E9878.01-113-11-R0
ACOUSTICAL PERFORMANCE TEST REPORT
ASTM E 90 AND ASTM E 492

Rendered to

REGUPOL AMERICA

Series/Model: Regupol® 7210C Screed Isolation

Specimen Type: 203 mm Concrete Slab with Drop Ceiling

Overall Size: 3023 mm by 3632 mm

STC	**61**
IIC	**57**

Test Specimen Identification:
Subfloor Topping: 50.8 mm ARDEX A 38™ Rapid Set Screed
Subfloor Underlayment: 3 mm Regupol® 7210C Screed Isolation
Floor Slab: 203 mm Concrete Slab
Main Beams: 43 mm Armstrong HD8906 Drywall Main Beam
Cross Tees: 37.3 mm Armstrong XL8945P Cross Tee
Insulation: 88.9 mm Johns Manville Kraft Faced R-13 Fiberglass Insulation
Ceiling: 15.9 mm National Gypsum Gold Bond® Fire-Shield® Type X Gypsum Panel

Reference should be made to Intertek-ATI Report E9878.01-113-11 for complete test specimen description. This page alone is not a complete report.

Acoustical Performance Test Report

REGUPOL AMERICA
33 Keystone Drive
Lebanon, Pennsylvania 17042

Report	E9878.01-113-11
Test Date	08/14/15
Report Date	09/08/15

Project Scope

Architectural Testing, Inc., a subsidiary of Intertek (Intertek-ATI), was contracted to conduct airborne sound transmission loss and impact sound transmission tests. The complete test data is included as attachments to this report. The client provided the test specimen. The specimen was constructed on the date of testing.

Test Methods

The acoustical tests were conducted in accordance with the following standards. The equipment listed in the attachments meets the requirements of the following standards.

ASTM E 90-09, Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions
ASTM E 413-10, Classification for Rating Sound Insulation
ASTM E 492-09, Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine
ASTM E 989-06 (2012), Classification for Determination of Impact Insulation Class (IIC)
ASTM E 2235-04 (2012) Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods

Test Procedure

All testing was conducted in the VT test chambers at Intertek-ATI located in York, Pennsylvania. The microphones were calibrated before conducting the tests.

The airborne transmission loss test was conducted in accordance with the ASTM E 90 test method using the single direction method. Two background noise sound pressure level and five sound absorption measurements were conducted at each of five microphone positions. Four sound pressure level measurements were made simultaneously in both rooms, at each of five microphone positions.

Test Procedure (Continued)

The impact sound transmission test was conducted in accordance with the ASTM E 492 test method. Two background noise sound pressure level, two sound pressure level measurements with the tapping machine operating at each position specified by ASTM E 492, and five sound absorption measurements were conducted at each of five microphone positions.

The air temperature and relative humidity conditions were monitored and recorded during all measurements.

Test Conditions

Source Room		Receive Room	
Average Temperature	24.4°C	Average Temperature	21.6°C
Average Relative Humidity	55%	Average Relative Humidity	56%

Test Calculations

The STC (Sound Transmission Class) and IIC (Impact Insulation Class) ratings were calculated in accordance with ASTM E 413 and ASTM E 989, respectively.

Test Specimen Materials and Installation Details

Material	Dimensions (mm)	Thickness (mm)	Manufacturer and Series	Quantity	Average Weight
Rapid Set Screed	3023 by 3632	50.8	ARDEX A 38™	10.98 m²	119.1 kg/m²
	Note: Poured directly onto the isolation per manufacturer's specifications, allowed to cure overnight.				
Screed Isolation	3023 by 1219.2	3.0	Regupol® 7210C	10.98 m²	2.49 kg/m²
	Note: Loose laid with seams taped				
Concrete Slab	3023 by 3632	203.0	N/A	10.98 m²	488.24 kg/m²
	Note: The concrete slab was installed in a test frame flush to the source room.				
Drywall Main Beam	38.1 by 2870	43.0	Armstrong HD8906	10.9 lin m	0.45 kg/m
	Note: Twelve gauge hanger wires were attached to the bottom side of the concrete at twelve locations and then to the main beams. The hanger wire was twisted around itself a minimum of three times within 76 mm creating a 150 mm plenum. The measured steel thickness is 0.5 mm.				
Cross Tee	38.3 by 1219	37.3	Armstrong XL8945P	27.2 lin m	0.45 kg/m
	Note: Inserted into the main beams on 607 mm centers. The measured steel thickness is 0.5 mm.				
Fiberglass Insulation	2962 by 584	88.9	Johns Manville Kraft Faced R-13	10.98 m²	1.33 kg/m²
	Note: Loose laid onto the ceiling grid system				

