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Report

Project number: 89209169
Report number: 89209169.01br

Date
02/02/2016

Project number
89209169

Report number
89209169.01br

Phone number client
-

Received:

A floor covering, marked as: "Luxury Vinyl Tile";
TÜV-reference: MT16-89079.01

Fax number client
-

Sampling procedure:

The samples are selected by the applicant. The test house has had no influence on the sampling procedure.

The samples have been received on the 11/01/2015.

Article
Luxury Vinyl Tile, OSB

Order:

Classification of burning behaviour according to EN 13501-1:2007+ A1:2009.

Test methods: Ignitability of products subjected to direct impingement of flame (ISO 11925-2:2010/C1:2011) and determination of the burning behavior using a radiant heat source (ISO 9239-1:2010)

Appendix
I : Flooring Radiant Panel Single Specimen Report – 8 pages

Results:

See page three and four.

Appendix:

See page five up to and including twelve.

TRN applies General Terms & Conditions which are filed at the office of the Clerk for civil affairs at the Court in Zutphen (the Netherlands) under number 35/2010, dated November 17th 2010.

PRODUCT IDENTIFICATION

Name : **Luxury Vinyl Tile***
Product type : **OSB***
Type of colouring/patterning : **Wood***
Batch number : **20150930B***
Dimensions (Length*Width*Height) : **1212 * 221 * 5.0 mm***
Packaging : **2.142 m²***
Wear layer thickness : **0.7 mm***
Total thickness : **5.0 mm***
Total mass per unit area : **7 kg/m²***

** Applicant's declaration*

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02/02/2016

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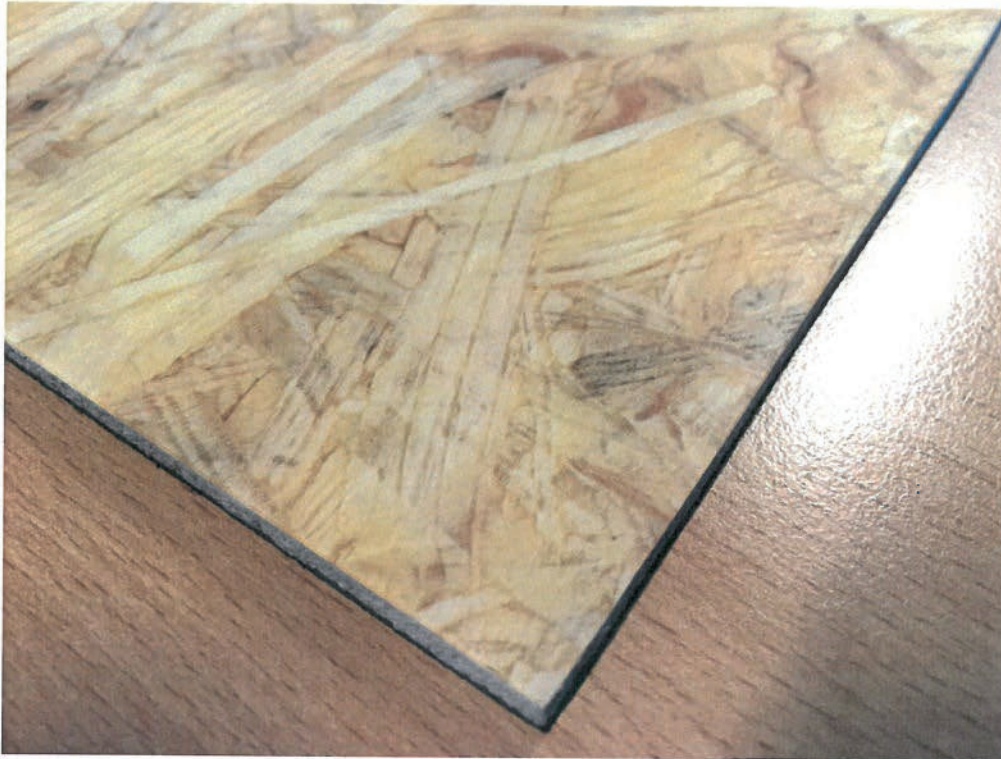


Figure 1. Picture of the received sample

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TEST RESULTS

Project number
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Ignitability of products subjected to direct impingement of flame
Method EN ISO 11925-2 :2010/C1:2011

Report number
89209169.01br

Date of testing : 01/02/2016
Conditioning time, climate : ≥ 7 days, 23 ± 2 °C and 50 ± 5 %
Description of substrate : Fibre cement board, 8 ± 2 mm, 1800 ± 200 kg/m³
conforming to EN 13238.
Flame application : Surface.
Flame application time : 15 seconds.

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Orientation:	Length			Width		
Total burning time ¹	15	15	15	15	15	15
Flame tip reaches 150 mm (s)	No	No	No	No	No	No
Extent of damaged area, length (mm)	52	58	57	54	58	54
Extent of damaged area, width (mm)	11	11	12	11	11	12
Material melts (yes/no)	Yes	Yes	Yes	Yes	Yes	Yes
Shrinks away ² (yes/no)	No	No	No	No	No	No
Glowing ³ (sec)	No	No	No	No	No	No
Flaming debris (yes/no)	No	No	No	No	No	No
Ignition of filter paper (yes/no)	No	No	No	No	No	No

¹ Inclusive a flame application time of 15 or 30 seconds with surface or edge impingement

² Shrinks away from flame without being ignited

³ The time at which it occurs and its duration

Determination of the burning behavior using a radiant heat source
Method EN ISO 9239-1:2010

Date of testing : 01/02/2016
Conditioning time, climate : ≥ 7 days, 23 ± 2 °C and 50 ± 5 %
Description of substrate : Fibre cement board, 8 ± 2 mm, 1800 ± 200 kg/m³
conforming to EN 13238.
Sampling procedure : By contractor.
Description of cleaning used : None.
Fixing method : None, sample is tested loose laid on the substrate.

Test specimen, orientation	Flame spread (cm)	CRF (kW/m ²)	Peak light attenuation (%)	Smoke production (%.min)
1, Length	10.0	≥ 10.9	16.6	92
2, Width	10.0	≥ 10.9	16.5	95
3, Width	9.0	≥ 10.9	17.4	92
4, Width	9.0	≥ 10.9	20.3	100
Mean, Width	9.3	≥ 10.9	18.1	96

Specimen 1, 2, 3 and 4: There is flashing and transitory observed, no sustained flaming are observed.

Specimen 1, 2, 3 and 4: Extinguished naturally before the end of the test duration

CONCLUSION

According to EN 13501-1:2007+ A1:2009 the tested sample of the aforementioned quality "Luxury Vinyl Tile", in relation to its reaction to fire behaviour is classified: **B_n**.

The additional classification in relation to smoke production is: **s1**.

The aforementioned quality meets the requirement of reaction to fire classification:
B_n – s1

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The classification is valid for the following end use applications:

- End use substrates of classes A1 and A2-s1,d0 , for example fibre cement board.
- Any way of fixation, glued down or loose laid.

Statements:

The test results only relate to the behaviour of the test specimens of the examined product under the particular conditions of the test in laboratory conditions; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use. The method might not be suitable if the product is exposed to much larger flames or heat radiant sources.

The validity of this report will expire directly after alterations or modifications of the examined product (combination)(s) and/or the criteria. This report shall not be reproduced, except in full, without the written approval of the testing laboratory.

This document does not represent type approval or certification of the product.

Author:

Mr. J. de Wolff



Review:

Mr. R. Boerboom



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(End of report)

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology JRPSoft software

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Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2010
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: TÜV Rheinland Shanghai Co 89209169
Date of test	: Feb 01 2016
Specimen description	: OSB MT16-89079.01
Test name	: Prod # 1
File name	: D:\FRPFILES\16020001.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\2.9A\CALIB\FLX16001.CSV
Thickness (mm)	:
Density (kg/m ³)	:
Test duration	: 12 minutes 12 seconds (732 s)
Substrate used?	: Yes
Substrate	: Calcium silicate
Fixing method	: none
Conditioned?	: Yes
Conditioning temp. (°C)	: 23
Conditioning RH (%)	: 50

Test Results

Time to ignition	: 2 minutes 05 seconds (125 s)
Time to flamesout	: 12 minutes 09 seconds (729 s)
Extent of burning (mm)	: 100
Critical flux at extinguishment (kW/m ²)	: >= 10.9
HF-10 (kW/m ²)	: 10.70
HF-20 (kW/m ²)	: Not calculated (test duration < 20 minutes)
HF-30 (kW/m ²)	: Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm)	: 100
Flame spread at 20 minutes (mm)	: Not measured
Flame spread at 30 minutes (mm)	: Not measured
Peak light attenuation (%)	: 16.56
Time to peak light attenuation	: 5 minutes 06 seconds (306 s)
Total integrated smoke (%.min)	: 92.45
Potential classification	: A2(B)/B(0)
Smoke production classification	: s1

These results relate only to the behaviour of the specimen of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

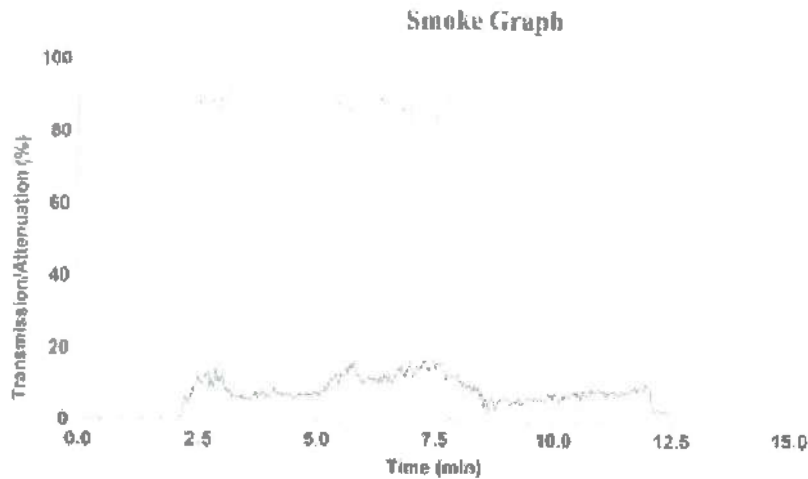
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Test name : Cross #3
File name : D:\FRPFILES\160201\95.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	374	11.3	4.233	510	-	3.6	-
110	-	10.5	-	560	-	3.0	-
160	-	9.9	-	610	-	2.5	-
210	-	9.1	-	660	-	2.2	-
260	-	8.1	-	710	-	1.8	-
310	-	7.2	-	760	-	1.6	-
360	-	6.2	-	810	-	1.4	-
410	-	5.3	-	860	-	1.2	-
460	-	4.4	-	910	-	1.1	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test, they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPtech software

Date
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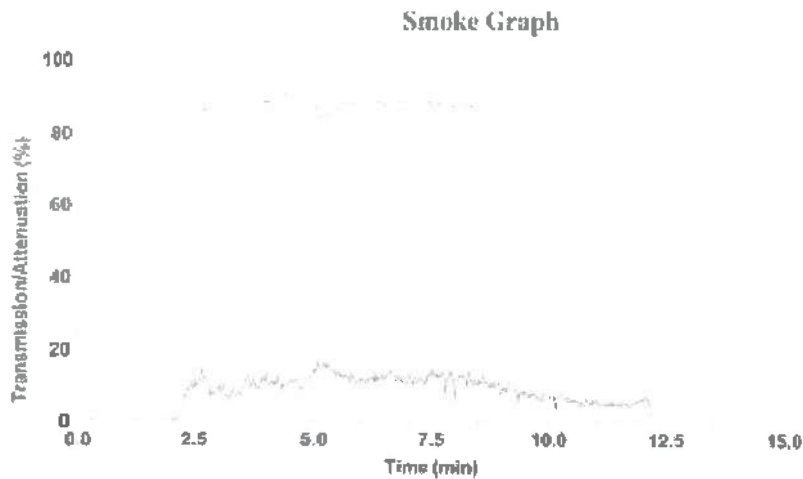
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Test name : Prod 7 1
File name : D:\FRPFILES\16020001.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	256	11.3	2.898	510	-	3.6	-
110	-	10.5	-	560	-	3.0	-
160	-	9.9	-	610	-	2.5	-
210	-	9.1	-	660	-	2.2	-
260	-	8.1	-	710	-	1.8	-
310	-	7.2	-	760	-	1.6	-
360	-	6.2	-	810	-	1.4	-
410	-	5.3	-	860	-	1.2	-
460	-	4.4	-	910	-	1.1	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Report produced with the Fire Testing Technology FTSafe software

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2010
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : TÜV Rheinland Shanghai Co 89209169
Date of test : Feb. 01 2016

Specimen description : OSB MTT6-89079.01
Test name : Cross #2
File name : D:\FRPFILES\16020602.CSV
Test number in series : 4

Flux calibration file name : C:\FRP\SOFT2.9A\CALIB\FLEX16001.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 12 minutes 10 seconds (730 s)
Substrate used? : Yes
Substrate : Calcium silicate
Fixing method : none
Conditioned? : Yes
Conditioning temp. (°C) : 23
Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 03 seconds (123 s)
Time to flameout : 12 minutes 08 seconds (728 s)
Extent of burning (mm) : 100
Critical flux at extinguishment (kW/m²) : >= 30.9
HF-10 (kW/m²) : 10.70
HF-20 (kW/m²) : Not calculated (test duration < 20 minutes)
HF-30 (kW/m²) : Not calculated (test duration < 30 minutes)
Flame spread at 10 minutes (mm) : 100
Flame spread at 20 minutes (mm) : Not measured
Flame spread at 30 minutes (mm) : Not measured
Peak light attenuation (%) : 36.53
Time to peak light attenuation : 7 minutes 13 seconds (433 s)
Total integrated smoke (%.min) : 94.98
Potential classification : A2(II)/B(II)
Smoke production classification : s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test, they are not intended to be the safe criterion for assessing the potential fire hazard of the product in use.

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Report produced with the Fire Testing Technology FRPSOft software

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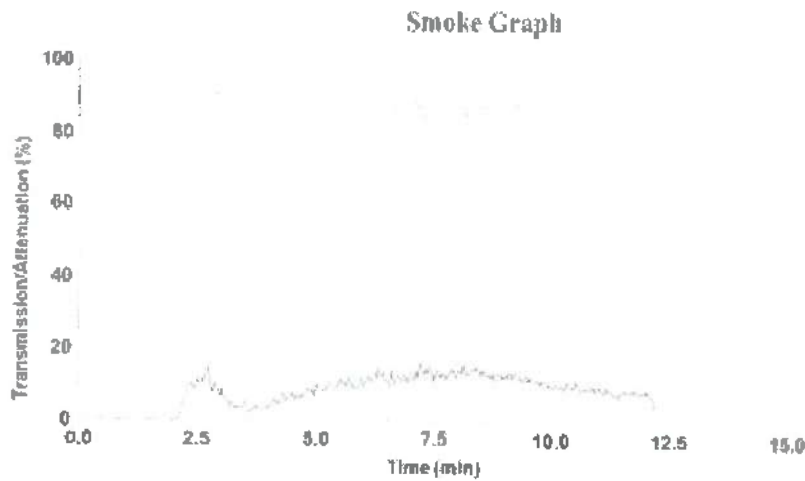
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Test name : Cross #2
File name : D:\FRPFILES\16020002.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
60	440	11.3	4.900	510	-	3.6	-
110	-	10.5	-	560	-	3.0	-
160	-	9.9	-	610	-	2.5	-
210	-	9.1	-	660	-	2.2	-
260	-	8.1	-	710	-	1.8	-
310	-	7.2	-	760	-	1.6	-
360	-	6.2	-	810	-	1.4	-
410	-	5.3	-	860	-	1.2	-
460	-	4.4	-	910	-	1.1	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimen of the product under the particular conditions of the test. They are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Report produced with the Fire Testing Technology FRPSOft software

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2010
 Laboratory : TÜV Rheinland Nederland B.V.
 Sponsor : TÜV Rheinland Shanghai Co. 89209169
 Date of test : Feb. 01 2016

Specimen description : OSB M116-89079.01
 Test name : Cross #3
 File name : D:\FRPFIL\FS\16020005.CSV
 Test number in series : 4

Flux calibration file name : C:\FRPSOFT2.9A\CALIB\FLX16001.CSV

Thickness (mm) :
 Density (kg/m³) :

Test duration : 12 minutes 26 seconds (746 s)
 Substrate used? : Yes
 Substrate : Calcium silicate
 Fixing method : none
 Conditioned? : Yes
 Conditioning temp. (°C) : 23
 Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 04 seconds (124 s)
 Time to flameout : 12 minutes 22 seconds (742 s)
 Extent of burning (mm) : 90
 Critical flux at extinguishment (kW/m²) : >= 10.9
 HF-10 (kW/m²) : 10.86
 HF-20 (kW/m²) : Not calculated (test duration < 20 minutes)
 HF-30 (kW/m²) : Not calculated (test duration < 30 minutes)
 Flame spread at 10 minutes (mm) : 90
 Flame spread at 20 minutes (mm) : Not measured
 Flame spread at 30 minutes (mm) : Not measured
 Peak light attenuation (%) : 17.44
 Time to peak light attenuation : 7 minutes (420 s)
 Total integrated smoke (% min) : 91.57

Potential classification : A2(fl)/B(f)
 Smoke production classification : s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test. They are not intended to be the sole criterion for assessing the potential fire hazard of the product at use.

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Report produced with the Fire Testing Technology (FTT)Soft software

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2010
 Laboratory : TÜV Rheinland Nederland B.V.
 Sponsor : TÜV Rheinland Shanghai Co 89209169
 Date of test : Feb. 01 2016

Specimen description : OSB MT16-89079.01
 Test name : Cross # 4
 File name : D:\FRP\FILES\16020006.CSV
 Test number in series : 4

Flux calibration file name : C:\FRPSOFT2.9A\CALIB\FLX16001.CSV

Thickness (mm) :
 Density (kg/m³) :

Test duration : 12 minutes 21 seconds (741 s)
 Substrate used? : Yes
 Substrate : Calcium silicate
 Fixing method : None (loose laid)
 Conditioned? : No
 Conditioning temp. (°C) : N/A
 Conditioning RH (%) : N/A

Test Results

Time to ignition : 7 minutes 03 seconds (423 s)
 Time to flameout : 12 minutes 19 seconds (739 s)
 Extent of burning (mm) : 90
 Critical flux at extinguishment (kW/m²) : >= 10.9
 HF-10 (kW/m²) : 10.86
 HF-20 (kW/m²) : Not calculated (test duration < 20 minutes)
 HF-30 (kW/m²) : Not calculated (test duration < 30 minutes)
 Flame spread at 10 minutes (mm) : 90
 Flame spread at 20 minutes (mm) : Not measured
 Flame spread at 30 minutes (mm) : Not measured
 Peak light attenuation (%) : 20.34
 Time to peak light attenuation : 6 minutes 15 seconds (375 s)
 Total integrated smoke (%.min) : 99.91

Potential classification : A2(f1)/B(f1)
 Smoke production classification : s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Report produced with the Fire Testing Technology FRPSoft software

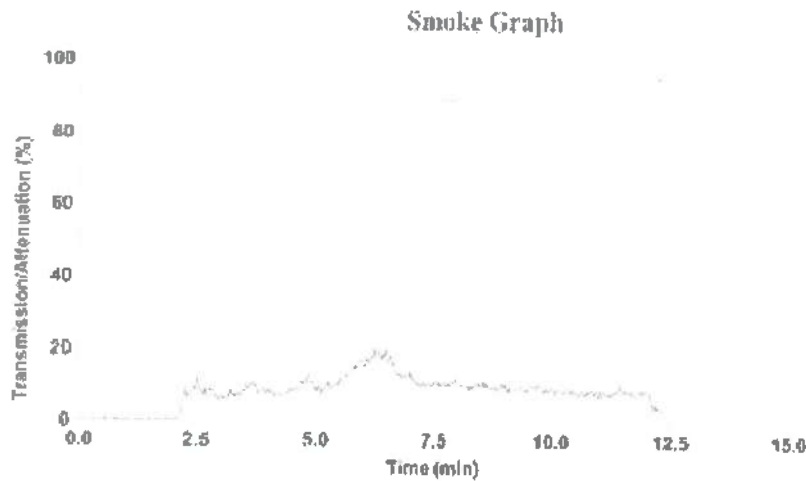
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Test name : Cross # 4
File name : D:\FRPFILES\16020006 CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsh (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsh (MJ/m²)
60	372	12.3	4.211	510	-	3.6	-
110	-	10.5	-	560	-	3.0	-
160	-	9.9	-	610	-	2.5	-
210	-	9.1	-	660	-	2.2	-
260	-	8.1	-	710	-	1.8	-
310	-	7.2	-	760	-	1.6	-
360	-	6.2	-	810	-	1.4	-
410	-	5.3	-	860	-	1.2	-
460	-	4.4	-	910	-	1.1	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

Test Report

Report Number:150831008SHF-BP-1

Applicant Name:

Original Report Date: October 12, 2015

**Sample Description:**

Product: PVC Floor Tile
Model: 18"*36"*3.0mm*0.5mm
Samples Quantity: 15 pieces
Sample ID: S150831008SHF-001~058, 105
Date Received: 2015-08-31
Date Test Conducted: 2015-09-01~2015-10-12

Tests Conducted:

Test Methods: See next pages.

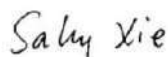
Conclusion:

For details refer to attached page(s).
The conclusions of this test report may not be used as part of the requirements for Intertek product certification.
Authority to Mark must be issued for a product to become certified.

Should you have any queries about the test report, please contact:

Approved by:**Checked by:****Prepared by:**

Sun Sun
Assistant manager



Sally Xie
Technical Supervisor



Jodie Zhou
Senior Technical Supervisor

Test Report

Report Number:150831008SHF-BP-1

Test Items, Method and Results:

Table 1 ASTM F1700-13a

Test Item	Test Method	Test Result	Test Requirement	Verdict
Size	ASTM F2055-10	Claimed Length: 914.4mm Width: 457.2mm Tested Length: 915.1mm Width: 457.3mm	A tolerance of $\pm 0.4\text{mm}/305\text{mm}$	Pass
Thickness	ASTM F386-11	Claimed value: 3.0mm Average: 3.01mm Min.: 3.00mm Max.: 3.02mm	A tolerance of $\pm 0.13\text{mm}$	Pass
Thickness of wear layer	ASTM F410-08(2013)	0.51mm	Commercial, 0.5mm min	Pass
Squareness	ASTM F2055-10	Short edge Max.: 0.02mm/457mm Long edge Max.: 0.02mm/600mm	$\leq 0.25\text{mm}/305\text{mm}$	Pass
Residual indentation	ASTM F1914-07(2011)	Average: 1.4% Max. : 1.7%	Average $\leq 8\%$ Max $\leq 10\%$	Pass
Flexibility	ASTM F137-08(2013)	No crack when using $\Phi 25.4\text{mm}$ mandrel	No crack or break when using $\Phi 25.4\text{mm}$ mandrel	Pass
Dimension Stability	ASTM F2199-09(2014)	MD Max.: -0.21mm/305mm CMD Max.: -0.31mm/305mm	$\leq 0.51\text{mm}/305\text{mm}$	Pass
Resistance to Chemicals	ASTM F925-13	See Appendix B for details	No more than a slight change in surface dulling, surface attack or staining	Pass
Resistance to Heat	ASTM F1514-03(2013)	$\Delta E^* = 0.47$	ΔE^* shall not greater than 8.0 after 7 days exposure to 70°C	Pass
Resistance to Light	ASTM F1515-03(2008)	$\Delta E^* = 1.42$	ΔE^* shall not greater than 8.0 after a 300h exposure	Pass

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Table 2 Other Tests

Test Item	Test Method	Test Condition	Test Result			
			MD		CMD	
Coefficient of friction	ASTM D2394-05(2011)	Static Dry	0.59		0.57	
		Static Wet	0.68		0.69	
		Dynamic Dry	0.47		0.49	
		Dynamic Wet	0.57		0.58	
Coefficient of friction	ASTM C1028-07 ^{e1}	Dry	0.75			
		Wet	0.70			
Castor Chair	NALFA/ANSI LF-11	25000 revolutions	No obvious damage			
		35000 revolutions	No obvious damage			
Wear Resistance	ASTM D4060-14	CS-17 wheel 1kg load, 1000 revolutions	37.8 mg			
Static Load Resistance	ASTM F970-07(2011)	Load: 250 lb	Residual indentation: 0.02 mm			
Fungi Resistance ¹	ASTM G21-09	28 days, >85%RH, 28°C Test organisms: Aspergillus niger ATCC 9642, Penicillium pinophilum ATCC 11797, Chaetomium globosum ATCC 6205, Aureobasidium pullulans ATCC 15233 and Gliocladium virens ATCC 9645.	Rating 0, no growth			
Formaldehyde Content ²	ASTM D6007-14	Chamber type: 0.225 m ³ stainless steel chamber Climatic conditions: 25° C, 50% R.H. Air exchange rate: 0.5 h ⁻¹ Loading factor: 0.95 m ² /m ³	Not detected Detection limit=0.02 ppm			

Note:

- The test was conducted at the external qualified facility, located at Guangzhou.
Rating evaluation: Observed Growth on Specimens
 - 0 None
 - 1 Traces of growth (less than 10 %)
 - 2 Light growth (10 to 30 %)
 - 3 Medium growth (30 to 60 %)
 - 4 Heavy growth (60 % to complete coverage)
- The test sample was 5.0mm type. The material was the same as 3.0mm type claimed by the applicant.

Test Report

Report Number:150831008SHF-BP-1

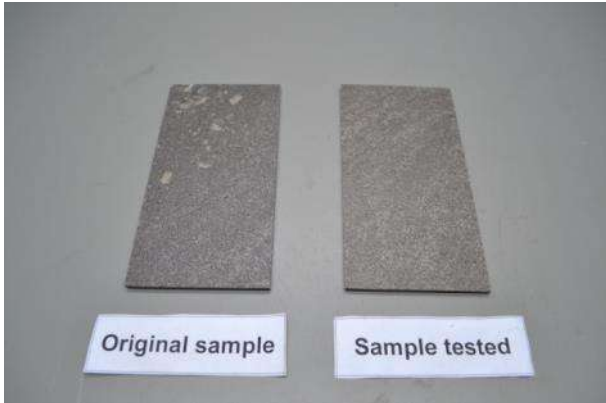
Appendix A: Sample photos



Sample received

Test Report

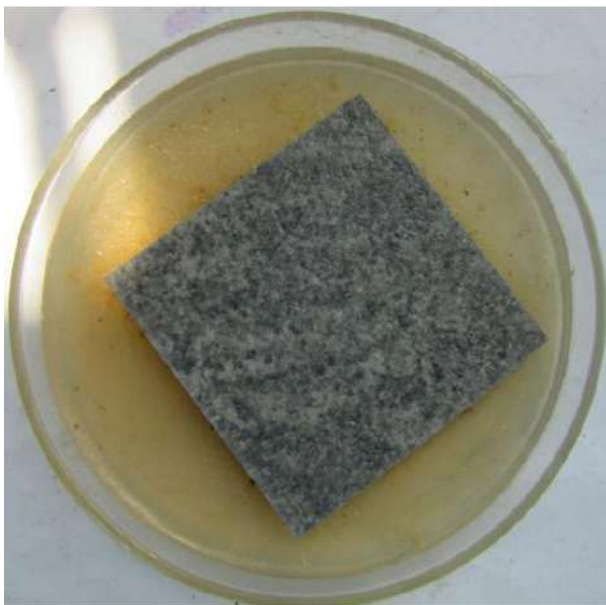
Report Number:150831008SHF-BP-1



Resistance to light



Resistance to heat



Fungi Resistance (after 28 days)

Test Report

Report Number:150831008SHF-BP-1

Appendix B Test result of Resistance to Chemicals

Reagent	Rating		
	Surface attack	Color change	Surface dulling
White vinegar (5% acetic acid)	0	0	0
Rubbing alcohol (70% isopropyl alcohol)	0	0	0
White mineral oil (medicinal grade)	0	0	0
Sodium hydroxide solution (5% NaOH)	0	0	0
Hydrochloric acid solution (5% HCl)	0	0	0
Sulfuric acid solution (5% H ₂ SO ₄)	0	0	0
Household ammonia solution (5% NH ₄ OH)	0	0	0
Household bleach (5.25% NaOCl)	0	0	0
Olive oil (light)	0	0	0
Kerozene (K1)	0	0	0
Unleaded gasoline (regular grade)	0	0	0
Phenol (5% active phenol)	0	0	0

According to ASTM F925-13, rating 0-3 represents:

0 = no change; 1 = slight change; 2 = moderate change; 3 = severe change.


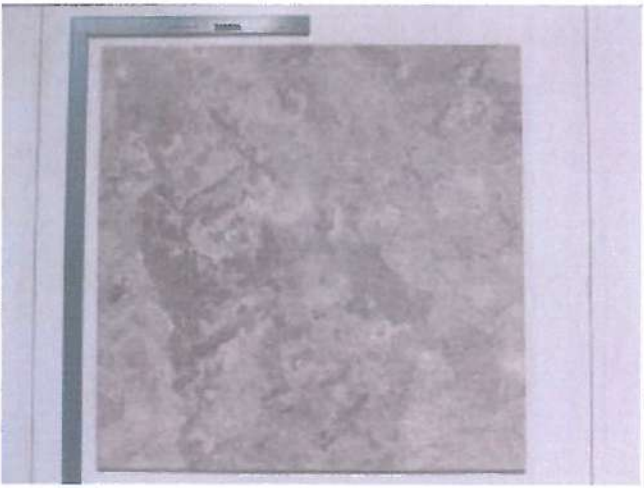

Surface Dulling - Indicating that the specimen suffered from a loss of gloss,

Color Change - Indicating that the specimen suffered discoloration or bleaching, or both, and

Surface Attack - Indicating that the specimen suffered surface damage such as softening, warping, swelling, blistering, peeling, raised or rough area.

