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TEST REPORT

for

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Sound Transmission Loss Test

ASTM E 90 – 04 / E 413 - 10
On

6 Inch (152 mm) Concrete Slab Floor-Ceiling Assembly
Overlaid with;
Laminated Flooring on Kronoswiss ProVent Underlayment

Report Number: NGC 5012009

Assignment Number: G-775

Test Date: 03/01/2012

Report Date: 05/22/2012

Submitted by: _____
Andrew E. Heuer
Senior Test Engineer

Reviewed by: _____
Robert J. Menchetti
Director

1650 Military Road • Buffalo, NY 14217-1198
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Report Number: NGC 5012009

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 - 10.

Specimen Description: 6 inch (152.4mm) concrete slab floor-ceiling assembly overlaid with laminate wood flooring on, according to client, Kronoswiss ProVent underlayment.

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

- 1 layer of laminate wood flooring, nominal plank size: 8mm (0.315 in.) thick, 199.6 mm (7.86 in.) wide, 1208.0mm (47.56 in.) long. Sample weight was 7.08 kg/m^2 (1.45 PSF).
- 1 layer of, according to client, Kronoswiss ProVent underlayment. Observed to be: 3.15mm (0.124 in.) thick, weighing 0.1 kg/m^2 (0. 02 PSF). The seams were butted and taped together.
- 6 inch (152.4mm) thick reinforced concrete slab 366.2 kg/m^2 (75.0 PSF).

The overall weight of the test assembly is 373.3 kg/m^2 (76.47 PSF).

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

Specimen size: 3657.6 mm x 4876.8 mm (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.

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Sound Transmission Loss Test Data

Test: ASTM E 90 - 04 / ASTM E 413 - 10

Test Report: NGC5012009 Date: 3/1/2012

Specimen Size [m²]: 17.8

Source room		Receiving room	
Volume [m³]:	53.2	Volume [m³]:	63.9
Rm Temp [°C]:	15.5	Rm Temp [°C]:	16.5
Humidity [%]:	46	Humidity [%]:	57

Sound Transmission Class STC [dB]: 49

Sum of Unfavorable Deviations [dB]: 28

Max. Unfavorable Deviation [dB]: 8 at 400 Hz

Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
100	32	105.0	81.1	15.9	8.1		3.09
125	36	105.1	76.9	16.2	7.8		2.65
160	35	108.3	81.9	15.8	8.7	1	2.41
200	37	106.9	78.7	15.2	8.8	2	0.65
250	41	106.2	73.0	17.5	7.8	1	0.96
315	39	102.3	70.8	18.2	7.6	6	0.89
400	40	100.4	67.6	19.1	7.2	8	1.04
500	45	101.1	63.8	19.4	7.8	4	0.74
630	48	103.0	61.6	21.2	6.7	2	0.68
800	50	102.9	59.9	21.5	7.0	1	0.33
1000	51	99.9	55.6	23.7	6.7	1	0.64
1250	51	97.0	51.6	26.1	5.6	2	0.31
1600	55	99.0	49.4	27.9	5.4		0.59
2000	59	100.3	46.5	30.3	5.2		0.53
2500	58	101.3	48.4	33.1	5.0		0.60
3150	55	100.3	49.5	37.2	4.2		1.08
4000	57	97.7	44.6	43.7	3.9		1.44
5000	60	91.9	35.3	50.4	3.4		1.69

STL = Sound Transmission Loss, dB
L1 = Source Room Level, dB
L2 = Receiving Room Level, dB
d = Decay Time, dB/second
Δ STL = Uncertainty for 95% Confidence Level

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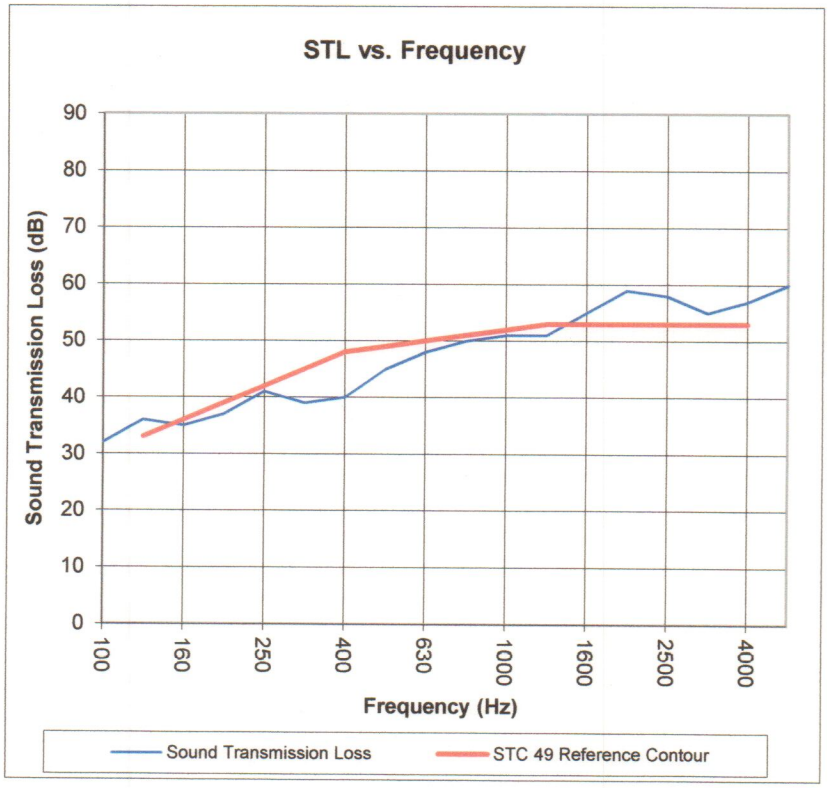
Sound Transmission Loss Test Data

Per: ASTM E 90 - 04 / ASTM E 413 - 10

Test Report: NGC5012009
Test Date: 3/1/2012
Specimen Size [m²]: 17.8

Sound Transmission Class STC = 49 dB

Frequency [Hz]	STL [dB]	ΔSTL
100	32	3.09
125	36	2.65
160	35	2.41
200	37	0.65
250	41	0.96
315	39	0.89
400	40	1.04
500	45	0.74
630	48	0.68
800	50	0.33
1000	51	0.64
1250	51	0.31
1600	55	0.59
2000	59	0.53
2500	58	0.60
3150	55	1.08
4000	57	1.44
5000	60	1.69



* 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