Test Specimen Materials and Installation Details (Continued)

Material	Dimensions (mm)	Thickness (mm)	Manufacturer and Series	Quantity	Average Weight
Gypsum Panel	3023 by 1219	15.9	National Gypsum Gold Bond® Fire-Shield® Type X	10.56 m²	11.23 kg/m²
	Note: Fastened with fine thread drywall screws on 305 mm centers				

Comments

The total weight of the floor/ceiling assembly was 6846.3 kg. Intertek-ATI will store samples of the test specimen for four years. A drawing of the test specimen is included in the attachments.

Intertek-ATI will service this report for the entire test record retention period. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period. The test record retention period ends four years after the test date.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report is intended to help in the client's quality assurance program, but it does not represent a continuous or exhaustive evaluation of the specimen tested or of other products or materials that were not evaluated. The statements and data provided herein do not constitute approval, disapproval, certification, or acceptance of performance or materials.

FOR INTERTEK-ATI:

Digitally Signed by: Daniel Mohler

Daniel B. Mohler
Technician II - Acoustical Testing

Digitally Signed by: Jordan Strybos

Jordan Strybos
Project Manager - Acoustical Testing

Attachments (6 Pages): This report is complete only when all attachments are included.

** Stated by Client/Manufacturer*
N/A - Non Applicable

Revision Log

Revision	Date	Page(s)	Description
R0	09/08/15	N/A	Original Report Issue

Attachments

Instrumentation

Instrument	Manufacturer	Model	ATI Number	Date of Calibration
Data Acquisition Unit	National Instruments	PXI-1033	63763	06/14 *
Microphone Calibrator	Norsonic	1251	Y002919	06/14
Receive Room Microphone	PCB Piezotronics	378B20	63748	05/15
Receive Room Microphone	PCB Piezotronics	378B20	63744	05/15
Receive Room Microphone	PCB Piezotronics	378B20	63745	05/15
Receive Room Microphone	PCB Piezotronics	378B20	63746	05/15
Receive Room Microphone	PCB Piezotronics	378B20	63747	05/15
Receive Room Environmental Indicator	Comet	T7510	63810 63811	09/14
Source Room Microphone	PCB Piezotronics	378B20	63738	04/15
Source Room Microphone	PCB Piezotronics	378B20	63739	04/15
Source Room Microphone	PCB Piezotronics	378B20	63740	04/15
Source Room Microphone	PCB Piezotronics	378B20	63742	04/15
Source Room Microphone	PCB Piezotronics	378B20	63741	04/15
Source Room Environmental Indicator	Comet	T7510	63812	09/14
Tapping Machine	Look Line s.r.l.	EM50 (TM50)	65351	11/14

** The calibration frequency for this equipment is every two years per the manufacturer's recommendation.*

Test Chambers

VT Receive Room Volume	156.54 m³
VT Source Room Volume	190 m³

AIRBORNE SOUND TRANSMISSION LOSS

ASTM E 90

Test Date	08/14/15
Data File No.	E9878.01
Client	Regupol America
Description	50.8 mm ARDEX A 38™ Rapid Set Screed, 3 mm Regupol® 7210C Screed Isolation, 203 mm Concrete Slab, 43 mm Armstrong HD8906 Drywall Main Beam, 37.3 mm Armstrong XL8945P Cross Tee, 88.9 mm Johns Manville Kraft Faced R-13 Fiberglass Insulation, 15.9 mm National Gypsum Gold Bond® Fire-Shield® Type X Gypsum Panel
Specimen Area	10.98 m²
Technician	Daniel B. Mohler

