

**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 (no sand) with glass fiber batts on top of a CLT 5 ply (131 mm)

**Specimen ID** A1-008253-32SF

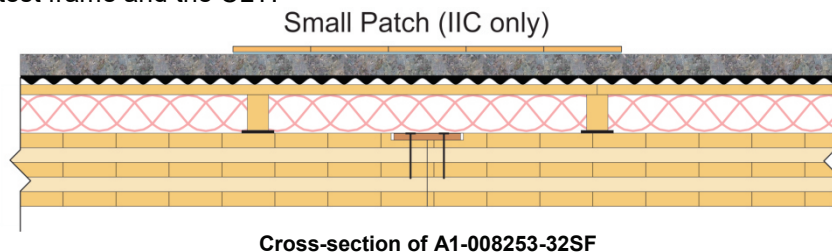
**Construction Date** April 8, 2016

**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 m<sup>2</sup> 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 OSB sheathing. The 18 mm (23/32") OSB sheathing was screwed down with the long side perpendicular to 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 running along the short direction (3978 mm) and spaced at 610 mm (24") o.c. and glued to strips of 10 mm thick rubber membranes at the bottom. 65 mm (2-1/2") glass fibre insulation batts were placed in the cavity.

CLT Floor: The specimen was composed of two cross-laminated timber (CLT) 5 ply panels (131 mm thick x 1989 mm wide x 4872 mm long) with a butt joint in the middle of the floor. The combined panels filled the entire floor opening of the test frame. The two CLT panels were joined using a 120 mm wide x 12 mm thick plywood strip spanning the full joint (4.9 m). The plywood strip was nailed with common nails 75 mm (3") long spaced 305 mm (12") on centre along the joint with beads of PL premium adhesive between the plywood strip and the CLT panels. The CLT 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 CLT 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 CLT.



**Specimen Properties**

| Element                                    | Actual thickness (mm) | Mass (kg) | Mass/length, area or volume   |
|--|-----------------------|-----------|-------------------------------|
| 8 mm Click Laminate Flooring               | 8                     | *         | 8.6 kg/m <sup>2</sup>         |
| 2 mm Roberts® Soft Stride Closed Cell Foam | 2                     | *         | 0.1 kg/m <sup>2</sup>         |
| 38 mm Precast Concrete Slab                | 38                    | 1 905     | 98.6 kg/m <sup>2</sup>        |
| 17 mm Regupol® SonusWave™                  | 17                    | 157       | 8.1 kg/m <sup>2</sup>         |
| 18 mm OSB Tongue and Groove Sheathing      | 18                    | 202       | 10.5 kg/m <sup>2</sup>        |
| 38 mm x 64 mm Wood Battens                 | 64                    | 47        | 0.3 kg/m                      |
| 65 mm Glass Fibre Insulation Batts         | *65                   | 13        | 0.7 kg/m <sup>2</sup>         |
| 10 mm Rubber Membrane                      | 10                    | 21        | 7.7 kg/m <sup>2</sup>         |
| 131 mm CLT 5 ply                           | 131                   | 1 343     | 69.3 kg/m <sup>2</sup>        |
| <b>Total</b>                               | <b>288</b>            | <b>*</b>  | <b>271.3 kg/m<sup>2</sup></b> |

