LALUR

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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
-

Fax number client
-

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

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.

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 m^2*
Wear layer thickness	: 0.7 mm*
Total thickness	: 5.0 mm*
Total mass per unit area	: 7 kg/m^2*

* *Applicant's declaration*

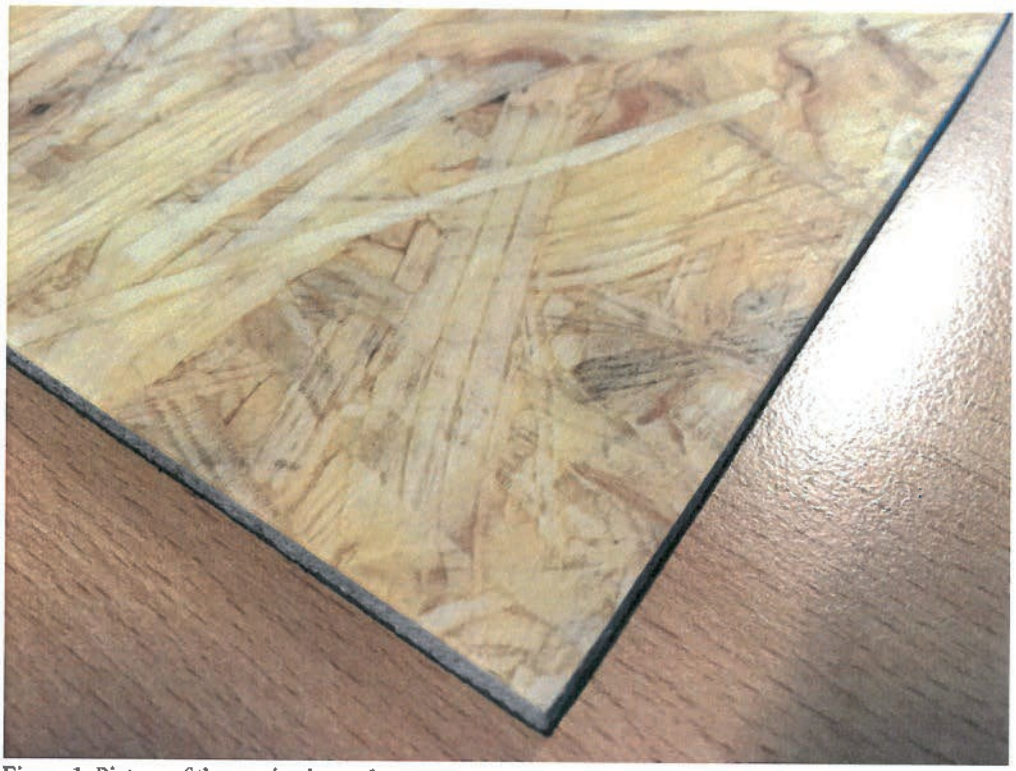

Figure 1. Picture of the received sample

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02/02/2016

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Luxury Vinyl Tile, OSB

TEST RESULTS

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

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.

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/m²)	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_{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**

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

(End of report)

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

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:\FRPSOFT2.9A\CALIB\FLX16001.CSV
Thickness (mm)	:
Density (kg/m³)	:
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 flameout	: 12 minutes 09 seconds (729 s)
Extent of burning (mm)	: 100
Critical flux at extinguishment (kW/m²)	: >= 10.9
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 (%)	: 16.56
Time to peak light attenuation	: 5 minutes 06 seconds (306 s)
Total integrated smoke (%.min)	: 92.45
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.

Date
02/02/2016

Project number
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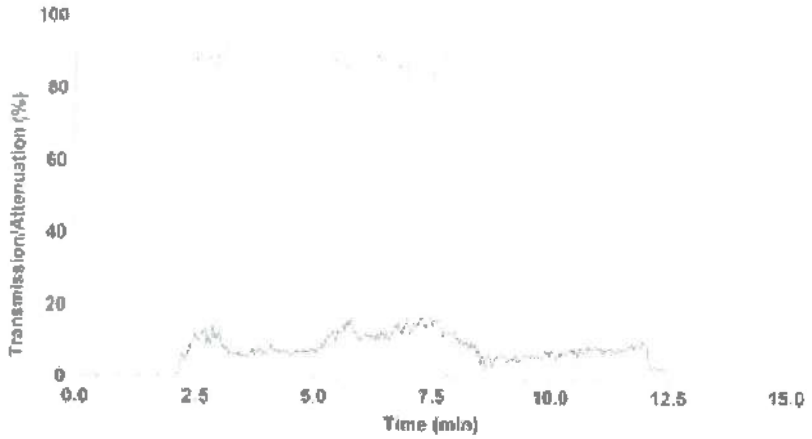
Article
Luxury Vinyl Tile, OSB