The End of Report

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Prüfbericht-Nr.: <i>Test Report No.:</i>	15076111 001	Auftrags-Nr.: <i>Order No.:</i>	154063673	Seite 1 von 14 Page 1 of 14
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	21.08.2014	
Auftraggeber: <i>Client:</i>				
Prüfgegenstand: <i>Test item:</i>	PVC flooring Luxury vinyl tile(LVT)			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	Form: Tile Total thickness: 2.0 mm - 5.0 mm; Mass per unit area: 3.853 kg/m ² - 10.03 kg/m ²			
Auftrags-Inhalt: <i>Order content:</i>	Initial type testing report			
Prüfgrundlage: <i>Test specification:</i>	EN 14041:2004+AC:2005+AC:2006 Bodenbelag - Anforderung und Prüfung Flooring - Requirements and Test			
Wareneingangsdatum: <i>Date of receipt:</i>	11.09.2014			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A0000154063673-30			
Prüfzeitraum: <i>Testing period:</i>	11.09.2014 - 21.10.2014			
Ort der Prüfung: <i>Place of testing:</i>	TUV Rheinland: Shanghai, Nuremberg and Enschede			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
2014.11.10	Daniel Chen/PE		2014.11.10	Xin Zhang / Reviewer
<i>Datum</i> Date	<i>Name / Stellung</i> Name / Position	<i>Unterschrift</i> Signature	<i>Datum</i> Date	<i>Unterschrift</i> Signature
Sonstiges / Other:				
Reaction to fire is tested on TÜV Rheinland Nederland B.V. with Notified Body number 0336*.				
Formaldehyd Emission is tested on TÜV Rheinland LGA Products GmbH with Notified Body number 0197*.				
Attachment 1: Report for Reaction to fire: C-89206631-1.				
Attachment 2: Report for Formaldehyd Emission: 21223510(3124761).				
Attachment 3: Report for PCP: 0154063673a 001.				
*To be used for CE marking only.				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend
	5 = mangelhaft			
	P(ass) = entspricht o.g. Prüfgrundlage(n)	F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	1 = very good	2 = good	3 = satisfactory	4 = sufficient
	5 = poor			
	P(ass) = passed a. m. test specification(s)	F(ail) = failed a. m. test specification(s)	N/A = not applicable	N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				


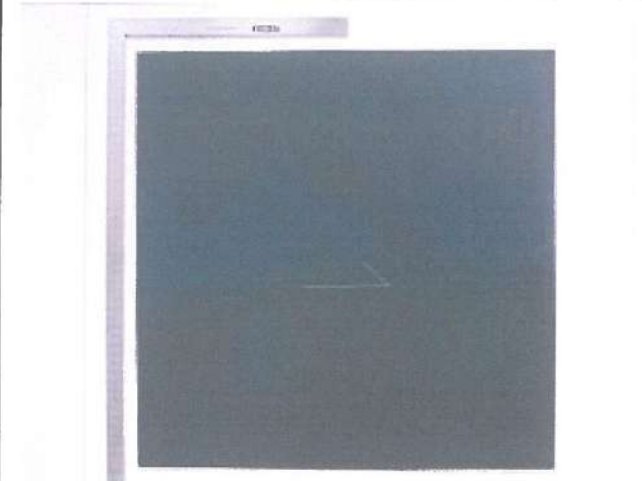
Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel <i>Test equipment</i>	Prüfmittel-Nr. / ID-Nr. <i>Equipment No. / ID-No.</i>	Nächste Kalibrierung <i>Next calibration</i>
Micrometer	L068	01.07.2015
Digital Caliper	B0543	09.06.2015
Caliper	L900	01.11.2017
Linear-axis Test Stand	FN-56	01.10.2015
GC-MS	CHEM06	11.06.2016
ELECTRONIC BALANCE	CHEM175	10.07.2015
Flooring Radiant Panel Test Apparatus	Tui 107000060(Enschede)	14.10.2015
Sampling pump Desaga no. 12	06878(Nuremberg)	04.2015
Thermo-Hygrometer Luft-1	07887(Nuremberg)	08.2015
Spektral-Photometer(UV-VIS) Perkin-Elmer, Lambda2	06911(Nuremberg)	02.2015
Test chamber no. 22	06949(Nuremberg)	Acc. Internal validation program

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Produktbeschreibung
Product description

1	Produktdetails <i>Product details</i>	PVC flooring <i>Luxury vinyl tile(LVT)</i>
2	Maße / Gewicht <i>Dimensions / Weight</i>	Total Thickness: 2.0 mm - 5.0 mm Mass per unit area : 3.853 kg/m ² - 10.03 kg/m ²
3	Bedienelemente <i>Operating elements</i>	N/A
4	Ausstattung / Zubehör <i>Equipment / Accessories</i>	N/A
5	Verwendete Materialien <i>Used materials</i>	PVC
6	Sonstiges <i>Other</i>	N/A
Face		Back
		
Blank		Blank

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Absatz Clause	EN 14041:2004+AC:2005+AC:2006 Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse - Bemerkungen Measuring results - Remarks	Bewertung Evaluation
1	<p>Scope This document specifies the health, safety and energy saving requirements for:</p> <ul style="list-style-type: none"> ● resilient floor coverings manufactured from plastics, linoleum, cork or rubber, excluding loose-laid mats; ● textile floor coverings, excluding loose-laid mats and rugs; ● laminate floor coverings; ● floor panels for loose-laying. <p>It also specifies procedures for testing for the evaluation of conformity of the products and the requirements for marking and labeling. The products are intended for use as floor coverings within a building or externally, according to the manufacturer's specifications. This document does not apply to floor coverings containing asbestos. This document does not specify requirements unrelated to health, safety and energy saving, which are covered in the separate European Standards for these products, listed in Annex A. To perform correctly, products covered by this standard require correct installation and maintenance. This document does not, however, cover installation or maintenance, but does give advice on minimizing slip hazards.</p>	<p>The specimen is PVC floor coverings which are in the scope of the standard.</p>	<p>P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/></p>
2	<p>Normative references → See details in EN 14041:2004</p>		
3	<p>Terms and definitions → See details in EN 14041:2004</p>		
4	<p>Requirements</p>		
4.1	<p>Requirements to fire</p>	<p>See detailed clauses as below</p>	<p>P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/></p>
4.1.1	<p>Specimen preparation and conditioning Preparation of test specimens shall be as defined in the appropriate fire test standard, except in the case of textile floor coverings where a washing and cleaning procedure similar to that used in practice may be</p>	<p>The specimen preparation and conditioning was done according to the standard EN 13328.</p>	<p>P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/></p>

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Absatz	EN 14041:2004+AC:2005+AC:2006	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
	<p>required to verify the durability of surface fire retardant treatments (see 4.1.3).</p> <p>The specimens shall be tested on one of the two standard substrates specified for floorings in EN 13238:2001 according to the intended end use. The composition of the product, including the presence of any fire retardant additive (if applicable), shall be declared by the manufacturer prior to type testing.</p>		
4.1.2	<p>Application rules</p> <p>If the specimens are tested using an adhesive, the test result is valid for the tested floor covering with that adhesive, or the generic adhesive type, in end use conditions.</p> <p>If the specimens are tested without using an adhesive, the test result is valid for the tested floor covering with and without using adhesives in end use conditions</p>		<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
4.1.3	<p>Durability aspects</p> <p>Where required, textile floor coverings specimens to be tested shall be subjected to the laboratory spray extraction cleaning procedure according to ISO 11379 with the following modifications.</p> <ul style="list-style-type: none"> ● Clean the test specimens three times, with an interval of 2 h 15 min between cycles, each cleaning cycle consisting of two strokes: <ul style="list-style-type: none"> – for the first stroke use the spray extraction machine with simultaneous spray and extraction; – for the second stroke operate the machine only as an extraction machine. ● Carry out the first cleaning cycle using the reference cleaning solution at ambient temperature (25 °C 10 °C) and the second and third cleaning cycle with water at ambient temperature without any addition of chemicals. ● 	<p>PVC flooring is not applicable, and this test is required for textile floor covering only.</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
4.1.4	<p>Classification</p> <p>If a claim for reaction to fire performance is made, the floor covering (except as provided for below) shall be tested and classified according to the requirements of EN 13501-1:2002 and the resulting class and subclass (as appropriate to the class itself) shall be declared.</p> <p>If it is decided to make no claim for reaction to fire performance, i.e. it is decided to place a product or family of products on the market as Class Ffl, no testing</p>	<p>Classification : B_{fl} -s1*</p> <p>*Details see the following reports: Test report of 2 mm products: TRN Report: 89206631.02br** Test report of 5 mm products: TRN Report: 89206631.01br**</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>

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Absatz	EN 14041:2004+AC:2005+AC:2006	Messergebnisse - Bemerkungen	Bewertung
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is required for this product of family of products.

The products listed in Tables 1, 2 and 3, in the end uses identified in the tables, are classified without further testing (CWFT) in the classes shown and do not require testing in respect of these end uses and classes.

NOTE The provisions of Tables 1, 2 and 3 are subject to final approval by the Standing Committee for Construction.

Users of this standard should, therefore, refer to the published EC Decisions, when they become available, to verify the details. Any changes necessary to these standards will be published in a Corrigendum.

Classification report:
TRN Report: C-89206631-1**

***Remark: The test was performed in TÜV Rheinland Nederland B.V. with Notified Body number 0336.*

Table 1 – Classes of reaction to fire for laminate floor coverings, classified without further testing

Floor covering type ¹	Product detail	Minimum density (kg/m ³)	Minimum overall thickness (mm)	Class ² Floorings
Laminate floor coverings	Laminate floor coverings manufactured in accordance with EN 13329:2000	800	6,5	E _t

¹ Floor covering loose laid over any wood based substrate of at least Class D-s2,d0 or any substrate of at least Class A2-s1,d0.

² Class as provided for in Table 2 in the Annex to Decision 2000/147/EC.

Table 2 – Classes of reaction to fire for textile floor coverings, classified without further testing

Floor covering type ¹	EN product standard	Class ³ Floorings
Non-FR machine-made wall-to-wall pile carpets and pile carpet tiles ²	EN 1307	E _{tL}
Non-FR needled textile floor coverings without pile ²	EN 1470	E _{tL}
Non-FR needled textile floor coverings with pile ²	EN 13297	E _{tL}

¹ Floor covering glued or loose laid over a Class A2-s1,d0 substrate.

² Textile floor coverings having a total mass of max. 4,8 kg/m², a minimum pile thickness of 1,8 mm (ISO 1786) and:

- a surface of 100% wool,
- a surface of 80% wool or more - 20% polyamide or less,
- a surface of 80% wool or more - 20% polyamide/polyester or less,
- a surface of 100% polyamide,
- a surface of 100% polypropylene and if with SBR-foam backing, a total mass of > 0,780 kg/m². All polypropylene carpets with other foam backings are excluded.

³ Class as provided for in Table 2 in the Annex to Decision 2000/147/EC.

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Absatz	EN 14041:2004+AC:2005+AC:2006	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

Table 3 – Classes of reaction to fire for resilient floor coverings, classified without further testing

Floor covering type ¹	EN product standard	Minimum mass (kg/m ²)	Maximum mass (kg/m ²)	Minimum overall thickness (mm)	Class ² Floorings
Plain & decorative Linoleum	EN 548	2,3	4,9	2	E _L
Homogeneous and heterogeneous polyvinyl chloride floor coverings	EN 649	2,3	3,9	1,5	E _L
Polyvinyl chloride floor coverings with foam layer	EN 651	1,7	5,4	2	E _L
Polyvinyl chloride floor covering with cork-based backing	EN 652	3,4	3,7	3,2	E _L
Expanded (cushioned) polyvinyl chloride floor coverings	EN 653	1,0	2,8	1,1	E _L
Semi-flexible polyvinyl chloride tiles	EN 654	4,2	5,0	2	E _L
Linoleum on corkment backing	EN 667	2,9	5,3	2,5	E _L
Homogeneous and heterogeneous smooth rubber floor coverings with foam backing	EN 1816	3,4	4,3	4	E _L
Homogeneous and heterogeneous smooth rubber floor coverings	EN 1817	3,0	6,0	1,8	E _L
Homogeneous and heterogeneous relief rubber floor coverings	EN 12199	4,6	6,7	2,5	E _L

¹ Floor covering loose laid over any wood based substrate of at least Class D-s2,d0 or any substrate of at least Class A2-s1,d0.
² Class as provided for in Table 2 in the Annex to Decision 2000/147/EC.

4.2	<p>Content of pentachlorophenol (PCP)</p> <p>Resilient, textile and laminate floor coverings shall not contain PCP or a derivative thereof as a component in the production process of the product or of its raw materials. In cases where verification is required, if the content is less than 5 ppm in the parts of the product affected by treatment, this requirement shall be considered to be met. For laminate floor coverings the method CEN/TR 148232, for textile floor coverings the method CEN/TS 144943 shall be used. For resilient floor coverings verification is not required.</p>	<p>Result: <0.5 ppm*</p> <p>*Details see the following report: 0154063673a 001</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
4.3	<p>Formaldehyde emission</p> <p>When formaldehyde-containing materials have been added to the product as a part of the production process, the product shall be tested and classified into one of two classes: E1 or E2, as specified in Table 4 and Table 5.</p>	<p>Result: Class E1*</p> <p>*Details see the following report: 21223510(3124761) **</p>	<p>P <input checked="" type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>

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Absatz	EN 14041:2004+AC:2005+AC:2006	Messergebnisse - Bemerkungen	Bewertung
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<p>The test requirement does not apply to floor coverings to which no formaldehyde-containing materials were added during production or post-production processing. These need not be classified, but may, without any testing, be declared as E1.</p> <p><i>NOTE:</i> Products of class E1 can be used without causing an indoor air concentration greater than $0,1 \times 10^{-6}$ (0,1 ppm) of formaldehyde.</p>	<p>**Remark: The test was performed in TÜV Rheinland LGA Products GmbH with Notified Body number 0197.</p>
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Table 4 – Formaldehyde class E1		
	Test method	Requirement
Initial type testing ^a	ENV 717-1	Release $\leq 0,124 \text{ mg/m}^3$
Factory production control	ENV 717-1	Release $\leq 0,124 \text{ mg/m}^3$
	EN 717-2	Release $\leq 3,5 \text{ mg/m}^2\text{h}$
<p>^a For established products, initial type testing may also be done on the basis of existing data with EN 717-2 testing, either from factory production control or from external inspection.</p>		
Table 5 – Formaldehyde class E2		
	Test method	Requirement
Initial type testing	ENV 717-1	Release $> 0,124 \text{ mg/m}^3$
	EN 717-2	Release $> 3,5 \text{ mg/m}^2\text{h}$ to $\leq 8 \text{ mg/m}^2\text{h}$
Factory production control	ENV 717-1	Release $> 0,124 \text{ mg/m}^3$
	EN 717-2	Release $> 3,5 \text{ mg/m}^2\text{h}$ to $\leq 8 \text{ mg/m}^2\text{h}$

4.4	<p>Water-tightness</p> <p>Where required, resilient floor coverings shall meet the requirements of EN 13553.</p>	<p>The specimen is under water-tightness condition for 3 hours according to EN 13553.</p> <p><i>Remark:</i></p> <ol style="list-style-type: none"> 1. The test according to EN 13553 is not applicable for product in tiles form. The test results are only for reference. 2. The test was performed for 3 hour with water to a level of 200mm above the surface of the specimen. 3. The test was performed with the water during 15 °C to 25 °C. 	<p>P <input type="checkbox"/></p> <p>F <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/></p> <p>N/T <input type="checkbox"/></p>
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Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
		4. The test was applied by client indecently.	
4.5	Slip resistance	See detailed clauses as below.	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
4.5.1	Classification If a claim for slip resistance is made, the floor covering intended to be used in dry and non-contaminated conditions shall have a dynamic coefficient of friction of $\geq 0,30$ when tested ex-factory under dry conditions in accordance with EN 13893 and shall be declared as technical class DS. Although such floors may be subjected to occasional spillage and wet cleaning, the manufacturer does not guarantee the performance under these conditions. If no claim for slip resistance is made, the floor coverings for which no performance has been determined shall be declared as technical class NPD.	Longitudinal dynamic coefficient of friction: $\mu_{mean}=0.35$ Horizontal dynamic coefficient of friction $\mu_{mean}=0.33$ $\mu_{final}=0.33$ Result: Class DS Remark: 1. The test was performed in dry condition. 2. The floor covering intended to be used in dry and non-contaminated conditions shall have a dynamic coefficient of friction of $\geq 0,30$ when tested ex-factory under dry conditions in accordance with EN 13893 and shall be declared as technical class DS.	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
4.5.2	Post-installation care The floor covering shall be treated, cleaned and maintained in accordance with the manufacturer's instructions. <i>NOTE :</i> <i>Slip resistance characteristics on an installed floor covering can be affected by its installation, the surface treatment that is given to it when installed, dirt accumulation and its cleaning and maintenance. Guidance on the reduction of slip hazards is given in Annex C.</i>	The manufacturer's instruction provided mentioned the floor covering shall be smooth, flat, dry, clean and solid before post-installation.	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>

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Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
4.6	Electrical behaviour (static electricity)	No declaration by the client.	P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>
4.6.1	Applicability For those floor coverings for which the manufacturer makes a claim for antistatic performance or electrical resistance.		P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>
4.6.2	Requirements		P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>
4.6.2.1	Antistatic floor coverings The body voltage, measured in accordance with EN 1815 for resilient and laminate floor coverings or ISO 6356 for textile floor coverings, shall not exceed 2,0 kV when tested at 23 °C ± 1 °C and (25 ± 2) % relative humidity after conditioning the test specimens in the same atmosphere for seven days.		P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>
4.6.2.2	Electrical resistance ● Static dissipative floor coverings: The vertical resistance, measured in accordance with EN 1081 for resilient and laminate floor coverings or ISO 10965 for textile floor coverings, shall not exceed 10 ⁹ Ω. ● Conductive floor coverings: The vertical resistance, measured in accordance with EN 1081 for resilient and laminate floor coverings or ISO 10965 for textile floor coverings, shall not exceed 10 ⁶ Ω.		P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>
4.6.3	Durability aspects For textile antistatic floor coverings, a washing and cleaning procedure similar to that used in practice is required where applicable to verify the durability of surface antistatic treatments. In such cases the specimens to be tested shall be subjected to the laboratory spray extraction cleaning procedure according to ISO 11379 with the following modifications.	PVC flooring is not applicable	P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>

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Absatz Clause	EN 14041:2004+AC:2005+AC:2006 Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse - Bemerkungen Measuring results - Remarks	Bewertung Evaluation
	<p>Clean the test specimens three times, with an interval of 2 h 15 min between cycles, each cleaning cycle consisting of two strokes:</p> <ul style="list-style-type: none"> - for the first stroke use the spray extraction machine with simultaneous spray and extraction; - for the second stroke operate the machine only as an extraction machine. <p>Carry out the first cleaning cycle using the reference cleaning solution at ambient temperature 25 °C 10 °C and the second and third cleaning cycle with water at ambient temperature without any addition of chemicals.</p> <p>After this, the test of 4.6.2 shall be repeated and the requirements met.</p> <p>NOTE Dirt and application of polymers can affect the antistatic and electrical properties of resilient and laminate floor coverings.</p>		
4.7	<p>Thermal conductivity</p> <p>When floor coverings are to be installed over an under-floor heating system the design thermal conductivity values given in EN 12524 shall be assumed for design calculation purposes. Alternatively, the thermal resistance measured in accordance with EN 12667 may be used.</p>	No declaration by the client.	P <input type="checkbox"/> F <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/T <input type="checkbox"/>
5	<p>Evaluation of conformity</p>	See detailed clauses as below.	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
5.1	<p>General</p> <p>The conformity of floor coverings with the requirements of this standard (including classes) shall be demonstrated by:</p> <ul style="list-style-type: none"> - initial type testing; - Factory production control by the manufacturer, including product assessment (see Annex D). <p>For the purposes of testing, floor coverings may be grouped into families (see 3.1), where it is considered that the results for a given characteristic from any one product within the family are valid for all other floor coverings within that family.</p>	<ul style="list-style-type: none"> - ITT: see the relevant clauses of this test report. - FPC system is controlled by manufacturer according to AVCP 3 system of CPR. 	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>

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Test Report No.:

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Page 12 of 14

Absatz	EN 14041:2004+AC:2005+AC:2006	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
5.2	Type testing	See detailed clauses as below.	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
5.2.1	Initial type testing Initial type testing shall be performed to show conformity with this standard. Tests previously performed in accordance with the provisions of this standard (same product, same characteristic(s), test method, sampling procedure, system of attestation of conformity, etc.) may be taken into account. In addition, initial type testing shall be performed at the beginning of the production of a new product type (unless a member of the same family) or at the beginning of a new method of production (where this may affect the stated properties). Whenever a change occurs in the product, the raw material or supplier of the components, or the production process (subject to the definition of a family), which would change significantly one or more of the characteristics, the type tests shall be repeated for the appropriate characteristic(s).	<ul style="list-style-type: none"> - Reaction to Fire - Emission of Formaldehyde - Content of PCP - Slipperiness 	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
5.2.2	Sampling, testing and compliance criteria The sample taken for testing shall be representative of the available material. Compliance criteria are specified in Clause 4. The results of all type tests shall be recorded and held by the manufacturer for at least 5 years.	Samples were taken by manufactory. <i>Note:</i> The results of all type tests shall be recorded and held by the manufacturer for at least 5 years.	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>
5.3	Factory production control (FPC) The manufacturer shall establish, document and maintain an FPC system to ensure that the products placed on the market conform to the stated performance requirements. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product. Elements needed for the methods of FPC are given in Annex D.	FPC system is controlled by manufactory according to AVCP 3 system of CPR.	P <input checked="" type="checkbox"/> F <input type="checkbox"/> N/A <input type="checkbox"/> N/T <input type="checkbox"/>

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Absatz	EN 14041:2004+AC:2005+AC:2006	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

6

Marking and labeling

Products which conform to the requirements of this document shall be clearly and indelibly marked by the manufacturer either on their package or on an adhesive label with the following information:

- a) The number and the year of this European Standard, i.e. EN 14041:2004;
- b) The manufacturer's or supplier's identification;
- c) The product name and batch number (possibly in code form).

Where the requirements of ZA.3 give the same information as this clause, the requirements of this clause are considered to have been met.

See CE Marking confirmed by manufactory.

P
F
N/A
N/T



No. 001CPR2013-07-01^[1]



14

EN 14041:2004 + AC:2005 + AC:2006

Product	Luxury vinyl tile(LVT)
Requirements to fire	Bfl-s1
Content of pentachlorophenol(PCP)	<5ppm
Formaldehyde emission	E ₁
Slipperiness	DS

Remark: the label will be used as the insert paper in the package, or it will be printed out on the package.

Remark:

^[1] Reference number of the Declaration of Performance. It's an identification number for each delivery batch of products and it is uniqueness and continuity between different batches.

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Absatz	EN 14041:2004+AC:2005+AC:2006	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

A	<p>Annex A (informative)</p> <p>Other European Standards for resilient, textile and laminate floor Coverings</p> <p>→ See details in EN 14041:2004</p>		
B	<p>Annex B (normative)</p> <p>Analysis of pentachlorophenol in floor coverings</p> <p>→ See details in EN 14041:2004</p>		
C	<p>Annex C (informative)</p> <p>Guidance on the reduction of slip hazards</p> <p>→ See details in EN 14041:2004</p>		
D	<p>Annex D (normative)</p> <p>Factory production control and reaction to fire testing</p> <p>→ See details in EN 14041:2004</p>		
ZA	<p>Annex ZA (informative)</p> <p>Clauses of this European Standard addressing essential requirements or other provisions of EU Directives</p> <p>→ See details in EN 14041:2004</p>		

-END OF THE TEST REPORT-

Allgemeine bauaufsichtliche Zulassung

Zulassungsstelle für Bauprodukte und Bauarten

Bautechnisches Prüfamt

Eine vom Bund und den Ländern
gemeinsam getragene Anstalt des öffentlichen Rechts
Mitglied der EOTA, der UEAtc und der WFTAO

Datum:

01.12.2015

Geschäftszeichen:

II 42-1.156.603-115/15

Zulassungsnummer:
Z-156.603-1587

Geltungsdauer

vom: **1. Dezember 2015**

bis: **14. April 2020**

Antragsteller:



Zulassungsgegenstand:
Heterogene PVC Bodenbeläge gemäß DIN EN 14041
"Luxury vinyl tile"

Diese allgemeine bauaufsichtliche Zulassung regelt die Verwendbarkeit der unter dem Zulassungsgegenstand genannten Produkte nach der harmonisierten Norm DIN EN 14041 für die Verwendung in Aufenthaltsräumen mit Nachweis des Emissionsverhaltens.

Der oben genannte Zulassungsgegenstand wird hiermit allgemein bauaufsichtlich zugelassen.
Diese allgemeine bauaufsichtliche Zulassung umfasst fünf Seiten und eine Anlage.

DIBt

I ALLGEMEINE BESTIMMUNGEN

- 1 Mit der allgemeinen bauaufsichtlichen Zulassung ist die Verwendbarkeit bzw. Anwendbarkeit des Zulassungsgegenstandes im Sinne der Landesbauordnungen nachgewiesen.
- 2 Sofern in der allgemeinen bauaufsichtlichen Zulassung Anforderungen an die besondere Sachkunde und Erfahrung der mit der Herstellung von Bauprodukten und Bauarten betrauten Personen nach den § 17 Abs. 5 Musterbauordnung entsprechenden Länderregelungen gestellt werden, ist zu beachten, dass diese Sachkunde und Erfahrung auch durch gleichwertige Nachweise anderer Mitgliedstaaten der Europäischen Union belegt werden kann. Dies gilt ggf. auch für im Rahmen des Abkommens über den Europäischen Wirtschaftsraum (EWR) oder anderer bilateraler Abkommen vorgelegte gleichwertige Nachweise.
- 3 Die allgemeine bauaufsichtliche Zulassung ersetzt nicht die für die Durchführung von Bauvorhaben gesetzlich vorgeschriebenen Genehmigungen, Zustimmungen und Bescheinigungen.
- 4 Die allgemeine bauaufsichtliche Zulassung wird unbeschadet der Rechte Dritter, insbesondere privater Schutzrechte, erteilt.
- 5 Hersteller und Vertreiber des Zulassungsgegenstandes haben, unbeschadet weitergehender Regelungen in den "Besonderen Bestimmungen", dem Verwender bzw. Anwender des Zulassungsgegenstandes Kopien der allgemeinen bauaufsichtlichen Zulassung zur Verfügung zu stellen und darauf hinzuweisen, dass die allgemeine bauaufsichtliche Zulassung an der Verwendungsstelle vorliegen muss. Auf Anforderung sind den beteiligten Behörden Kopien der allgemeinen bauaufsichtlichen Zulassung zur Verfügung zu stellen.
- 6 Die allgemeine bauaufsichtliche Zulassung darf nur vollständig vervielfältigt werden. Eine auszugsweise Veröffentlichung bedarf der Zustimmung des Deutschen Instituts für Bautechnik. Texte und Zeichnungen von Werbeschriften dürfen der allgemeinen bauaufsichtlichen Zulassung nicht widersprechen. Im Falle von Unterschieden zwischen der deutschen Fassung der allgemeinen bauaufsichtlichen Zulassung und ihrer englischen Übersetzung hat die deutsche Fassung Vorrang. Übersetzungen der allgemeinen bauaufsichtlichen Zulassung müssen den Hinweis "Vom Deutschen Institut für Bautechnik nicht geprüfte Übersetzung der deutschen Originalfassung" enthalten.
- 7 Die allgemeine bauaufsichtliche Zulassung wird widerruflich erteilt. Die Bestimmungen der allgemeinen bauaufsichtlichen Zulassung können nachträglich ergänzt und geändert werden, insbesondere, wenn neue technische Erkenntnisse dies erfordern.

II BESONDERE BESTIMMUNGEN

1 Zulassungsgegenstand und Anwendungsbereich

Die allgemeine bauaufsichtliche Zulassung gilt für die Herstellung und Verwendung der heterogenen PVC-Bodenbeläge "Luxury vinyl tile" mit CE-Kennzeichnung nach der Norm DIN EN 14041¹.

Die Bodenbeläge erfüllen die Anforderungen der "Grundsätze zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen"² und dürfen demgemäß in Aufenthaltsräumen verwendet werden.

2 Bestimmungen für das Bauprodukt

2.1 Eigenschaften und Zusammensetzung

2.1.1 Die heterogenen PVC-Bodenbeläge müssen den Bestimmungen der Norm DIN EN 14041 sowie den Bestimmungen dieser allgemeinen bauaufsichtlichen Zulassung entsprechen. Die Bodenbeläge müssen bestehen aus

- der Oberflächenvergütung auf Polyurethan-Acrylatbasis,
- der transparenten Nuttschicht aus PVC,
- einem bedruckten Film aus PVC sowie
- dem Trägermaterial aus PVC.

Die Gesamtdicke der Bodenbeläge muss 2,0 mm bis 5,0 mm ($\pm 10\%$) und das Gesamtflächengewicht 3720 g/m² bis 10380 g/m² ($\pm 10\%$) betragen.

2.1.2 Die Bodenbeläge müssen die Anforderungen der "Grundsätze zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen" insbesondere hinsichtlich der Emissionsbegrenzung flüchtiger und schwer flüchtiger organischer Verbindungen erfüllen.

2.1.3 Die chemische Zusammensetzung der Bodenbeläge muss mit der beim Deutschen Institut für Bautechnik hinterlegten übereinstimmen.

2.1.4 Der in Abschnitt 1 genannte Zulassungsgegenstand umfasst eine Gruppe von Einzelprodukten, deren unterschiedliche Dicken und Flächengewichte den in Abschnitt 2.1.1 angegebenen Bereichen entsprechen müssen; sie müssen ansonsten in Aufbau und chemischer Zusammensetzung identisch sein. Die Liste der Einzelprodukte ist der Zulassung in der Anlage 1 beigelegt.

2.2 Herstellung und Kennzeichnung

2.2.1 Herstellung

Bei der Herstellung der Bauprodukte sind die Bestimmungen des Abschnitts 2.1 einzuhalten.

2.2.2 Kennzeichnung

Die Bauprodukte, ihre Verpackung oder die Beipackzettel müssen vom Hersteller zusätzlich zur CE-Kennzeichnung nach der Norm DIN EN 14041 mit dem Übereinstimmungszeichen (Ü-Zeichen) nach den Übereinstimmungszeichen-Verordnungen der Länder gekennzeichnet werden. Die Kennzeichnung darf nur erfolgen, wenn die Voraussetzungen nach Abschnitt 2.3 erfüllt sind.

¹ DIN EN 14041:2008-05: Elastische, textile und Laminat-Bodenbeläge bzw. die in den Mitgliedsstaaten in nationale Normen umgesetzte EN 14041:2004/AC:2005/AC:2006

² Grundsätze zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen, veröffentlicht auf der Homepage des DIBt, <http://www.dibt.de>
Eine Bewertung des Geruches erfolgt im Rahmen der Zulassung nicht.

Die Kennzeichnung muss deutlich lesbar folgende Angaben enthalten:

- "[Produktname]"
- Übereinstimmungszeichen (Ü-Zeichen) mit Namen des Herstellers und des Herstellwerks (kann auch verschlüsselt angegeben werden), Zulassungsnummer und Bezeichnung der Zertifizierungsstelle
- "Emissionsgeprüftes Bauprodukt nach DIBt-Grundsätzen"

2.3 Übereinstimmungsnachweis

2.3.1 Allgemeines

Die Bestätigung der Übereinstimmung der Bauprodukte mit den Bestimmungen dieser allgemeinen bauaufsichtlichen Zulassung muss für jedes Herstellwerk mit einem Übereinstimmungszertifikat auf der Grundlage einer werkseigenen Produktionskontrolle und einer regelmäßigen Fremdüberwachung einschließlich einer Erstprüfung der Bauprodukte nach Maßgabe der folgenden Bestimmungen erfolgen.

Für die Erteilung des Übereinstimmungszertifikats und die Fremdüberwachung einschließlich der dabei durchzuführenden Produktprüfungen hat der Hersteller der Bauprodukte eine hierfür anerkannte Zertifizierungsstelle sowie eine hierfür anerkannte Überwachungsstelle einzuschalten.

Die Erklärung, dass ein Übereinstimmungszertifikat erteilt ist, hat der Hersteller durch Kennzeichnung der Bauprodukte mit dem Übereinstimmungszeichen (Ü-Zeichen) unter Hinweis auf den Verwendungszweck abzugeben.

Dem Deutschen Institut für Bautechnik ist von der Zertifizierungsstelle eine Kopie des von ihr erteilten Übereinstimmungszertifikats zur Kenntnis zu geben.

2.3.2 Werkseigene Produktionskontrolle

Es gelten die Regelungen der Norm DIN EN 14041 sowie die im Folgenden aufgeführten Bestimmungen.

In jedem Herstellwerk ist eine werkseigene Produktionskontrolle einzurichten und durchzuführen. Unter werkseigener Produktionskontrolle wird die vom Hersteller vorzunehmende kontinuierliche Überwachung der Produktion verstanden, mit der dieser sicherstellt, dass das von ihm hergestellte Bauprodukt den Bestimmungen dieser allgemeinen bauaufsichtlichen Zulassung entspricht.

Die Ergebnisse der werkseigenen Produktionskontrolle sind aufzuzeichnen und auszuwerten. Die Aufzeichnungen müssen mindestens folgende Angaben enthalten:

- Bezeichnung des Bauprodukts bzw. des Ausgangsmaterials und der Bestandteile
- Art der Kontrolle oder Prüfung
- Datum der Herstellung und der Prüfung des Bauprodukts bzw. des Ausgangsmaterials oder der Bestandteile
- Ergebnis der Kontrollen und Prüfungen und, soweit zutreffend, Vergleich mit den Anforderungen
- Unterschrift des für die werkseigene Produktionskontrolle Verantwortlichen

Die Aufzeichnungen sind mindestens fünf Jahre aufzubewahren und der für die Fremdüberwachung eingeschalteten Überwachungsstelle vorzulegen. Sie sind dem Deutschen Institut für Bautechnik und der zuständigen obersten Bauaufsichtsbehörde auf Verlangen vorzulegen. Bei ungenügendem Prüfergebnis sind vom Hersteller unverzüglich die erforderlichen Maßnahmen zur Abstellung des Mangels zu treffen. Bauprodukte, die den Anforderungen nicht entsprechen, sind so zu handhaben, dass Verwechslungen mit übereinstimmenden ausgeschlossen werden. Nach Abstellung des Mangels ist - soweit technisch möglich und zum Nachweis der Mängelbeseitigung erforderlich - die betreffende Prüfung unverzüglich zu wiederholen.

2.3.3 Fremdüberwachung

In jedem Herstellwerk ist die werkseigene Produktionskontrolle durch eine Fremdüberwachung regelmäßig zu überprüfen, mindestens jedoch einmal jährlich. Dabei ist sicherzustellen, dass im Überwachungszeitraum die geprüften Einzelprodukte repräsentativ für die gesamte Gruppe sind. Im Rahmen der Fremdüberwachung ist eine Erstprüfung des Bauprodukts durchzuführen, und es können auch Proben für Stichprobenprüfungen entnommen werden. Die Probenahme und Prüfungen obliegen jeweils der anerkannten Überwachungsstelle. Die Ergebnisse der Zertifizierung und Fremdüberwachung sind mindestens fünf Jahre aufzubewahren. Sie sind von der Zertifizierungsstelle bzw. der Überwachungsstelle dem Deutschen Institut für Bautechnik und der zuständigen obersten Bauaufsichtsbehörde auf Verlangen vorzulegen.

Zum Nachweis des Emissionsverhaltens gemäß den "Grundsätzen zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen" ist einmal jährlich eine 3-tägige Emissionsprüfung oder eine adäquate Kurzzeitprüfung, die mit dem DIBt abzustimmen ist, durchzuführen. Im Rahmen der vorzugsweise letzten Fremdüberwachung ist eine vollständige Prüfung des Emissionsverhaltens (28 Tage oder entsprechend der Abbruchkriterien 3 oder 7 Tage³) durchzuführen. Die Hinweise für die Entnahme von Bodenbelagsproben im Werk für die Emissionsprüfung sind zu beachten³.

Weitere Maßnahmen und Prüfungen im Rahmen der Fremdüberwachung sind mit dem DIBt abzustimmen.

Wolfgang Misch
Referatsleiter



³ Veröffentlicht auf der Homepage des DIBt, <http://www.dibt.de>

Anlage 1

Zulassungsgegenstand: "Luxury vinyl tile"

Aufistung der in der Zulassung geregelten Einzelprodukte:

Lfd. Nr.	Name des Bodenbelags
1	JH-LVT



CLASSIFICATION OF REACTION TO FIRE IN ACCORDANCE WITH EN 13501-1:2007

Sponsor:



Prepared by: TÜV Rheinland Nederland B.V.
Josink Esweg 10
7545 PN
ENSCHEDÉ
The Netherlands

Notified Body number: 0336 *
Product name: Luxury Vinyl Tile
Classification report number: C-89206631-1
Project number: 89206631
Issue number: 1st
Date of issue: 02-10-2014

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1 Introduction

This classification report defines the classification assigned to **Luxury Vinyl Tile** in accordance with the procedures given in EN 13501-1:2007.