Freq (Hz)	**Background SPL** (dB)	**Absorption** (m²)	**Source SPL** (dB)	**Receive SPL** (dB)	**Specimen TL** (dB)	**95% Confidence Limit**	**Number of Deficiencies**
80	60.8	15.3	108	68	40	3.00	-
100	46.6	13.9	106	67	40	1.70	-
125	41.9	9.2	105	65	42	1.20	3
160	38.7	8.8	108	65	45	1.40	3
200	29.8	9.4	104	58	49	1.40	2
250	28.1	10.3	104	55	51	1.20	3
315	27.8	9.0	105	53	54	1.20	3
400	26.6	7.9	104	50	56	0.60	4
500	24.8	7.4	103	47	60	0.60	1
630	24.4	6.9	105	46	62	0.80	0
800	26.6	7.1	104	46	61	0.60	2
1000	23.9	7.1	104	44	63	0.70	1
1250	23.1	7.0	104	43	64	0.70	1
1600	17.7	7.0	104	41	65	0.60	0
2000	12.2	8.0	104	40	66	0.50	0
2500	8.4	8.9	102	37	67	0.50	0
3150	6.9	9.8	103	34	69	0.60	0
4000	5.8	11.5	103	32	72	0.70	0
5000	5.8	13.6	103	29	73	0.80	-
6300	6.1	17.6	97	18	78	0.80	-
8000	6.4	23.7	96	13	81	1.00	-
10000	6.5	30.4	91	7	81	0.60	-

STC Rating **61** *(Sound Transmission Class)*

Deficiencies 23 *(Sum of Deficiencies)*

Notes: *1) Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.*
2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

AIRBORNE SOUND TRANSMISSION LOSS

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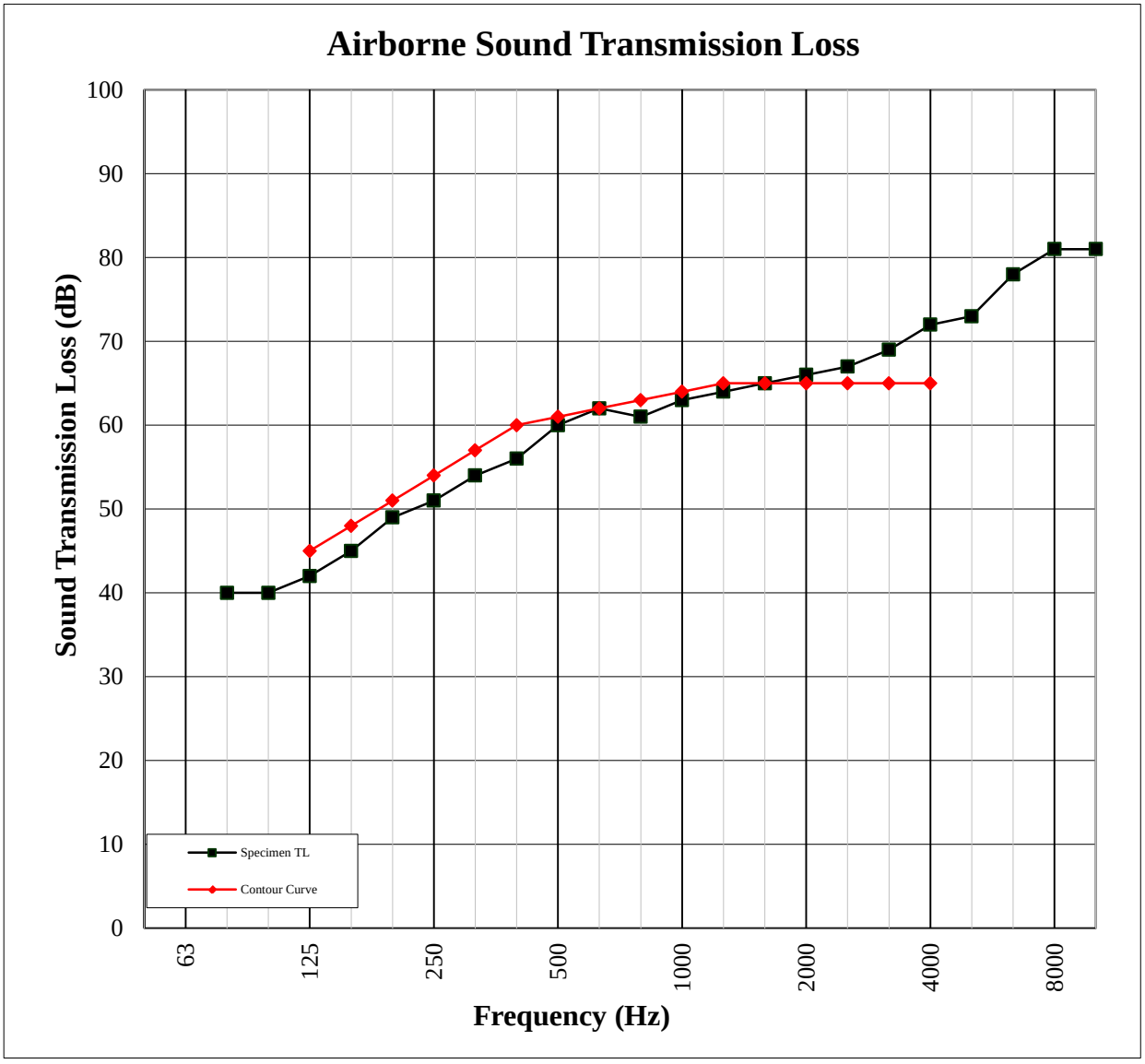