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FTT/Sect software

Smoke Graph



Test name : Cross #3
File name : D:\FRPFILES\16020095.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

Date
02/02/2016

Project number
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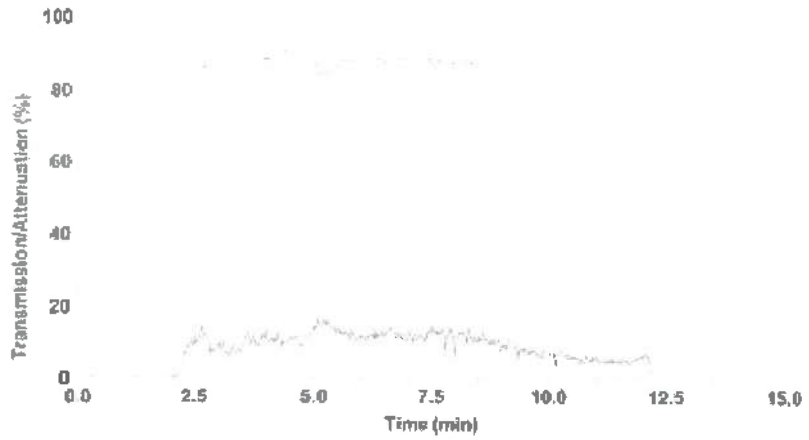
Luxury Vinyl Tile, OSB

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report prepared with the Fire Testing Technology FRPSoft software

Page 3

Smoke Graph



Test name : Prod 5 1
File name : D:\FRPFILES\16020001.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

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APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2010
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: TUV Rheinland Shanghai Co 89209169
Date of test	: Feb. 01 2016
Specimen description	: OSB MT16-89079.01
Test name	: Cross #2
File name	: D:\FRPFILES\1602002.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 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)	: >= 10.9
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 (%)	: 16.53
Time to peak light attenuation	: 7 minutes 13 seconds (433 s)
Total integrated smoke (%.min)	: 94.98
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.

Date
02/02/2016

Project number
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Report number
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Luxury Vinyl Tile, OSB

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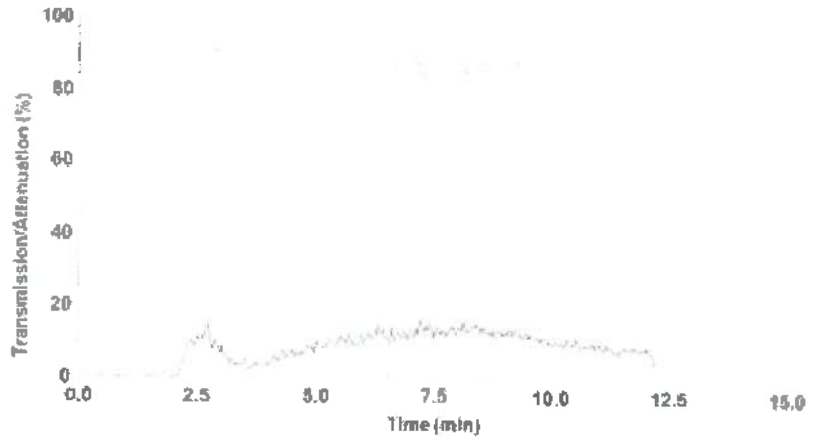
APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

Smoke Graph



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	4.980	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.

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 9239-1:2010
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: TUV Rheinland Shanghai Co 89209169
Date of test	: Feb. 01 2016
Specimen description	: OSB MT16-89079.01
Test name	: Cross #3
File name	: D:\FRPFILES\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(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.