2 Details of classified product

2.1 General

The product, **Luxury Vinyl Tile**, is defined as a heterogeneous PVC floor covering in accordance with EN-ISO 10582:2012*.

* To be used for CE marking.

2.2 Product description

The product, **Luxury Vinyl Tile**, is described below and is described in the test reports provided in support of classification listed in 3.1.

Product description	: Luxury Vinyl Tile.
Floor covering type	: Heterogeneous polyvinyl chloride floor coverings in accordance with the requirements of EN-ISO 10582.
Product name	: Luxury Vinyl Tile
Nominal thickness	: 2.0 – 5.0 mm
Mass per unit area	: 3.853 – 10.03 kg/m ²

3 Test reports and test results in support of classification

3.1 Test reports references

Name of laboratory	Name of sponsor	Test report no.	Test method
TÜV Rheinland Nederland B.V.	Chiping Jiahua Plastics Co. Ltd.	89206631.01br	EN-ISO 11925-2:2010
			EN-ISO 9239-1:2010
TÜV Rheinland Nederland B.V.	Chiping Jiahua Plastics Co. Ltd.	89206631.02br	EN-ISO 11925-2:2010
			EN-ISO 9239-1:2010



3.2 Test results

Product name : Luxury Vinyl Tile
 Test report no. : 89206631.01br
 Nominal thickness : 5.0 mm
 Mass per unit area : 10.03 kg/m²

Test method and number	Parameter	No. of tests	Results	
			Continuous parameter – mean	Compliance with parameter
Reaction to fire -Single-flame source test, 15 s exposure time. EN-ISO 11925-2:2010	Flame spread (Fs) ≤ 150 mm	6	≤150 mm	Compliant
Reaction to fire tests for floorings – Radiant heat source. EN-ISO 9239-1:2010	Critical heat flux Class B _{fl} ≥ 8.0 kW/m ²	3	≥ 10.9 kW/m ²	Compliant
	Smoke production s1: Smoke ≤ 750 %·minutes	3	62 %·minutes	Compliant

Product name : Luxury Vinyl Tile
 Test report no. : 89206631.02br
 Nominal thickness : 2.0 mm
 Mass per unit area : 3.853 kg/m²

Test method and number	Parameter	No. of tests	Results	
			Continuous parameter – mean	Compliance with parameter
Reaction to fire -Single-flame source test, 15 s exposure time. EN-ISO 11925-2:2010	Flame spread (Fs) ≤ 150 mm	6	≤150 mm	Compliant
Reaction to fire tests for floorings – Radiant heat source. EN-ISO 9239-1:2010	Critical heat flux Class B _{fl} ≥ 8.0 kW/m ²	3	10.1 kW/m ²	Compliant
	Smoke production s1: Smoke ≤ 750 %·minutes	3	126 %·minutes	Compliant



4 Classification and fields of application

4.1 Reference of classification

This classification has been carried out in accordance with EN 13501-1:2007.

4.2 Classification

The product, **Luxury Vinyl Tile**, in relation to its reaction to fire behavior is classified: **B_{fl}**
The additional classification in relation to smoke production is: **s1**

Reaction to fire classification : B_{fl} – s1

4.3 Field of application

This classification is valid for the following product parameters:

Total thickness of 2.0 – 5.0 mm, with allowed deviation: $\frac{+0.13}{-0.10}$ mm.

Thickness of wear layer 0.2 – 0.55 mm, with allowed deviation: $\frac{+0.13}{-0.10}$ %.

Total mass per unit area 3.853 – 10.03 kg/m², with allowed deviation: $\frac{+13}{-10}$ %.

Reference: see reports mentioned under paragraph 3.1.

The classification is valid for the following end use applications:

- As a floor covering
- On an end use substrates of classes A1 and A2-s1,d0 according to EN 13238:2010.
- By any methods and means of fixing.



5 Limitations

This classification document does not represent type approval or certification of the product.

Statement when the product is being CE marked under attestation of conformity system 3:

"The classification assigned to the product in this report is appropriate to a declaration of conformity by the manufacturer within the context of system 3 attestation of conformity and CE marking under the Construction Products Directive.

The manufacturer has made a declaration, which is held on file. This confirms that the products design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that system 3 attestation is appropriate.

The test laboratory has, therefore, played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide for traceability of the samples tested."

6 Approval of document

Author	Signature of person undertaking classification
J. de Wolff Expert and project leader Flooring	
Approved	Signature of person authorising this report
H. Smit Business field manager	

- This is the end of this report -

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Date
02-10-2014

Project number
89206631

Report number
89206331.01br

Article
Luxury Vinyl Tile

Appendix
I: Flooring Radiant Panel Single
Specimen Report – 8 pages

Report

Project number : 89206631
Report number : 89206631.01br

Received:

A sample of a 5 mm thick heterogeneous resilient floorcovering, marked as: "Luxury Vinyl Tile"; TÜV reference: MT14-154063673-40.01

The samples have been received on the 11th of September 2014. The samples are selected by the applicant. The test house has had no influence on the sampling procedure.

Identification parameters received from the manufacturer:

Name	: Luxury Vinyl Tile
Pattern no.	: JH-6017-3
Batch no	: JH20140808
Dimensions	: 304.8 mm x 609.6 mm x 5.0 mm
Package	: 1.858 m ²
Total thickness	: 5.0 mm
Total mass per unit area	: 10.03 kg/m ²
Wear layer	: 0.55 mm
Composition / Material	: PVC, CaCO ₃ , DOTP
Classification standard	: ISO 10852
Use of fire-retardant	: No

Order:

Classification of burning behaviour according to EN 13501-1:2007+ A1:2009.

Test method:

Ignitability (direct impingement of flame) : EN ISO 11925-2:2010
Reaction to fire (radiant panel) : EN ISO 9239-1:2010

Results:

See page two and three.

Appendix:

See page four up to and including eleven.

TRN applies General Terms & Conditions which are filed at the office of the Clerk for civil affairs at the Court in Zutphen (the Netherlands) under number 35/2010, dated November 17th 2010.

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TEST RESULTS
Ignitability EN-ISO 11925-2 :2010

Date of testing : 17-9-2014
 Conditioning time, climate : ≥ 3 days, 23 ± 2 °C and 50 ± 5 %
 Description of substrate : 6 mm. Fibre cement board, 1800 kg/m^3 .
 Flame application : Surface.
 Application time : 15 seconds.

Direction:	In production			Across production		
Total burning time ¹ (15 s)	15	15	15	15	15	15
Flame tip reaches 150 mm (s)	no	no	no	no	no	No
Extent of damaged area, length (mm)	51	48	58	58	58	55
Extent of damaged area, width (mm)	17	12	12	12	12	12
Material melts (yes/no)	no	no	no	no	no	no
Shrinks away ² (yes/no)	no	no	no	no	no	no
Glowing ³ (sec)	no	no	no	no	no	no
Flaming debris (yes/no)	no	no	no	no	no	no
Ignition of filter paper (yes/no)	no	no	no	no	no	no

1 Inclusive a flame application time of 15 or 30 seconds with surface or edge impingement

2 Shrinks away from flame without being ignited

3 The time at which it occurs and its duration

Radiant Panel test ISO 9239-1:2010

Date of testing : 17-9-2014
 Conditioning time, climate : ≥ 3 days, 23 ± 2 °C and 50 ± 5 %
 Description of substrate : Fibre cement board 6 mm, $1800 \pm 200 \text{ kg/m}^3$ conforming to EN 13238.
 Sampling procedure : By contractor.
 Description of cleaning used : None.
 Fixing method : None, loose laid.

* = manufacturer's declaration

Test specimen, orientation	Flame spread (cm)	CRF (kW/m ²)	Peak light attenuation (%)	Smoke production (%.min)
1, ⊥	6.0	≥ 10.9	17.6	44
2, ↑	5.0	≥ 10.9	24.2	62
3, ↑	7.0	≥ 10.9	22.6	67
4, ↑	7.0	≥ 10.9	25.1	58
Mean₂₋₄	6.3	≥ 10.9	24.0	62

Remarks: There is flashing & transitory observed, there is no sustained flaming observed.
 All four tested specimen extinguished naturally before the end of the test duration

CONCLUSION

According to EN 13501-1:2007+ A1:2009 the tested sample of the aforementioned quality **Luxury Vinyl Tile**, in relation to its reaction to fire behaviour is classified: **B_{fl}**.
The additional classification in relation to smoke production is: **s1**.

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The aforementioned quality meets the requirement of reaction to fire classification:
B_{fl} – s1

The classification is valid for the following end use applications:

- End use substrates of classes A1 and A2-s1,d0 , for example fibre cement board.
- Any way of fixation.

Statements:

The test results only relate to the behaviour of the test specimens of the examined product under the particular conditions of the test in laboratory conditions; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use. The method might not be suitable if the product is exposed to much larger flames or heat radiant sources.

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Author:
Mr. J. de Wolff



Review:
Mr. R. Boerboom



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APPENDIX I: Flooring Radiant Panel Single Specimen Report

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002
 Laboratory : TÜV Rheinland Nederland B.V.
 Sponsor : Tuv ShangHai 89206631
 Date of test : Sep. 17 2014

Specimen description : Grijs Laminaat MT14-154063673-40.01
 Test name : Prod #1
 File name : D:\FRP\FILES\14090021.CSV
 Test number in series : 4

Flux calibration file name : CAFRPSOFT\CALIB\FLX14014.CSV

Thickness (mm) :
 Density (kg/m³) :

Test duration : 12 minutes 06 seconds (726 s)
 Substrate used? : Yes
 Substrate : Calcium silicate
 Fixing method : none
 Conditioned? : Yes
 Conditioning temp. (°C) : 23
 Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 01 seconds (121 s)
 Time to flameout : 12 minutes 03 seconds (723 s)
 Extent of burning (mm) : 50
 Critical flux at extinguishment (kW/m²) : ≥ 10.9
 HF-10 (kW/m²) : ≥ 10.9
 HF-20 (kW/m²) : ≥ 10.9
 HF-30 (kW/m²) : ≥ 10.9
 Flame spread at 10 minutes (mm) : 50
 Flame spread at 20 minutes (mm) : -1
 Flame spread at 30 minutes (mm) : -1
 Peak light attenuation (%) : 24,18
 Time to peak light attenuation : 3 minutes 53 seconds (233 s)
 Total integrated smoke (%.min) : 61,74

Potential classification : A2(fl)/B(fl)
Smoke production classification : s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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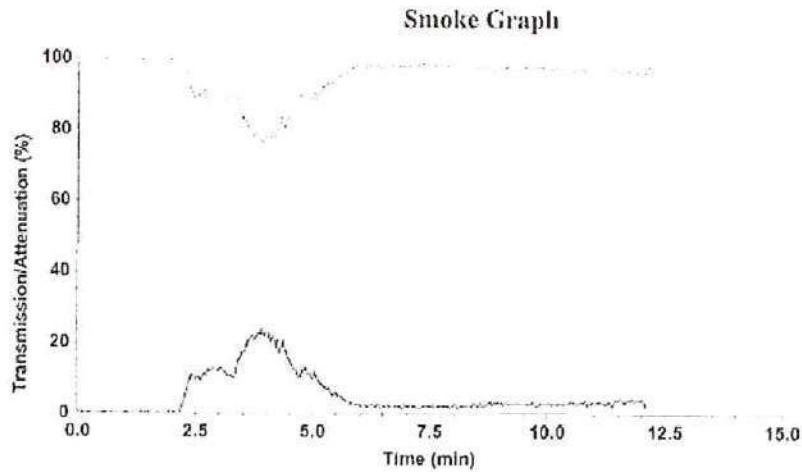
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Test name : Prod #1
File name : D:\FRPFILES\14090021.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	-	11.7	-	510	-	3.6	-
110	-	10.8	-	560	-	3.0	-
160	-	10.0	-	610	-	2.6	-
210	-	9.1	-	660	-	2.2	-
260	-	8.0	-	710	-	1.8	-
310	-	7.0	-	760	-	1.6	-
360	-	6.1	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002
 Laboratory : TÜV Rheinland Nederland B.V.
 Sponsor : Tuv ShangHai 89206631
 Date of test : Sep. 17 2014

Specimen description : Click PVC grijs MT14-154063673-40.01
 Test name : Prod #2
 File name : D:\FRPFILES\14090025.CSV
 Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX14014.CSV

Thickness (mm) :
 Density (kg/m³) :

Test duration : 12 minutes 03 seconds (723 s)
 Substrate used? : Yes
 Substrate : Calcium silicate
 Fixing method : none
 Conditioned? : Yes
 Conditioning temp. (°C) : 23
 Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 01 seconds (121 s)
 Time to flameout : 12 minutes 02 seconds (722 s)
 Extent of burning (mm) : 70
 Critical flux at extinguishment (kW/m²) : ≥ 10.9
 HF-10 (kW/m²) : ≥ 10.9
 HF-20 (kW/m²) : ≥ 10.9
 HF-30 (kW/m²) : ≥ 10.9
 Flame spread at 10 minutes (mm) : 70
 Flame spread at 20 minutes (mm) : -1
 Flame spread at 30 minutes (mm) : -1
 Peak light attenuation (%) : 17.62
 Time to peak light attenuation : 3 minutes 56 seconds (236 s)
 Total integrated smoke (%.min) : 43.88

Potential classification : A2(f)/B(f)
 Smoke production classification : s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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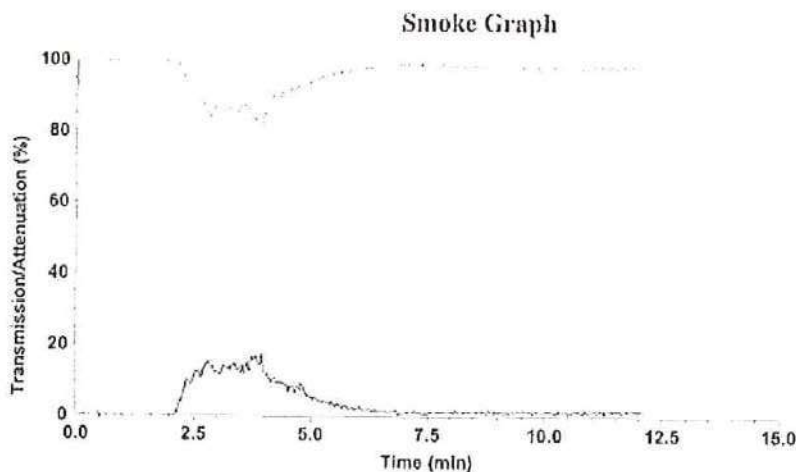
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Test name : Prod #2
File name : D:\FRPFILBS\14090025.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	191	11.7	2.058	510	-	3.6	-
110	-	10.8	-	560	-	3.0	-
160	-	10.0	-	610	-	2.6	-
210	-	9.1	-	660	-	2.2	-
260	-	8.0	-	710	-	1.8	-
310	-	7.0	-	760	-	1.6	-
360	-	6.1	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002
 Laboratory : TÜV Rheinland Nederland B.V.
 Sponsor : Tuv Shanghai 89206631
 Date of test : Sep. 17 2014

 Specimen description : Click PVC grijs MT14-154063673-40.01
 Test name : Prod #3
 File name : D:\FRPFILES\M4090026.CSV
 Test number in series : 4

 Flux calibration file name : C:\FRPSOFT\CALIB\FLX14014.CSV

 Thickness (mm) :
 Density (kg/m³) :

 Test duration : 12 minutes 39 seconds (759 s)
 Substrate used? : Yes
 Substrate : Calcium silicate
 Fixing method : none
 Conditioned? : Yes
 Conditioning temp. (°C) : 23
 Conditioning RH (%) : 50

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Test Results

Time to ignition : 2 minutes 04 seconds (124 s)
 Time to flameout : 12 minutes 07 seconds (727 s)
 Extent of burning (mm) : 70
 Critical flux at extinguishment (kW/m²) : >= 10.9
 HF-10 (kW/m²) : >= 10.9
 HF-20 (kW/m²) : >= 10.9
 HF-30 (kW/m²) : >= 10.9
 Flame spread at 10 minutes (mm) : 70
 Flame spread at 20 minutes (mm) : -1
 Flame spread at 30 minutes (mm) : -1
 Peak light attenuation (%) : 22.56
 Time to peak light attenuation : 4 minutes 16 seconds (256 s)
 Total integrated smoke (%.min) : 66.92

 Potential classification : A2(0)/B(0)
 Smoke production classification : s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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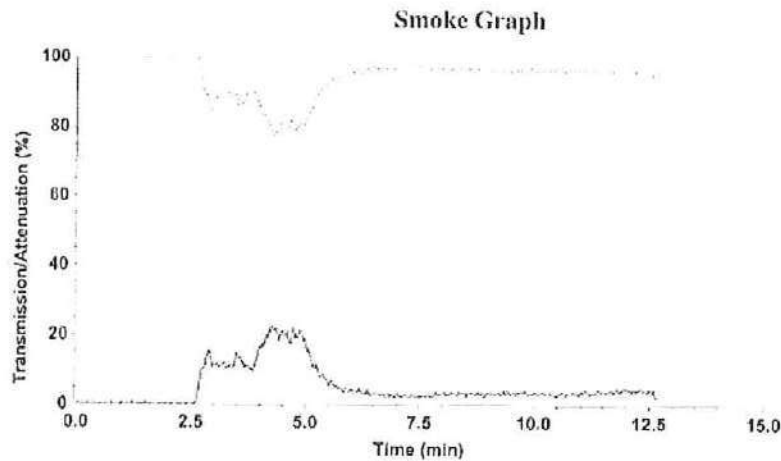
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Test name : Prod #3
File name : D:\FRPFILES\14090026.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	282	11.7	3.038	510	-	3.6	-
110	-	10.8	-	560	-	3.0	-
160	-	10.0	-	610	-	2.6	-
210	-	9.1	-	660	-	2.2	-
260	-	8.0	-	710	-	1.8	-
310	-	7.0	-	760	-	1.6	-
360	-	6.1	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2002
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: Tuv ShangHai 89206631
Date of test	: Sep. 17 2014
Specimen description	: Grijs Laminaat MT14-154063673-40.01
Test name	: Cross #1
File name	: D:\FRPFILES\14090022.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\CALIB\FLX14014.CSV
Thickness (mm)	:
Density (kg/m ³)	:
Test duration	: 12 minutes 13 seconds (733 s)
Substrate used?	: Yes
Substrate	: Calcium silicate
Fixing method	: none
Conditioned?	: Yes
Conditioning temp. (°C)	: 23
Conditioning RH (%)	: 50

Test Results

Time to ignition	: 2 minutes 01 seconds (121 s)
Time to flameout	: 12 minutes 11 seconds (731 s)
Extent of burning (mm)	: 60
Critical flux at extinguishment (kW/m ²)	: ≥ 10.9
HF-10 (kW/m ²)	: ≥ 10.9
HF-20 (kW/m ²)	: ≥ 10.9
HF-30 (kW/m ²)	: ≥ 10.9
Flame spread at 10 minutes (mm)	: 60
Flame spread at 20 minutes (mm)	: -1
Flame spread at 30 minutes (mm)	: -1
Peak light attenuation (%)	: 25.08
Time to peak light attenuation	: 3 minutes 56 seconds (236 s)
Total integrated smoke (%.min)	: 57.57
Potential classification	: A2(B)/B(B)
Smoke production classification	: s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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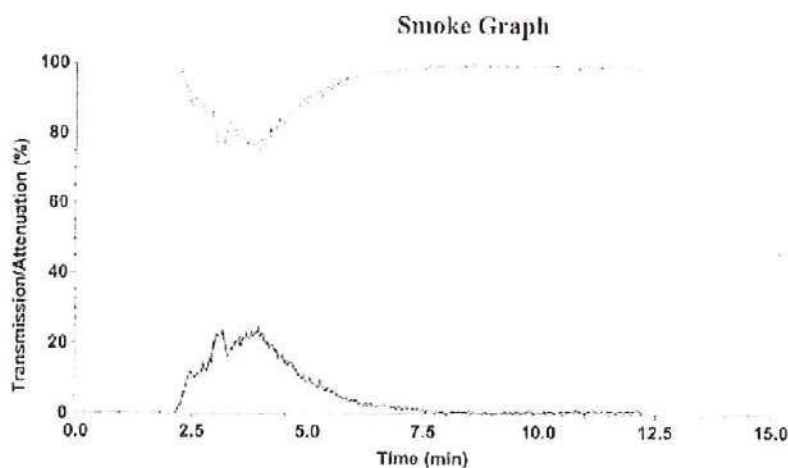
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Test name : Cross #1
File name : D:\FRPFILES\14090022.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	195	11.7	2.101	510	-	3.6	-
110	-	10.8	-	560	-	3.0	-
160	-	10.0	-	610	-	2.6	-
210	-	9.1	-	660	-	2.2	-
260	-	8.0	-	710	-	1.8	-
310	-	7.0	-	760	-	1.6	-
360	-	6.1	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

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Date
02-10-2014

Project number
89206631

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Appendix
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Specimen Report – 8 pages

Report

Project number : 89206631
Report number : 89206631.02br

Received:

A sample of a 2 mm thick heterogeneous Resilient floorcovering, marked as: “Luxury Vinyl Tile”; TÜV reference: MT14-154063673-40.02

The samples have been received on the 11nd of September 2014. The samples are selected by the applicant. The test house has had no influence on the sampling procedure.

Identification parameters received from the manufacturer:

Name	: Luxury Vinyl Tile
Pattern no.	: JH-0211
Batch no	: JH20140816
Dimensions	: 457.2 mm x 457.2 mm x 2.0 mm
Package	: 2.71 m ²
Total thickness	: 2.0 mm
Total mass per unit area	: 3.853 kg/m ²
Wear layer	: 0.2 mm
Composition / Material	: PVC, CaC03, DOTP
Classification standard	: ISO 10852
Use of fire-retardant	: No

Order:

Classification of burning behaviour according to EN 13501-1:2007+ A1:2009.

Test method:

Ignitability (direct impingement of flame) : EN ISO 11925-2:2010
Reaction to fire (radiant panel) : EN ISO 9239-1:2010

Results:

See page two and three.

Appendix:

See page four up to and including eleven.

TRN applies General Terms & Conditions which are filed at the office of the Clerk for civil affairs at the Court in Zutphen (the Netherlands) under number 35/2010, dated November 17th 2010.

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TEST RESULTS

Ignitability EN-ISO 11925-2 :2010

Date of testing : 17-9-2014
 Conditioning time, climate : ≥ 3 days, 23 ± 2 °C and 50 ± 5 %
 Description of substrate : 6 mm. Fibre cement board, 1800 kg/m^3 .
 Flame application : Surface.
 Application time : 15 seconds.

Direction:	In production			Across production		
Total burning time ¹ (15 s)	15	15	15	15	15	15
Flame tip reaches 150 mm (s)	no	no	no	no	no	No
Extent of damaged area, length (mm)	52	60	62	56	60	51
Extent of damaged area, width (mm)	11	12	12	12	12	11
Material melts (yes/no)	no	no	no	no	no	no
Shrinks away ² (yes/no)	no	no	no	no	no	no
Glowing ³ (sec)	no	no	no	no	no	no
Flaming debris (yes/no)	no	no	no	no	no	no
Ignition of filter paper (yes/no)	no	no	no	no	no	no

1 Inclusive a flame application time of 15 or 30 seconds with surface or edge impingement

2 Shrinks away from flame without being ignited

3 The time at which it occurs and its duration

Radiant Panel test ISO 9239-1:2010

Date of testing : 17-9-2014
 Conditioning time, climate : ≥ 3 days, 23 ± 2 °C and 50 ± 5 %
 Description of substrate : Fibre cement board 6 mm, $1800 \pm 200 \text{ kg/m}^3$
 conforming to EN 13238.
 Sampling procedure : By contractor.
 Description of cleaning used : None.
 Fixing method : None, loose laid.

* = manufacturer's declaration

Test specimen, orientation	Flame spread (cm)	CRF (kW/m ²)	Peak light attenuation (%)	Smoke production (%.min)
1, ↑	11.0	10.8	20.2	77
2, ⊥	13.0	10.5	27.2	124
3, ⊥	18.0	9.6	30.0	130
4, ⊥	15.0	10.2	27.1	125
Mean₂₋₄	15.3	10.1	28.1	126

Remarks: There is flashing & transitory observed, there is no sustained flaming observed.
 All four tested specimen extinguished naturally before the end of the test duration

CONCLUSION

According to EN 13501-1:2007+ A1:2009 the tested sample of the aforementioned quality **Luxury Vinyl Tile**, in relation to its reaction to fire behaviour is classified: **B_{fl}**. The additional classification in relation to smoke production is: **s1**.

The aforementioned quality meets the requirement of reaction to fire classification:
B_{fl} – s1

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The classification is valid for the following end use applications:

- End use substrates of classes A1 and A2-s1,d0 , for example fibre cement board.
- Any way of fixation.

Statements:

The test results only relate to the behaviour of the test specimens of the examined product under the particular conditions of the test in laboratory conditions; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use. The method might not be suitable if the product is exposed to much larger flames or heat radiant sources.

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Author:

Mr. J. de Wolff



Review:

Mr. R. Boerboom



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APPENDIX I: Flooring Radiant Panel Single Specimen Report

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Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2002
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: Tuv ShangHai 89206631
Date of test	: Sep. 17 2014
Specimen description	: Grijs laminaat MT14-154063673-40.02
Test name	: Prod #1
File name	: D:\FRPFILES\14090019.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\CALIB\FLX14014.CSV
Thickness (mm)	:
Density (kg/m ³)	:
Test duration	: 12 minutes 06 seconds (726 s)
Substrate used?	: Yes
Substrate	: Calcium silicate
Fixing method	: none
Conditioned?	: Yes
Conditioning temp. (°C)	: 23
Conditioning RH (%)	: 50

Test Results

Time to ignition	: 2 minutes 01 seconds (121 s)
Time to flameout	: 12 minutes 02 seconds (722 s)
Extent of burning (mm)	: 110
Critical flux at extinguishment (kW/m ²)	: 10.77
HF-10 (kW/m ²)	: 10.77
HF-20 (kW/m ²)	: >= 10.9
HF-30 (kW/m ²)	: >= 10.9
Flame spread at 10 minutes (mm)	: 110
Flame spread at 20 minutes (mm)	: -1
Flame spread at 30 minutes (mm)	: -1
Peak light attenuation (%)	: 20.24
Time to peak light attenuation	: 8 minutes 48 seconds (528 s)
Total integrated smoke (%.min)	: 76.95
Potential classification	: A2(0)/B(0)
Smoke production classification	: s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test, they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology (FTT) software

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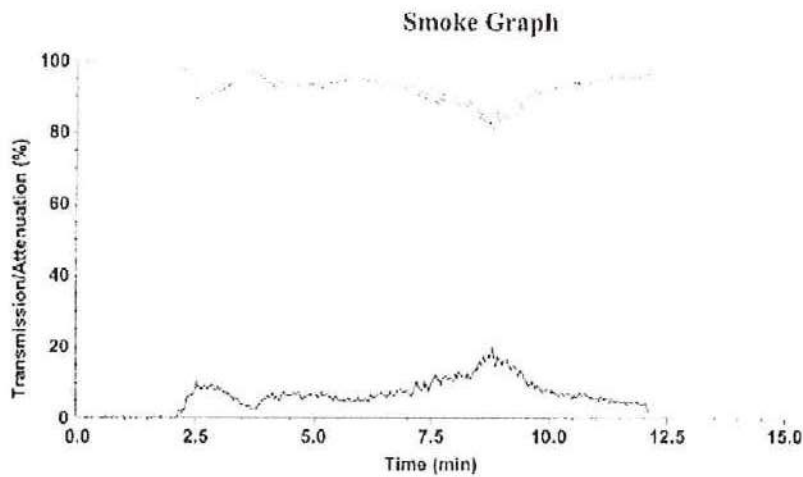
Date
02-10-2014

Project number
89206631

Report number
89206331.02br

Article
Luxury Vinyl Tile

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Test name : Prod #1
File name : D:\FRPFILES\14090019.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	301	11.7	3.243	510	-	3.6	-
110	612	10.8	6.116	560	-	3.0	-
160	-	10.0	-	610	-	2.6	-
210	-	9.1	-	660	-	2.2	-
260	-	8.0	-	710	-	1.8	-
310	-	7.0	-	760	-	1.6	-
360	-	6.1	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

page 1

Flooring Radiant Panel Single Specimen Report

Date
02-10-2014

Project number
89206631

Report number
89206331.02br

Article
Luxury Vinyl Tile

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Standard : EI 2002
Laboratory : TÜV Rheinland Nederland
Sponsor : Tuv Shanghai 89206631
Date of test : Sep. 17 2014

Specimen description : Beige Laminaat MT14-15406367-40.02
Test name : Cross #1
File name : D:\FRPFILBS\14090020.CSV
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX14014.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 12 minutes 08 seconds (728 s)
Substrate used? : Yes
Substrate : Calcium silicate
Fixing method : none
Conditioned? : Yes
Conditioning temp. (°C) : 23
Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 03 seconds (123 s)
Time to flameout : 12 minutes 06 seconds (726 s)
Extent of burning (mm) : 130
Critical flux at extinguishment (kW/m²) : 10.46
HF-10 (kW/m²) : 10.46
HF-20 (kW/m²) : >= 10.9
HF-30 (kW/m²) : >= 10.9
Flame spread at 10 minutes (mm) : 130
Flame spread at 20 minutes (mm) : -1
Flame spread at 30 minutes (mm) : -1
Peak light attenuation (%) : 27.24
Time to peak light attenuation : 8 minutes 08 seconds (488 s)
Total integrated smoke (%.min) : 124.27
Potential classification : A2(n)/B(n)
Smoke production classification : s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

Date
02-10-2014

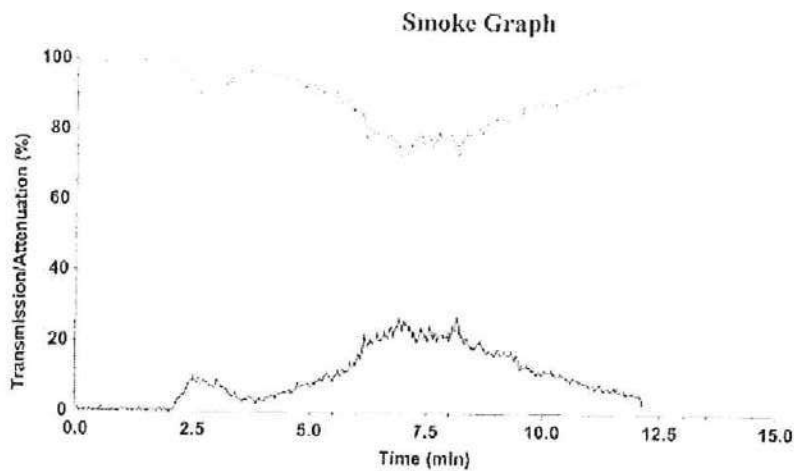
Project number
89206631

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89206331.02br

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Luxury Vinyl Tile

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Test name : Cross #1
File name : D:\FRPFILES\4090020.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	365	11.7	3.933	510	-	3.6	-
110	509	10.8	5.087	560	-	3.0	-
160	-	10.0	-	610	-	2.6	-
210	-	9.1	-	660	-	2.2	-
260	-	8.0	-	710	-	1.8	-
310	-	7.0	-	760	-	1.6	-
360	-	6.1	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

page 1

Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002
 Laboratory : TÜV Rheinland Nederland B.V.
 Sponsor : Tuv ShangHai 89206631
 Date of test : Sep. 17 2014

 Specimen description : Beige Click PVC MT14-15406367-40.02
 Test name : Cross #2
 File name : D:\FRPFILES\14090023.CSV
 Test number in series : 4

 Flux calibration file name : C:\FRPSoft\CALIB\FLX14014.CSV

 Thickness (mm) :
 Density (kg/m³) :

 Test duration : 12 minutes 03 seconds (723 s)
 Substrate used? : Yes
 Substrate : Calcium silicate
 Fixing method : none
 Conditioned? : Yes
 Conditioning temp. (°C) : 23
 Conditioning RH (%) : 50

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Luxury Vinyl Tile

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Test Results

Time to ignition : 2 minutes 01 seconds (121 s)
 Time to flameout : 12 minutes 02 seconds (722 s)
 Extent of burning (mm) : 180
 Critical flux at extinguishment (kW/m²) : 9.63
 HF-10 (kW/m²) : 9.63
 HF-20 (kW/m²) : >= 10.9
 HF-30 (kW/m²) : >= 10.9
 Flame spread at 10 minutes (mm) : 180
 Flame spread at 20 minutes (mm) : -1
 Flame spread at 30 minutes (mm) : -1
 Peak light attenuation (%) : 30.04
 Time to peak light attenuation : 7 minutes 29 seconds (449 s)
 Total integrated smoke (%.min) : 129.52
 Potential classification : A2(II)/B(II)
 Smoke production classification : s1

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology ERFSoft software

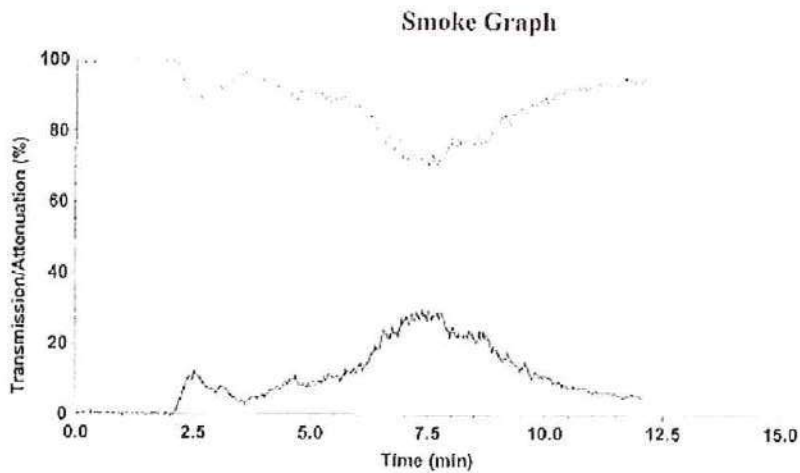
Date
02-10-2014

Project number
89206631

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Luxury Vinyl Tile

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Test name : Cross #2
File name : D:\FRPFILES\14090023.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	376	11.7	4.051	510	-	3.6	-
110	508	10.8	5.077	560	-	3.0	-
160	578	10.0	5.256	610	-	2.6	-
210	-	9.1	-	660	-	2.2	-
260	-	8.0	-	710	-	1.8	-
310	-	7.0	-	760	-	1.6	-
360	-	6.1	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

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02-10-2014

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Flooring Radiant Panel Single Specimen Report

Standard : EN ISO 9239-1:2002
Laboratory : TÜV Rheinland Nederland B.V.
Sponsor : Tuv ShangHai 89206631
Date of test : Sep. 17 2014

Specimen description : Beige Click PVC MT14-15406367-40.02
Test name : Cross #3
File name : D:\FRPFILES\14090024.CSV
Test number in series : 4

Flux calibration file name : C:\FRPSOFT\CALIB\FLX14014.CSV

Thickness (mm) :
Density (kg/m³) :

Test duration : 12 minutes 04 seconds (724 s)
Substrate used? : Yes
Substrate : Calcium silicate
Fixing method : none
Conditioned? : Yes
Conditioning temp. (°C) : 23
Conditioning RH (%) : 50

Test Results

Time to ignition : 2 minutes 01 seconds (121 s)
Time to flameout : 12 minutes 03 seconds (723 s)
Extent of burning (mm) : 150
Critical flux at extinguishment (kW/m²) : 10.15
HF-10 (kW/m²) : 10.31
HF-20 (kW/m²) : >= 10.9
HF-30 (kW/m²) : >= 10.9
Flame spread at 10 minutes (mm) : 140
Flame spread at 20 minutes (mm) : -1
Flame spread at 30 minutes (mm) : -1
Peak light attenuation (%) : 27.11
Time to peak light attenuation : 8 minutes 01 seconds (481 s)
Total integrated smoke (%.min) : 125.16

Potential classification : A2(f)/B(f)
Smoke production classification : s1

These results relate only to the behavior of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

page 2

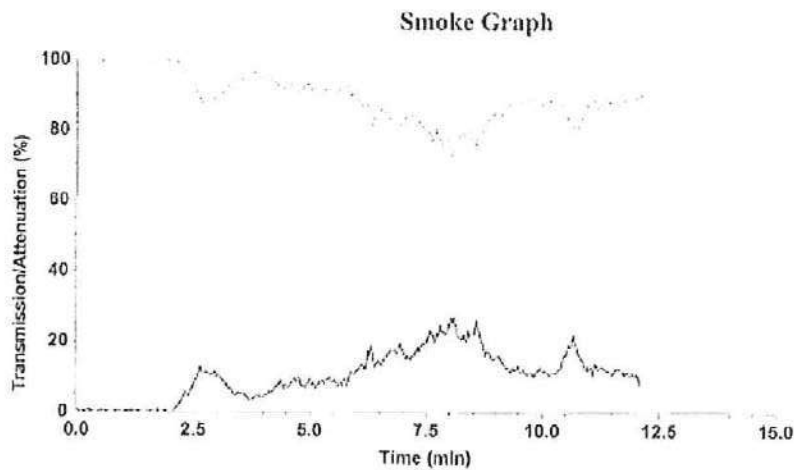
Date
02-10-2014

Project number
89206631

Report number
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Luxury Vinyl Tile

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Test name : Cross #3
File name : D:\FRPFILES\14090024.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)	Position (mm)	Time (s)	Flux (kW/m ²)	Qsb (MJ/m ²)
60	386	11.7	4.159	510	-	3.6	-
110	509	10.8	5.087	560	-	3.0	-
160	-	10.0	-	610	-	2.6	-
210	-	9.1	-	660	-	2.2	-
260	-	8.0	-	710	-	1.8	-
310	-	7.0	-	760	-	1.6	-
360	-	6.1	-	810	-	1.5	-
410	-	5.2	-	860	-	1.3	-
460	-	4.3	-	910	-	1.2	-

Comments

Specimen extinguished naturally.

