

TEST REPORT

FOR: Stauf USA, LLC
Memphis, TN

Impact Sound Transmission Test
RAL™-IN09-026

ON: ½" Engineered Wood Flooring and Stauf One-Step
SMP-960 Wood Flooring Adhesive on 6 Inch Concrete
Slabs

Page 1 of 4

CONDUCTED: 9 April 2009

TEST METHOD

The measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E492-04 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 technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated as ½" engineered wood flooring and Stauf One-Step SMP-960 wood flooring adhesive on 6 inch concrete slabs. The overall dimensions of the specimen as measured were nominally 4.27 m (168 in.) wide by 6.10 m (240 in.) high and 165 mm (6.5 in.) thick. The specimen was constructed directly in the laboratory's 4.27 m (14 ft) by 6.10 m (20 ft) test opening and was sealed on the periphery (both sides) with dense mastic.

The weight of the specimen as measured was 8,889 kg (19,598 lbs.), an average of 341.7 kg/m² (70 lbs/ft²). The area of the specimen was 26 m² (280 ft²). The source and receiving room temperatures at the time of the test were 23±1°C (74±1°F) and 53±1% relative humidity. The source and receive reverberation room volumes were 140 m³ (4,929 ft³) and 87 m³ (3,073 ft³), respectively.

The description of the specimen was as follows: From the top down, the floor consisted of 12.7 mm (0.5 in.) thick multi-ply engineered wood flooring, Stauf One-Step SMP-960 wood flooring adhesive, and 152 mm (6 in.) thick wire reinforced concrete. A more detailed description of the test assembly appears in the following sections.

Prefinished Engineered Wood Flooring

The finished floor consisted of 12.7 mm (0.5 in.) thick prefinished engineered wood flooring, provided as 127 mm (5 in.) wide by random length planks with tongue and groove edging.

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THE RESULTS REPORTED ABOVE APPLY ONLY TO THE SPECIFIC SAMPLE SUBMITTED FOR MEASUREMENT. NO RESPONSIBILITY IS ASSUMED FOR PERFORMANCE OF ANY OTHER SPECIMEN.



NVLAP Lab Code 100227-0

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ACCREDITATION PROGRAM FOR SELECTED TEST METHODS FOR ACOUSTICS.
THE LABORATORY'S ACCREDITATION OR ANY OF ITS TEST REPORTS IN NO WAY CONSTITUTES
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Weight of the wood floor was 214 kg (471 lbs).

Adhesive

The attachment system consisted of Stauf One-Step SMP-960 wood flooring adhesive applied using a Stauf #12 V-notch raised flat trowel (3/16" x 1/8" x 3/16") and laying the engineered wood in the wet adhesive. The nominal thickness of the adhesive was measured as 2.5 mm (0.1 in.). The weight of the adhesive system when applied was 76.4 kg (168.5 lbs).

Concrete Floor

The concrete slab sub-floor consisted of ten nominally 610 mm (24 in.) wide by 4.23 m (166.5 in.) long by 152 mm (6 in.) thick wire reinforced concrete slabs. Weight of the concrete slab was 8,599 kg (18,958 lbs).

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RIVERBANK ACOUSTICAL LABORATORIES

1512 S. BATAVIA AVENUE
GENEVA, ILLINOIS 60134

Alion Science and Technology

630/232-0104
FOUNDED 1918 BY
WALLACE CLEMENT SABINE

Stauf USA, LLC

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TEST RESULTS

Sound pressure levels at 1/3 octave intervals, normalized to 10 square meters, are given in tabular form. The impact insulation class, IIC, was computed in accordance with ASTM E989-06 and ASTM E492-04.

<u>FREQ.</u>	<u>Ln</u>	<u>C.L.</u>	<u>DEV</u>	<u>FREQ.</u>	<u>Ln</u>	<u>C.L.</u>	<u>DEV</u>
100	64	1.04	2	800	60	0.48	2
125	63	1.06	1	1000	55	0.34	
160	62	1.00		1250	52	0.44	
200	64	0.66	2	1600	49	0.44	
250	66	0.59	4	2000	46	0.24	
315	66	0.63	4	2500	43	0.44	
400	67	0.52	6	3150	38	0.39	
500	66	0.40	6	4000	32	0.32	
630	64	0.32	5	5000	26	0.55	