Date
02/02/2016

Project number
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Report number
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Article
Luxury Vinyl Tile, OSB

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: EN ISO 9239-1:2010
Laboratory	: TÜV Rheinland Nederland B.V.
Sponsor	: TUV Rheinland Shanghai Co 89209169
Date of test	: Feb. 01 2016
Specimen description	: OSB MT16-89079.01
Test name	: Cross # 4
File name	: D:\FRPFILES\16020006.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT2.9A\CALIB\FLX16B01.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	: 2 minutes 03 seconds (123 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(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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Luxury Vinyl Tile, OSB

APPENDIX I: Flooring Radiant Panel Single Specimen Report

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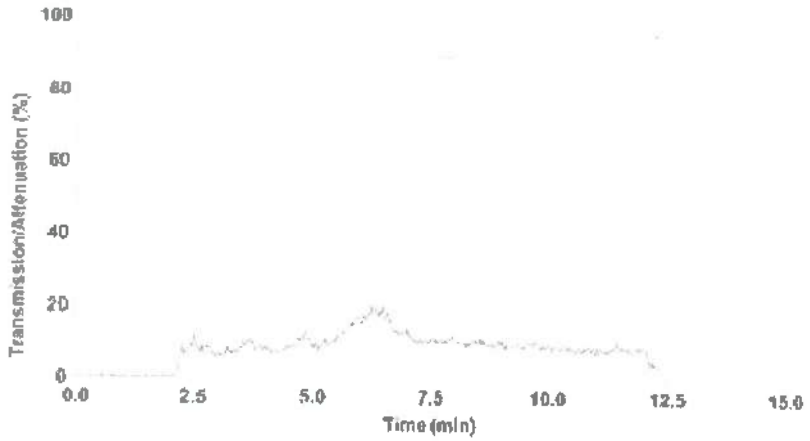
page 2

Smoke Graph



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

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (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.

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	Sally Xie	Jodie Zhou
Assistant manager	Technical Supervisor	Senior Technical Supervisor

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 ±0.4mm/305mm	Pass
Thickness	ASTM F386-11	Claimed value: 3.0mm Average: 3.01mm Min.: 3.00mm Max.: 3.02mm	A tolerance of ±0.13mm	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	≤0.25mm/305mm	Pass
Residual indentation	ASTM F1914-07(2011)	Average: 1.4% Max. : 1.7%	Average ≤ 8% Max ≤ 10%	Pass
Flexibility	ASTM F137-08(2013)	No crack when using Φ25.4mm mandrel	No crack or break when using Φ25.4mm mandrel	Pass
Dimension Stability	ASTM F2199-09(2014)	MD Max.: -0.21mm/305mm CMD Max.: -0.31mm/305mm	≤0.51mm/305mm	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)	ΔE*= 0.47	ΔE* shall not greater than 8.0 after 7 days exposure to 70℃	Pass
Resistance to Light	ASTM F1515-03(2008)	ΔE*= 1.42	ΔE* shall not greater than 8.0 after a 300h exposure	Pass