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

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

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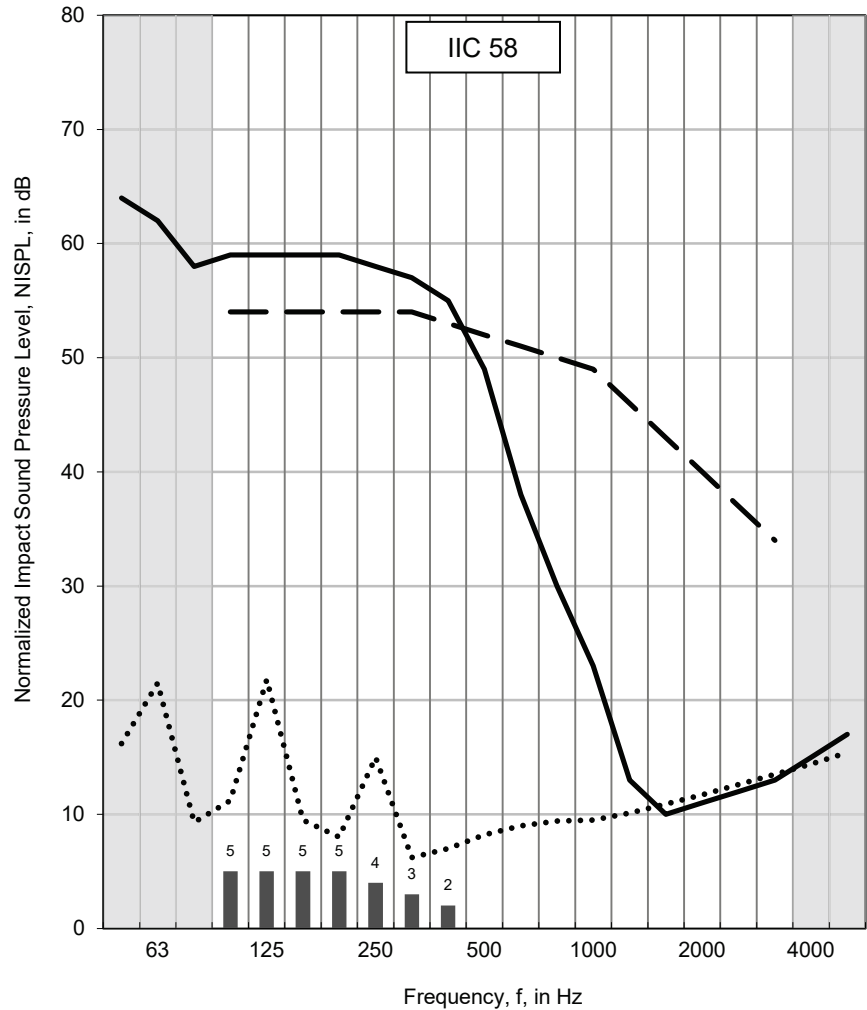
**Test ID:** IIF-16-025  
**Date of Test:** April 8, 2016

| Room  | Volume (m³) | Air Temperature (°C) | Humidity (%) |
|-------|-------------|----------------------|--------------|
| Upper | 174.4       | 21.6 to 21.7         | 27.9 to 29.2 |
| Lower | 176.9       | 17.9 to 18.0         | 36.7 to 36.9 |

|                                 |             |
|---------------------------------|-------------|
| <b>Area S of test specimen:</b> | 17.85 m²    |
| <b>Mass per unit area:</b>      | 271.3 kg/m² |

| f (Hz)                               | NISPL (dB) |
|--------------------------------------|------------|
| 50                                   | 64         |
| 63                                   | 62         |
| 80                                   | 58         |
| 100                                  | 59         |
| 125                                  | 59         |
| 160                                  | 59         |
| 200                                  | 59         |
| 250                                  | 58         |
| 315                                  | 57         |
| 400                                  | 55         |
| 500                                  | 49         |
| 630                                  | 38         |
| 800                                  | 30         |
| 1000                                 | 23         |
| 1250                                 | 13 *       |
| 1600                                 | 10 *       |
| 2000                                 | 11 *       |
| 2500                                 | 12 *       |
| 3150                                 | 13 *       |
| 4000                                 | 15 *       |
| 5000                                 | 17 *       |
| <b>Impact Insulation Class (IIC)</b> | <b>58</b>  |

|   |                                  |
|---|----------------------------------|
| <b>Sum of Positive Differences (dB)</b> | 29                               |
| <b>Max. Positive Difference (dB)</b>    | 5 dB at 100, 125, 160 and 200 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.