IIC=50

ABBREVIATION INDEX

FREQ. = FREQUENCY, HERTZ, (cps)

Ln = NORMALIZED IMPACT SOUND PRESSURE LEVEL, dB

C.L. = UNCERTAINTY IN dB, FOR A 95% CONFIDENCE LIMIT

DEV. = DEVIATION, dB > IIC CONTOUR (SUM OF DEV = 32)

IIC = IMPACT INSULATION CLASS

* = INDICATES A CORRECTION HAS BEEN APPLIED TO DATA
DUE TO BACKGROUND NOISE LEVELS

Tested by Marc Sciaky Approved by David L. Moyer
Marc Sciaky David L. Moyer
Experimentalist Laboratory Manager

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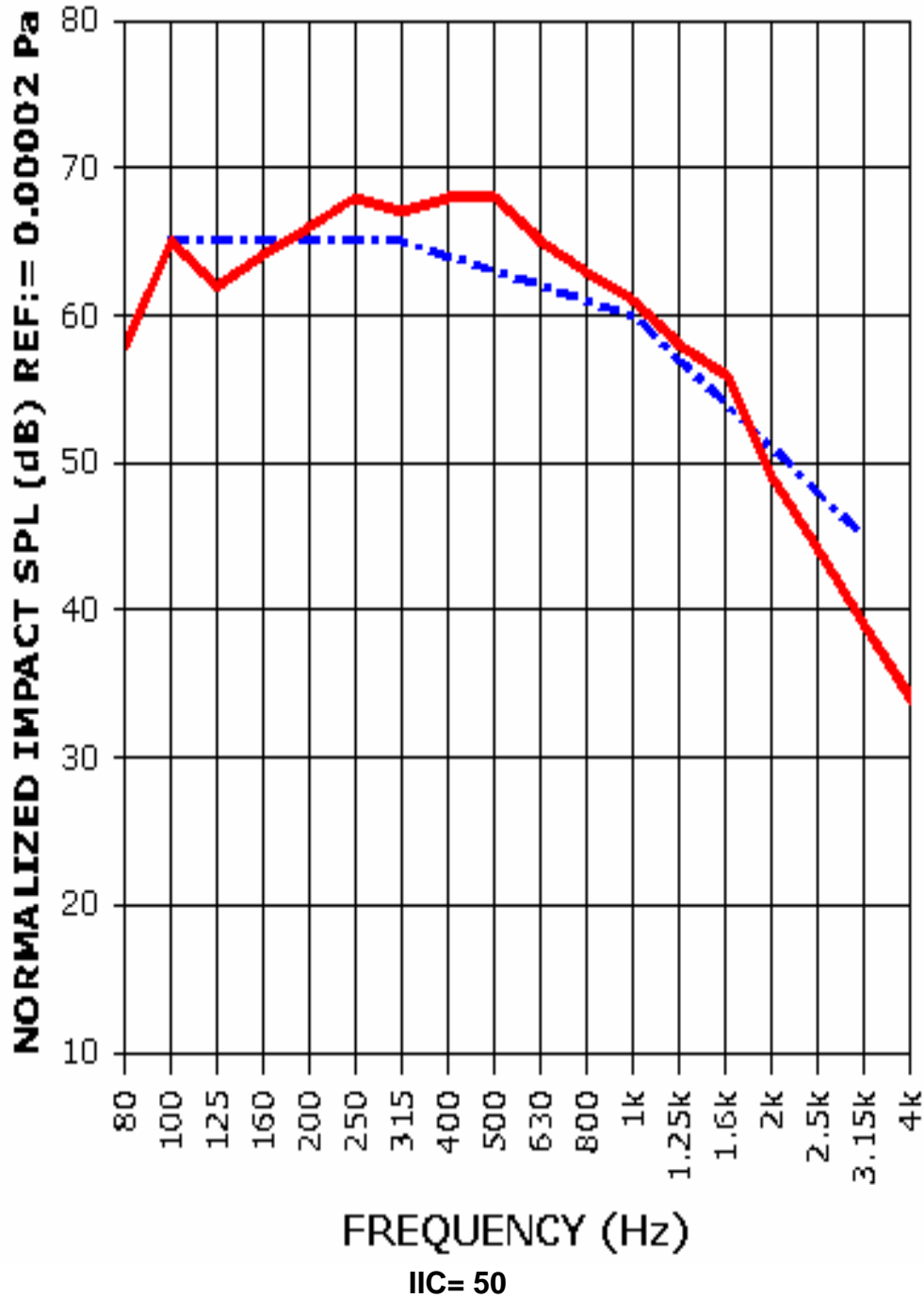