Architectural Testing

ACCREDITED TL-144

IMPACT SOUND TRANSMISSION

ASTM E 492

Test Date	08/14/15
Data File No.	E9878.01
Client	Regupol America
Description	50.8 mm ARDEX A 38™ Rapid Set Screed, 3 mm Regupol® 7210C Screed Isolation, 203 mm Concrete Slab, 43 mm Armstrong HD8906 Drywall Main Beam, 37.3 mm Armstrong XL8945P Cross Tee, 88.9 mm Johns Manville Kraft Faced R-13 Fiberglass Insulation, 15.9 mm National Gypsum Gold Bond® Fire-Shield® Type X Gypsum Panel
Specimen Area	10.98 m²
Technician	Daniel B. Mohler

Freq (Hz)	**Background SPL** (dB)	**Absorption** (m²)	**Normalized Impact SPL** (dB)	**95% Confidence Limit**	**Number of Deficiencies**
80	60.9	14.7	61	7.4	-
100	47.0	13.3	60	3.5	5
125	42.9	9.2	57	1.1	2
160	40.3	8.7	55	2.0	0
200	32.9	9.6	56	2.1	1
250	29.6	10.0	60	1.7	5
315	28.6	8.8	55	1.1	0
400	27.2	7.9	53	0.9	0
500	24.8	7.2	49	0.5	0
630	25.1	6.9	49	0.2	0
800	27.1	7.1	49	0.3	0
1000	23.5	7.1	47	0.2	0
1250	22.8	6.9	46	0.3	0
1600	17.7	7.0	46	0.4	2
2000	12.5	8.0	44	0.4	3
2500	8.8	8.9	44	0.4	6
3150	7.3	9.8	43	0.3	8
4000	5.9	11.5	42	0.7	-
5000	6.0	13.5	37	1.0	-
6300	6.1	17.4	33	1.6	-
8000	6.5	23.4	26	2.2	-
10000	6.5	30.3	14	1.5	-

IIC Rating **57** *(Impact Insulation Class)*

Deficiencies 32 *(Sum of Deficiencies)*

Note: *Receive Room levels less than 5 dB above the Background levels are highlighted in yellow.*