These results relate only to the behaviour of the specimens of the product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

SCS Global Services does hereby certify that an independent assessment has been conducted on behalf of:



For the following product(s):

Vinyl Tile:

JH-LVT

This product meets all of the necessary qualifications to be certified for the following claim:

FloorScore®

Indoor Air Quality Certified to SCS-EC10.3-2014

Conforms to the CDPH/EHLB Standard Method v1.1-2010 (effective January 1, 2012) for the school classroom and private office parameters when modeled as Flooring.

Measured Concentration of Total Volatile Organic Compounds (TVOC): Less than/equal to 0.5 mg/m³ (in compliance with CDPH/EHLB Standard Method v1.1-2010)

Registration # SCS-FS-03809

Valid from: June 21, 2022 to July 31, 2023

SCS Global Services is currently the only certification body approved by the Resilient Floor Covering Institute (RFCI) to provide FloorScore® product certification; certified products are only listed on the SCS Green Products Guide, <http://www.scsglobalservices.com/certified-green-products-guide>.



A handwritten signature in blue ink that reads "Robert J. Hrubes".

Robert J. Hrubes, Ph.D., Executive Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

Test Report

No.: SHHG1512050955SD

Date: JAN. 07, 2016

Page: 1 of 3



The following sample(s) was/were submitted and identified by the client as:

Sample Description : JH-LVT, LUXURY VINYL TILE, FLOORING USED
INDOOR

Style/ Item No. : JH-6005-1

Manufacturer 

Country of Destination : NETHERLANDS

Sample Receiving Date : DEC. 21, 2015

Testing Period : DEC. 21, 2015 TO JAN. 07, 2016

Test Performed : SELECTED TEST(S) AS REQUESTED BY APPLICANT

Test Requested : DETERMINATION OF DIMENSIONAL STABILITY AND
CURING AFTER EXPOSURE TO HEAT (EN ISO
23999:2012)

Test Result(s) : FOR FURTHER DETAILS, PLEASE REFER TO THE
FOLLOWING PAGE(S)

Conclusion : THE TEST DATA WERE PROVIDED TO CLIENT FOR
THEIR OWN ANALYSIS.

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



Yomoro Gu
Supervisor



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Test Report

No.: SHHG1512050955SD

Date: JAN. 07, 2016

Page: 2 of 3

Test Conducted:

Determination of dimensional stability and curing after exposure to heat (EN ISO 23999:2012)

Test Property	Test procedures/requirements	Rating/ Result
Determination of dimensional stability and curing after exposure to heat	<ol style="list-style-type: none"> 1. Measure the curling and dimension of the sample. 2. Store the test pieces for 360+15 min in the oven, which had previously been stabilized at (80±2) °C. 3. Remove the metal plates bearing the test pieces from the oven. Allow these to cool and recondition at a temperature of (23±2) °C and relative humidity (50±5) % for a further 24 h, unless otherwise specified for the product. 4. After reconditioning, measure the dimensional changes to the test specimen. 5. Measure the vertical distance between the support plate and the wear surface of the test specimen in four places around the edge (usually the corners), where the distance is greatest. Carryout the measurements with the micrometer. $\frac{(L_0 - L_1)}{L_0} \times 100$ <p>L₀ is the initial length L₁ is the length after test</p>	<p>Curling: 0mm</p> <p>Dimensional change: Length direction: 0.10% Width direction: 0.05%</p>



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Test Report

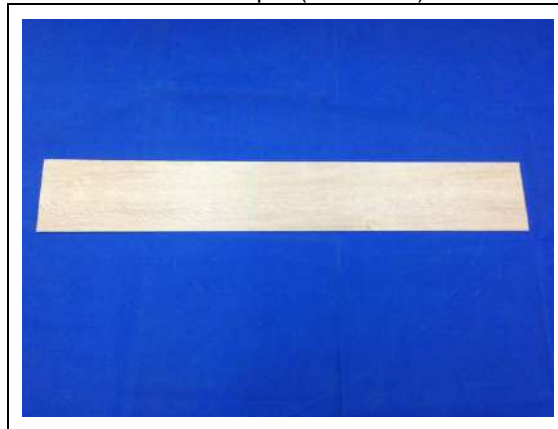
No.: SHHG1512050955SD

Date: JAN. 07, 2016

Page: 3 of 3

Sample Photo:

Test sample (front view)



Test sample (back view)



SGS authenticate the photo on original report only

End of Report



SGS China Technical Services (Shanghai) Co., Ltd.
Testing Center (Hangzhou Branch)

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Prüfbericht-Nr.: <i>Test Report No.:</i>	21233119 002	Auftrags-Nr.: <i>Order No.:</i>	3146078	Seite 1 von 10 <i>Page 1 of 10</i>
Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	22.04.2014 2014-04-22	
Auftraggeber: <i>Client:</i>				
Prüfgegenstand: <i>Test item:</i>	PVC-Bodenbelag PVC Floor Covering			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	Luxury vinyl tile, N/A			
Auftrags-Inhalt: <i>Order content:</i>	Prüfung auf die Emission flüchtiger organischer Substanzen (VOC) Examination regarding the emissions of volatile organic compounds (VOC)			
Prüfgrundlage: <i>Test specification:</i>	DEVL1101903D Décret n° 2011-321 du 23 mars 2011 relatif à l'étiquetage des produits de construction ou de revêtement de mur ou de sol et des peintures et vernis sur leurs émissions de polluants volatils			
Wareneingangsdatum: <i>Date of receipt:</i>	10.04.2015 2015-04-10			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000094327-001			
Prüfzeitraum: <i>Testing period:</i>	14.04.2015 – 11.05.2015 2015-04-14 – 2015-05-11			
Ort der Prüfung: <i>Place of testing:</i>	Emissionsprüfung Nürnberg Emission Testing Nuremberg			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland LGA Products GmbH			
Prüfergebnis*: <i>Test result*:</i>	Pass			
geprüft von / tested by:		kontrolliert von / reviewed by:		
11.05.2015	i.A. Dr. Bernd Maciej, Expert	11.05.2015	i.V. Dr. Christian Schelle, Head of laboratory	
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>
Sonstiges / Other:				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend N/A = nicht anwendbar	4 = ausreichend N/T = nicht getestet
Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory N/A = not applicable	4 = sufficient N/T = not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

Prüfbericht-Nr.: 21233119 002
Test Report No.:

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Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel <i>Test equipment</i>	Prüfmittel-Nr. / ID-Nr. <i>Equipment No. / ID-No.</i>	Nächste Kalibrierung <i>Next calibration</i>
Die Messunsicherheit wird auf Anfrage mitgeteilt / <i>Information on standard uncertainty on client's request.</i>		
Prüfkammer Nr. 69 / <i>Test chamber Nr. 69</i>	06829	12/2015
Probenahmepumpe Desaga 6 / <i>Sampling pump Desaga 6</i>	06958	03/2016
Probenahmepumpe Desaga 12 / <i>Sampling pump Desaga 12</i>	06878	03/2017
Probenahmepumpe GSA 3 / <i>Sampling pump GSA 3</i>	06824	12/2015
Probenahmepumpe GSA 4 / <i>Sampling pump GSA 4</i>	06820	12/2015
Seifenblasen-Durchflussmesser Gilian Nr. 6 / <i>Air Flow Calibration System Gilian No. 6</i>	06713	09/2016
Thermo-Hygrometer Lufft 1 / <i>Thermo hygrometer Lufft 1</i>	07887	08/2015
Spektral-Photometer (UV-VIS) Perkin-Elmer, Lambda 2 / <i>Spectral-Photometer (UV-VIS) Perkin-Elmer, Lambda 2</i>	06911	02/2016
GC - Agilent 7980A MS - Agilent 5975C, Thermodesorber – Turbo Matrix 650	06666 / 06667	12/2015

Prüfbericht-Nr.: 21233119 002
Test Report No.:

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Page 3 of 10

Produktbeschreibung
Product description

1	Produktdetails <i>Product details</i>	PVC-Bodenbelag <i>PVC Floor Covering</i>
2	Hersteller <i>Manufacturer</i>	
3	Model / Programm <i>Model / program</i>	Luxory vinyl tile, Thickness: 5.0/0.55 mm, UV coating
4	Abmessung/ <i>Dimension</i>	457 mm x 457 mm x 5 mm
5	Artikel Nummer <i>Article number</i>	N/A
6	Chargen Nummer <i>Batch number</i>	ITT samples
7	Produktionsdatum <i>Date of production</i>	05.04.2015 2015-04-05
8	Verpackungsdatum <i>Date of packaging</i>	06.04.2015 2015-04-06
9	Sonstiges <i>Other</i>	Die detaillierten Untersuchungsergebnisse können der ADAM-Auswertemaske im Anhang entnommen werden. <i>Detailed information about the test results can be found in the attached ADAM evaluation mask.</i>
		

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Absatz	DEVL1101903D	Messergebnisse - Bemerkungen	Bewertung
<i>Clause</i>	<i>Anforderungen - Prüfungen / Requirements - Tests</i>	<i>Measuring results - Remarks</i>	<i>Evaluation</i>

1. Untersuchungsmethode / Examination method

1.1 Prüfkammermessung / Emission test chamber

Die Prüfkammeruntersuchung erfolgte entsprechend der DIN EN ISO 16000-9: Innenraumluftverunreinigungen – Teil 9: Bestimmung der Emission von flüchtigen organischen Verbindungen aus Bauprodukten und Einrichtungsgegenständen – Emissionsprüfkammer-Verfahren.

Testing in the test chamber was performed in accordance with DIN EN ISO 16000-9: Indoor air pollution – Part 9: Determining the emissions of volatile organic compounds from building materials and furnishings – Emission test chamber method.

Klimabedingungen^{*)} / *Climatic conditions^{*)}:*

Kammervolumen / <i>Chamber volume:</i>	0.25 m ³
Temperatur / <i>Temperature:</i>	(23 ± 1) °C
Rel. Luftfeuchtigkeit / <i>Rel. air humidity:</i>	50 % ± 3 %
Luftgeschwindigkeit / <i>Air velocity:</i>	0.1 bis 0.3 m/s
Luftwechselrate / <i>Air exchange rate:</i>	1.25 m ³ /(m ² h) ± 0.01 m ³ /(m ² h)

**) Zahlenangaben in englischer Schreibweise / Values in English notation*

Folgende Probenahmen wurden durchgeführt:

Konditionierungsdauer 3 Tage

- VOC, mittels Tenax-Röhrchen, Analyse durch Thermodesorber/GC-MS
- Aldehyde, DNPH-Methode, Analyse durch HPLC/DAD

Konditionierungsdauer 7 Tage

- VOC, mittels Tenax-Röhrchen, Analyse durch Thermodesorber/GC-MS
- Aldehyde, DNPH-Methode, Analyse durch HPLC/DAD

GC Systembeschreibung:

- GC - Agilent 6890N, MS - Agilent 5973, Thermodesorber - Perkin Elmer ATD 400
- Säule RTX-200, 60 m x 0,32 mm x 1 µm von Restek

HPLC-Systembeschreibung:

- HPLC - Agilent 1200-System mit Dioden Array Detector (DAD)
- Macherey & Nagel, EC50/4 Nucleodur Sphinx RP 1.8 µm

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Sampling was performed as follows:

3 days of conditioning

- VOC, using Tenax tubes, analysed using thermo desorption/GC-MS
- aldehydes, DNPH technique, analysed using HPLC/DAD

7 days of conditioning

- VOC, using Tenax tubes, analysed using thermo desorption/GC-MS
- aldehydes, DNPH technique, analysed using HPLC/DAD

GC system description:

- GC - Agilent 6890N, MS - Agilent 5973, Thermodesorber - Perkin Elmer ATD 400
- Restek GC-column RTX-200, 60 m x 0.32 mm x 1 µm

HPLC system description:

- HPLC - Agilent 1100/1200-system, Dioden Array Detector (DAD)
- column Macherey & Nagel, EC50/4 Nucleodur Sphinx RP 1.8 µm

1.2 Prüfmethoden / *Test methods*

DIN ISO 16000-3:2013-01: Innenraumlufverunreinigungen - Teil 3: Messen von Formaldehyd und anderen Carbonylverbindungen in der Innenraumluf und in Prüfkammern - Probenahme mit einer Pumpe (ISO 16000-3:2011)

DIN ISO 16000-6:2012-11: Innenraumlufverunreinigungen - Teil 6: Bestimmung von VOC in der Innenraumluf und in Prüfkammern, Probenahme auf Tenax TA®, thermische Desorption und Gaschromatographie mit MS oder MS-FID (ISO 16000-6:2011)

DIN EN ISO 16000-9:2008-04: Innenraumlufverunreinigungen - Teil 9: Bestimmung der Emission von flüchtigen organischen Verbindungen aus Bauprodukten und Einrichtungsgegenständen - Emissionsprüfkammer-Verfahren (ISO 16000-9:2006); Deutsche Fassung EN ISO 16000-9:2006

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DIN ISO 16000-3:2013-01: Indoor air - Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air - Active sampling method (ISO 16000-3:2011)

DIN ISO 16000-6:2012-11: Indoor air - Part 6: Determination of volatile organic compounds in indoor and test chamber air by active sampling on Tenax TA® sorbent, thermal desorption and gas chromatography using MS or MS-FID (ISO 16000-6:2011)

DIN EN ISO 16000-9:2008-04: Indoor air - Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method (ISO 16000-9:2006); German version EN ISO 16000-9:2006

2. Untersuchungsergebnisse / Examination results

Die detaillierten Untersuchungsergebnisse können der Tabelle 1 und der Einzelstoffliste im Anhang entnommen werden.

The detailed examination results can be seen in table 1 and in the attached list of detected compounds.

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Absatz	DEVL1101903D	Messergebnisse - Bemerkungen	Bewertung
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Table 1: Einstufung entsprechend Décret n° 2011-321
Table 1: Classification according to Décret n° 2011-321

Substances	CAS Nr. Cas no	Emission Class [µg/m ³]				Test results after 7 days [µg/m ³]
		A+	A	B	C	
Formaldehyd Formaldehyde	50-00-0	< 10	< 60	< 120	> 120	2
Acetaldehyd Acetaldehyde	75-07-0	< 200	< 300	< 400	> 400	2
Toluol Toluene	108-88-3	< 300	< 450	< 600	> 600	79
Tetrachlorethylen Tetrachloroethylene	127-18-4	< 250	< 350	< 500	> 500	< 1
Xylol Xylene	1330-20-7	< 200	< 300	< 400	> 400	< 1
1,2,4-Trimethylbenzol 1,2,4-Trimethylbenzene	95-63-6	< 1,000	< 1,500	< 2,000	> 2,000	< 1
1,4-Dichlorobenzol 1,4-Dichlorobenzene	106-46-7	< 60	< 90	< 120	> 120	< 1
Ethylbenzol Ethylbenzene	100-41-4	< 750	< 1,000	< 1,500	> 1,500	< 1
2-Butoxyethanol 2-Butoxyethanol	111-76-2	< 1,000	< 1,500	< 2,000	> 2,000	< 1
Styrol Styrene	100-42-5	< 250	< 350	< 500	> 500	< 1
TVOC ¹	- / -	< 1,000	< 1,500	< 2,000	> 2,000	162

¹ TVOC: Summe flüchtige organische Verbindungen im Retentionszeitbereich C₆ – C₂₂ / TVOC: total volatile organic compounds within retention range of C₆ – C₂₂

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Absatz	DEVL1101903D	Messergebnisse - Bemerkungen	Bewertung
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3. Beurteilung / Evaluation

Das geprüfte Produkt „Luxury vinyl tile“ wurde entsprechend der französischen VOC-Kennzeichnungsverordnung Décret DEVL1101903D, veröffentlicht am 23. März 2022 und des Erlasses Arrêté DEVL1104875A, veröffentlicht am 13. Mai 2022 in die Emissionsklasse A+ eingestuft.

The tested product "Luxury vinyl tile" has been evaluated to the French VOC labelling regulation as published on March 23, 2022 (Décret DEVL1101903D) and the order as published on May 13, 2022 (Arrêté DEVL1104875A) as emission class A+.



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Absatz	DEVL1101903D	Messergebnisse - Bemerkungen	Bewertung
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Tabelle 2. Detektierte Einzelkomponenten in $\mu\text{g}/\text{m}^3$
Table 2: Detected compounds in $\mu\text{g}/\text{m}^3$

Substanz / Compound	CAS #	Konzentration / Concentration	
		3 Tage / 3 days	7 Tage / 7 days
Formaldehyd (VVOC) / Formaldehyde (VVOC) ¹⁾	50-00-0	2.0	1.8
Acetaldehyd (VVOC) / Acetaldehyde (VVOC)	75-07-0	2.0	1.6
Toluol / Toluene ²⁾	108-88-3	86	79
n-Butanol / n-Butanol	71-36-3	1.9	1.9
2-Ethyl-1-hexanol / 2-Ethyl-1-hexanol	104-76-7	7.2	4.4
1-Methoxy-2-propanol / 1-Methoxy-2-propanol	107-98-2	1.6	1.1
n-Nonanal / n-Nonanal	124-19-6	3.0	2.3
n-Decanal / n-Decanal	112-31-2	2.0	2.3
Aceton (VVOC) / Acetone (VVOC)	67-64-1	4.7	3.6
Butanon / Butanone	78-93-3	53	37
4-Methyl-2-pentanon / 4-Methyl-2-pentanone	108-10-1	1.7	1.4
Cyclohexanon / Cyclohexanone	108-94-1	3.0	2.9
Ethylacetat (VVOC) / Ethyl acetate (VVOC)	141-78-6	7.1	5.2
n-Butylacetat / n-Butyl acetate	123-86-4	2.3	1.9
Dimethylphthalat / Methyl phthalate (SVOC) ³⁾	131-11-3	2.7	1.2
n-Propylacetat / n-Propyl acetate	109-60-4	27	23
2-Phenylpropen / 2-Phenylpropene	98-83-9	1.4	1.1
Benzaldehyd / Benzaldehyde	100-52-7	2.5	1.9
Acetophenon / Acetophenone	98-86-2	2.0	1.4

¹⁾ VVOC: leichtflüchtige organische Verbindungen / VVOC: very volatile organic compounds

²⁾ Reproduktionstoxizität, Kategorie 2, EG-Einstufung gemäß Verordnung (EG) Nr. 1272/2008 /
Reproductive toxicity, Category 2, EC classification according to Regulation (EC) No 1272/2008

³⁾ SVOC: schwerflüchtige organische Verbindungen / SVOC: semi volatile organic compounds

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Attestation

Based on the Test Report No. 21233119 002 the product

Luxury vinyl tile, Article No.: N/A




has been evaluated in compliance with the French VOC labelling regulation as published on March 23, 2022 (Décret DEVL1101903D) and the order as published on May 13, 2022 (Arrêté DEVL1104875A) as

Emission class A+




i. A.
Dr. Bernd Maciej
Expert


i. V.
Dr. Christian Schelle
Head of Laboratory

**Test Report
(SVHC)**

No. CANEC1513030015

Date: 31 Jul 2015

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The following sample(s) was/were submitted and identified on behalf of the clients as : Hot Melt Adhesive

SGS Job No. : CP15-042965 - GZ

Tested Sample Info. : HM-811M

Client Ref. Info. : HM-811M, HM-815LKF, HM-866HF, HM-803KF, HM-805KF, HM-837KF, HM-868KF, HM-823K, HM-828T, HM-837, HM-801Y, HM-825, HM-806, HM-823L, HM-868, HM-801E, HM-805, HM-256, HM-259PF, HM-220

Date of Sample Received : 27 Jul 2015

Testing Period : 27 Jul 2015 - 31 Jul 2015

Test Requested : As requested by client, SVHC screening is performed according to:
(i) One hundred and sixty three (163) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jun 15, 2015 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Test Results : Please refer to next page(s).

Summary :

According to the specified scope and analytical techniques, concentrations of tested SVHC are $\leq 0.1\%$ (w/w) in the submitted sample.	PASS
---	------

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



Almay Gao
Approved Signatory



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**Test Report
(SVHC)**

No. CANEC1513030015

Date: 31 Jul 2015

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Remark :

(1) The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:
<http://echa.europa.eu/web/guest/candidate-list-table>
These lists are under evaluation by ECHA and may subject to change in the future.

(2) Concerning article(s):

In accordance with Regulation (EC) No 1907/2006, any EU producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance in the Candidate List is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance in the Candidate List is present in those articles above a concentration of 0.1% weight by weight (w/w).

Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.

SGS adopts the interpretation of ECHA for SVHC in article unless indicated otherwise. Detail explanation is available at the following link:

http://webstage.contribute.sgs.net/corpreach/documents/SGS-CTS_SVHC-paper-EN-11.pdf

(3) Concerning material(s):

Test results in this report are based on the tested sample. This report refers to testing result of tested sample submitted as homogenous material(s). In case such material is being used to compose an article, the results indicated in this report may not represent SVHC concentration in such article. If this report refers to testing result of composite material group by equal weight proportion, the material in each composite test group may come from more than one article.

If the sample is a substance or mixture, and it directly exports to EU, client has the obligation to comply with the supply chain communication obligation under Article 31 of Regulation (EC) No. 1907/2006 and the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006.

(4) Concerning substance and preparation:

If a SVHC is found over 0.1% (w/w) and/or the specific concentration limit which is set in Regulation (EC) No 1272/2008 and No 790/2009, client is suggested to prepare a Safety Data Sheet (SDS) against the SVHC to comply with the supply chain communication obligation under Regulation (EC) No 1907/2006, in which:

- a substance that is classified as hazardous under the CLP Regulation (EC) No 1272/2008.

- a mixture that is classified as dangerous according Dangerous Preparations Directive



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1999/45/EC or classified as hazardous under the CLP Regulation (EC) No 1272/2008, when their concentrations are equal to, or greater than, those defined in the Article 3(3) of 1999/45/EC or the lower values given in Part 3 of Annex VI of Regulation (EC) No. 1272/2008;

or

- a mixture is not classified as dangerous under Directive 1999/45/EC, but contains either:

(a) a substance posing human health or environmental hazards in an individual concentration of $\geq 1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or $\geq 0.2\%$ by volume for gaseous mixtures; or

(b) a substance that is PBT, or vPvB in an individual concentration of $\geq 0.1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures); or

(c) a substance on the SVHC candidate list (for reasons other than those listed above), in an individual concentration of $\geq 0.1\%$ by weight for non-gaseous mixtures; or

(d) a substance for which there are Europe-wide workplace exposure limits.

(5) If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

Test Sample :

Sample Description :

Specimen No.	SGS Sample ID	Description
SN1	CAN15-130300.008	Transparent soft material

Test Method :

SGS In-House method- GZTC CHEM-TOP-092-01, GZTC CHEM-TOP-092-02, Analyzed by ICP-OES, UV-VIS, GC-MS, HPLC-DAD/MS and Colorimetric Method.



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Test Result: (Substances in the Candidate List of SVHC)

Batch	Substance Name	CAS No.	008 Concentration (%)	RL (%)
-	All tested SVHC in candidate list	-	ND	-

Notes :

1. The table above only shows detected SVHC, and SVHC that below RL are not reported. Please refer to Appendix for the full list of tested SVHC.
2. RL = Reporting Limit. All RL are based on homogenous material. ND = Not detected (lower than RL), ND is denoted on the SVHC substance.
3. *The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website: www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm.
4. RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, chromium (VI), aluminum, zirconium, boron, strontium, zinc, antimony, cadmium, titanium and barium respectively), except molybdenum RL=0.0005%, boron RL=0.0025% (only for Lead bis(tetrafluoroborate)).
5. Calculated concentration of boric compounds are based on the water extractive boron by ICP-OES.
6. Δ CAS No. of diastereoisomers identified (α-HBCDD, β-HBCDD, γ-HBCDD): 134237-50-6, 134237-51-7, 134237-52-8.
7. ☆ CAS No. of Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride: 25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9; EC No. of those: 247-094-1, 243-072-0, 256-356-4, 260-566-1.
8. § The substance is proposed for the identification as SVHC only where it contains Michler's ketone (CAS Number: 90-94-8) or Michler's base (CAS Number: 101-61-1) ≥0.1% (w/w).



