

KARNDEAN DESIGNFLOORING ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK

ISO 10140-3 TESTING ON 5.5 mm VAN GOGH RIGID CORE LUXURY VINYL PLANK

SPECIMEN TYPE

Concrete Slab - 152 mm (6")

REPORT NUMBER

K8324.01-113-11-R0

TEST DATE

03/16/20

ISSUE DATE

04/17/20

RECORD RETENTION END

03/16/24

PAGES

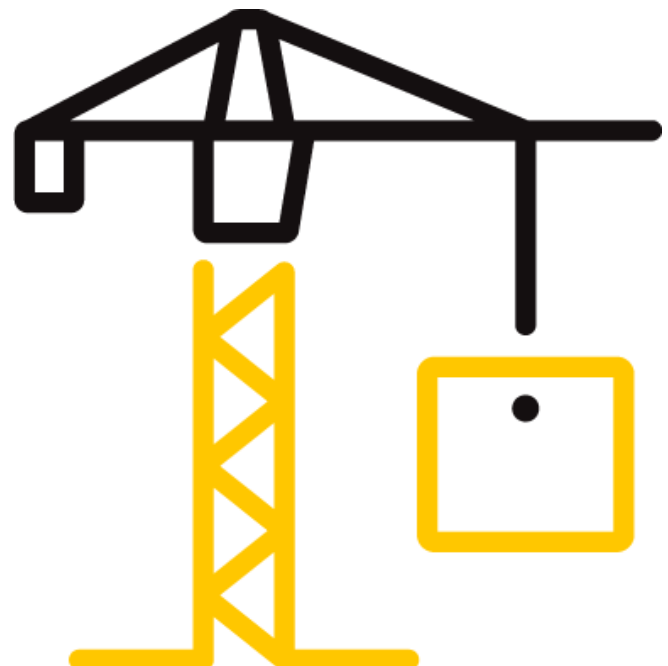
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TEST REPORT FOR KARNDEAN DESIGNFLOORING

Report No.: K8324.01-113-11-R0

Date: 04/17/20

REPORT ISSUED TO

KARNDEAN DESIGNFLOORING

835 Stud Road

Knoxfield, Victoria 3180 AUSTRALIA

SECTION 1

SCOPE

Intertek Building & Construction (B&C) was contracted by Karndean DesignFlooring to perform testing in accordance with ISO 10140-3 on 5.5 mm Van Gogh Rigid Core Luxury Vinyl Plank. Results obtained are tested values and were secured by using the designated test methods. Testing was conducted in the VT test chambers at Intertek B&C located in York, Pennsylvania. These test chambers satisfy the lab requirements specified in ISO 10140-5.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

SECTION 2

SUMMARY OF TEST RESULTS

DATA FILE NO.	K8324.01
SERIES/MODEL:	5.5 mm Van Gogh Rigid Core Luxury Vinyl Plank
L_{n,w}	56 dB C _{1,100-2,500} = 0 dB C _{1,50-2,500} = 1 dB

COMPLETED BY: Michael A. Unnone
Technician - Acoustical

TITLE: Testing

SIGNATURE:

DATE: 04/17/20

REVIEWED BY: Jordan Strybos
Engineer, Team Lead -

TITLE: Acoustical Testing

SIGNATURE:

DATE: 04/17/20

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SECTION 3

TEST METHODS

The specimen was evaluated in accordance with the following:

ISO 717-1:1996(E), *Rating of sound insulation in buildings and of building elements - Airborne sound insulation*

ISO 10140-3:2010(E), *Laboratory measurement of sound insulation of building elements - Measurement of impact sound insulation*

ISO 717-2:2013(E), *Rating of sound insulation in buildings and of building elements - Impact sound insulation*

ISO 10140-5:2010, *Laboratory measurement of sound insulation of building elements - Requirements for test facilities and equipment*

SECTION 4

MATERIAL SOURCE/INSTALLATION

The full test specimen was assembled into the testing frame on the day of testing by B&C. All materials provided by the client were installed on an existing B&C assembly (Concrete Slab - 152 mm (6")) utilizing B&C-supplied materials. The assembly was installed in a steel test frame which was installed into the opening between the source and receive rooms in the test chamber. The test frame was isolated from the structure with dense neoprene gasket.

