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TEST REPORT

For

MP Global Products, LLC
PO Box 2283
Norfolk, NE 68702
Robert Pratt / 888-379-9695

Sound Transmission Loss Test
ASTM E 90 – 04 / E 413 - 04
On

Laminate Flooring over Quiet Walk™ Underlayment on 6 Inch (152mm) Concrete Slab with Suspended Gypsum Board Ceiling

Report Number: NGC 5009040

Assignment Number: G-515

Test Date: 06/17/2009

Report Date: 07/14/2009

Submitted by: _____
Steven M. Armenia
Test Technician

Reviewed by: _____
Robert J. Menchetti
Director

Report Number: NGC 5009040

Test Method: This test method conforms explicitly with the American Society for Testing and Materials Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements - Designation: E 90 - 04 / E 413 - 04.

Specimen Description: 6 inch (152mm) concrete slab floor-ceiling assembly overlaid with, 8mm laminate flooring and Quiet Walk™ underlayment, with suspended grid 5/8 inch gypsum board ceiling system.

The test specimen was a floor-ceiling assembly consisting of the following:

- 1 layer of laminate flooring, 8mm (0.31 in.) thick, 200mm (7.86 in.) wide, 1208mm (47.56 in.) long planks. Sample weight was 7.29kg/m^2 (1.49 PSF).
- 1 layer of 3.0mm (0.121 in.) Quiet Walk™ underlayment. The sample weight was 0.68 kg/m^2 (0.14 PSF). Sample made of nonwoven fibers with layer of polyethylene film attached to top side. Joints were taped.
- 6 inch (152mm) thick reinforced concrete slab 366.1 kg/m^2 (75.0 PSF).
- 88.9mm (3-1/2 in.) fiberglass unfaced batt insulation. Sample weight was 0.68 kg/m^2 (0.23 PSF). The insulation was laid over the suspended grid system parallel with the Main Tee's.
- Gypsum board ceiling grid suspension system manufactured by Armstrong®. System is comprised of Main Tee's (part number HD8906E) and Cross Tee's (part number XL8945P). The main tees were placed 1218mm (48 in.) on center and the cross tees were placed 609mm (24 in.) on center. 16 gauge galvanized tie wire was used to attach the main tees to concrete anchors, located 1219mm (48 in.) o.c. along the longitudinal axis, suspending the grid 305mm (12 in.) below the concrete slab.
- 1 layer of 15.9mm (5/8 in.) Type X gypsum board. Sample was observed to be 15.9mm (0.628 in.) thick and weighed 11.2 kg/m^2 (2.3 PSF). The board was attached 304.8mm (12 in.) o.c. parallel to suspended grid suspension system mains, using 25.4mm (1 in.) fine thread bugle head drywall screws. The board joints were taped.

The overall weight of the test assembly is 386.4 kg/m^2 (79.16 PSF).

The perimeter of the concrete slab was sealed with rubber gasketing and a sand filled trough. The test assembly is structurally isolated from the receiving room.

Specimen size: 3658mm x 4877mm (12 ft x 16 ft.)

Conditioning: Concrete slab cured for a minimum of 28 days.

Test Results: The results of the tests are given on pages 3 and 4.

Sound Transmission Loss Test Data

Test: ASTM E 90 - 04 / ASTM E 413 - 04

No. of test report: NGC5009040 Date: 6/17/2009
Size: 17.84 m²

Source room
Volume V = 53.2 m³
Temperature [°C]: 23
Humidity [%]: 56

Receiving room
Volume V = 60.0 m³
Temperature [°C]: 22
Humidity [%]: 56

Sound Transmission Class STC = 66 dB

Sum of unfavorable deviations: 27.0 dB
Max. unfavorable deviation: 6.0 dB at 250 Hz

Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	T [s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
100	42	106.6	69.6	1.89	5.4	-.-	2.567
125	46	109.2	69.4	2.35	6.4	4	1.497
160	50	111.3	68.7	3.30	7.9	3	0.825
200	52	107.2	62.9	3.27	7.8	4	0.510
250	53	103.5	57.7	3.07	7.5	6	1.034
315	57	102.3	53.2	3.13	7.6	5	1.803
400	61	103.2	50.1	3.06	7.5	4	0.693
500	65	103.5	45.7	2.91	7.3	1	1.311
630	68	104.1	43.2	2.72	7.0	-.-	0.990
800	72	104.6	39.9	2.68	7.0	-.-	0.332
1000	75	102.1	34.1	2.49	6.6	-.-	0.332
1250	76	102.0	32.0	2.25	6.2	-.-	0.539
1600	78	103.4	31.3	2.17	6.0	-.-	0.500
2000	80	106.7	32.5	1.90	5.5	-.-	0.412
2500	80	108.7	34.2	1.71	5.0	-.-	0.742
3150	81	108.6	32.2	1.62	4.8	-.-	0.825
4000	82	107.0	29.2	1.43	4.2	-.-	1.292
5000	83	100.6	21.7	1.29	3.8	-.-	1.349

STL = Sound Transmission Loss, dB
L1 = Source Room Level, dB
L2 = Receiving Room Level, dB
T = Reverberation Time, seconds
Δ STL = Uncertainty for 95% Confidence Level

Sound Transmission Loss Test Data

Per: ASTM E 90 - 04 / ASTM E 413 - 04

No. of test report: NGC5009040
Test Date: 6/17/2009
Size: 17.84 m²

Sound Transmission Class STC = 66 dB

Frequency [Hz]	STL [dB]	ΔSTL
100	42	2.567
125	46	1.497
160	50	0.825
200	52	0.510
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315	57	1.803
400	61	0.693
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1000	75	0.332
1250	76	0.539
1600	78	0.500
2000	80	0.412
2500	80	0.742
3150	81	0.825
4000	82	1.292
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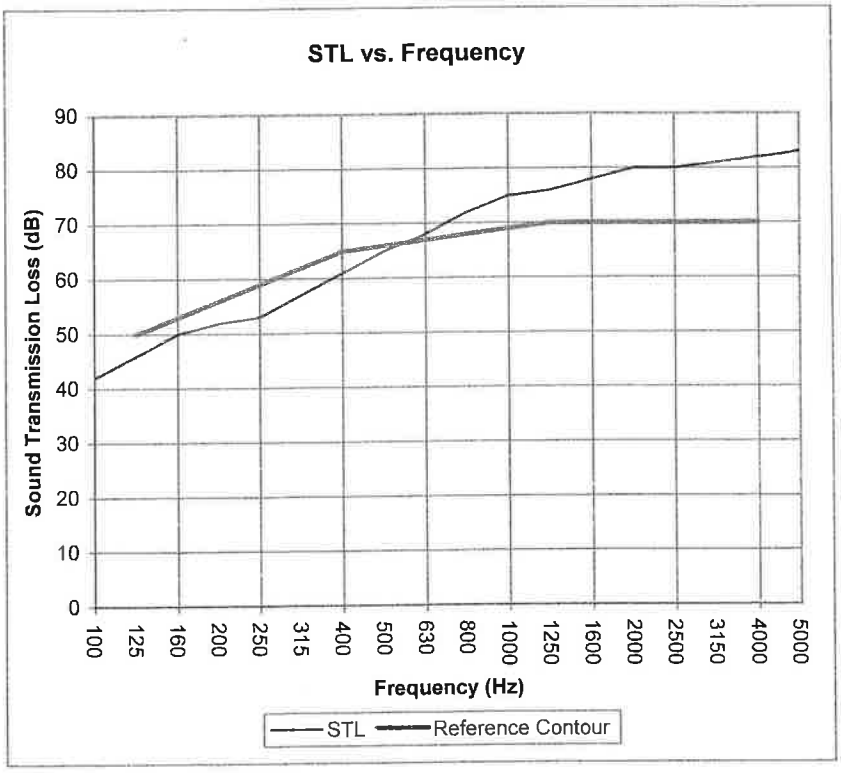

* Due to high insulating value of specimen, background levels limit results at these frequencies.

STL = Sound Transmission Loss, dB
Δ STL = Uncertainty for 95% Confidence Level