IMPACT SOUND TRANSMISSION

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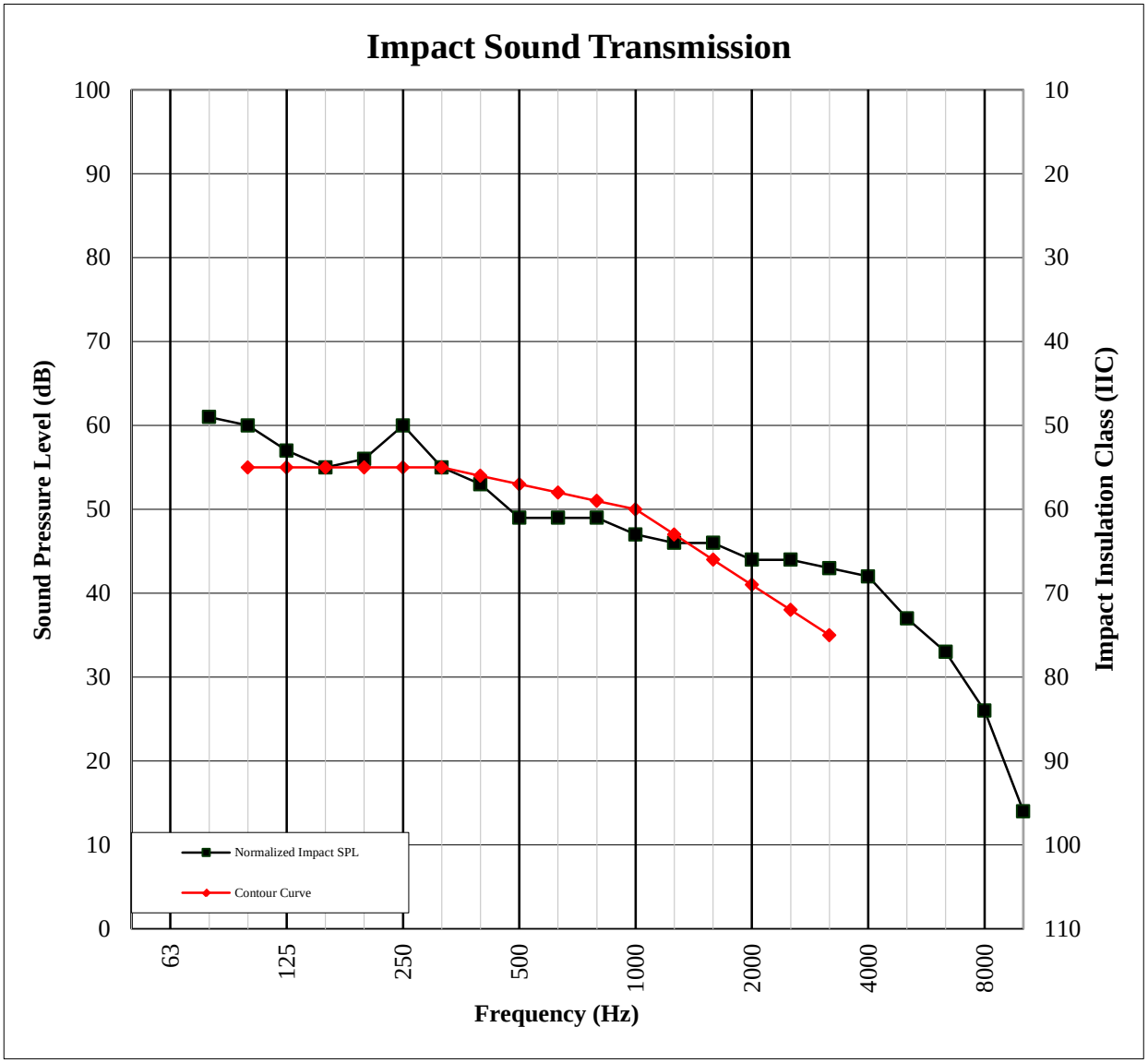

Drawing

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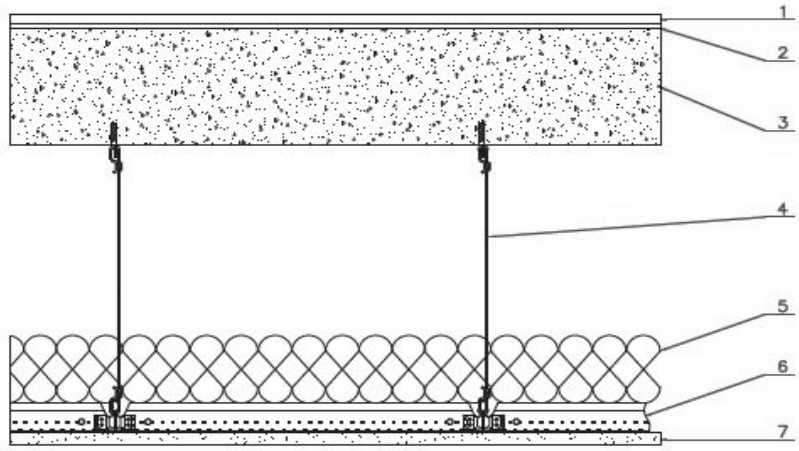

1-Subfloor Topping
2-Subfloor Underlayment
3-Concrete Slab
4-Hanger Wire
5-Insulation
6-Ceiling Grid
7-Ceiling