

TEST REPORT

for

**Regupol America
33 Keystone Drive
Lebanon, PA 17042
Bill Devin/ 717-675-2198**

Sound Transmission Loss Test
ASTM E 90 – 04 / E 413 - 10

On

**8 Inch (203mm) Concrete Slab Overlaid with
Engineered Hardwood Flooring Adhered with Sikabond-T35 Adhesive over
Regupol Sonus HS1000 Underlayment Adhered with Sikabond-T35 Adhesive
With Suspended Gypsum Board Ceiling**

Report Number: NGC 5011057_R2


Assignment Number: G-709

Test Date: 8/24/2011


Report Approval Date: 9/13/2011

Reissue Date: 8/20/2014

Submitted by: _____


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Reviewed by: _____


Robert J. Menchetti
Director

The results reported above apply to specific samples submitted for measurement. No responsibility is assumed for performance of any other specimen. The laboratory's accreditation or any of its test reports in no way constitute or imply product certification, approval, or endorsement by NVLAP or any agent of the U.S. Government. This report may not be reproduced except in full, without written approval of the laboratory.

Revision Summary:

Date	SUMMARY
Approval Date: 9/12/2011	Original issue date. Original NGCTS report: NGC 5011057
Reissue Date: 6/23/2014	Reissued Report #: 5011057_R1 The report was reissued due to a client designated company name change.
Reissue Date: 8/20/2014	Reissued Report #: 5011057_R2 The Report was revised and reissued due to a client designate product name change and company name change.

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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: 8 inch (203mm) Concrete Slab including suspended grid 5/8 inch gypsum board ceiling system, overlaid with, according to client, Engineered wood flooring with Sikabond-T35 adhesive over Regupol Sonus HS1000, 10 mm underlayment adhered with Sikabond-T35 adhesive

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

- 1 layer of 13.1mm (0.515 in.) Hard Maple Select V Engineered Hardwood flooring. Samples were 127mm (5 in.) wide, by random length planks. Sample weight was 7.5 kg/m² (1.54 PSF).
- 1 layer of Sikabond-T35 adhesive. Sample was troweled on using client supplied P5 trowel.
- 1 layer of, according to client, Regupol Sonus HS1000, 10mm underlayment. The underlayment was adhesively applied to the concrete with Sikabond-T35 adhesive. Measured thickness: 10.0 mm (0.395 in.) Measured weight: 7.7 kg/m² (1.58 PSF)
- 1 layer of Sikabond-T35 adhesive. Sample was troweled on using client supplied P5 trowel.
- 203.2mm (8in.) thick reinforced concrete slab 488.2 kg/m² (100.0 PSF).
- 88.9mm (3-1/2 in.) fiberglass unfaced batt insulation. Sample weight was 0.78 kg/m² (0.16 PSF). The insulation was laid over the suspended grid system parallel with the main tee's.
- Gypsum board ceiling grid suspension system. System is comprised of main tees and cross tees. The main tees were placed 1219.2mm (48 in.) on center and the cross tees were placed 609.6mm (24 in.) on center. 16 gauge galvanized tie wire was used to attach the main tees to concrete anchors, located 1219.2mm (48 in.) o.c. along the longitudinal axis, suspending the grid 304.8mm (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/m² (2.3 PSF). The board was attached 304.8mm (12 in.) o.c. parallel to suspended grid suspension system mains, using 31.8mm (1.250 in.) Type S drywall screws. The board joints were taped.

The overall weight of the test assembly is 515.4 kg/m² (105.58 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.

Test Floor Size: 3657.6mm x 4876.8mm (12 ft. x 16 ft.).

Conditioning: Adhesive cured for minimum of 24 hours. Concrete cured minimum of 28 days.

Test Results: The results of the tests are given on pages 4 and 5.