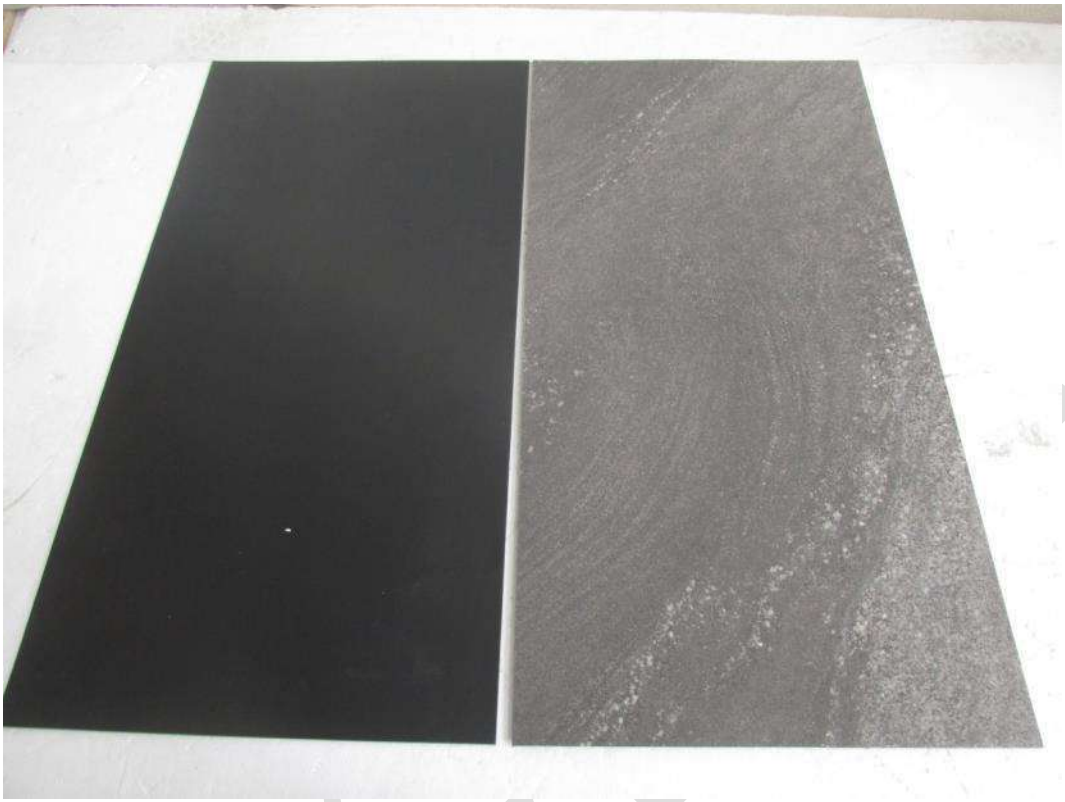
Table 2 Other Tests

Test Item	Test Method	Test Condition	Test Result			
Coefficient of friction	ASTM D2394-05(2011)	Static Dry Static Wet Dynamic Dry Dynamic Wet	MD	0.59 0.68 0.47 0.57	CMD	0.57 0.69 0.49 0.58
Coefficient of friction	ASTM C1028-07 e1	Dry Wet	0.75 0.70			
Castor Chair	NALFA/ANSI LF-11	25000 revolutions 35000 revolutions	No obvious damage 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℃ 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			

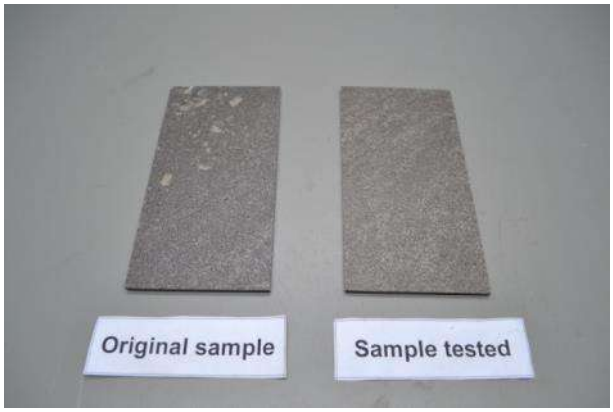
Note:

1. 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)
2. The test sample was 5.0mm type. The material was the same as 3.0mm type claimed by the applicant.