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TEST REPORT

**IMPACT SOUND TRANSMISSION REPORT
RAL - IN08-026**



IMPACT SOUND PRESSURE LEVEL
IMPACT INSULATION CLASS CONTOUR

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TEST REPORT

FOR: Stauf USA, LLC
Memphis, TN

Sound Transmission Loss Test
RAL™-TL09-104

ON: ½" Engineered Wood Flooring and Stauf One-Step
SMP-960 Wood Flooring Adhesive on 6 Inch Concrete
Slabs

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CONDUCTED: 9 April 2009

TEST METHOD

Unless otherwise designated, the measurements reported below were made with all facilities and procedures in explicit conformity with the ASTM Designations E90-04 and E413-04, 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 technique is available separately.

DESCRIPTION OF THE SPECIMEN

The test specimen was designated as ½" engineered wood flooring and Stauf One-Step SMP-960 wood flooring adhesive on 6 inch concrete slabs. The overall dimensions of the specimen as measured were nominally 4.27 m (168 in.) wide by 6.10 m (240 in.) high and 165 mm (6.5 in.) thick. The specimen was constructed directly in the laboratory's 4.27 m (14 ft) by 6.10 m (20 ft) test opening and was sealed on the periphery (both sides) with dense mastic.

The weight of the specimen as measured was 8,889 kg (19,598 lbs.), an average of 341.7 kg/m² (70 lbs/ft²). The transmission area used in the calculations was 26 m² (280 ft²). The source and receiving room temperatures at the time of the test were 23±1°C (74±1°F) and 53±1% relative humidity. The source and receive reverberation room volumes were 140 m³ (4,929 ft³) and 87 m³ (3,073 ft³), respectively.

The description of the specimen was as follows: From the top down, the floor consisted of 12.7 mm (0.5 in.) thick multi-ply engineered wood flooring, Stauf One-Step SMP-960 wood flooring adhesive, and 152 mm (6 in.) thick wire reinforced concrete. A more detailed description of the test assembly appears in the following sections.

Prefinished Engineered Wood Flooring

The finished floor consisted of 12.7 mm (0.5 in.) thick prefinished engineered wood flooring, provided as 127 mm (5 in.) wide by random length planks with tongue and groove edging.

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NVLAP Lab Code 100227-0

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TEST REPORT

Stauf USA, LLC

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Weight of the wood floor was 214 kg (471 lbs).

Adhesive

The attachment system consisted of Stauf One-Step SMP-960 wood flooring adhesive applied using a Stauf #12 V-notch raised flat trowel (3/16" x 1/8" x 3/16") and laying the engineered wood in the wet adhesive. The nominal thickness of the adhesive was measured as 2.5 mm (0.1 in.). The weight of the adhesive system when applied was 76.4 kg (168.5 lbs).

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TEST RESULTS

Sound transmission loss values are tabulated at the eighteen standard frequencies. A graphic presentation of the data and additional information appear on the following pages. The precision of the TL test data is within the limits set by the ASTM Standard E90-04.

<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>	<u>FREQ.</u>	<u>T.L.</u>	<u>C.L.</u>	<u>DEF.</u>
100	33	0.37		800	56	0.20	
125	39	0.79		1000	61	0.16	
160	41	0.51		1250	64	0.16	
200	40	0.50	2	1600	67	0.14	
250	41	0.46	4	2000	70	0.14	
315	42	0.54	6	2500	73	0.11	
400	44	0.44	7	3150	76	0.11	
500	46	0.32	6	4000	79	0.09	
630	50	0.25	3	5000	81	0.08	

