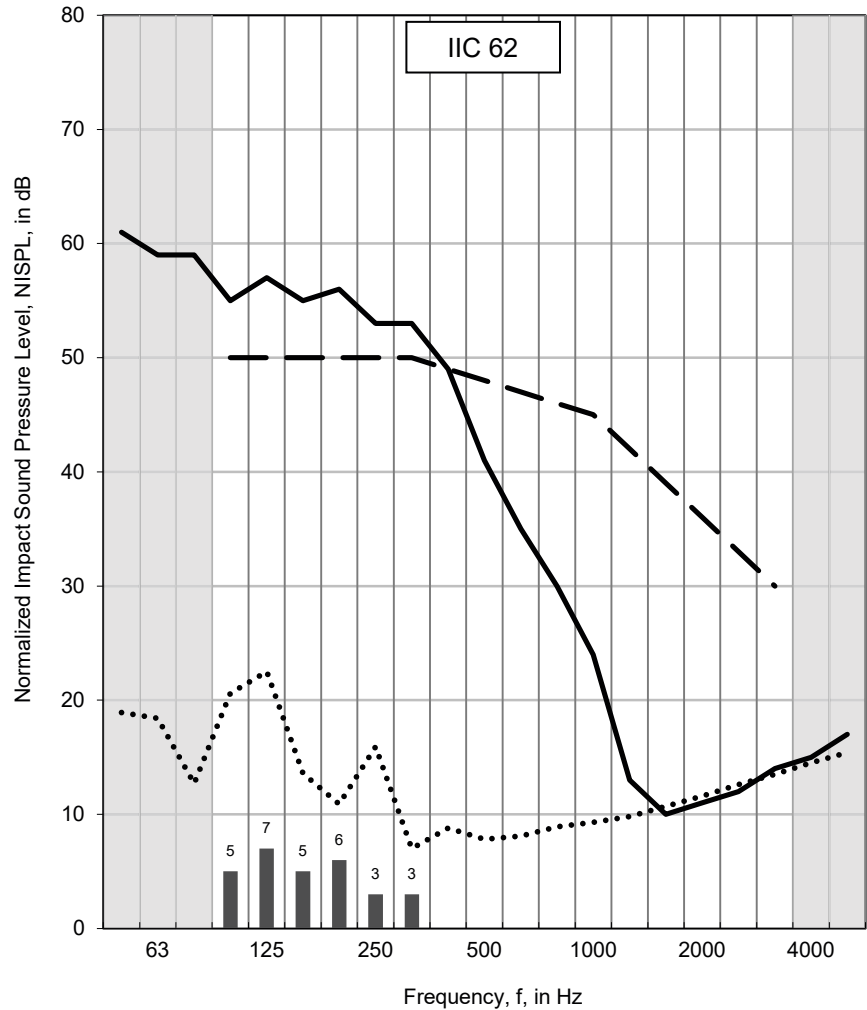
Test ID: IIF-16-028
Date of Test: April 14, 2016

Room	Volume (m³)	Air Temperature (°C)	Humidity (%)
Upper	174.9	23.5 to 23.7	22.6 to 28.3
Lower	177.1	17.8 to 17.8	36.8 to 36.9

Area S of test specimen:	17.85 m²
Mass per unit area:	251.5 kg/m²

f (Hz)	NISPL (dB)
50	61
63	59
80	59
100	55
125	57
160	55
200	56
250	53
315	53
400	49
500	41
630	35
800	30
1000	24
1250	13 *
1600	10 *
2000	11 *
2500	12 *
3150	14 *
4000	15 *
5000	17 *
Impact Insulation Class (IIC)	62

Sum of Positive Differences (dB)	29
Max. Positive Difference (dB)	7 dB at 125 Hz



For a description of the test specimen and mounting conditions see text pages before. The results in this report apply only to the specific sample submitted for measurement. No responsibility is assumed for performance of any other specimen. **Measurements of normalized impact sound pressure level (NISPL) were conducted following ASTM E492-09, “Standard Laboratory Measurement of Impact Sound Transmission through Floor-Ceiling Assemblies Using the Tapping Machine” but had a small patch of covering material instead of full surface coverage.**

In the graph:

The solid line is the measured normalized impact sound pressure level (NISPL) for this specimen. The dashed line is the IIC contour fitted to the measured values according to ASTM E989-06. The dotted line is the background sound level measured in the receiving room during this test (may be below the displayed range). For any frequency where the measured NISPL is less than 10 dB above the dotted line, the reported values were adjusted as noted below. Bars at the bottom of the graph show positive differences; where the measured data are greater than the reference contour as defined in ASTM E989-06. Shaded cells in the table and areas in the graph are outside the IIC contour range.

In the table:

Values marked “c” indicate that the measured background level was between 5 dB and 10 dB below the combined receiving room level and background level. Values marked “*” indicate that the measured background level was less than 5 dB below the combined receiving room level and background level and the reported values of NISPL provide an estimate of the upper limit of normalized impact sound pressure level, according to the procedure outlined in ASTM E492-09. The reported values of NISPL have been corrected according to the procedure outlined in ASTM E492-09.