The total weight of the floor/ceiling assembly was 4121.4 kg / 9086.3 lbs. B&C will store samples of the test specimen for four years. Photographs of the test specimen are included in the report. A drawing of the test specimen is included in the report.

B&C 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 B&C for the entire test record retention period. The test record retention period ends four years after the test date.

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**SECTION 5
EQUIPMENT**

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	CAL DATE
Data Acquisition Unit	National Instruments	PXI-4462	Data Acquisition Card	INT00977	08/18 *
Data Acquisition Unit	National Instruments	PXI-4462	Data Acquisition Card	65124	05/18 *
Data Acquisition Unit	National Instruments	PXI-4462	Data Acquisition Card	63763-1	06/18 *
Microphone Calibrator	Larson Davis	CAL200	Acoustical Calibrator	INT00852	09/18
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	63741	04/19
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	63739	04/19
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	67340	04/19
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	63746	09/18
Receive Room Microphone	PCB Piezotronics	378B20	Microphone and Preamplifier	63747	07/18
Receive Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	63810	10/18
				63811	10/18
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	65029	03/19
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	65586	02/19
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT01089	01/19
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00652	01/19
Source Room Microphone	PCB Electronics	378C20	Microphone and Preamplifier	63742	03/19
Source Room Environmental Indicator	Comet	T7510	Temperature and Humidity Transmitter	63812	10/18
Tapping Machine	Norsonic	Nor277	Tapping Machine	INT00936	12/18

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

VT RECEIVE ROOM VOLUME	158.86 m ³ (5610.1 ft ³)
VT SOURCE ROOM VOLUME	190 m ³ (6709.79 ft ³)

**SECTION 6
LIST OF OFFICIAL OBSERVERS**

NAME	COMPANY
Michael A. Unnone	Intertek B&C
Jordan Strybos	Intertek B&C

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**SECTION 7
TEST PROCEDURE**

The microphones were calibrated before conducting the tests. The air temperature and relative humidity conditions were monitored and recorded during all measurements. The maximum and minimum temperatures and humidities of the receive room from the duration of the test are listed in Sections 10 and 11.

The impact sound insulation test was conducted in accordance with the ISO 10140-3 test method. Two background noise sound pressure level, two sound pressure level measurements with the tapping machine operating at each position specified by ISO 10140-3, and five sound absorption measurements were conducted at each of five microphone positions.

Detailed test procedures, data for flanking limit tests, repeatability measurements, and reference specimen tests are available upon request.

**SECTION 8
TEST CALCULATIONS**

The Ln,w (Impact Sound Insulation) rating was calculated in accordance with ISO 717-2.

**SECTION 9
TEST SPECIMEN DESCRIPTION**

MATERIAL	Dimensions (mm/inch)	Thickness (mm/inch)	MANUFACTURER AND SERIES	QUANTITY	AVERAGE WEIGHT
Luxury Vinyl Plank	1220 by 180 48 by 7.1	5.5 / 0.22	Van Gogh Rigid Core	10.98 m ² 118.19 ft ²	9.17 kg/m ² 1.88 lb/ft ²
	Note: Loose laid				
Concrete Slab	3023 by 3632 119 by 143	152.4 / 6	5000 PSI	10.98 m ² 118.19 ft ²	366.18 kg/m ² 75 lb/ft ²
	Note: Installed in a test frame flush to the source room. Mats of #5 reinforcing bars were placed 25.4 mm from both the top and bottom of the slab, with bars spaced on 305 mm centers in both directions. No noticeable shrinkage or cracking was visible on the specimen.				