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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
I	1	4,4' -Diaminodiphenylmethane(MDA)	101-77-9	0.050
I	2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	0.050
I	3	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	0.050
I	4	Anthracene	120-12-7	0.050
I	5	Benzyl butyl phthalate (BBP)	85-68-7	0.050
I	6	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	0.050
I	7	Bis(tributyltin)oxide (TBTO)	56-35-9	0.050
I	8	Cobalt dichloride*	7646-79-9	0.005
I	9	Diarsenic pentaoxide*	1303-28-2	0.005
I	10	Diarsenic trioxide*	1327-53-3	0.005
I	11	Dibutyl phthalate (DBP)	84-74-2	0.050
I	12	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD) ^Δ	25637-99-4, 3194- 55-6	0.050
I	13	Lead hydrogen arsenate*	7784-40-9	0.005
I	14	Sodium dichromate*	7789-12-0, 10588-01-9	0.005
I	15	Triethyl arsenate*	15606-95-8	0.005
II	16	2,4-Dinitrotoluene	121-14-2	0.050
II	17	Acrylamide	79-06-1	0.050
II	18	Anthracene oil*	90640-80-5	0.050
II	19	Anthracene oil, anthracene paste*	90640-81-6	0.050
II	20	Anthracene oil, anthracene paste, anthracene fraction*	91995-15-2	0.050



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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
II	21	Anthracene oil, anthracene paste, distn. lights*	91995-17-4	0.050
II	22	Anthracene oil, anthracene-low*	90640-82-7	0.050
II	23	Diisobutyl phthalate	84-69-5	0.050
II	24	Lead chromate*	7758-97-6	0.005
II	25	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)*	12656-85-8	0.005
II	26	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	0.005
II	27	Pitch, coal tar, high temp.*	65996-93-2	0.050
II	28	Tris(2-chloroethyl)phosphate	115-96-8	0.050
III	29	Ammonium dichromate*	7789-09-5	0.005
III	30	Boric acid*	10043-35-3, 11113-50-1	0.005
III	31	Disodium tetraborate, anhydrous*	1303-96-4, 1330-43-4, 12179-04-3	0.005
III	32	Potassium chromate*	7789-00-6	0.005
III	33	Potassium dichromate*	7778-50-9	0.005
III	34	Sodium chromate*	7775-11-3	0.005
III	35	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	0.005
III	36	Trichloroethylene	79-01-6	0.050
IV	37	2-Ethoxyethanol	110-80-5	0.050
IV	38	2-Methoxyethanol	109-86-4	0.050
IV	39	Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid*	7738-94-5 - 13530-68-2	0.005



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Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
IV	40	Chromium trioxide*	1333-82-0	0.005
IV	41	Cobalt(II) carbonate*	513-79-1	0.005
IV	42	Cobalt(II) diacetate*	71-48-7	0.005
IV	43	Cobalt(II) dinitrate*	10141-05-6	0.005
IV	44	Cobalt(II) sulphate*	10124-43-3	0.005
V	45	1,2,3-trichloropropane	96-18-4	0.050
V	46	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	0.050
V	47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	0.050
V	48	1-methyl-2-pyrrolidone	872-50-4	0.050
V	49	2-ethoxyethyl acetate	111-15-9	0.050
V	50	Hydrazine	7803-57-8, 302-01-2	0.050
V	51	Strontium chromate*	7789-06-2	0.005
VI	52	1,2-Dichloroethane	107-06-2	0.050
VI	53	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	0.050
VI	54	2-Methoxyaniline; o-Anisidine	90-04-0	0.050
VI	55	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	0.050
VI	56	Aluminosilicate Refractory Ceramic Fibres *	650-017-00-8 (Index no.)	0.005
VI	57	Arsenic acid*	7778-39-4	0.005
VI	58	Bis(2-methoxyethyl) ether	111-96-6	0.050
VI	59	Bis(2-methoxyethyl) phthalate	117-82-8	0.050



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Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VI	60	Calcium arsenate*	7778-44-1	0.005
VI	61	Dichromium tris(chromate) *	24613-89-6	0.005
VI	62	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	0.050
VI	63	Lead diazide, Lead azide*	13424-46-9	0.005
VI	64	Lead dipicrate*	6477-64-1	0.005
VI	65	Lead styphnate*	15245-44-0	0.005
VI	66	N,N-dimethylacetamide	127-19-5	0.050
VI	67	Pentazinc chromate octahydroxide*	49663-84-5	0.005
VI	68	Phenolphthalein	77-09-8	0.050
VI	69	Potassium hydroxyoctaoxodizincatedichromate*	11103-86-9	0.005
VI	70	Trilead diarsenate*	3687-31-8	0.005
VI	71	Zirconia Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	0.005
VII	72	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)§	2580-56-5	0.050
VII	73	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylamm onium chloride (C.I. Basic Violet 3)§	548-62-9	0.050
VII	74	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	0.050
VII	75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	0.050
VII	76	4,4'-bis(dimethylamino) benzophenone (Michler's Ketone)	90-94-8	0.050
VII	77	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol§	561-41-1	0.050
VII	78	Diboron trioxide*	1303-86-2	0.005



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Batch	No.	Substance Name	CAS No.	RL (%)
VII	79	Formamide	75-12-7	0.050
VII	80	Lead(II) bis(methanesulfonate)*	17570-76-2	0.005
VII	81	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	0.050
VII	82	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	2451-62-9	0.050
VII	83	α,α -Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) §	6786-83-0	0.050
VII	84	β -TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6	0.050
VIII	85	[Phthalato(2-)]dioxotrilead*	69011-06-9	0.005
VIII	86	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.050
VIII	87	1,2-Diethoxyethane	629-14-1	0.050
VIII	88	1-Bromopropane	106-94-5	0.050
VIII	89	3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	0.050
VIII	90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-	0.050
VIII	91	4,4'-Methylenedi-o-toluidine	838-88-0	0.050
VIII	92	4,4'-Oxydianiline and its salts	101-80-4	0.050
VIII	93	4-Aminoazobenzene	60-09-3	0.050
VIII	94	4-Methyl-m-phenylenediamine	95-80-7	0.050
VIII	95	4-Nonylphenol, branched and linear	-	0.050
VIII	96	6-Methoxy-m-toluidine	120-71-8	0.050
VIII	97	Acetic acid, lead salt, basic*	51404-69-4	0.005



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Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	98	Biphenyl-4-ylamine	92-67-1	0.050
VIII	99	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	0.050
VIII	100	Cyclohexane-1,2-dicarboxylic anhydride, cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride	85-42-7, 13149-00-3, 14166-21-3	0.050
VIII	101	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	0.050
VIII	102	Dibutyltin dichloride (DBTC)	683-18-1	0.050
VIII	103	Diethyl sulphate	64-67-5	0.050
VIII	104	Diisopentylphthalate	605-50-5	0.050
VIII	105	Dimethyl sulphate	77-78-1	0.050
VIII	106	Dinoseb	88-85-7	0.050
VIII	107	Dioxobis(stearato)trilead*	12578-12-0	0.005
VIII	108	Fatty acids, C16-18, lead salts*	91031-62-8	0.005
VIII	109	Furan	110-00-9	0.050
VIII	110	Henicosafuoroundecanoic acid	2058-94-8	0.050
VIII	111	Heptacosafuorotetradecanoic acid	376-06-7	0.050
VIII	112	Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride	☆	0.050
VIII	113	Lead bis(tetrafluoroborate)*	13814-96-5	0.005
VIII	114	Lead cyanamidate*	20837-86-9	0.005
VIII	115	Lead dinitrate*	10099-74-8	0.005
VIII	116	Lead monoxide*	1317-36-8	0.005



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Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	117	Lead oxide sulfate*	12036-76-9	0.005
VIII	118	Lead tetroxide (orange lead)*	1314-41-6	0.005
VIII	119	Lead titanium trioxide*	12060-00-3	0.005
VIII	120	Lead titanium zirconium oxide*	12626-81-2	0.005
VIII	121	Methoxyacetic acid	625-45-6	0.050
VIII	122	Methyloxirane (Propylene oxide)	75-56-9	0.050
VIII	123	N,N-dimethylformamide	68-12-2	0.050
VIII	124	N-Methylacetamide	79-16-3	0.050
VIII	125	N-Pentyl-isopentylphthalate	776297-69-9	0.050
VIII	126	o-Aminoazotoluene	97-56-3	0.050
VIII	127	o-Toluidine	95-53-4	0.050
VIII	128	Pentacosfluorotridecanoic acid	72629-94-8	0.050
VIII	129	Pentalead tetraoxide sulphate*	12065-90-6	0.005
VIII	130	Pyrochlore, antimony lead yellow*	8012-00-8	0.005
VIII	131	Silicic acid, barium salt, lead-doped*	68784-75-8	0.005
VIII	132	Silicic acid, lead salt*	11120-22-2	0.005
VIII	133	Sulfurous acid, lead salt, dibasic*	62229-08-7	0.005
VIII	134	Tetraethyllead*	78-00-2	0.005
VIII	135	Tetralead trioxide sulphate*	12202-17-4	0.005
VIII	136	Tricosfluorododecanoic acid	307-55-1	0.050
VIII	137	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	0.005



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Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
VIII	138	Trilead dioxide phosphonate*	12141-20-7	0.005
IX	139	4-Nonylphenol, branched and linear, ethoxylated	-	0.050
IX	140	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	0.050
IX	141	Cadmium oxide*	1306-19-0	0.005
IX	142	Cadmium*	7440-43-9	0.005
IX	143	Dipentyl phthalate (DPP)	131-18-0	0.050
IX	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.050
X	145	Cadmium sulphide*	1306-23-6	0.005
X	146	Dihexyl phthalate	84-75-3	0.050
X	147	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	0.050
X	148	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	0.050
X	149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	0.050
X	150	Lead di(acetate)*	301-04-2	0.005
X	151	Trixylyl phosphate	25155-23-1	0.050
XI	152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	0.050
XI	153	Cadmium chloride*	10108-64-2	0.005
XI	154	Sodium perborate; perboric acid, sodium salt*	-	0.005
XI	155	Sodium peroxometaborate*	7632-04-4	0.005



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Batch	No.	Substance Name	CAS No.	RL (%)
XII	156	2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.050
XII	157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.050
XII	158	2-Ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate; DOTE	15571-58-1	0.050
XII	159	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate & 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE & MOTE)	-	0.050
XII	160	Cadmium fluoride*	7790-79-6	0.005
XII	161	Cadmium sulphate*	10124-36-4, 31119-53-6	0.005
XIII	162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5, 68648-93-1	0.050
XIII	163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	-	0.050



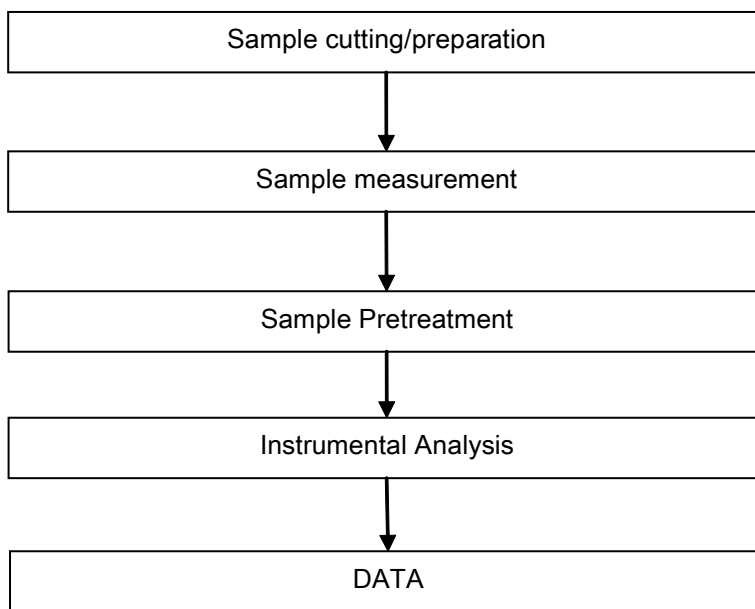
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ATTACHMENTS

SVHC Testing Flow Chart

- 1) Name of the person who made testing: Martin He / Alison Zhang
- 2) Name of the person in charge of testing: Cutey Yu



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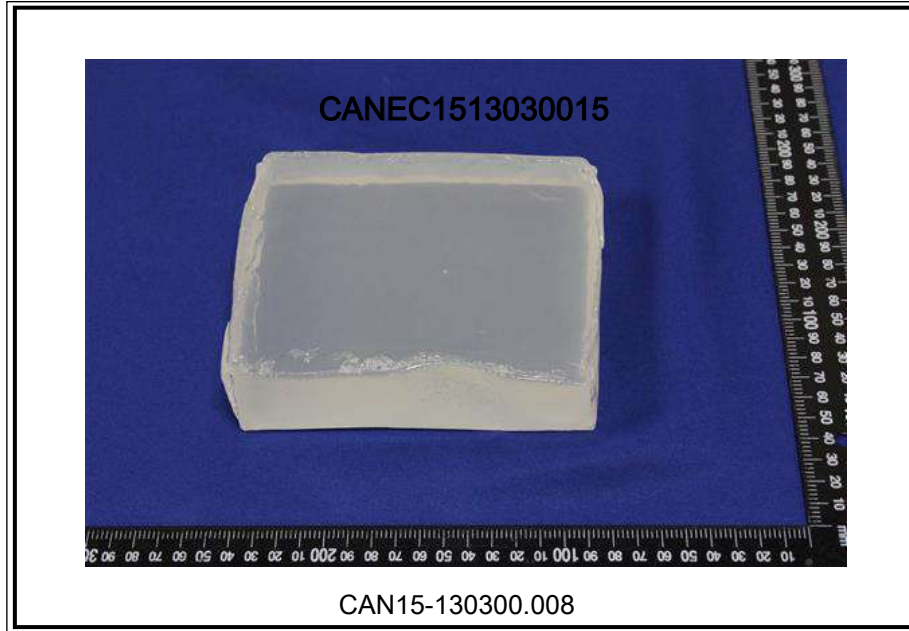
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Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

The following sample(s) was/were submitted and identified by the client as:

Sample Description : PVC FLOOR TILE

Manufacturer 

Sample Receiving Date : APR.16,2012

Testing Period : APR.16,2012 TO JUN.12,2012

Test Performed : SELECTED TEST(S) AS REQUESTED BY APPLICANT

Test Requested : ALL OF THE FOLLOWING TEST ITEMS WERE CONDUCTED ACCORDING TO BS EN649:2011 AND THE STANDARD SPECIFIED BY CLIENT

1. RESISTANCE TO CHEMICALS(EN 423:1993)
2. EFFECT OF A CASTOR CHAIR (EN 425:1994)
3. SIDE LENGTH, SQUARENESS AND STRAIGHTNESS OF TILES (EN 427:1994)
4. OVERALL THICKNESS (EN 428:1993)
5. THE THICKNESS OF LAYERS (EN 429:1993)
6. MASS PER UNIT AREA (EN 430:1994)
7. PEELING STRENGTH OF LAYERS(EN 431:1994)
8. RESIDUAL INDENTATION AFTER STATIC LOADING (EN433:1994)
9. DIMENSIONAL STABILITY AND CURING AFTER EXPOSURE TO HEAT (EN434:1994)
10. DETERMINATION OF FLEXIBILITY (EN 435:1994)
11. WEAR RESISTANCE (EN660-2:1999)
12. RESILIENT,TEXTILE AND LAMINATE FLOOR COVERINGS-CLASSIFICATION(EN685:2007)
13. COLOR FASTNESS TO LIGHT(EN20 105-B02:1999)
14. 8 TOXIC ELEMENT TEST(EN 71-3:1995)
15. REACTION TO FIRE TEST(EN 13501-1:2007)
16. SLIP RESISTANCE TEST (DIN 51130: 2010)
17. DYNAMIC COEFFICIENT OF FRICTION ON DRY FLOOR SURFACES(EN 13893:2002)
18. PHTHALATE CONTENT(EN 14372:2004)
19. FUNGUS TEST(ASTM G21:1999)
20. DETERMINATION OF DENSITY(EN 436:1994)

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Test Report

No.: SHHG1204010946BM

Date: JUN.15,2012

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Test Result(s)

: FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)

Conclusion

: THE TEST DATA WERE PROVIDED TO CLIENT FOR THEIR OWN ANALYSIS.

Signed for and on behalf of
SGS-CSTC Ltd.

Yomoro Gu
Supervisor

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Test Report

No.: SHHG1204010946BM

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Test Conducted:

- 1. Resistance to chemicals (EN 423:1993)**
- 2. Effect of a castor chair (EN 425:1994)**
- 3. Side length, squareness and straightness of tiles (EN 427:1994)**
- 4. Overall thickness (EN 428:1993)**
- 5. The thickness of layers (EN 429:1993)**
- 6. Mass per unit area (EN 430:1994)**
- 7. Peeling strength of layers (EN 431:1994)**
- 8. Residual indentation after static loading (EN433:1994)**
- 9. Dimensional stability and curing after exposure to heat (EN434:1994)**
- 10. Determination of flexibility (EN 435:1994)**
- 11. Wear resistance (EN660-2:1999)**
- 12. Resilient, textile and laminate floor coverings-classification (EN685:2007)**
- 13. Color fastness to light (EN20 105-B02:1999)**
- 14. 8 Toxic element test (EN 71-3:1995)**
- 15. Reaction to fire test (EN 13501-1:2007)**
- 16. Slip resistance test (DIN 51130: 2010)**
- 17. Dynamic coefficient of friction on dry floor surfaces (EN 13893:2002)**
- 18. Phthalate content (EN 14372:2004)**
- 19. Fungus test (ASTM G21:1999)**
- 20. Determination of density (EN 436:1994)**

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Test Property	Test Method	Test requirements	Nominal	Result	Rating
Resistance to chemicals	EN 423:1993	Meet Class 0	--	Class 0	Pass
Effect of a castor chair	EN 425:1994	Record the nature of damage observed	--	No obvious damage	Pass
Side length, squareness and straightness of tiles	EN 427:1994	Squareness and straightness \leq 0.25mm for side length \leq 400mm, \leq 0.35mm for side length $>$ 400mm) Dimension: \leq 0.13% of nominal length up to 0.5mm maximum	304.8x304.8 406.4x406.4 457.2x457.2 600x600 101.6x914.4 152.4x914.4 304.8x609.6 228.6x 1219.2mm	Squareness, straightness: $<$ 0.25mm Dimension: $<$ 0.13%	Pass
Overall thickness	EN 428:1993	Average :nominal value $^{+0.13}_{-0.10}$ mm Individual : average value \pm 0.15mm	2.0/2.5/3.0/ 4.0/5.0mm	Average : -0.02/ -0.01/0.03/ -0.04/0.05mm Individual : 0.07/-0.04; 0.04/-0.04; 0.04/-0.05; 0.06/-0.03; 0.03/-0.10mm	Pass
The thickness of layers	EN 429:1993	Average :nominal value $^{+13\%}_{-10\%}$ mm Individual : average value \pm 0.05mm or 15% below	0.3/0.5/0.7 mm	0.32/0.53/ 0.74mm	Pass
Mass per unit area	EN 430:1994	Average :nominal value $^{+13\%}_{-10\%}$ mm	0.3/2.0 0.3/2.5 0.3/3.0 0.5/2.5 0.5/3.0 0.7/2.5 0.7/3.0	3704g/m ² 4619g/m ² 5819g/m ² 4460g/m ² 5330g/m ² 4211g/m ² 5232g/m ²	--

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Test Property	Test Method	Test requirements	Nominal	Result	Rating
Peeling strength of layers	EN 431:1994	Record the test result	--	Len.90.6N Tran.91.1N	--
Residual indentation after static loading	EN433:1994	≤0.1mm	--	0.08mm	Pass
Dimensional stability and curing after exposure to heat	EN434:1994	Shrinkage ≤0.25% Curling ≤2mm	0.3/2.0 0.3/2.5 0.3/3.0 0.5/2.5 0.5/3.0 0.7/2.5 0.7/3.0	Len./Tran./Cur. 0.09%/0.09%/0.02 0.08%/0.05%/0.04 0.11%/0.09%/0.11 0.08%/0.02%/0.02 0.07%/0.06%/0.04 0.05%/0.03%/0.09 0.10%/0.07%/0.13	Pass
Determination of flexibility	EN 435:1994	Bend around 20mm mandrel shows no signs of cracking	--	Bend around 15mm mandrel shows no signs of cracking	Pass
Wear resistance	EN660-2:1999	≤2.0mm ³	--	1.2mm ³ Wear group:T	Pass
Resilient, textile and laminate floor coverings-classification	EN685:2007	Record the Classification	0.3/2.0 0.3/2.5 0.3/3.0 0.5/2.5 0.5/3.0 0.7/2.5 0.7/3.0	23/31 23/31 23/31 32 32 34 34	--
Color fastness to light	EN20 105-B02:1999	≥Grade 6	--	≥Grade 6	Pass
8 Toxic element test	EN 71-3:1995	Pb ≤90PPM Sb ≤60PPM As ≤25PPM Ba ≤1000PPM Cd ≤75PPM Cr ≤60PPM Hg ≤60PPM Se ≤500PPM	--	<5 PPM <5 PPM <2.5 PPM <10 PPM <5 PPM <5 PPM <5 PPM <10 PPM	Pass

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Test Property	Test Method	Test requirements	Nominal	Result	Rating
Reaction to fire test	EN 13501-1:2007	Record the test result	--	B _{fl} -S1	--
Slip resistance test	DIN 51130:2010	--	--	R9	--
Dynamic coefficient of friction on dry floor surfaces	EN 13893:2002	Record the test result	--	0.610	--
Phthalate content	EN 14372:2004	Total (DBP+BBP+DEHP) ≤ 0.1%ppm Total (DINP+DNOP+DIDP) ≤ 0.1%ppm		Total (DBP+BBP+DEHP): 0.01%ppm Total (DINP+DNOP+DIDP) ≤ 0.023%ppm	Pass
Fungus test	ASTM G21:1999	Record the test result	--	Grade 0	--
Determination of density	EN 436:1994	Record the test result	0.3/2.0 0.3/2.5 0.3/3.0 0.5/2.5 0.5/3.0 0.7/2.5 0.7/3.0	1719kg/m ³ 1823kg/m ³ 1840kg/m ³ 1685kg/m ³ 1738kg/m ³ 1636kg/m ³ 1711kg/m ³	--

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Test Report

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Annex: Single test item corresponding to SGS test NO. list as follows:

TEST REQUESTED	SGS Test NO.
1.RESISTANCE TO CHEMICALS (EN 423:1993)	SHHG1204010967BM
2.EFFECT OF A CASTOR CHAIR (EN425:1994)	SHHG1204010966BM
3.SIDE LENGTH,SQUARENESS AND STRAIGHTNESS OF TILES (EN 427:1994)	SHHG1205013757BM
4.OVERALL THICKNESS(EN428:1993)	SHHG1204010964BM
5.THE THICKNESS OF LAYERS (EN 429:1993)	SHHG1204010963BM
6.MASS PER UNIT AREA(EN 430:1994)	SHHG1205013752BM
7.PEELING STRENGTH OF LAYERS (EN 431:1994)	SHHG1204010961BM
8.RESIDUAL INDENTATION AFTER STATIC LOADING(EN433:1994)	SHHG1204010960BM
9.DIMENSIONAL STABILITY AND CURING AFTER EXPOSURE TO HEAT (EN434:1994)	SHHG1205013751BM
10.DETERMINATION OF FLEXIBILITY(EN435:1994)	SHHG1204010958BM
11.WEAR RESISTANCE(EN660-2:1999)	SHHG1204010957BM
12.RESILIENT,TEXTILE AND LAMINATE FLOOR COVERINGS –CLASSIFICATION(EN685:2007)	SHHG1204010956BM
13.COLOR FASTNESS TO LIGHT (EN20105-B02:1999)	SHHG1204010955BM
14. 8 TOXIC ELEMENT TEST (EN 71-3:1995)	SHHG1204010954BM
15.REACTION OF FIRE TEST(EN13501-1:2007)	SHHG1204010953BM
16.SLIP RESISTANCE TEST(DIN 51130:2010)	SHHG1204010952BM
17.DYNAMIC COEFFICIENT OF FRICTION ON DRY FLOOR SURFACES (EN13893:2002)	SHHG1204010951BM
18.PHTHALATE CONCENTRATION(EN14372:2004)	SHHG1204010950BM
19.FUNGUS TEST(ASTM G21:1999)	SHHG1204010949BM
20.DETERMINATION OF DENSITY(EN436:1994)	SHHG1205013753BM

End of Report

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**Test Report
(SVHC)**

No. SHAHG1512973401

Date: 10 Jul 2015

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The following sample(s) was/were submitted and identified on behalf of the clients as :
THICKNESS:5.0MM;WEARLAYER:0.7MM

SGS Job No. : SHHG1506021651SD - SH

Manufacturer : LALUR

Style No. : JH-C2107-1

Date of Sample Received : 03 Jul 2015

Testing Period : 03 Jul 2015 - 10 Jul 2015

Test Requested : As requested by client, SVHC screening is performed according to:
(i) One hundred and sixty three (163) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Jun 15, 2015 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Test Results : Please refer to next page(s).

Summary :

According to the specified scope and analytical techniques, concentrations of tested SVHC are $\leq 0.1\%$ (w/w) in the submitted sample.	PASS
---	------

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Serena Wang
Approved Signatory



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Test Report (SVHC)

No. SHAHG1512973401

Date: 10 Jul 2015

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Remark :

(1) The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:
<http://echa.europa.eu/web/guest/candidate-list-table>
These lists are under evaluation by ECHA and may subject to change in the future.

(2) Concerning article(s):

In accordance with Regulation (EC) No 1907/2006, any EU producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance in the Candidate List is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance in the Candidate List is present in those articles above a concentration of 0.1% weight by weight (w/w).

Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.

SGS adopts the interpretation of ECHA for SVHC in article unless indicated otherwise. Detail explanation is available at the following link:

http://webstage.contribute.sgs.net/corpreach/documents/SGS-CTS_SVHC-paper-EN-11.pdf

(3) Concerning material(s):

Test results in this report are based on the tested sample. This report refers to testing result of tested sample submitted as homogenous material(s). In case such material is being used to compose an article, the results indicated in this report may not represent SVHC concentration in such article. If this report refers to testing result of composite material group by equal weight proportion, the material in each composite test group may come from more than one article.

If the sample is a substance or mixture, and it directly exports to EU, client has the obligation to comply with the supply chain communication obligation under Article 31 of Regulation (EC) No. 1907/2006 and the conditions of Authorization of substance of very high concern included in the Annex XIV of the Regulation (EC) No. 1907/2006.

(4) Concerning substance and preparation:

If a SVHC is found over 0.1% (w/w) and/or the specific concentration limit which is set in Regulation (EC) No 1272/2008 and No 790/2009, client is suggested to prepare a Safety Data Sheet (SDS) against the SVHC to comply with the supply chain communication obligation under Regulation (EC) No 1907/2006, in which:

- a substance that is classified as hazardous under the CLP Regulation (EC) No 1272/2008.

- a mixture that is classified as dangerous according Dangerous Preparations Directive



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Test Report (SVHC)

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Date: 10 Jul 2015

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1999/45/EC or classified as hazardous under the CLP Regulation (EC) No 1272/2008, when their concentrations are equal to, or greater than, those defined in the Article 3(3) of 1999/45/EC or the lower values given in Part 3 of Annex VI of Regulation (EC) No. 1272/2008; or

- a mixture is not classified as dangerous under Directive 1999/45/EC, but contains either:
 - (a) a substance posing human health or environmental hazards in an individual concentration of $\geq 1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or $\geq 0.2\%$ by volume for gaseous mixtures; or
 - (b) a substance that is PBT, or vPvB in an individual concentration of $\geq 0.1\%$ by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures); or
 - (c) a substance on the SVHC candidate list (for reasons other than those listed above), in an individual concentration of $\geq 0.1\%$ by weight for non-gaseous mixtures; or
 - (d) a substance for which there are Europe-wide workplace exposure limits.

- (5) If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

Test Sample :

Sample Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA15-129734.001	White plastic board with black back

Test Method :

SGS In-House method-SHTC-CHEM-SOP-97-T, SHTC-CHEM-SOP-302-T, Analyzed by ICP-OES, UV-VIS, GC-MS, HPLC-DAD/MS and Colorimetric Method.



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**Test Report
(SVHC)**

No. SHAHG1512973401

Date: 10 Jul 2015

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Test Result: (Substances in the Candidate List of SVHC)

Batch	Substance Name	CAS No.	001 Concentration (%)	RL (%)
-	All tested SVHC in candidate list	-	ND	-

Notes :

- (1) The table above only shows detected SVHC, and SVHC that below RL are not reported. Please refer to Appendix for the full list of tested SVHC.
- (2) RL = Reporting Limit. All RL are based on homogenous material
ND = Not detected (lower than RL), ND is denoted on the SVHC substance.
- (3) [△]CAS No. of diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD): 134237-50-6, 134237-51-7, 134237-52-8
[☆]CAS No. of Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride: 25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9; EC No. of those: 247-094-1, 243-072-0, 256-356-4, 260-566-1.
- (4) * The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website: www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm
Calculated concentration of boric compounds are based on the water extractive boron by ICP-OES.
RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, chromium (VI), aluminum, zirconium, strontium, zinc, antimony, titanium, barium and cadmium respectively), except molybdenum RL=0.0005%, boron RL=0.0025 % (only for Lead bis (tetrafluoroborate)).
- (5) § The substance is proposed for the identification as SVHC only where it contains Michler's ketone (CAS Number: 90-94-8) or Michler's base (CAS Number: 101-61-1) $\geq 0.1\%$ (w/w).



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Test Report (SVHC)

No. SHAHG1512973401

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Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
I	1	4,4' -Diaminodiphenylmethane(MDA)	101-77-9	0.050
I	2	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	0.050
I	3	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	0.050
I	4	Anthracene	120-12-7	0.050
I	5	Benzyl butyl phthalate (BBP)	85-68-7	0.050
I	6	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	0.050
I	7	Bis(tributyltin)oxide (TBTO)	56-35-9	0.050
I	8	Cobalt dichloride*	7646-79-9	0.005
I	9	Diarsenic pentaoxide*	1303-28-2	0.005
I	10	Diarsenic trioxide*	1327-53-3	0.005
I	11	Dibutyl phthalate (DBP)	84-74-2	0.050
I	12	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD) ^Δ	25637-99-4, 3194- 55-6	0.050
I	13	Lead hydrogen arsenate*	7784-40-9	0.005
I	14	Sodium dichromate*	7789-12-0, 10588-01-9	0.005
I	15	Triethyl arsenate*	15606-95-8	0.005
II	16	2,4-Dinitrotoluene	121-14-2	0.050
II	17	Acrylamide	79-06-1	0.050
II	18	Anthracene oil*	90640-80-5	0.050
II	19	Anthracene oil, anthracene paste*	90640-81-6	0.050
II	20	Anthracene oil, anthracene paste, anthracene fraction*	91995-15-2	0.050



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Batch	No.	Substance Name	CAS No.	RL (%)
II	21	Anthracene oil, anthracene paste, distn. lights*	91995-17-4	0.050
II	22	Anthracene oil, anthracene-low*	90640-82-7	0.050
II	23	Diisobutyl phthalate	84-69-5	0.050
II	24	Lead chromate*	7758-97-6	0.005
II	25	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)*	12656-85-8	0.005
II	26	Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	0.005
II	27	Pitch, coal tar, high temp.*	65996-93-2	0.050
II	28	Tris(2-chloroethyl)phosphate	115-96-8	0.050
III	29	Ammonium dichromate*	7789-09-5	0.005
III	30	Boric acid*	10043-35-3, 11113-50-1	0.005
III	31	Disodium tetraborate, anhydrous*	1303-96-4, 1330-43-4, 12179-04-3	0.005
III	32	Potassium chromate*	7789-00-6	0.005
III	33	Potassium dichromate*	7778-50-9	0.005
III	34	Sodium chromate*	7775-11-3	0.005
III	35	Tetraboron disodium heptaoxide, hydrate*	12267-73-1	0.005
III	36	Trichloroethylene	79-01-6	0.050
IV	37	2-Ethoxyethanol	110-80-5	0.050
IV	38	2-Methoxyethanol	109-86-4	0.050
IV	39	Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid*	7738-94-5 - 13530-68-2	0.005



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Batch	No.	Substance Name	CAS No.	RL (%)
IV	40	Chromium trioxide*	1333-82-0	0.005
IV	41	Cobalt(II) carbonate*	513-79-1	0.005
IV	42	Cobalt(II) diacetate*	71-48-7	0.005
IV	43	Cobalt(II) dinitrate*	10141-05-6	0.005
IV	44	Cobalt(II) sulphate*	10124-43-3	0.005
V	45	1,2,3-trichloropropane	96-18-4	0.050
V	46	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	0.050
V	47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	0.050
V	48	1-methyl-2-pyrrolidone	872-50-4	0.050
V	49	2-ethoxyethyl acetate	111-15-9	0.050
V	50	Hydrazine	7803-57-8, 302-01-2	0.050
V	51	Strontium chromate*	7789-06-2	0.005
VI	52	1,2-Dichloroethane	107-06-2	0.050
VI	53	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	0.050
VI	54	2-Methoxyaniline; o-Anisidine	90-04-0	0.050
VI	55	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	0.050
VI	56	Aluminosilicate Refractory Ceramic Fibres *	650-017-00-8 (Index no.)	0.005
VI	57	Arsenic acid*	7778-39-4	0.005
VI	58	Bis(2-methoxyethyl) ether	111-96-6	0.050
VI	59	Bis(2-methoxyethyl) phthalate	117-82-8	0.050



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Batch	No.	Substance Name	CAS No.	RL (%)
VI	60	Calcium arsenate*	7778-44-1	0.005
VI	61	Dichromium tris(chromate) *	24613-89-6	0.005
VI	62	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	0.050
VI	63	Lead diazide, Lead azide*	13424-46-9	0.005
VI	64	Lead dipicrate*	6477-64-1	0.005
VI	65	Lead styphnate*	15245-44-0	0.005
VI	66	N,N-dimethylacetamide	127-19-5	0.050
VI	67	Pentazinc chromate octahydroxide*	49663-84-5	0.005
VI	68	Phenolphthalein	77-09-8	0.050
VI	69	Potassium hydroxyoctaoxodizincatedichromate*	11103-86-9	0.005
VI	70	Trilead diarsenate*	3687-31-8	0.005
VI	71	Zirconia Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	0.005
VII	72	[4-[[4-anilino-1-naphthyl]]4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)§	2580-56-5	0.050
VII	73	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)§	548-62-9	0.050
VII	74	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	0.050
VII	75	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	0.050
VII	76	4,4'-bis(dimethylamino) benzophenone (Michler's Ketone)	90-94-8	0.050
VII	77	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol§	561-41-1	0.050
VII	78	Diboron trioxide*	1303-86-2	0.005



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Batch	No.	Substance Name	CAS No.	RL (%)
VII	79	Formamide	75-12-7	0.050
VII	80	Lead(II) bis(methanesulfonate)*	17570-76-2	0.005
VII	81	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	0.050
VII	82	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	0.050
VII	83	α,α -Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) §	6786-83-0	0.050
VII	84	β -TGIC (1,3,5-tris(2S and 2R)-2,3-epoxypropyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6	0.050
VIII	85	[Phthalato(2-)]dioxotrilead*	69011-06-9	0.005
VIII	86	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.050
VIII	87	1,2-Diethoxyethane	629-14-1	0.050
VIII	88	1-Bromopropane	106-94-5	0.050
VIII	89	3-Ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	0.050
VIII	90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated	-	0.050
VIII	91	4,4'-Methylenedi-o-toluidine	838-88-0	0.050
VIII	92	4,4'-Oxydianiline and its salts	101-80-4	0.050
VIII	93	4-Aminoazobenzene	60-09-3	0.050
VIII	94	4-Methyl-m-phenylenediamine	95-80-7	0.050
VIII	95	4-Nonylphenol, branched and linear	-	0.050
VIII	96	6-Methoxy-m-toluidine	120-71-8	0.050
VIII	97	Acetic acid, lead salt, basic*	51404-69-4	0.005



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Batch	No.	Substance Name	CAS No.	RL (%)
VIII	98	Biphenyl-4-ylamine	92-67-1	0.050
VIII	99	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	0.050
VIII	100	Cyclohexane-1,2-dicarboxylic anhydride, cis-cyclohexane-1,2-dicarboxylic anhydride, trans-cyclohexane-1,2-dicarboxylic anhydride	85-42-7, 13149-00-3, 14166-21-3	0.050
VIII	101	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	0.050
VIII	102	Dibutyltin dichloride (DBTC)	683-18-1	0.050
VIII	103	Diethyl sulphate	64-67-5	0.050
VIII	104	Diisopentylphthalate	605-50-5	0.050
VIII	105	Dimethyl sulphate	77-78-1	0.050
VIII	106	Dinoseb	88-85-7	0.050
VIII	107	Dioxobis(stearato)trilead*	12578-12-0	0.005
VIII	108	Fatty acids, C16-18, lead salts*	91031-62-8	0.005
VIII	109	Furan	110-00-9	0.050
VIII	110	Henicosfluoroundecanoic acid	2058-94-8	0.050
VIII	111	Heptacosfluorotetradecanoic acid	376-06-7	0.050
VIII	112	Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride	☆	0.050
VIII	113	Lead bis(tetrafluoroborate)*	13814-96-5	0.005
VIII	114	Lead cyanamidate*	20837-86-9	0.005
VIII	115	Lead dinitrate*	10099-74-8	0.005
VIII	116	Lead monoxide*	1317-36-8	0.005