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Sound Transmission Loss Test Data							
Test: ASTM E 90 - 04 / ASTM E 413 - 04							
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Specimen Size [m ²]: 17.8							
Source room				Receiving room			
Volume [m ³]: 53.2				Volume [m ³]: 60			
Rm Temp [°C]: 22.5				Rm Temp [°C]: 22.5			
Humidity [%]: 52				Humidity [%]: 49			
Sound Transmission Class STC [dB]: 66							
Sum of Unfavorable Deviations [dB]: 29							
Max. Unfavorable Deviation [dB]: 7 at 400 Hz							
Frequency [Hz]	STL [dB]	L1 [dB]	L2 [dB]	d [dB/s]	Corr. [dB]	u.Dev. [dB]	ΔSTL
100	43	106.4	68.7	34.0	5.3		3.14
125	47	105.0	65.0	22.0	6.9	3	1.96
160	51	107.6	64.7	17.9	8.1	2	2.67
200	51	106.3	63.3	17.2	8.0	5	1.25
250	55	105.9	58.9	17.7	8.1	4	1.02
315	56	101.9	54.1	18.1	8.2	6	0.74
400	58	101.5	51.1	18.6	7.5	7	0.73
500	64	102.6	46.1	19.0	7.5	2	0.65
630	67	102.3	42.2	21.0	7.0		0.27
800	72	102.0	37.4	21.2	7.4		0.63
1000	75	98.6	30.9	23.0	7.3		0.47
1250	78	97.8	25.8	25.3	6.0		0.77
1600	80	97.8	23.6	26.7	5.8		0.88
2000	79	100.9	27.3	30.3	5.4		0.53
2500	79	101.5	27.8	33.8	5.3		0.64
3150	80	100.0	24.5	36.1	4.5		1.05
4000	82	97.4	19.7	40.5	4.4		1.35
5000	82	90.5	11.9	46.8	3.4		1.67

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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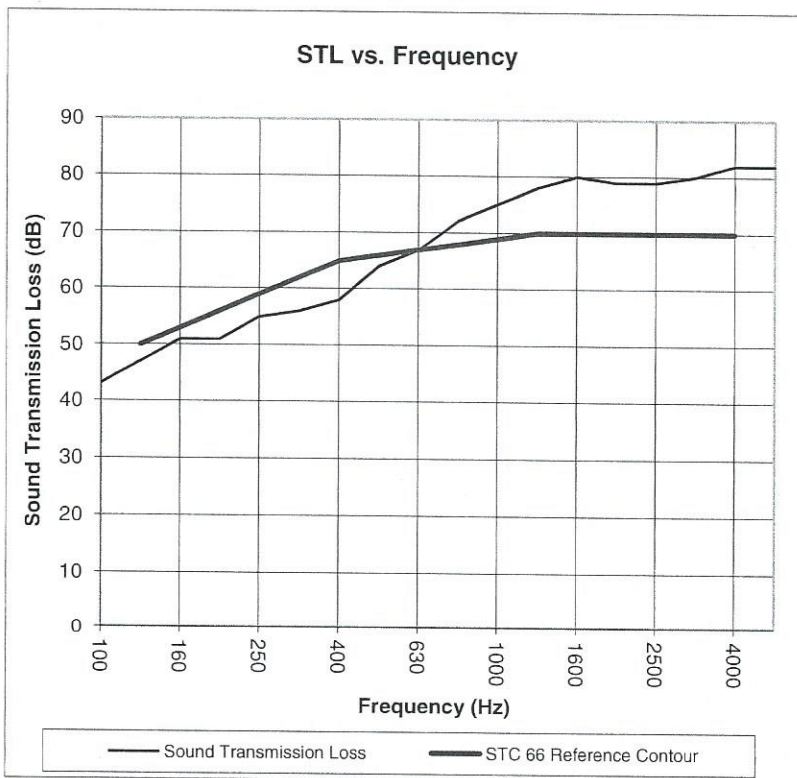
Sound Transmission Loss Test Data

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

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 Test Date: 8/24/2011
 Specimen Size [m²]: 17.8

Sound Transmission Class STC = 66 dB

Frequency [Hz]	STL [dB]	ΔSTL
100	43	3.14
125	47	1.96
160	51	2.67
200	51	1.25
250	55	1.02
315	56	0.74
400	58	0.73
500	64	0.65
630	67	0.27
800	72	0.63
1000	75	0.47
1250	78	0.77
1600	80	0.88
2000	79	0.53
2500	79	0.64
3150	80	1.05
4000	82	1.35
5000	82	1.67



* 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

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