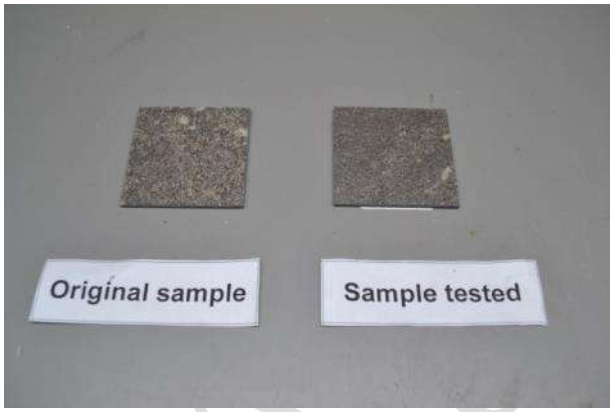
Appendix A：Sample photos



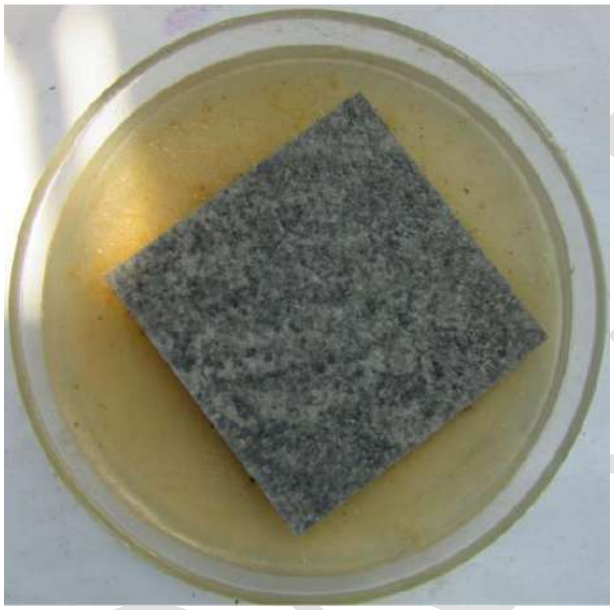
Sample received



Resistance to light



Resistance to heat



Fungi Resistance (after 28 days)

Appendix B Test result of Resistance to Chemicals

Regent	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_2SO_4)	0	0	0
Household ammonia solution (5% NH_4OH)	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:

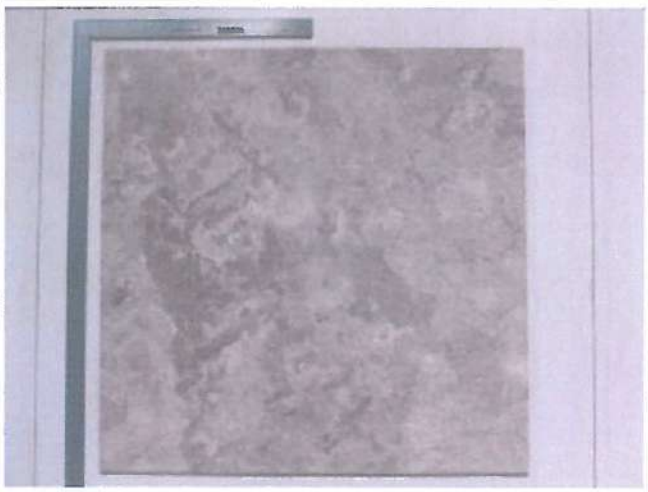
0 = no change; 1 = slight change; 2 = moderate change; 3 = severe change.

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.

Prüfbericht-Nr.: *Test Report No.:*	**15076111 001**	**Auftrags-Nr.:** *Order No.:*	154063673	Seite 1 von 14 *Page 1 of 14*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	21.08.2014	
Auftraggeber: *Client:*	LALUR			
Prüfgegenstand: *Test item:*	PVC flooring *Luxury vinyl tile(LVT)*			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	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: *Order content:*	Initial type testing report			
Prüfgrundlage: *Test specification:*	EN 14041:2004+AC:2005+AC:2006 Bodenbelag - Anforderung und Prüfung *Flooring - Requirements and Test*			
Wareneingangsdatum: *Date of receipt:*	11.09.2014			
Prüfmuster-Nr.: *Test sample No.:*	A0000154063673-30			
Prüfzeitraum: *Testing period:*	11.09.2014 - 21.10.2014			
Ort der Prüfung: *Place of testing:*	TUV Rheinland: Shanghai, Nuremberg and Enschede			
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shanghai) Co., Ltd.			
Prüfergebnis*: *Test result*:*	Pass			



geprüft von / *tested by:*

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
2014.11.10	Daniel Chen/PE	Daniel Chen

kontrolliert von / *reviewed by:*

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
2014.11.10	Xin Zhang / Reviewer	Xin Zhang

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: *Condition of the test item at delivery:*	Prüfmuster vollständig und unbeschädigt *Test item complete and undamaged*

* 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*

Prüfbericht-Nr.: 15076111 001
Test Report No.:

