RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

TEST REPORT

FOR: LATICRETE International, Inc.
Bethany, CT

Floor Covering Impact Reduction Test
RAL™-IFC08-022

ON: Ceramic Tile and LATICRETE® 125 Sound & Crack Adhesive

CONDUCTED: 1 May 2008

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E2179-03 and E989-06, as well as other pertinent standards. Riverbank Acoustical Laboratories has been accredited by the U.S. Department of Commerce, National Institute of Standards and Technology (NIST) under the National Voluntary Laboratory Accreditation Program (NVLAP) for this test procedure (NVLAP Lab Code: 100227-0). A description of the measuring procedure and room qualifications is available separately. The measurements were recorded using a real time analyzer and a rotating microphone boom incorporating a spatial average. The rotation speed of the boom was set at 64 seconds per revolution and the linear integration time of the analyzer was set at 150 seconds. The impact sound pressure levels (ISPL) were measured for each of the twenty-one standard one-third octave bands from 50 Hz through 5000 Hz for both the standard concrete slab and the provided specimen. The laboratory's standard concrete floor is a fully cured 152 mm (6 in.) thick concrete floor installed directly in the laboratory's 4.27 m (14 ft) by 6.10 m (20 ft) test opening. The floor was sealed on the periphery (both sides) with a dense mastic. A description of the measurement procedure is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated as ceramic tile and LATICRETE® 125 Sound & Crack Adhesive. The test specimen was classified as Category II (rigid homogenous or complex surface materials) and was comprised of 6 mm (0.25 in.) thick ceramic tile in thin set mortar. The floor consisted of glazed ceramic tile. Each tile measured 298 mm (11.75 in.) wide by 298 mm (11.75 in.) long by 6 mm (0.25 in.) thick. The tiles were set using LATICRETE 125 Sound & Crack Adhesive with a 1/4 x 3/8 x 1/4 square notch trowel and LATICRETE SpectraLOCK® Pro Grout and allowed to age in excess of 9 days. The total weight of the ceramic tile floor and underlayment as calculated was 515.5 kg (233.8 lbs).

MOUNTING

The specimen was loose laid over the laboratory's standard concrete floor. The source and receiving room temperatures at the time of the test were 23±1ºC (74±1ºF) and 50±3% relative humidity. The receive reverberation room volume was 87 m^3 (3,072 ft^3).

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TEST RESULTS

1/3 Octave Center Frequency (Hz)	Impact SPL, L_o, Bare Standard Concrete Floor (dB)	Impact SPL, L_c, Floor Covering Installed (dB)	Reduction in Impact SPL, L_d, ($L_o - L_c$), (dB)	Impact SPL of Floor Covering on a Reference Concrete Slab, $L_{ref,c}$, (dB)
50	66.4	66.5	-0.2	-----
63	63.7	62.6	1.2	-----
80	62.9	59.0	3.9	-----
100	67.0	66.2	0.9	67.0
125	69.2	68.4	0.8	67.5
160	70.0	70.4	-0.4	68.0
200	71.6	72.2	-0.6	68.5
250	74.5	72.5	2.0	69.0
315	74.3	74.4	0.0	69.5
400	75.9	75.9	0.0	70.0
500	76.1	75.4	0.7	70.5
630	75.3	74.5	0.7	71.0
800	77.9	73.1	4.9	71.5
1000	78.2	72.5	5.7	72.0
1250	78.8	70.2	8.7	72.0
1600	79.6	68.6	11.0	72.0
2000	78.4	64.7	13.8	72.0
2500	77.4	60.9	16.5	72.0
3150	76.5	56.2	20.3	72.0
4000	73.4	51.3	22.2	-----
5000	69.4	46.1	23.3	-----

Increase in Impact Insulation Class $\Delta IIC = 15$

Impact Insulation Class, IIC_c for $L_{ref,c}$ $IIC_c = 43$

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TEST RESULTS

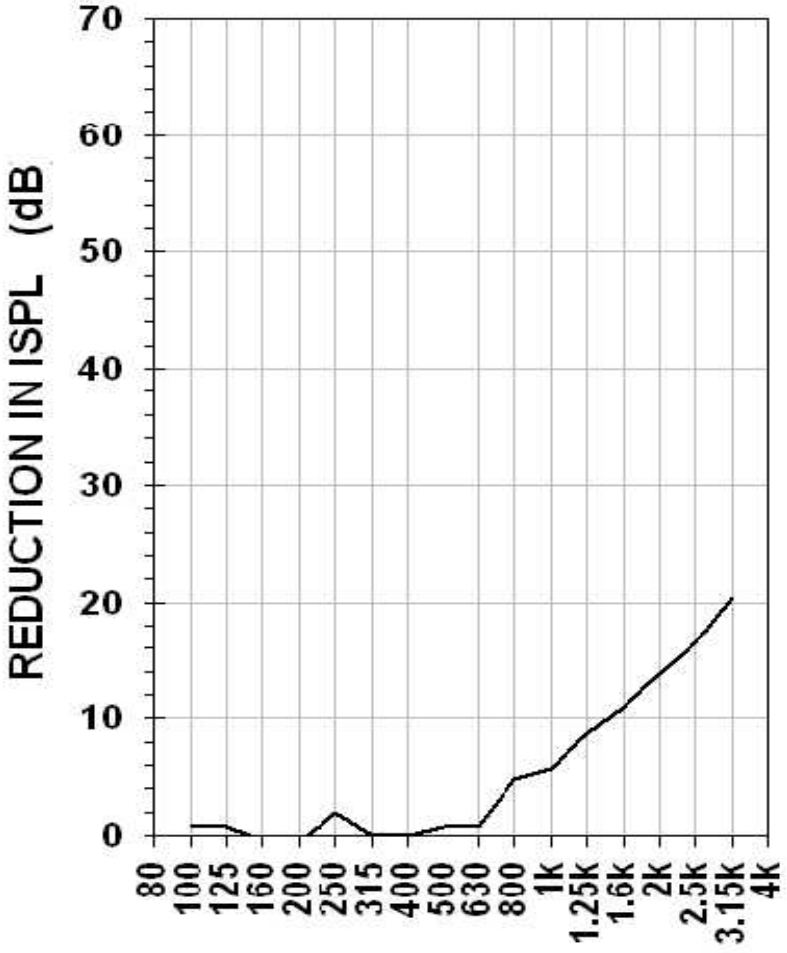
The measured impact sound pressure levels (ISPL) are tabulated in each of the twenty-one standard one-third octave bands from 50 Hz through 5000 Hz for both the standard concrete slab and the three sample materials. The reduction in ISPL calculated for the floor covering has been applied to a reference concrete floor with an IIC = 28 as described in the standard. The increase in impact insulation class, ΔIIC as well as the IIC_c for the floor covering on a reference concrete slab has also been calculated. An * indicates that the value has been adjusted for background noise levels and reflects a lower limit. A graphic presentation of the data appears on the following page.

Tested by _____ Approved by _____

Dean Victor
Senior Experimentalist

David L. Moyer
Laboratory Manager

FLOOR COVERING
IMPACT REDUCTION REPORT
RAL-IFC08-022



IMPACT REDUCTION OF FLOOR COVERING ON A CONCRETE FLOOR