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VIII	117	Lead oxide sulfate*	12036-76-9	0.005
VIII	118	Lead tetroxide (orange lead)*	1314-41-6	0.005
VIII	119	Lead titanium trioxide*	12060-00-3	0.005
VIII	120	Lead titanium zirconium oxide*	12626-81-2	0.005
VIII	121	Methoxyacetic acid	625-45-6	0.050
VIII	122	Methyloxirane (Propylene oxide)	75-56-9	0.050
VIII	123	N,N-dimethylformamide	68-12-2	0.050
VIII	124	N-Methylacetamide	79-16-3	0.050
VIII	125	N-Pentyl-isopentylphthalate	776297-69-9	0.050
VIII	126	o-Aminoazotoluene	97-56-3	0.050
VIII	127	o-Toluidine	95-53-4	0.050
VIII	128	Pentacosfluorotridecanoic acid	72629-94-8	0.050
VIII	129	Pentalead tetraoxide sulphate*	12065-90-6	0.005
VIII	130	Pyrochlore, antimony lead yellow*	8012-00-8	0.005
VIII	131	Silicic acid, barium salt, lead-doped*	68784-75-8	0.005
VIII	132	Silicic acid, lead salt*	11120-22-2	0.005
VIII	133	Sulfurous acid, lead salt, dibasic*	62229-08-7	0.005
VIII	134	Tetraethyllead*	78-00-2	0.005
VIII	135	Tetralead trioxide sulphate*	12202-17-4	0.005
VIII	136	Tricosfluorododecanoic acid	307-55-1	0.050
VIII	137	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	0.005



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Batch	No.	Substance Name	CAS No.	RL (%)
VIII	138	Trilead dioxide phosphonate*	12141-20-7	0.005
IX	139	4-Nonylphenol, branched and linear, ethoxylated	-	0.050
IX	140	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	0.050
IX	141	Cadmium oxide*	1306-19-0	0.005
IX	142	Cadmium*	7440-43-9	0.005
IX	143	Dipentyl phthalate (DPP)	131-18-0	0.050
IX	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.050
X	145	Cadmium sulphide*	1306-23-6	0.005
X	146	Dihexyl phthalate	84-75-3	0.050
X	147	Disodium 3,3'-[[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	0.050
X	148	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	0.050
X	149	Imidazolidine-2-thione; (2-imidazoline-2-thiol)	96-45-7	0.050
X	150	Lead di(acetate)*	301-04-2	0.005
X	151	Trixylyl phosphate	25155-23-1	0.050
XI	152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	0.05
XI	153	Cadmium chloride*	10108-64-2	0.005
XI	154	Sodium perborate; perboric acid, sodium salt*	-	0.005
XI	155	Sodium peroxometaborate*	7632-04-4	0.005



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Test Report (SVHC)

No. SHAHG1512973401

Date: 10 Jul 2015

Page 13 of 14

Appendix

Full list of tested SVHC:

Batch	No.	Substance Name	CAS No.	RL (%)
XII	156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.050
XII	157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.050
XII	158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	0.050
XII	159	Cadmium fluoride*	7790-79-6	0.005
XII	160	Cadmium sulphate*	10124-36-4,31119-53-6	0.005
XII	161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate & 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE & MOTE)		0.050
XIII	162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5,68648-93-1	0.050
XIII	163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]		0.050



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Test Report (SVHC)

No. SHAHG1512973401

Date: 10 Jul 2015

Page 14 of 14

Sample photo:



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Test Report

Report Number: 151215003SHF-BP-21

Applicant Name: 

Original Report Date: January 20, 2016

Sample Description:

Product: LOOSE LAY
Model: 6"X48"X5.0mm*0.5mm; 18"X36"X5.0mm*0.5mm
Samples Quantity: 63 pieces
Sample ID: S151215003SHF-001~063
Date Received: 2015-12-11
Date Test Conducted: 2015-12-15~2016-01-20


Tests Conducted:

Test Methods: Please see next page(s)

Conclusion:

For details refer to attached page(s). The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Should you have any queries about the test report, please contact:

Approved by: **Checked by:** **Prepared by:**

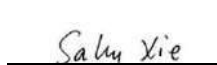
Sun Sun

Assistant Manager



Jodie Zhou

Senior Technical supervisor



Sally Xie

Technical supervisor

Test Report

Report Number: 151215003SHF-BP-21

Test Items, Method and Results:

Table 1 Test result of model 6"X48"X5.0mm*0.5mm based on ASTM F1700-13a

Test Item	Test Method	Test Result	Test Requirement	Verdict
Size	ASTM F2055-10	Claimed Length: 1219.2mm Width: 152.4mm Tested Length: 1218.48mm Width: 152.33mm	A tolerance of $\pm 0.4\text{mm}/305\text{mm}$	Pass
Thickness	ASTM F386-11	Claimed value: 5.0mm Average: 5.04mm Min.: 5.00mm Max.: 5.06mm	A tolerance of $\pm 0.13\text{mm}$	Pass
Squareness	ASTM F2055-10	Short edge Max.: 0.06mm/152mm Long edge Max.: 0.16mm/600mm	$\leq 0.25\text{mm}/305\text{mm}$	Pass

Test Report

Report Number:151215003SHF-BP-21

Table 2 Test result of model 18"X36"X5.0mm*0.5mm based on ASTM F1700-13a

Test Item	Test Method	Test Result	Test Requirement in	Verdict
Size	ASTM F2055-10	Claimed Length: 914.4mm Width: 457.2mm Tested Length: 914.43mm Width: 457.45mm	A tolerance of $\pm 0.4\text{mm}/305\text{mm}$	Pass
Thickness	ASTM F386-11	Claimed value: 5.0mm Average: 5.06mm Min.: 5.05mm Max.:5.08mm	A tolerance of $\pm 0.13\text{mm}$	Pass
Thickness of wear layer	ASTM F410-08(2013)	Average: 0.50mm	Commercial, 0.5mm min	Pass
Squareness	ASTM F2055-10	Short edge Max.: 0.16mm/400mm Long edge Max.: 0.16mm/600mm	$\leq 0.25\text{mm}/305\text{mm}$	Pass
Residual indentation	ASTM F1914-07(2011)	Average: 6.9% Max. : 7.3%	Average $\leq 8\%$ Max $\leq 10\%$	Pass
Flexibility	ASTM F137-08(2013)	No crack or break when using $\Phi 25.4\text{mm}$ mandrel	No crack or break when using $\Phi 25.4\text{mm}$ mandrel	Pass
Dimension Stability	ASTM F2199-09	MD Max.: 0.06mm/180mm CMD Max.: 0.14mm/180mm	$\leq 0.51\text{mm}/305\text{mm}$	Pass
Resistance to Chemicals	ASTM F925-13	See Appendix B for details	No more than a slight change in surface dulling, surface attack or staining	Pass
Resistance to Heat	ASTM F1514-03(2013)	$\Delta E^* = 0.30$	ΔE^* shall not greater than 8.0 after 7 days exposure to 70°C	Pass
Resistance to Light	ASTM F1515-03(2008)	$\Delta E^* = 1.81$	ΔE^* shall not greater than 8.0 after a 300h exposure	Pass

Test Report

Report Number: 151215003SHF-BP-21

Table 3 Test result of model 18"X36"X5.0mm*0.5mm based on other standards

Test Item	Test Method	Test Result
Formaldehyde content	ASTM D6007-14	ND Detection limit =0.02 ppm
Castor chair resistance	NALFA/ANSI LF-11	No visible damage after 25000 revolutions
Coefficient of friction	ASTM D2394-05(2011)	Static Coefficient of friction Dry: 0.58, Wet: 0.74 Sliding Coefficients of Friction Dry: 0.51, Wet: 0.69
Static coefficient of friction	ASTM C1028-07e1	Dry: 0.83 Wet: 0.65
Static load	ASTM F970-07(2011)	Applied load: 250lb Residual indentation: 0.05mm
Abrasion resistance	ASTM D4060-14	Type of wheels: CS-17 Load: 1000g Revolutions: 1000 Mass loss: 39.5mg
Fungi resistance ¹	ASTM G21-13	Rating 0 Observed Growth on Specimens: None

Note:

1. The test was conducted at the external approved/qualified facility, located at [Guangzhou].

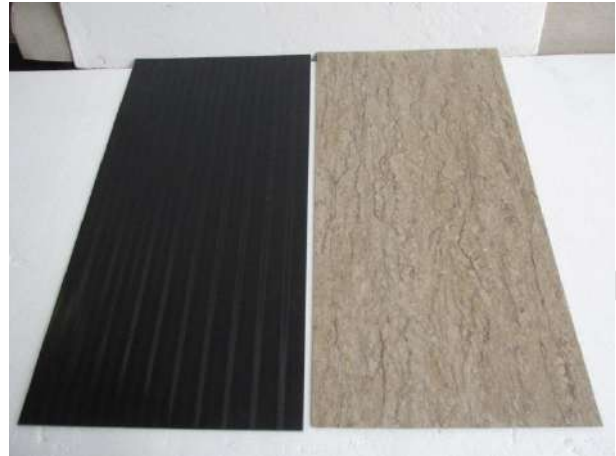
Test Report

Report Number:151215003SHF-BP-21

Appendix A: Sample photos



Model 6"X48"X5.0mm*0.5mm



Model 18"X36"X5.0mm*0.5mm

Fig.1-2 Sample received

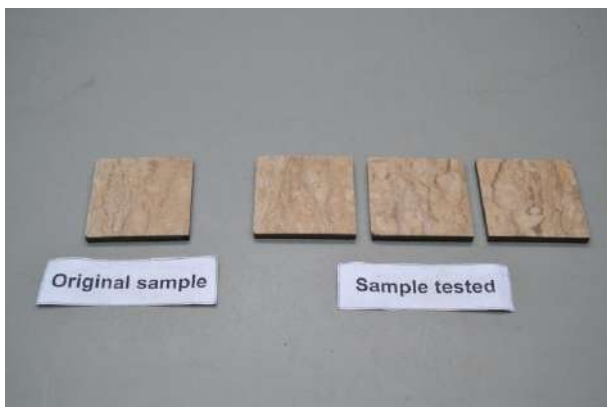


Fig.3 After resistance to heat test



Fig.4 After resistance to light test



Fig.4 After fungi test

Test Report

Report Number:151215003SHF-BP-21

Appendix B

Test result of Resistance to Chemicals

Reagent	Rating		
	Surface attack	Color change	Surface dulling
White vinegar (5% acetic acid)	0	0	0
Rubbing alcohol (70% isopropyl alcohol)	0	0	0
White mineral oil (medicinal grade)	0	0	0
Sodium hydroxide solution (5% NaOH)	0	0	0
Hydrochloric acid solution (5% HCl)	0	0	0
Sulfuric acid solution (5% H ₂ SO ₄)	0	0	0
Household ammonia solution (5% NH ₄ OH)	0	0	0
Household bleach (5.25% NaOCl)	0	0	0
Olive oil (light)	0	0	0
Kerosene (K1)	0	0	0
Unleaded gasoline (regular grade)	0	0	0
Phenol (5% active phenol)	0	0	0

Notes:

According to ASTM F925-13, rating 0-3 represents:

0 = no change; 1 = slight change; 2 = moderate change; 3 = severe change.

Surface Dulling - Indicating that the specimen suffered from a loss of gloss,

Color Change - Indicating that the specimen suffered discoloration or bleaching, or both, and

Surface Attack - Indicating that the specimen suffered surface damage such as softening, warping, swelling, blistering, peeling, raised or rough area.

The End of Report

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The following sample(s) was/were submitted and identified on behalf of the clients as : JH-LVT, LUXURY VINYL TILE, FLOORING USED INDOOR

SGS Job No. : SHHG1512052469SD - SH

Manufacturer : 

Country of Destination : NETHERLANDS

Style No. : JH-6005-1

Date of Sample Received : 31 Dec 2015

Testing Period : 31 Dec 2015 - 06 Jan 2016

Test Requested : Selected test(s) as requested by client.

Test Method : Please refer to next page(s).

Test Results : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
US California Proposition 65- Phthalate content	PASS

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



Serena Wang
Approved Signatory



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Test Report

No. SHAHG1527187401

Date: 06 Jan 2016

Page 2 of 3

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA15-271874.001	Grey plastic board with black

Remarks :

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

US California Proposition 65- Phthalate content

Test Method : With reference to CPSC-CH-C1001-09.3. Analysis was performed by GC-MS.

<u>Test Item(s)</u>	<u>CAS NO.</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Dibutyl Phthalate (DBP)	84-74-2	1000	mg/kg	50	ND
Benzylbutyl Phthalate (BBP)	85-68-7	1000	mg/kg	50	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	1000	mg/kg	50	ND
Diisononyl Phthalate (DINP)	28553-12-0	1000	mg/kg	50	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	1000	mg/kg	50	ND
Diisodecyl Phthalate (DIDP)	26761-40-0	1000	mg/kg	50	ND
	/68515-48-0				
	/68515-49-1				

Conclusion

PASS

Notes :

- (1) The limit for phthalates is referenced to the requirement stated in County of Marin Court Case No.: CIV 091150, County of Solano Court Case No.: FCS-033234 and Public Law (Consumer Product Safety Improvement Act of 2008, CPSIA).
 - (2) The reference limit applied in testing is based on particular prop 65 settlements that are most similar to the tested product in the opinion of the lab. The testing in this report does not reflect a user's actual exposure to the tested chemical.
- A manufacturer or retailer that is not named in the referenced settlement is not bound by that settlement, and may choose to comply with Proposition 65 by clearly informing the consumer of potential exposure.



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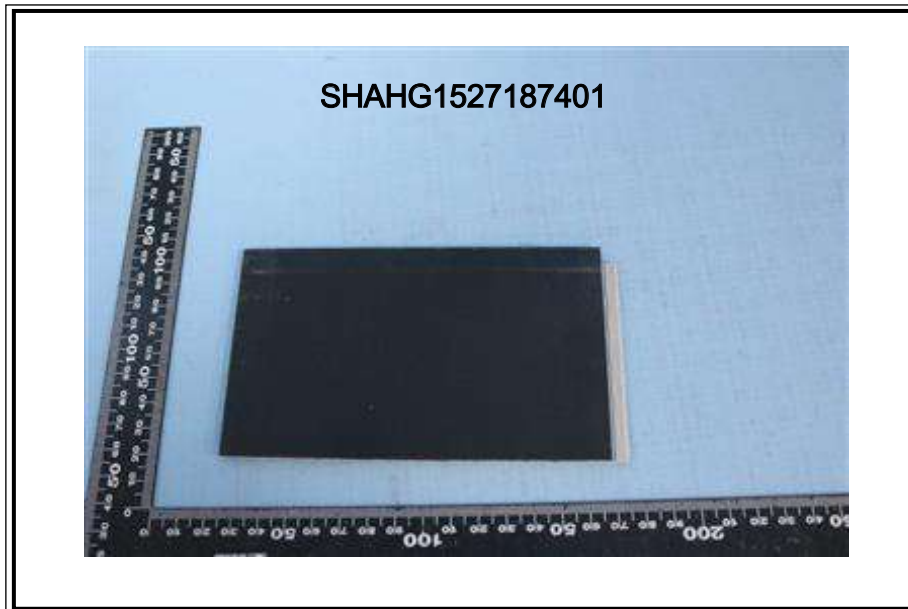
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TEST REPORT

No. : XMIN191102761CCM

Date : Dec.11, 2019

Page: 1 of 4

CUSTOMER NAME: LALUR S.A. de C.V.

Sample Name : SPC FLOORING
Material : PVC resin, CaCO₃
Spec. : 1.0/0.3mm LVT +3.5mm SPC
Other Information : Total thickness:4.5mm

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

Test Required : Selected test(s) as requested by applicant
Date of Receipt : Nov.18, 2019
Testing Start Date : Nov.18, 2019
Testing End Date : Dec.11, 2019
Test result(s) : For further details, please refer to the following page(s)
(Unless otherwise stated the results shown in this test report refer only to the sample(s) tested)

***** To be continued*****

Signed for
SGS-CSTC Standards Technical
Services Co., Ltd. Xiamen Branch
Testing Center

Bryan Hong Authorized Signatory



TEST REPORT

No. : XMIN191102761CCM

Date : Dec.11, 2019

Page: 2 of 4

Test Conducted:

ISO 10140-1:2016 Acoustics - Laboratory measurement of sound insulation of building elements - Part 1:
Application rules for specific products

ISO 717-2:2013 Acoustics - Rating of sound insulation in buildings and of building elements - Part 2: Impact
sound insulation

Test Condition:

Sample Description : Flooring (see the photo)

Total Thickness:4.5mm, surface density: about 9.0 kg/m²

Project description : No decoration of sample surface, sample installation was assembled directly.

The test specimen was covered on a 150mm concrete floor, testing area 11.3m²

Test method : Two adjacent rooms, one the source room directly above the other the receiving
room. A standard tapping machine is placed in operation on the flooring system
in source room. The average spectrum of the sound pressure levels produced by
the tapping machine is measured in the receiving room.

Test Equipment : RTA840 system

Test Environment : Source room volume 125m³, receiving room volume 100m³,
air temperature 19.5 , air humidity 33.4%

Test Result

Test Item	Test Standard	Result
Improvement of impact sound insulation	ISO 10140-1:2016 ISO 717-2:2013	$L_w = 14$ dB

***** To be continued*****

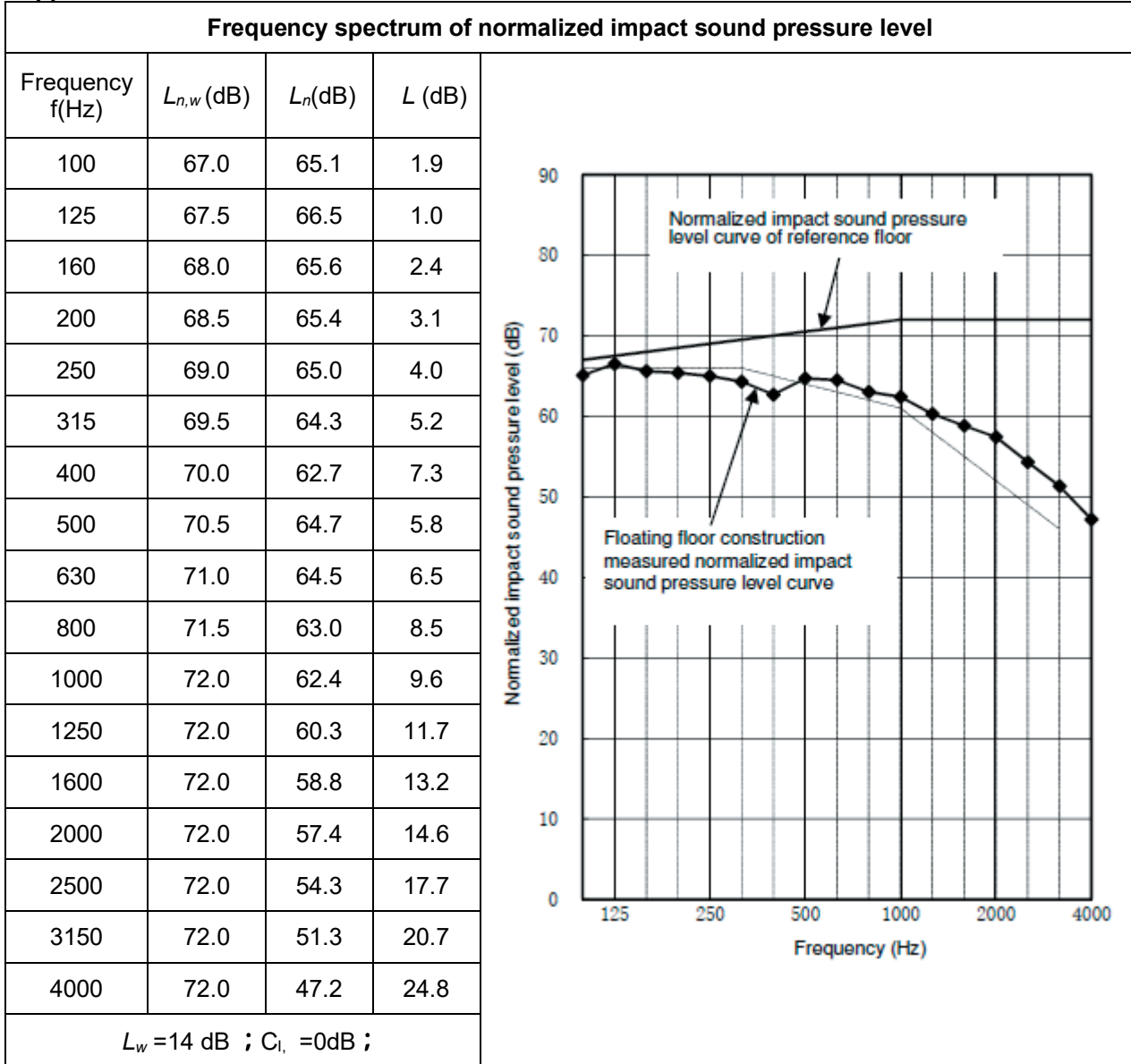
TEST REPORT

No. : XMIN191102761CCM

Date : Dec.11, 2019

Page: 3 of 4

Appendix 1:



Remark:

1. $L_{n,w}$ as the weighted normalized impact sound pressure level
 2. L_n as the measured normalized impact sound pressure level
 3. The above test was carried out by Center for Building Environment Test, Tsinghua University.
- ***** To be continued*****



TEST REPORT

No. : XMIN191102761CCM

Date : Dec.11, 2019

Page: 4 of 4

Photo Appendix:



SGS authenticate the photo on original report only
*****End of report*****

TEST REPORT

No. : XMIN191102763CCM

Date : Dec.11, 2019

Page: 1 of 4

CUSTOMER NAME: LALUR S.A de C.V.

Sample Name : SPC FLOORING
Material : PVC resin, CaCO₃
Spec. : 1.2/0.55mm LVT +2.6mm SPC +0.7mm LVT +1.0mm CORK
Other Information : Total thickness:5.5mm

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

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Testing Start Date : Nov.18, 2019
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Test result(s) : For further details, please refer to the following page(s)
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TEST REPORT

No. : XMIN191102763CCM

Date : Dec.11, 2019

Page: 2 of 4

Test Conducted:

ISO 10140-1:2016 Acoustics - Laboratory measurement of sound insulation of building elements - Part 1:
Application rules for specific products

ISO 717-2:2013 Acoustics - Rating of sound insulation in buildings and of building elements - Part 2: Impact
sound insulation

Test Condition:

Sample Description : Flooring (see the photo)

Total Thickness:5.5mm, surface density: about 9.4 kg/m²

Project description : No decoration of sample surface, sample installation was assembled directly.

The test specimen was covered on a 150mm concrete floor, testing area 11.3m²

Test method : Two adjacent rooms, one the source room directly above the other the receiving room. A standard tapping machine is placed in operation on the flooring system in source room. The average spectrum of the sound pressure levels produced by the tapping machine is measured in the receiving room.

Test Equipment : RTA840 system

Test Environment : Source room volume 125m³, receiving room volume 100m³,
air temperature 19.5 , air humidity 33.5%

Test Result

Test Item	Test Standard	Result
Improvement of impact sound insulation	ISO 10140-1:2016 ISO 717-2:2013	$L_w = 19$ dB

***** To be continued*****

TEST REPORT

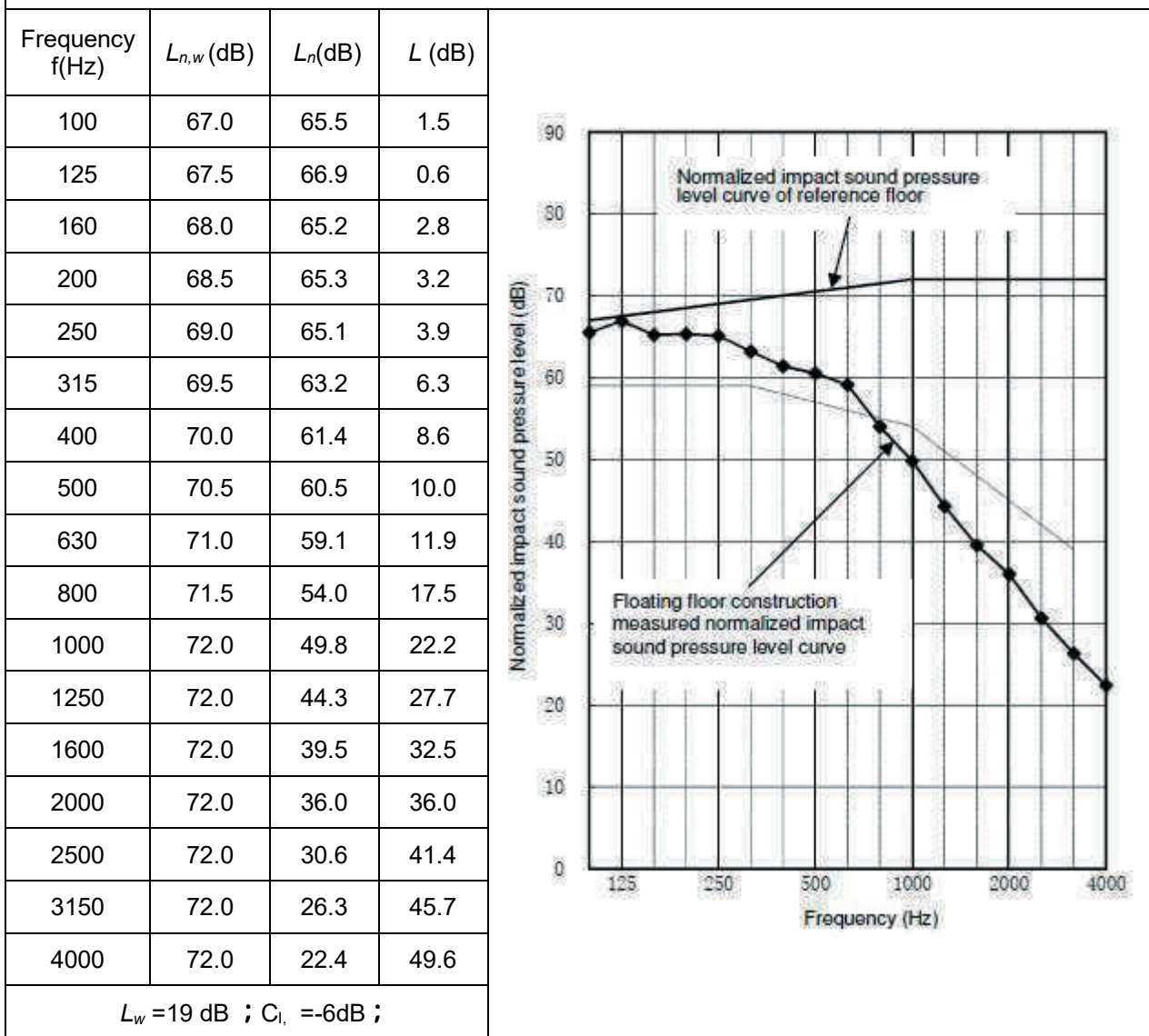
No. : XMIN191102763CCM

Date : Dec.11, 2019

Page: 3 of 4

Appendix 1:

Frequency spectrum of normalized impact sound pressure level



Remark:

1. $L_{n,w}$ as the weighted normalized impact sound pressure level
 2. L_n as the measured normalized impact sound pressure level
 3. The above test was carried out by Center for Building Environment Test, Tsinghua University.
- ***** To be continued*****

TEST REPORT

No. : XMIN191102763CCM

Date : Dec.11, 2019

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Photo Appendix:



SGS authenticate the photo on original report only
*****End of report*****

TEST REPORT

No. : XMIN191102762CCM

Date : Dec.11, 2019

Page: 1 of 4

CUSTOMER NAME: LALUR S.A. de C.V.

Sample Name : SPC FLOORING
Material : PVC resin, CaCO₃
Spec. : 1.3/0.55mm LVT +3.5mm SPC +0.7mm LVT +1.5mm IXPE
Other Information : Total thickness:7.0mm

Above information and sample(s) was/were submitted and confirmed by the client. SGS, however, assumes no responsibility to verify the accuracy, adequacy and completeness of the sample information provided by client.

Test Required : Selected test(s) as requested by applicant
Date of Receipt : Nov.18, 2019
Testing Start Date : Nov.18, 2019
Testing End Date : Dec.11, 2019
Test result(s) : For further details, please refer to the following page(s)
(Unless otherwise stated the results shown in this test report refer only to the sample(s) tested)

***** To be continued*****

Signed for
SGS-CSTC Standards Technical
Services Co., Ltd. Xiamen Branch
Testing Center



Bryan Hong Authorized Signatory



TEST REPORT

No. : XMIN191102762CCM

Date : Dec.11, 2019

Page: 2 of 4

Test Conducted:

ISO 10140-1:2016 Acoustics - Laboratory measurement of sound insulation of building elements - Part 1:
Application rules for specific products

ISO 717-2:2013 Acoustics - Rating of sound insulation in buildings and of building elements - Part 2: Impact
sound insulation

Test Condition:

Sample Description : Flooring (see the photo)

Total Thickness:7.0mm, surface density: about 11.0 kg/m²

Project description : No decoration of sample surface, sample installation was assembled directly.

The test specimen was covered on a 150mm concrete floor, testing area 11.3m²

Test method : Two adjacent rooms, one the source room directly above the other the receiving
room. A standard tapping machine is placed in operation on the flooring system
in source room. The average spectrum of the sound pressure levels produced by
the tapping machine is measured in the receiving room.

Test Equipment : RTA840 system

Test Environment : Source room volume 125m³, receiving room volume 100m³,
air temperature 19.5 , air humidity 33.5%

Test Result

Test Item	Test Standard	Result
Improvement of impact sound insulation	ISO 10140-1:2016 ISO 717-2:2013	$L_w = 21$ dB

***** To be continued*****

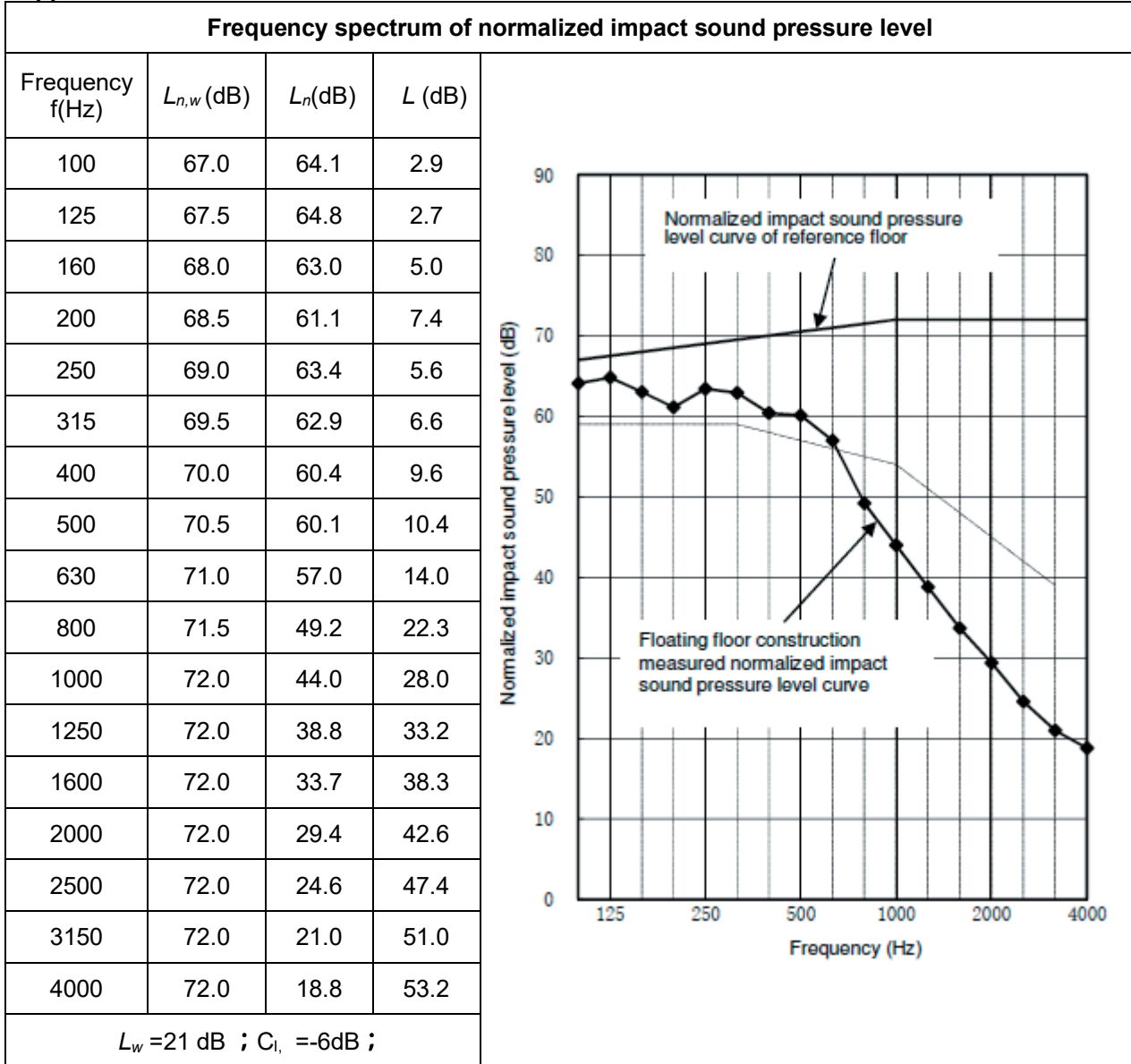
TEST REPORT

No. : XMIN191102762CCM

Date : Dec.11, 2019

Page: 3 of 4

Appendix 1:



Remark:

1. $L_{n,w}$ as the weighted normalized impact sound pressure level
 2. L_n as the measured normalized impact sound pressure level
 3. The above test was carried out by Center for Building Environment Test, Tsinghua University.
- ***** To be continued*****



TEST REPORT

No. : XMIN191102762CCM

Date : Dec.11, 2019

Page: 4 of 4

Photo Appendix:



SGS authenticate the photo on original report only
*****End of report*****

TÜV SÜD CZECH
FSC® CO Org Certification



Hereby certify that the organization below has has
passed independent reviews



Scope of the certification

The production and sale of products covered in FSC 100%, FSC MIX.
This certificate complies with Forest Stewardship Council A.C (FSC) rules,
according to FSC-STD-40-004 V3-0 standard.