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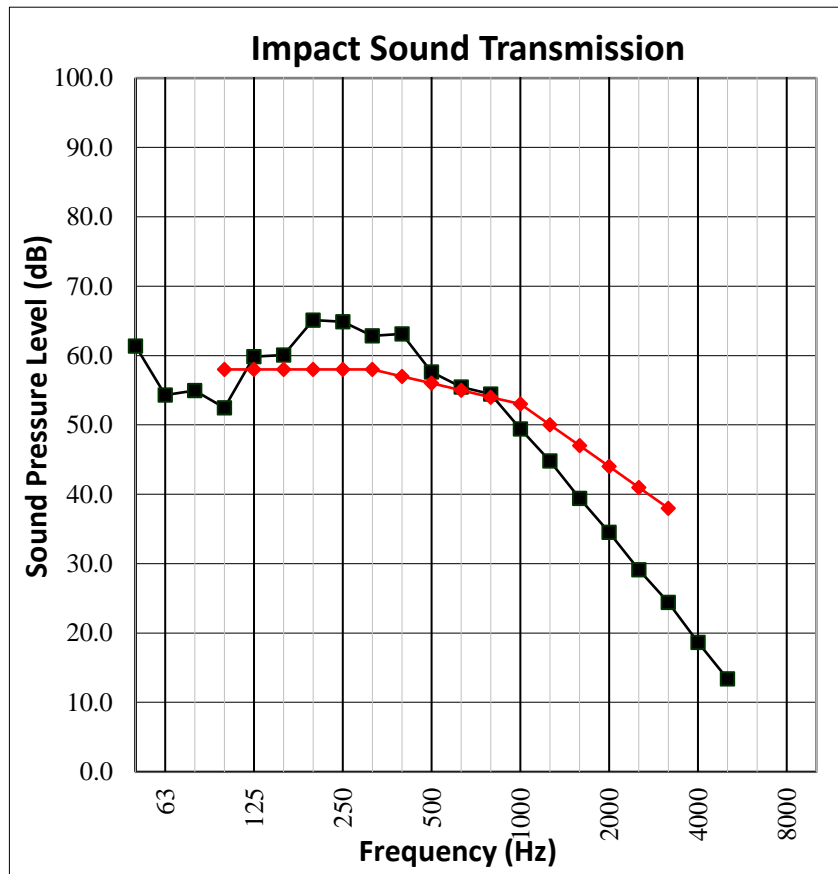
Date: 04/17/20

SECTION 10

TEST RESULTS - NORMALIZED IMPACT SPL (IN ACCORDANCE WITH ISO 10140-3)

TEST DATE	3/16/2020				
DATA FILE NO.	K8324.01				
CLIENT	Karndean DesignFlooring				
DESCRIPTION	5.5 mm (0.22") Van Gogh Rigid Core Luxury Vinyl Plank, 152.4 mm (6") 5000 PSI Concrete Slab				
SPECIMEN AREA	10.98 m ²	Receive Temp.	16.8°C (62.2°F)	Source Temp.	18.5°C (65.3°F)
TECHNICIAN	MAU	Receive Humidity	49%	Source Humidity	49%

FREQUENCY <i>f</i> Hz	<i>L_n</i> one-third octave dB
50	61.4
63	54.3
80	54.9
100	52.5
125	59.8
160	60.1
200	65.1
250	64.9
315	62.8
400	63.1
500	57.6
630	55.4
800	54.4
1000	49.4
1250	44.8
1600	39.4
2000	34.5
2500	29.1
3150	24.4
4000	18.6
5000	13.4



Rating in accordance with ISO 717-1

$$L_{n,w}(C_1) = 56 (0) \text{ dB} \quad C_{1,50-2,500} = 1 \text{ dB}$$

Evaluation based on laboratory measurement results obtained by an engineering method.

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SECTION 11

PHOTOGRAPHS



Photo No. 1

Source Room View of Test Specimen Installation



Photo No. 2

Receive Room View of Test Specimen Installation

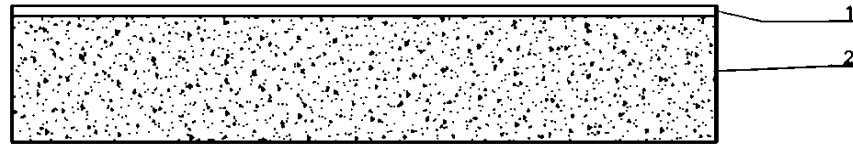
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SECTION 12

DRAWING



1-Floor Topping

2-Concrete Slab

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SECTION 13

REVISION LOG

REVISION #	DATE	PAGES	DESCRIPTION
R0	04/17/20	N/A	Original Report Issue