STC=52

ABBREVIATION INDEX

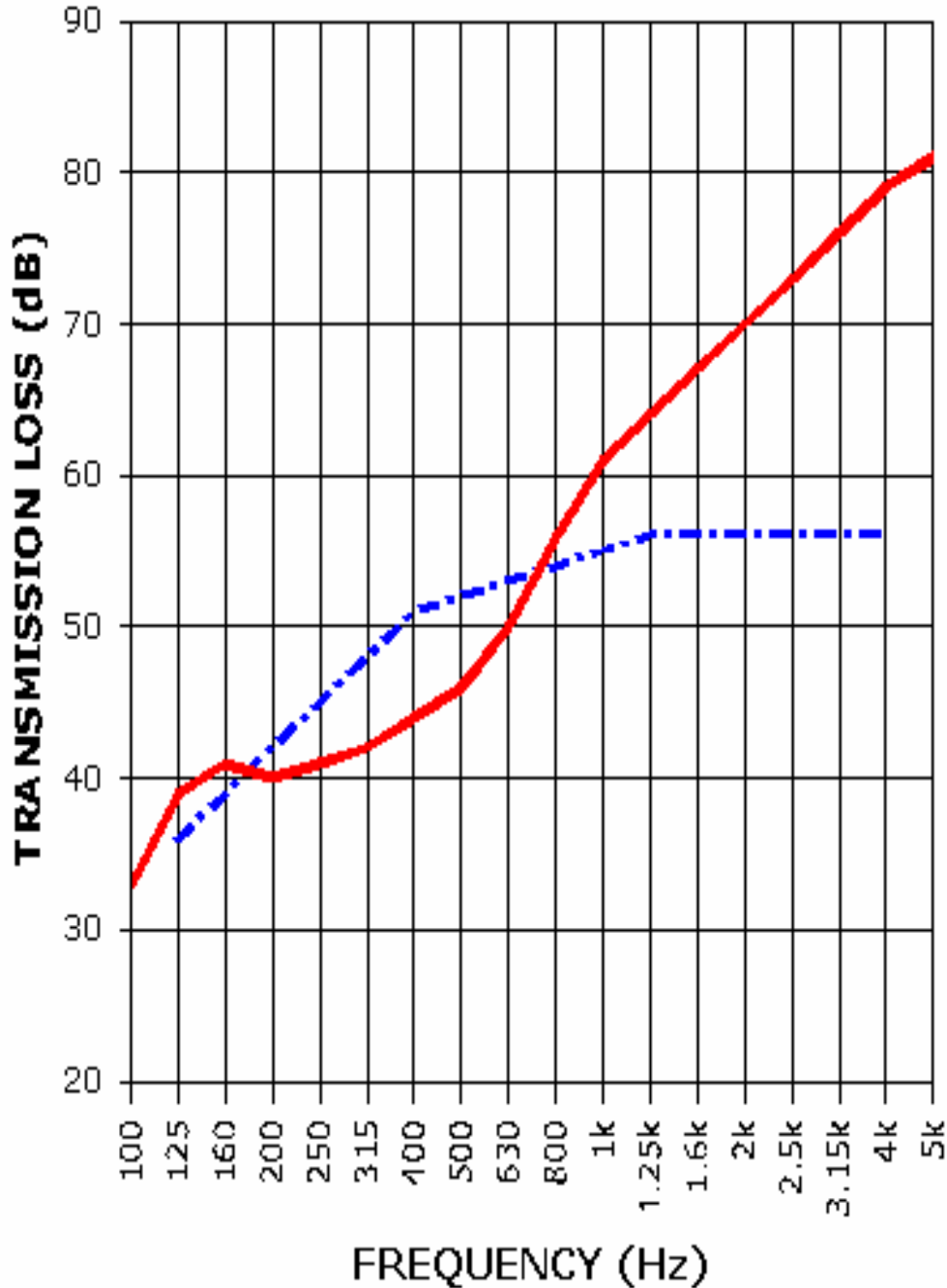
FREQ. = FREQUENCY, HERTZ, (cps)
T.L. = TRANSMISSION LOSS, dB
C.L. = UNCERTAINTY IN dB, FOR A 95% CONFIDENCE LIMIT
DEF. = DEFICIENCIES, dB<STC CONTOUR (SUM OF DEF = 28)
STC = SOUND TRANSMISSION CLASS

Tested by Marc Sciaky Approved by David L. Moyer
Marc Sciaky David L. Moyer
Experimentalist Laboratory Manager

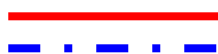
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TEST REPORT

**SOUND TRANSMISSION REPORT
RAL - TL09-104**



STC= 52



TRANSMISSION LOSS
SOUND TRANSMISSION LOSS CONTOUR

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