Issuing date 20th of November 2017
Expiring date 19th of November 2022
Certificate code TSUD-COC-000953




The mark of
responsible forestry

Issuing location PRAGUE 20th of November 2017
Person issuing the certificate from the organization LUDEK MARYSKA

The information in this certificate can be check in the official website of
Certification and Accreditation Administration of the People's Republic
of China (CNCA) www.cnca.gov.cn

ESE 11.398.164

LIST OF PRODUCTS COVERED BY THE CERTIFICATE

W9.11 Wood-plastic composites - Wood-plastic composites boards, Wood-plastic composites post
FSC 100%, FSC Mix
Transfer system

W11.5.5 Engineered flooring - Wood-plastic composites garden flooring
FSC 100%, FSC Mix
Transfer system

W11.7 Wall cladding - Wood-plastic composites wall cladding
FSC 100%, FSC Mix
Transfer system

W13.1.3 Garden chairs and stools - Wood-plastic composites garden chairs and bench
FSC 100%, FSC Mix
Transfer system

W13.4 Fences, fence stakes, pales - Wood-plastic composites fences
FSC 100%, FSC Mix
Transfer system

W13.7 Other outdoor furniture and gardening products - Wood-plastic composites flower boxes; Wood-plastic composites pergola
FSC 100%, FSC Mix
Transfer system

Location Lalur Supplier in Shantou, China





TEST Report

SCOPE OF WORKS

<Performance testing – Co-extrusion Composite Flooring>

REPORT NUMBER

170516049GZU-001

ISSUE DATE

25-May-17

REVISION DATE

01-Jun-17

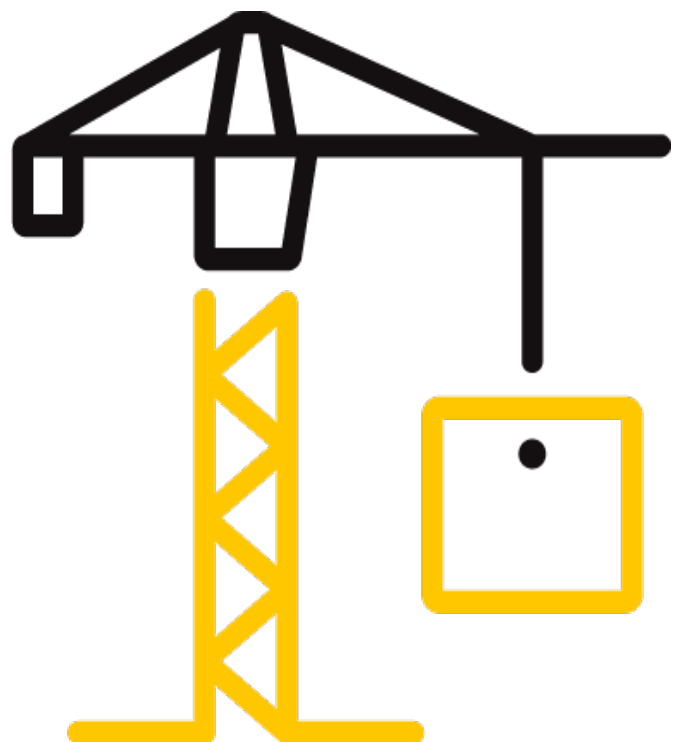
PAGES

12

DOCUMENT CONTROL NUMBER

TTRF-CHEM-EN

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Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

<p>Applicant:</p> 
--

Sample Information As Declaration:	
Product Name:	Co-extrusion Composite Flooring
Sample Quantity:	1pcs
Sample ID:	S170516049GZU-001
Date Received:	2017/5/17
Date Test Conducted:	2017/5/17-2017/5/23
Status As Sample Received:	In good condition
Test lab :	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Test lab address:	Block E, No.7-2 Guang Dong Software Science Park, Caipin Road, Guangzhou Science City, GETDD, Guangzhou

Conclusion:		
Test component	Test Standard	Conclusion
Submitted sample	EU REACH Regulation No 1907/2006 Article 33(1) Obligation to provide information of safe use (see REACH requirement in report for details)	Pass

Terms and Conditions

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.

The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

If related to subcontract, the remark* for the test items conducted by a subcontractor.

When determining the test result, measurement uncertainty has been considered.

SVHC testing results

By Inductively Coupled Plasma Optical Emission Spectrometry, Ion Chromatography, UV-Visible Spectrophotometry, Gas Chromatographic - Mass Spectrometry, Liquid Chromatographic - Mass Spectrometry and High Performance Liquid Chromatography analysis.

No.	Chemical substance	CAS No.	Result % (w/w)
1	Cobalt Dichloride Δ	7646-79-9	ND
2	Diarsenic Pentaoxide Δ	1303-28-2	ND
3	Diarsenic Trioxide Δ	1327-53-3	ND
4	Lead Hydrogen Arsenate Δ	7784-40-9	ND
5	Triethyl Arsenate Δ	15606-95-8	ND
6	Sodium Dichromate Δ	7789-12-0, 10588-01-9	ND
7	Bis (Tributyltin) Oxide (TBTO) Δ	56-35-9	ND
8	Anthracene	120-12-7	ND
9	4,4'-Diaminodiphenylmethane (MDA)	101-77-9	ND
10	Hexabromocyclododecane (HBCDD) and All Major Diastereoisomers Identified (α-HBCDD, β-HBCDD, γ-HBCDD)	25637-99-4 and 3194-55-6 (134237-50-6, 134237-51-7, 134237-52-8)	ND
11	5-Tert-Butyl-2,4,6-Trinitro-m-Xylene (Musk Xylene)	81-15-2	ND
12	Bis (2-Ethylhexyl) Phthalate (DEHP)	117-81-7	ND
13	Dibutyl Phthalate (DBP)	84-74-2	ND
14	Benzyl Butyl Phthalate (BBP)	85-68-7	ND
15	Short Chain Chlorinated Paraffins (C ₁₀₋₁₃)	85535-84-8	ND
16	Lead Chromate Δ	7758-97-6	ND
17	Lead Chromate Molybdate Sulphate Red (C.I. Pigment Red 104) Δ	12656-85-8	ND
18	Lead Sulfochromate Yellow (C.I. Pigment Yellow 34) Δ	1344-37-2	ND
19	Tris (2-Chloroethyl) Phosphate	115-96-8	ND
20	2,4-Dinitrotoluene	121-14-2	ND
21	Diisobutyl Phthalate (DIBP)	84-69-5	ND
22	Coal Tar Pitch, High Temperature	65996-93-2	ND

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

No.	Chemical substance	CAS No.	Result % (w/w)
23	Anthracene Oil	90640-80-5	ND
24	Anthracene Oil, Anthracene Paste, Distn. Lights	91995-17-4	ND
25	Anthracene Oil, Anthracene Paste, Anthracene Fraction	91995-15-2	ND
26	Anthracene Oil, Anthracene-low	90640-82-7	ND
27	Anthracene Oil, Anthracene Paste	90640-81-6	ND
28	Acrylamide	79-06-1	ND
29	Boric Acid Δ	10043-35-3 11113-50-1	ND
30	Disodium Tetraborate, Anhydrous Δ	1330-43-4, 12179-04-3, 1303-96-4	ND
31	Tetraboron Disodium Heptaoxide, Hydrate	12267-73-1	ND
32	Sodium Chromate Δ	7775-11-3	ND
33	Potassium Chromate Δ	7789-00-6	ND
34	Ammonium Dichromate Δ	7789-09-5	ND
35	Potassium Dichromate Δ	7778-50-9	ND
36	Trichloroethylene	79-01-6	ND
37	2-Methoxyethanol	109-86-4	ND
38	2-Ethoxyethanol	110-80-5	ND
39	Cobalt Sulphate Δ	10124-43-3	ND
40	Cobalt Dinitrate Δ	10141-05-6	ND
41	Cobalt Carbonate Δ	513-79-1	ND
42	Cobalt Diacetate Δ	71-48-7	ND
43	Chromium Trioxide Δ	1333-82-0	ND
44	Chromic AcidΔ	7738-94-5	ND
	Dichromic AcidΔ	13530-68-2	
	Oligomers of Chromic Acid and Dichromic Acid Δ	--	
45	Strontium ChromateΔ	7789-06-2	ND
46	2-ethoxyethyl acetate (2-EEA)	111-15-9	ND
47	1,2-Benzenedicarboxylic acid, di-C ₇₋₁₁ -branched and linear alkyl esters (DHNUP)	68515-42-4	ND
48	Hydrazine	7803-57-8; 302-01-2	ND
49	1-methyl-2-pyrrolidone	872-50-4	ND
50	1,2,3-trichloropropane	96-18-4	ND

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

No.	Chemical substance	CAS No.	Result % (w/w)
51	1,2-Benzenedicarboxylic acid, di-C ₆₋₈ -branched alkyl esters, C ₇ -rich (DIHP)	71888-89-6	ND
52	Lead dipicrate Δ	6477-64-1	ND
53	Lead styphnate Δ	15245-44-0	ND
54	Lead azide; Lead diazide Δ	13424-46-9	ND
55	Phenolphthalein	77-09-8	ND
56	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	ND
57	N,N-dimethylacetamide (DMAC)	127-19-5	ND
58	Trilead diarsenate Δ	3687-31-8	ND
59	Calcium arsenate Δ	7778-44-1	ND
60	Arsenic acid Δ	7778-39-4	ND
61	Bis(2-methoxyethyl) ether	111-96-6	ND
62	1,2-Dichloroethane	107-06-2	ND
63	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	ND
64	2-Methoxyaniline; o-Anisidine	90-04-0	ND
65	Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	ND
66	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4	ND
67	Pentazinc chromate octahydroxide Δ	49663-84-5	ND
68	Potassium hydroxyoctaoxidizincate dichromate Δ	11103-86-9	ND
69	Dichromium tris(chromate) Δ	24613-89-6	ND
70	Aluminosilicate Refractory Ceramic Fibres Δ	(Index No.650-017-00-8)	ND
71	Zirconia Aluminosilicate Refractory Ceramic Fibres Δ	(Index No.650-017-00-8)	ND
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	ND
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	ND
74	Diboron trioxide Δ	1303-86-2	ND
75	Formamide	75-12-7	ND
76	Lead(II) bis(methanesulfonate) Δ	17570-76-2	ND
77	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	2451-62-9	ND
78	β -TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-	59653-74-6	ND
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	ND

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

No.	Chemical substance	CAS No.	Result % (w/w)
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	ND
81	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	ND
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	ND
83	α,α-Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	ND
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	ND
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	ND
86	Pentacosafuorotridecanoic acid	72629-94-8	ND
87	Tricosafuorododecanoic acid	307-55-1	ND
88	Henicosafuoroundecanoic acid	2058-94-8	ND
89	Heptacosafuorotetradecanoic acid	376-06-7	ND
90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	ND
91	Cyclohexane-1,2-dicarboxylic anhydride [1] cis-cyclohexane-1,2-dicarboxylic anhydride trans-cyclohexane-1,2-dicarboxylic [The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry].	85-42-7; 13149-00-3; 14166-21-3	ND

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

No.	Chemical substance	CAS No.	Result % (w/w)
92	Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	25550-51-0 19438-60-9 48122-14-1 57110-29-9	ND
93	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	--	ND
94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	--	ND
95	Methoxyacetic acid	625-45-6	ND
96	N,N-dimethylformamide	68-12-2	ND
97	Dibutyltin dichloride (DBTC) Δ	683-18-1	ND
98	Lead monoxide (Lead oxide) Δ	1317-36-8	ND
99	Orange lead (Lead tetroxide) Δ	1314-41-6	ND
100	Lead bis(tetrafluoroborate) Δ	13814-96-5	ND
101	Trilead bis(carbonate)dihydroxide Δ	1319-46-6	ND
102	Lead titanium trioxide Δ	12060-00-3	ND
103	Lead titanium zirconium oxide Δ	12626-81-2	ND
104	Silicic acid, lead salt Δ	11120-22-2	ND

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

No.	Chemical substance	CAS No.	Result % (w/w)
105	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-dopedΔ [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	ND
106	1-bromopropane (n-propyl bromide)	106-94-5	ND
107	Methyloxirane (Propylene oxide)	75-56-9	ND
108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	ND
109	Diisopentylphthalate (DIPP)	605-50-5	ND
110	N-pentyl-isopentylphthalate	776297-69-9	ND
111	1,2-diethoxyethane	629-14-1	ND
112	Acetic acid, lead salt, basicΔ	51404-69-4	ND
113	Lead oxide sulfateΔ	12036-76-9	ND
114	[Phthalato(2-)]dioxotrileadΔ	69011-06-9	ND
115	Dioxobis(stearato)trileadΔ	12578-12-0	ND
116	Fatty acids, C16-18, lead saltsΔ	91031-62-8	ND
117	Lead cyanamateΔ	20837-86-9	ND
118	Lead dinitrateΔ	10099-74-8	ND
119	Pentalead tetraoxide sulphateΔ	12065-90-6	ND
120	Pyrochlore, antimony lead yellowΔ	8012-00-8	ND
121	Sulfurous acid, lead salt, dibasicΔ	62229-08-7	ND
122	TetraethylleadΔ	78-00-2	ND
123	Tetralead trioxide sulphateΔ	12202-17-4	ND
124	Trilead dioxide phosphonateΔ	12141-20-7	ND
125	Furan	110-00-9	ND
126	Diethyl sulphate	64-67-5	ND
127	Dimethyl sulphate	77-78-1	ND
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	ND
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	ND
130	4,4'-methylenedi-o-toluidine	838-88-0	ND
131	4,4'-oxydianiline and its salts	101-80-4	ND
132	4-aminoazobenzene	60-09-3	ND
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	ND

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

No.	Chemical substance	CAS No.	Result % (w/w)
134	6-methoxy-m-toluidine (p-cresidine)	120-71-8	ND
135	Biphenyl-4-ylamine	92-67-1	ND
136	o-aminoazotoluene [(4-o-tolylazo-o-	97-56-3	ND
137	o-toluidine	95-53-4	ND
138	N-methylacetamide	79-16-3	ND
139	Cadmium Δ	7440-43-9	ND
140	Cadmium oxide Δ	1306-19-0	ND
141	Dipentyl phthalate (DPP)	131-18-0	ND
142	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	--	ND
143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	ND
144	Pentadecafluorooctanoic acid (PFOA)	335-67-1	ND
145	Cadmium sulphide Δ	1306-23-6	ND
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	ND
147	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	ND
148	Dihexyl phthalate (DnHP)	84-75-3	ND
149	Imidazolidine-2-thione (2-imidazoline-2-	96-45-7	ND
150	Lead di(acetate) Δ	301-04-2	ND
151	Trixylyl phosphate	25155-23-1	ND
152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (Diisohexyl phthalate(DIHP))	68515-50-4	ND
153	Cadmium chloride Δ	10108-64-2	ND
154	Sodium perborate; perboric acid, sodium salt Δ	--	ND

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

No.	Chemical substance	CAS No.	Result % (w/w)
155	Sodium peroxometaborate Δ	7632-04-4	ND
156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	ND
157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	ND
158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	ND
159	Cadmium fluoride Δ	7790-79-6	ND
160	Cadmium sulphate Δ	10124-36-4; 31119-53-6	ND
161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	15571-58-1; 27107-89-7	ND
162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with \geq 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5; 68648-93-1	ND
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	117933-89-8	ND
164	1,3-propanesultone	1120-71-4	ND
165	Perfluorononanoic acid and its sodium and ammonium salts	375-95-1; 21049-39-8; 4149-60-4	ND
166	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	ND
167	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	ND

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:

No.	Chemical substance	CAS No.	Result % (w/w)
168	Nitrobenzene	98-95-3	ND
169	Benzo[a]pyrene	50-32-8	ND
170	Bisphenol A	80-05-7	ND
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 3108-42-7 3830-45-3	ND
172	4-Heptylphenol, branched and linear	--	ND
173	4-tert-Amylphenol	80-46-6	ND

SVHC = Substance of very high concern

ND = Not detected

Detection limit = 0.010% for component/packaging material

Δ = Determination was based on elemental analysis. The content was calculated based on assumption of worst-case.

Tested components: Brown/Grey teawood

Notes:

1. Substances of very high concern (SVHC) are classified as:

- a. Carcinogenic, mutagenic or toxic to reproduction category 1 (proven on humans) and category 2 (proven on animals)
- b. Persistent, bioaccumulative and toxic chemicals (PBT)
- c. Very persistent and very bioaccumulative chemicals (vPvB)
- d. Other similar substances such as endocrine disrupters

2. If the imported or manufactured volume of each individual SVHC in article is more than 0.1% (w/w) and if it exceeds 1 tonne per year across all product ranges, then importer or manufacturer require notification to the European Chemical Agency (ECHA). For substances included in the Candidate List on or after 1 December 2010, the notifications have to be submitted no later than 6 months after the inclusion. The following information has to be submitted for notification:

- a. Identification of the registrant and the substance
- b. Classification and labelling of the substance
- c. Description of use of the substance and the article
- d. Registration number, if available
- e. Tonnage range

REACH requirement:

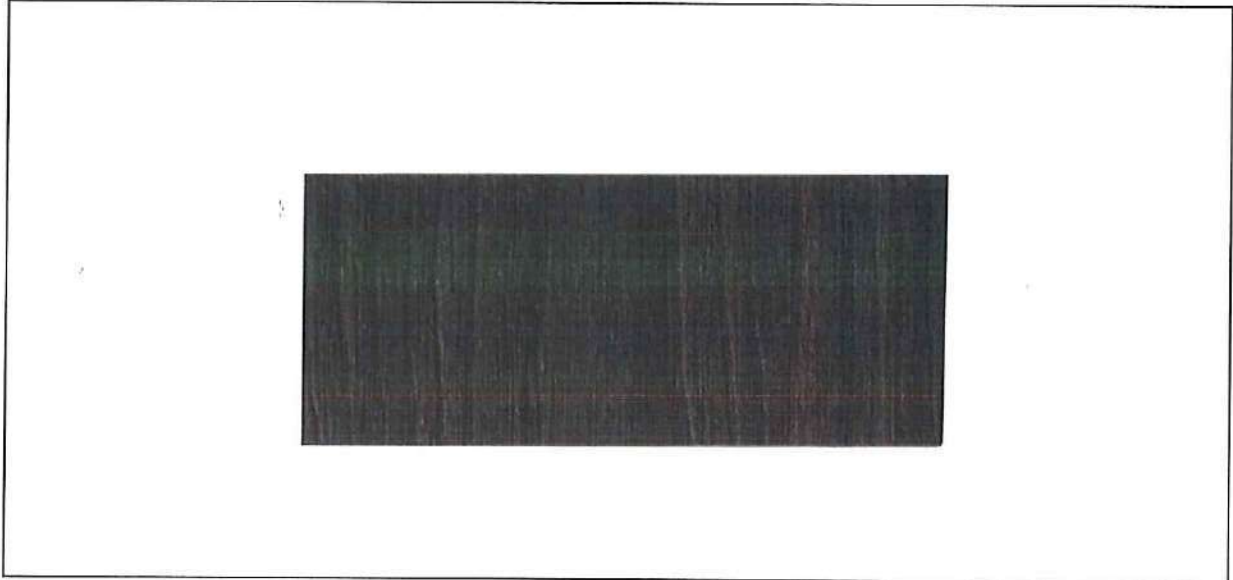
As per article 33(1) of regulation (EC) No. 1907/2006 (REACH), recipients of product must be provided with information of safe use if any of the tested substances (SVHC) exceeded 0.1% (w/w). A product meets the requirement of article 33(1) by default when no SVHC exceeds 0.1% (w/w).

Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results:



Approved by:

Penny Pan

Name: Penny Pan

Title: Senior Project Engineer

Revision:

Revision No.	Date	Report No.	Changes	Reviewer
0	2017/05/25	170516049GZU-001	First issue	Penny Pan
1	2017/06/01	170516049GZU-001	As applicant's request, revised product name as "Co-extrusion Composite Flooring" and deleted product model	Penny Pan

The End of Report



TEST Report

SCOPE OF WORKs

<Performance testing – Superior Wood (Co-extrusion) Composite decking>

REPORT NUMBER

170527113GZU-003

ISSUE DATE

20-Jun-17

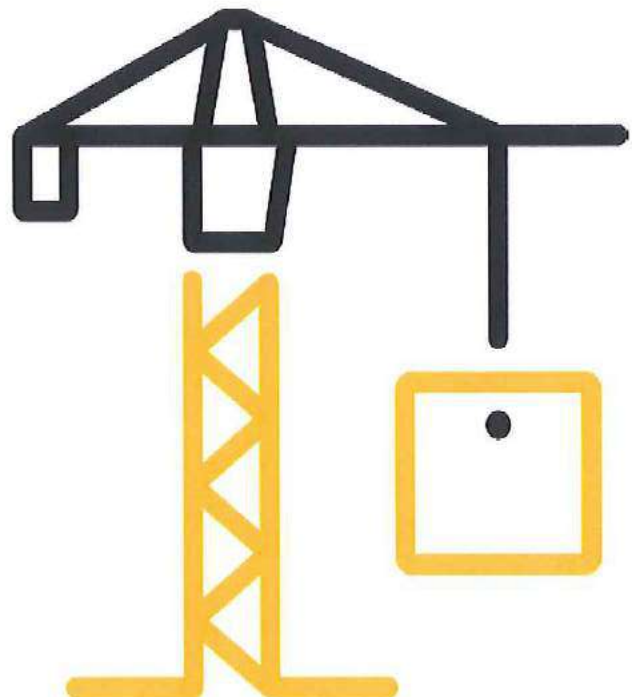
PAGES

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DOCUMENT CONTROL NUMBER

TTRF-PERF02-EN

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Test Report

Report Number: 170527113GZU-003

Report Date: 2017-6-20

Applicant:  **LALUR**

Sample Information As Declaration:

Product Name: Superior Wood (Co-extrusion) Composite decking
Tested Model: NA
Specification: NA
Model Similarity: NA
Sample Quantity: 10
Sample ID: S170527113-011~020
Date Received: 2017-05-27
Date Test Conducted: 2017-5-27 ~ 2017-6-20
Status As Sample Received: Sample received was in good condition
Test lab : Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Test lab address: No. 9 Nan Xiang San Road, GETDD, Guangzhou, China

Conclusion:

For details refer to attached page(s).

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The conclusions of this test report may not be used as part of the requirements for Intertek product certification. Authority to Mark must be issued for a product to become certified.

Test Report

Report Number: 170527113GZU-003

Report Date: 2017-6-20

Test Items, Method and Results:

If related to subcontract, the remark* for the test items conducted by a subcontractor.

When determining the test result, measurement uncertainty has been considered.

No.	Test Item	Test Parameter	Test Result	Verdict
1	*Anti-slip property	Test method: DIN 51130-2014	Mean overall acceptance angle: 14.6° Slip resistance class: R10 (See table 1 for slip-resistance classification)	-
2	Falling mass impact resistance	Test method: Clause 7.1.2.1 of EN 15534-1:2014 Distance between supports: 200mm Radius of striker: 25mm Mass of striker: 1kg Falling height: 700mm	None of 10 test specimens showed a crack. Maximum depth of residual indentation: 0.16mm	-
3	Resistance to indentation	Test method: Clause 7.6 of EN 15534-1:2014 Diameter of indenter: 10mm Test speed: 66N/s	Brinell hardness: 65N/mm ² Rate of elastic recovery: 77.7%	-
4	Abrasion resistance	Test method: ASTM D4060-14 Wheel: CS17 Load: 1kg/wheel Revolutions: 1000	Wear index: 37.4mg/1000r	-

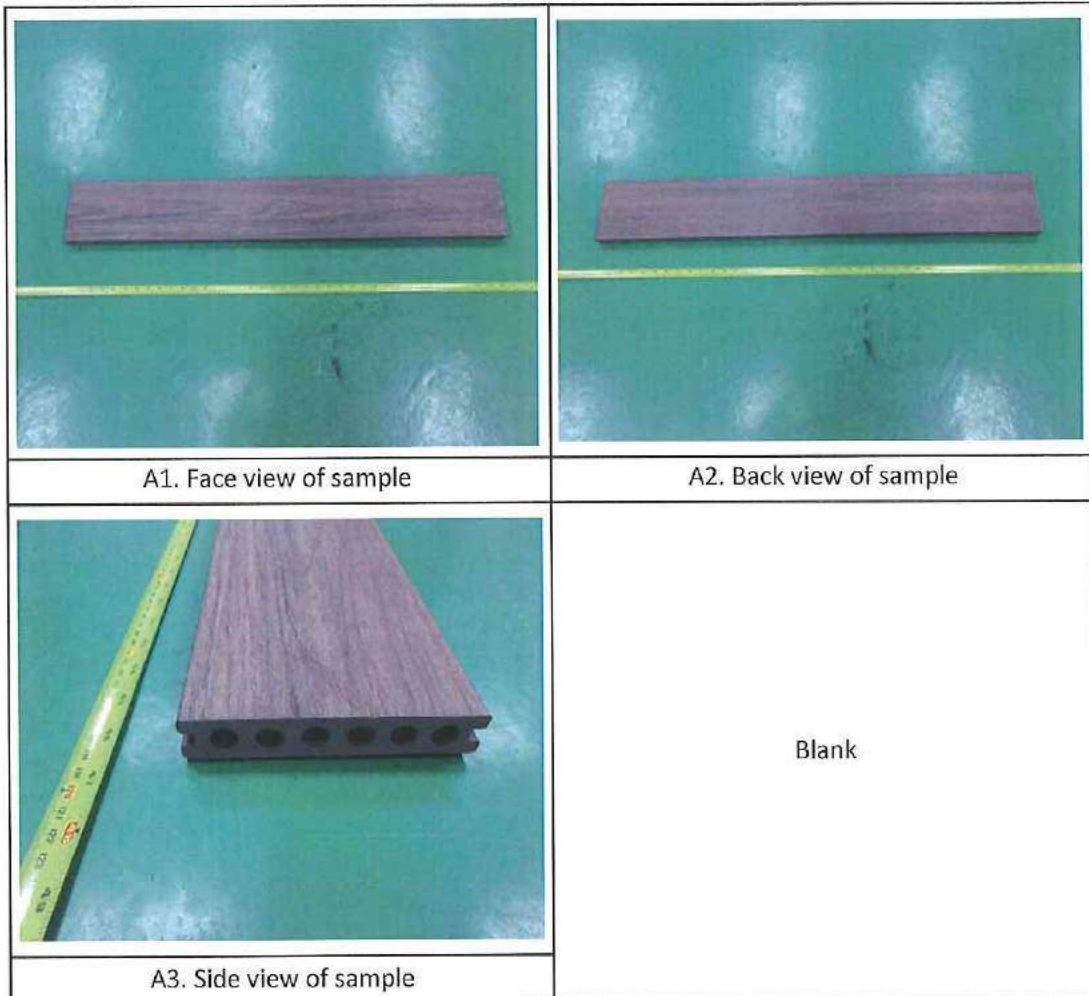
Corrected mean overall acceptance angle	Slip resistance class
6° to 10°	R9
Over 10° up to 19°	R10
Over 19° up to 27°	R11
Over 27° up to 35°	R12
Over 35°	R13

Test Report

Report Number: 170527113GZU-003

Report Date: 2017-6-20

Appendix A: Sample received photo



Approved by:

Drafted by:

Jeff Deng
Name: Jeff Deng
Title: Assit Manager

Martin Guo
Name: Martin Guo
Title: Testing Engineer

Revision:

Report No.	Date	Changes	Author	Reviewer
170527113GZU-003	2017-06-20	First issue	Martin Guo	Jeff Deng

The End of Report



TEST Report

SCOPE OF WORKs

<Performance testing – Superior Wood (Co-extrusion) Composite decking>

REPORT NUMBER

170915103GZU-003

ISSUE DATE

26-Sep-17

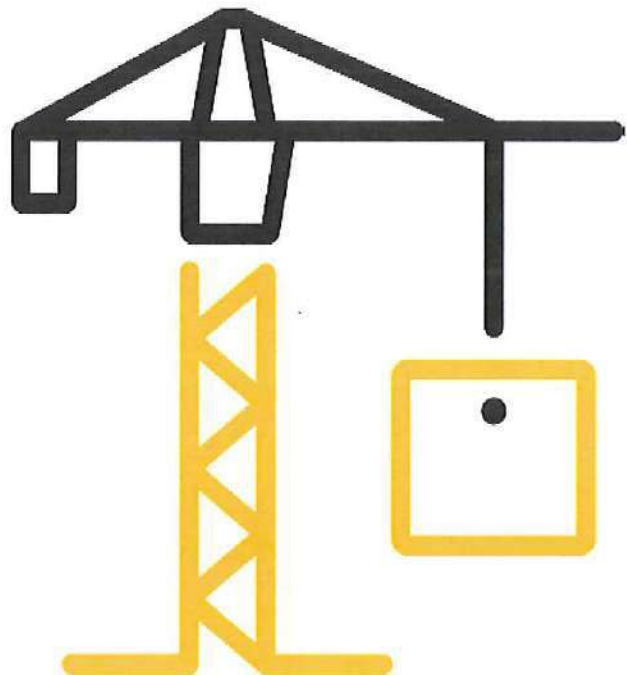
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DOCUMENT CONTROL NUMBER

TTRF-PERF02-EN-a

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Test Report

Report Number: 170915103GZU-003

Report Date: 2017-09-26

Applicant:



Sample Information As Declaration:

Product Name:	Superior Wood (Co-extrusion) Composite decking
Tested Model:	NA
Specification:	NA
Model Similarity:	NA
Sample Quantity:	5
Sample ID:	S170915103-006~010
Date Received:	2017-09-15
Date Test Conducted:	2017-09-15 ~ 2017-09-26
Status As Sample Received:	Sample received was in good condition
Test lab :	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Test lab address:	No. 9 Nan Xiang San Road, GETDD, Guangzhou, China

Conclusion:

For details refer to attached page(s).

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Test Report

Report Number: 170915103GZU-003

Report Date: 2017-09-26

Test Items, Method and Results:

If related to subcontract, the remark* for the test items conducted by a subcontractor.

When determining the test result, measurement uncertainty has been considered.

No.	Test Item	Test Parameter	Test Result	Verdict
1	Pendulum test	Test method: EN 15534-1:2014 Slider rubber type: TRL rubber Operate condition: dry condition Test surface and directions: front surface, machine direction and across machine direction Requirement of EN 15534-4:2014: pendulum value ≥ 36	Average of pendulum value in machine direction: 70 Average of pendulum value in across machine direction: 82	Pass

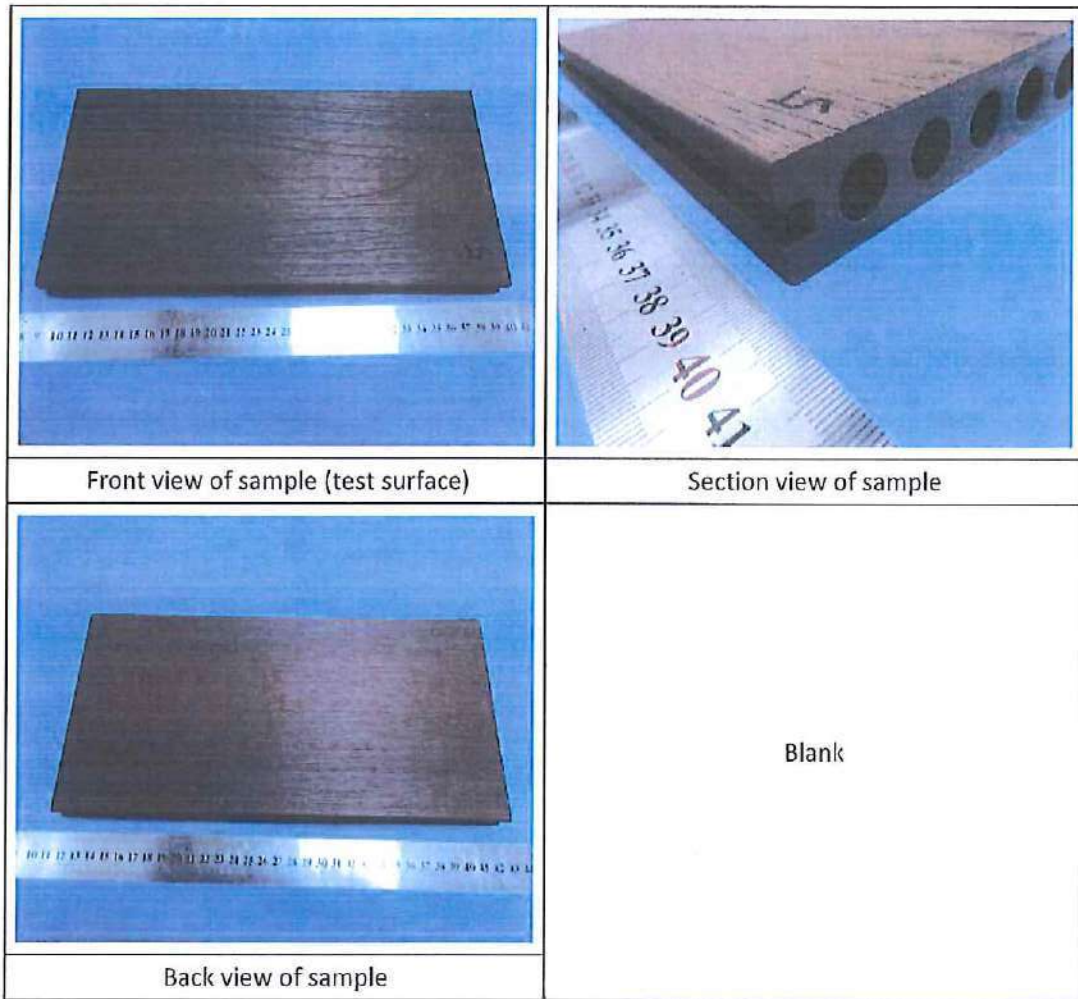


Test Report

Report Number: 170915103GZU-003

Report Date: 2017-09-26

Appendix A: Sample received photo



Approved by:

Drafted by:

Jeff Deng

Kelming Wang

Name: Jeff Deng
Title: Assitant Manager

Name: Kelming Wang
Title: Senior Project Engineer



Revision:

Report No.	Date	Changes	Author	Reviewer
170915103GZU-003	2017-09-26	First issue	Kelming Wang	Jeff Deng

The End of Report





TEST Report

SCOPE OF WORKs

<Performance testing – Superior Wood (Co-extrusion) Composite decking>

REPORT NUMBER

170908094GZU-007

ISSUE DATE

12-Dec-17

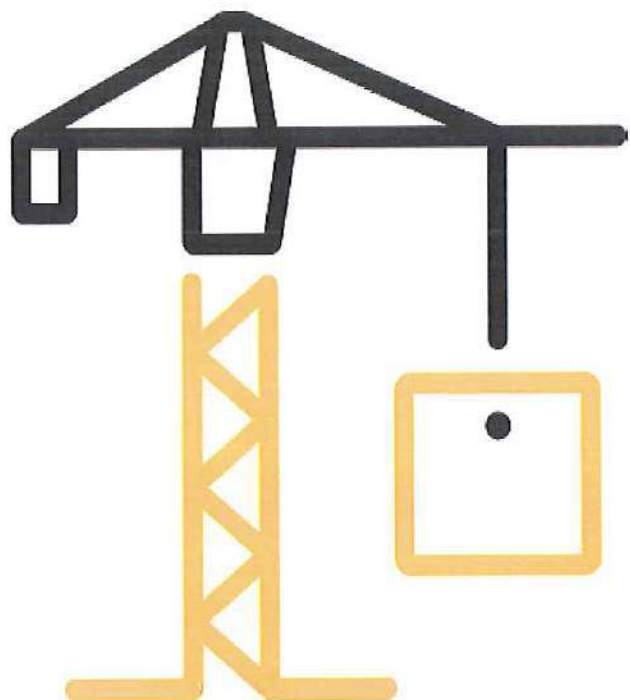
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DOCUMENT CONTROL NUMBER

TTRF-PERF02-EN-a

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Test Report

Report Number: 170908094GZU-007

Report Date: 2017-12-12

Applicant:



Sample Information As Declaration:

Product Name:	Superior Wood (Co-extrusion) Composite decking
Tested Model:	NA
Specification:	NA
Model Similarity:	NA
Sample Quantity:	1
Sample ID:	S170908094-003
Date Received:	2017-09-08
Date Test Conducted:	2017-09-08 ~ 2017-12-12
Status As Sample Received:	Sample received was in good condition
Test lab :	Intertek Testing Services Shenzhen Ltd. Guangzhou Branch
Test lab address:	No. 9 Nan Xiang San Road, GETDD, Guangzhou, China

Conclusion:

For details refer to attached page(s).

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Test Report

Report Number: 170908094GZU-007

Report Date: 2017-12-12

Test Items, Method and Results:

If related to subcontract, the remark* for the test items conducted by a subcontractor.

When determining the test result, measurement uncertainty has been considered.

No.	Test Item	Test Parameter				Test Result
1	Resistance to artificial weathering	Test method: Cycle 1 of ISO 4892-3:2016 and client's requirement				$\Delta E: 1.92$ Grey scale: 4-5
		Test conditions:				
		Exposure period	Lamp type	Irradiance	Black-panel temperature	
		8 h dry	UVA-340 (type 1A)	0.76 W/m ² /nm at 340 nm	60 °C ± 3 °C	
4 h condensation	UV lamps off	50 °C ± 3 °C				
		Duration of test: 2000h				

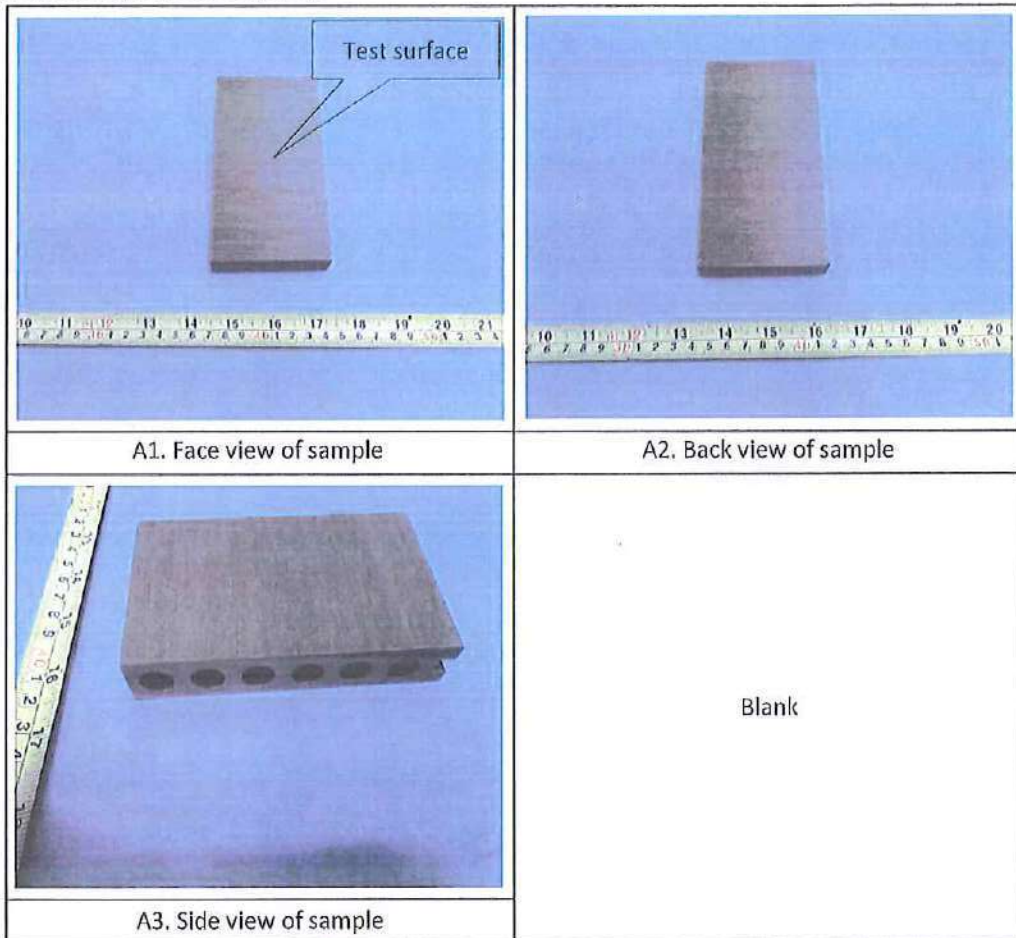


Test Report

Report Number: 170908094GZU-007

Report Date: 2017-12-12

Appendix A: Sample received photo



Approved by:

Jeff Deng

Name: Jeff Deng
Title: Assit Manager



Drafted by:

Martin Guo

Name: Martin Guo
Title: Engineer

Revision:

Report No.	Date	Changes	Author	Reviewer
170908094GZU-007	2017-12-12	First issue	Martin Guo	Jeff Deng

The End of Report





INFORME DE PRUEBA /REPORT OF TEST



COPREQ-FT-15-02

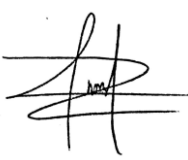

Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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DATOS DEL CLIENTE / INFORMATION OF CUSTOMER	
Cliente / Name	LALUR
Dirección / Address	MARSELLA N° Ext.21 COL. JUAREZ CP.06600,CIUDAD DE MÉXICO, MÉXICO.
Lugar de Prueba / Place of Test	Laboratorio COPREQ.

ESPECIFICACIONES DE LA PRUEBA / SPECIFICATIONS OF THE TEST			
Número de parte cliente / Part number customer	LVT GLUEDOWN 3 y 5 mm de espesor, CEMENTO.		
Identificación COPREQ / COPREQ ID	PISO-01 PISO-02		
Descripción / Description	Ensayo de desgaste bajo especificaciones del usuario.		
Fecha de inicio de la prueba /Test start date	27/11/2024	Término de la prueba / End of test	11/12/2024

EQUIPO UTILIZADO / USED EQUIPMENT		
Descripción / Description	Identificación / Identification	Trazabilidad / Traceability
CELDA DE CARGA	4077105	CENAM
INDICADOR DIGITAL	MH-02	CENAM
METEOROMETRO DIGITAL	MET-01	CENAM

CONDICIONES AMBIENTALES / ENVIRONMENTAL CONDITIONS
21.7° C/ 48 % HR

ELABORÓ / DONE BY:	APROBÓ / AUTHORIZED BY:
 Ing. Karolina Lizbeth Posadas Ramírez Metrólogo	 Ing. Cristian Jhonatan Fernández Arteaga Director General

Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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NOMBRE DE LA PRUEBA / TEST NAME

Ensayo de desgaste bajo especificaciones del usuario.

PROCEDIMIENTO / PROCEDURE

Ensayo de desgaste bajo especificaciones del usuario.

Se sometió a ensayo de desgaste a 2 diferentes tipos de piso, identificados de la siguiente forma;
PISO-01 con espesor de: 3 mm.
PISO-02 con espesor de 5 mm.

Se procede a colocar los ítem identificados como PISO-01 y PISO-02 en el área de ensayos, simulando una instalación real, para posteriormente enmarcar con cinta amarilla los lugares en los cuales se procede a realizar el ensayo, ver imagen 1.



Imagen 1.

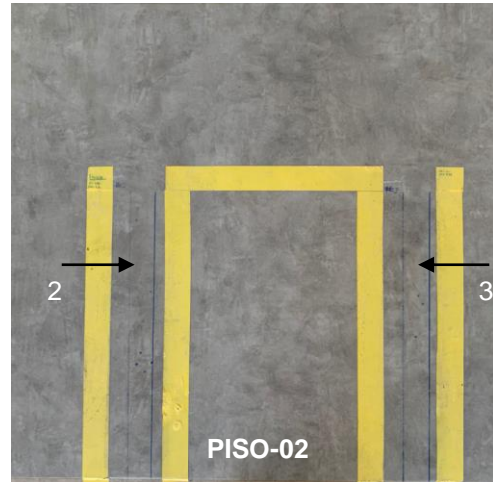
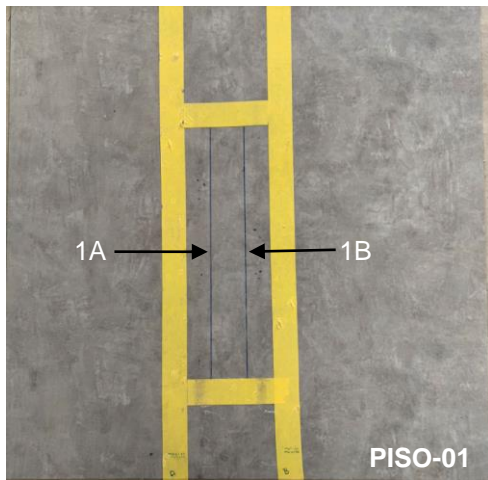
Una vez instalado, identificado y debidamente señalada el area de prueba se procede a realizar 10,950 ciclos (diez mil ciclos), con una carga de 1,100 kg, simulando un periodo de 10 años.

1 año equivale a:
1095 veces de recorrido manual ida y vuelta con carga de 1,100 kg.



Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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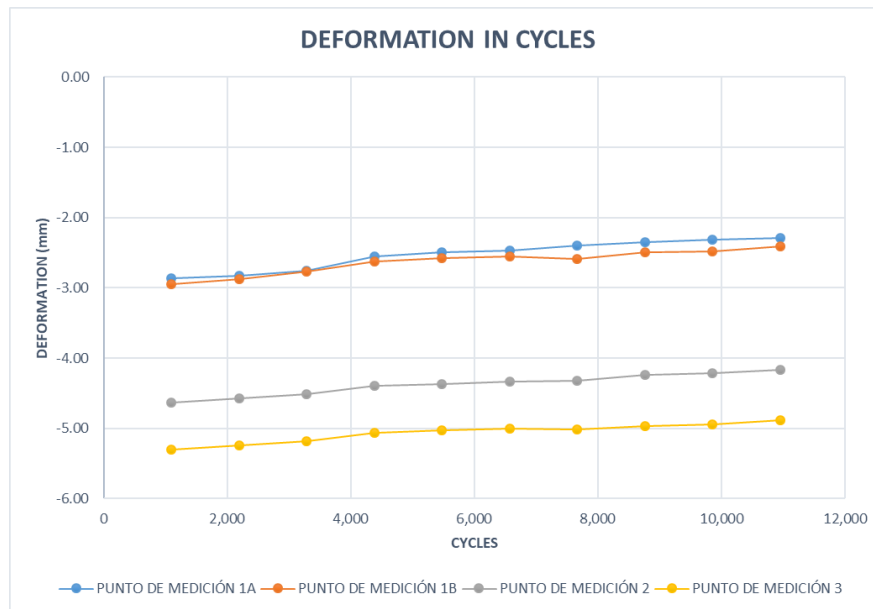
PUNTOS DE MEDICIÓN EN PISO/ MEASUREMENT POINTS ON THE FLOOR



Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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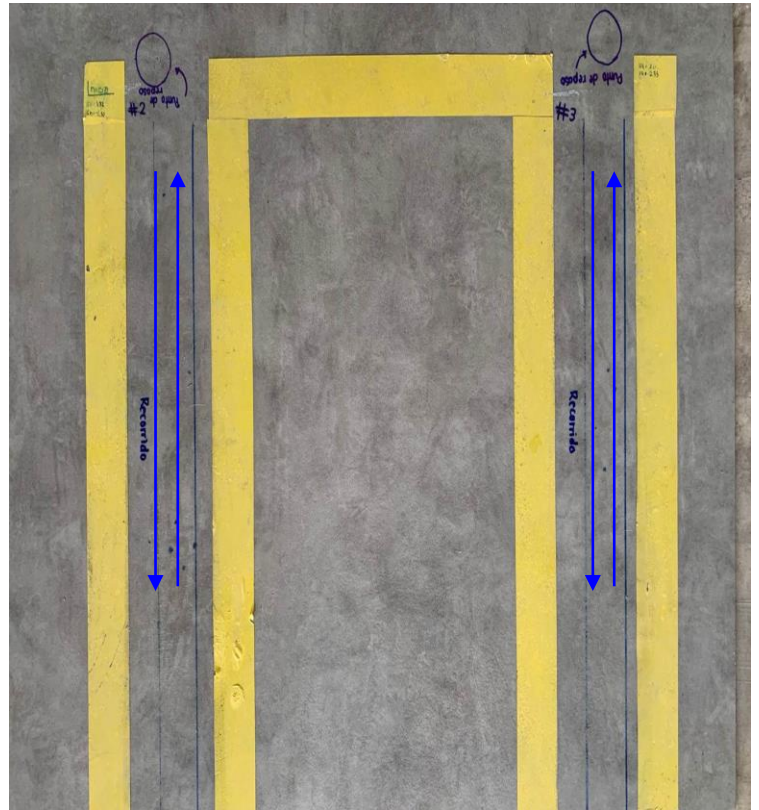
LVT GLUEDOWN 3 y 5 mm de espesor, CEMENTO	PISO-01 (3 mm espesor/ thickness)		PISO-02 (5 mm espesor/ thickness)	
	DIFERENCIA/DIFERENCE		DIFERENCIA/DIFERENCE	
	PUNTO DE MEDICIÓN/ MEASUREMENT POINT 1A (mm)	PUNTO DE MEDICIÓN/ MEASUREMENT POINT 1B (mm)	PUNTO DE MEDICIÓN/ MEASUREMENT POINT 2 (mm)	PUNTO DE MEDICIÓN/ MEASUREMENT POINT 3 (mm)
1,095	-2.87	-2.95	-4.63	-5.3
2,190	-2.83	-2.88	-4.58	-5.24
3,285	-2.76	-2.77	-4.51	-5.19
4,380	-2.55	-2.63	-4.4	-5.07
5,475	-2.49	-2.58	-4.37	-5.03
6,570	-2.47	-2.55	-4.34	-5.01
7,665	-2.4	-2.59	-4.32	-5.02
8,760	-2.35	-2.5	-4.24	-4.97
9,855	-2.32	-2.48	-4.21	-4.95
10,950	-2.29	-2.41	-4.17	-4.88

GRAFICO DE COMPORTAMIENTO/BEHAVIOR CHART



Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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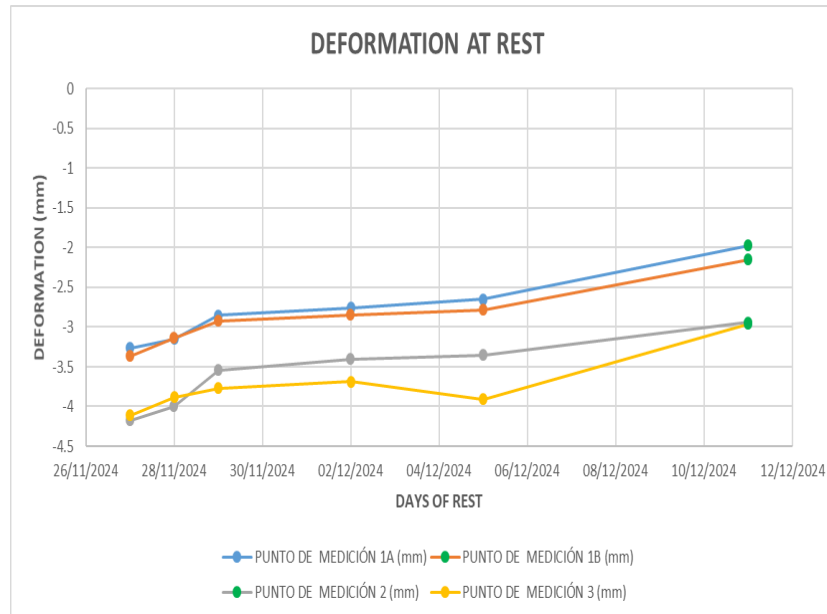
PUNTOS DE REPOSO/ REST POINTS



Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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DIFERENCIA/ DIFFERENCE					
HORAS DE REPOSO/ HOURS OF REST		PISO-01 (3 mm espesor/ thickness)		PISO-02 (5 mm espesor/ thickness)	
		PUNTO DE MEDICIÓN/ MEASUREMENT POINT	PUNTO DE MEDICIÓN/ MEASUREMENT POINT	PUNTO DE MEDICIÓN/ MEASUREMENT POINT	PUNTO DE MEDICIÓN/ MEASUREMENT POINT
		1A (mm)	1B (mm)	2 (mm)	3 (mm)
16 H	27/11/2024	-3.26	-3.37	-4.18	-4.11
16 H	28/11/2024	-3.15	-3.14	-4	-3.88
17 H	29/11/2024	-2.85	-2.92	-3.54	-3.77
76 H	02/12/2024	-2.76	-2.85	-3.41	-3.69
66 H	05/12/2024	-2.65	-2.78	-3.35	-3.91
PUNTO DE RETORNO	11/12/2024				
	HORAS: 144 H	-1.97	-2.15	-2.94	-2.96

GRAFICO DE COMPORTAMIENTO/BEHAVIOR CHART

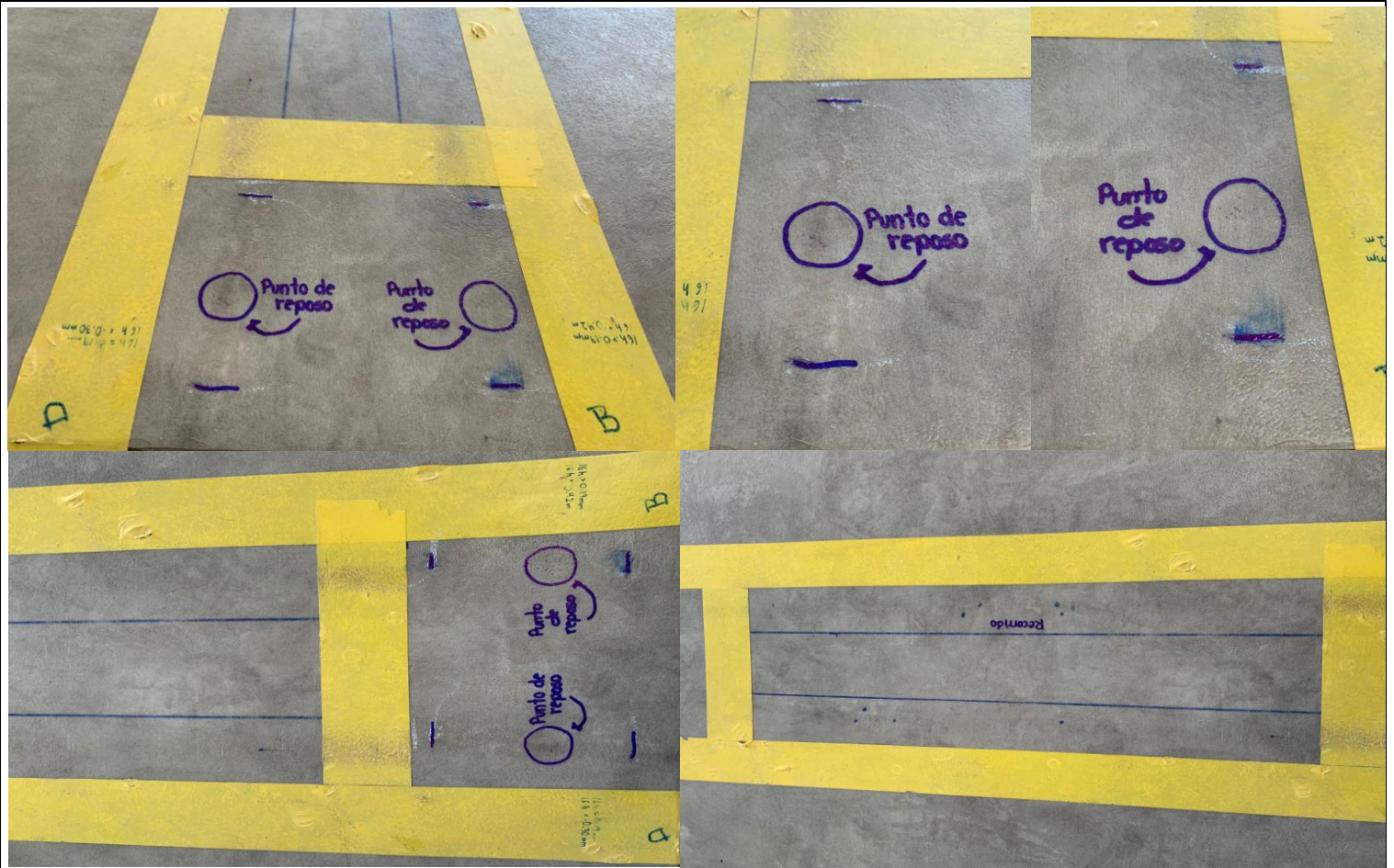


Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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EVIDENCIA/EVIDENCE



EVIDENCIA PISO ESPESOR (3 mm)/EVIDENCE FLOOR THICKNESS (3mm)



Fecha de emisión: 2019-07-11	Fecha de revisión: 2024-10-01	Revisión: 06	Página 7 de 12
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Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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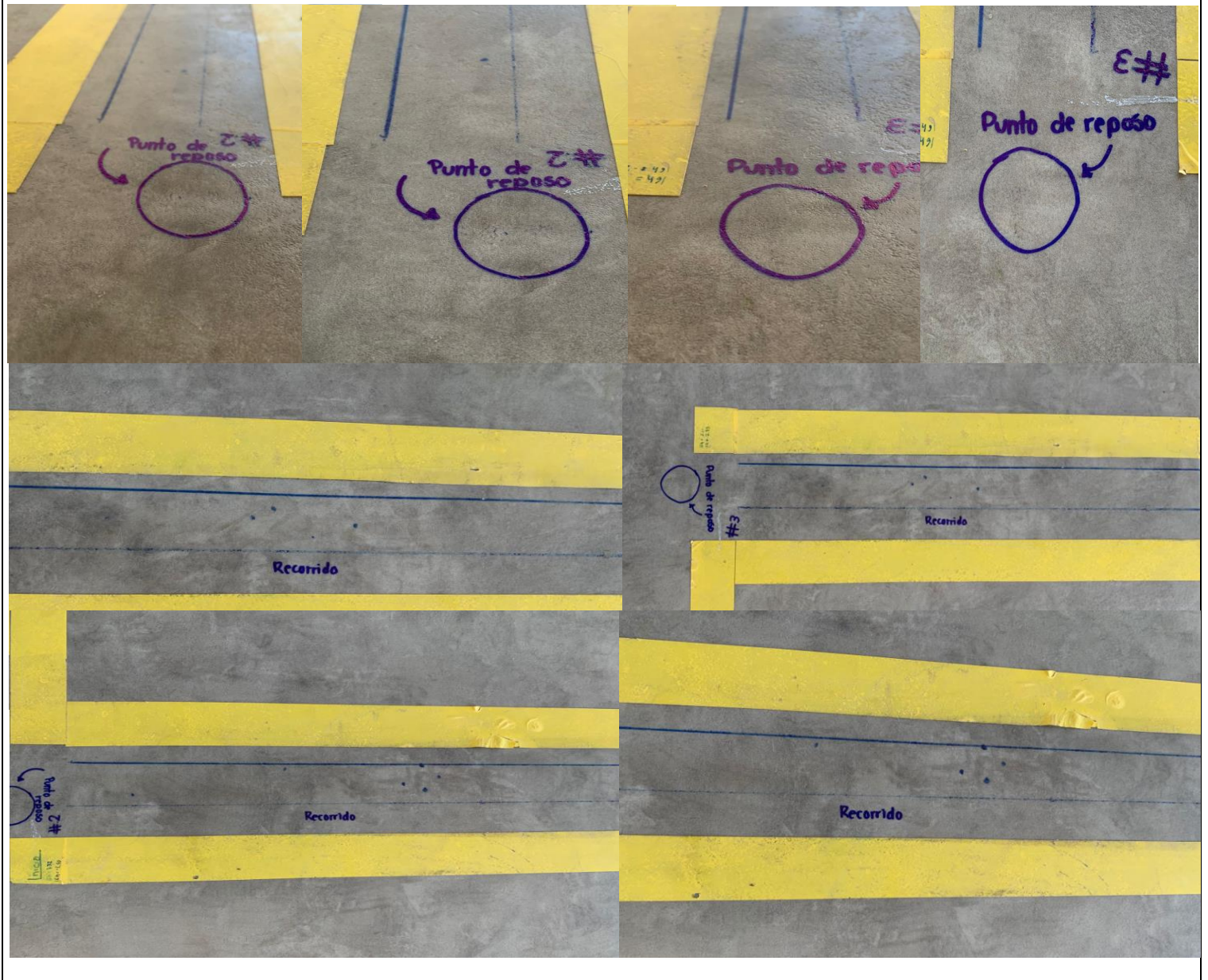


Observaciones/Observations: El ítem identificado como PISO-01 que cuenta con un espesor de 3 mm, NO obtuvo cambios de color, ni rayaduras, después de la ejecución de prueba de desgaste que consta de 10,950 ciclos con una carga de 1,100kg, así como tampoco deformación, ya que esta tiende a regresar a su estado natural, por lo que de acuerdo a sus resultados es recomendable para el uso rudo, apto para su instalación en todo tipo de áreas exteriores o interiores.

The item identified as PISO-01, which has a thickness of 3 mm, obtained NO color changes or scratches after carrying out a wear test that consists of 10,950 cycles with a load of 1,100kg, as well as no deformation. since it tends to return to its natural state, so according to its results it is recommended for rough use, suitable for installation in all types of outdoor or indoor areas.

Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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EVIDENCIA PISO ESPESOR (5 mm)/EVIDENCE FLOOR THICKNESS (5mm)





INFORME DE PRUEBA /REPORT OF TEST



Informe N°/ Report N°:	CQ-202411961	Fecha de Elaboración/Date of Elaboration	11/12/2024	Fecha de Prueba/ Date of Test	27/11/2024
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Observaciones/Observations: El ítem identificado como PISO-02 que cuenta con un espesor de 5 mm, NO obtuvo cambios de color, ni rayaduras, después de la ejecución de prueba de desgaste que consta de 10,950 ciclos con una carga de 1,100kg, así como tampoco deformación, ya que esta tiende a regresar a su estado natural, por lo que de acuerdo a sus resultados es recomendable para el uso rudo, apto para su instalación en todo tipo de áreas exteriores o interiores.

The item identified as PISO-02, which has a thickness of 5 mm, obtained NO color changes or scratches after carrying out a wear test that consists of 10,950 cycles with a load of 1,100kg, as well as no deformation. since it tends to return to its natural state, so according to its results it is recommended for rough use, suitable for installation in all types of outdoor or indoor areas.

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FICHA TÉCNICA

WESTON[®]

TOOLS

PATÍN HIDRÁULICO PARA TARIMA

CÓDIGO DE SER NECESARIO

WESTON[®]

TOOLS

- Ideal para el manejo de mercancía en almacenes, tales como carga, descarga y traslado de una zona a otra etc.
- Construcción de acero de calibre pesado
- Control manual de 3 posiciones, elevar, bajar y neutral
- País de origen China



Y-9099-PATG
Acabado galvanizado



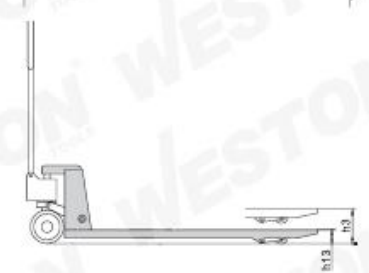
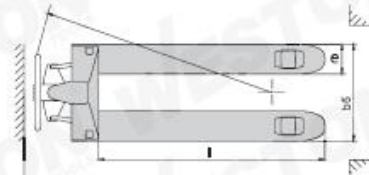
Y-9099-PAT
Y-9099-PAS



Y-9099-PATN

ESPECIFICACIONES TÉCNICAS

CÓDIGO	Y-9099-PAT	Y-9099-PATN	Y-9099-PATG	Y-9099-PAS
Capacidad (kg)	2500	2500	2500	2000
Máx. altura de elevación (h3)	190	190	190	195
Mín. altura de elevación (h13)	75	75	75	85
Longitud de tenedor (l)	1220	1220	1220	1150
Ancho total de tenedor (b5)	685	685	685	550
Ancho de tenedor (e)	160	160	160	160
Grosor de tenedor (s)	47	47	47	53
Diámetro de rueda	Ø180	Ø180	Ø180	Ø160
Diámetro de rodillo	Ø74x93	Ø74x93	Ø74x93	Ø80x93
Radio de giro	1335	1335	1335	1265
Palanca de ruido (dB)	<70	<70	<70	<70
Peso de servicio (kg)	52-74	52-74	52-74	73
Material de ruedas	Poliuretano	Nailon	Poliuretano	Poliuretano



GRANEL



INFORME DE PRUEBA /REPORT OF TEST



COPREQ-FT-15-02

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Datos de Contacto/ Contact information : *****
 Teléfono/ Telephone*****

Es responsabilidad del usuario evaluar la conformidad de la prueba según las tolerancias del proceso en el que es utilizado.
 It is the user's responsibility to evaluate the conformity of the test according to the tolerances of the process in which it is used.

Regla de decisión conforme a ILAC-G8:09/2019. Declaración binaria regla de aceptación simple conforme a los criterios de aceptación proporcionados por el cliente, se considera que el límite de aceptación es el mismo que el límite de tolerancia.

La prueba realizada fue tomando en cuenta guías técnicas, normas de referencia etc. Se ajustó el equipo previo a realizar la prueba n/a.
 The test carried out was taking into account technical guides, reference standards, etc. The equipment was adjusted prior to testing n / a.

Este certificado solo podrá ser reproducido en su totalidad, de forma íntegra y con la autorización del laboratorio
 This certificate may only be reproduced in its entirety, in its entirety and with the authorization of the laboratory.

El presente informe de prueba ampara únicamente a los ítems descrito en la ESTE REPORTE, TODOS son válidos bajo las condiciones descritas.
 This test report covers only the items described in THIS REPORT, ALL are valid under the conditions described.

Fecha de emisión: 2019-07-11	Fecha de revisión: 2024-10-01	Revisión: 06	Página 12 de 12
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