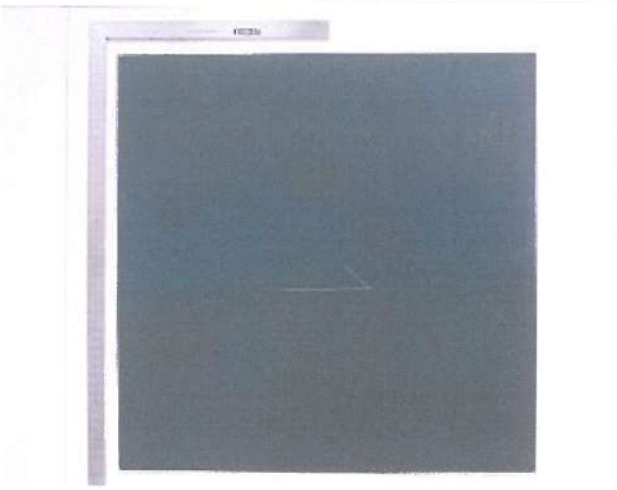
Liste der verwendeten Prüfmittel
List of used test equipment

Prüfmittel *Test equipment*	**Prüfmittel-Nr. / ID-Nr.** *Equipment No. / ID-No.*	**Nächste Kalibrierung** *Next calibration*
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 Lufft-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

Prüfbericht-Nr.: 15076111 001
Test Report No.:

Produktbeschreibung
Product description

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

Face	Back
	
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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	**Scope** This document specifies the health, safety and energy saving requirements for: ● 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. 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.	The specimen is PVC floor coverings which are in the scope of the standard.	P ☒ F ☐ N/A ☐ N/T ☐
2	**Normative references** ➔ See details in EN 14041:2004		
3	**Terms and definitions** ➔ See details in EN 14041:2004		
4	**Requirements**		
4.1	**Requirements to fire**	See detailed clauses as below	P ☒ F ☐ N/A ☐ N/T ☐
4.1.1	**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	The specimen preparation and conditioning was done according to the standard EN 13328.	P ☒ F ☐ N/A ☐ N/T ☐

Absatz *Clause*	**EN 14041:2004+AC:2005+AC:2006** Anforderungen - Prüfungen / *Requirements - Tests*	Messergebnisse - Bemerkungen *Measuring results - Remarks*	Bewertung *Evaluation*
	required to verify the durability of surface fire retardant treatments (see 4.1.3). 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.		
4.1.2	**Application rules** 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. 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 ☒ F ☐ N/A ☐ N/T ☐
4.1.3	**Durability aspects** 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. ● Clean the test specimens three times, with an interval of 2 h 15 min between cycles, each cleaning cycle consisting of two strokes: – 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. ●	PVC flooring is not applicable, and this test is required for textile floor covering only.	P ☒ F ☐ N/A ☐ N/T ☐
4.1.4	**Classification** 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. 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	Classification : B_{fl} -s1* *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 ☒ F ☐ N/A ☐ N/T ☐

Absatz *Clause*	**EN 14041:2004+AC:2005+AC:2006** Anforderungen - Prüfungen / *Requirements - Tests*	Messergebnisse - Bemerkungen *Measuring results - Remarks*	Bewertung *Evaluation*
	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/m³)	Minimum overall thickness (mm)	Class[2] Floorings
Laminate floor coverings	Laminate floor coverings manufactured in accordance with EN 13329:2000	800	6,5	E_{fL}

[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_{fL}
Non-FR needled textile floor coverings without pile[2]	EN 1470	E_{fL}
Non-FR needled textile floor coverings with pile[2]	EN 13297	E_{fL}

[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 1766) 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 > 0,760 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.

Absatz *Clause*	**EN 14041:2004+AC:2005+AC:2006** Anforderungen - Prüfungen / *Requirements - Tests*	Messergebnisse - Bemerkungen *Measuring results - Remarks*	Bewertung *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/m²)	Maximum mass (kg/m²)	Minimum overall thickness (mm)	Class[2] Floorings
Plain & decorative Linoleum	EN 548	2,3	4,9	2	E_{fl}
Homogeneous and heterogeneous polyvinyl chloride floor coverings	EN 649	2,3	3,9	1,5	E_{fl}
Polyvinyl chloride floor coverings with foam layer	EN 651	1,7	5,4	2	E_{fl}
Polyvinyl chloride floor covering with cork-based backing	EN 652	3,4	3,7	3,2	E_{fl}
Expanded (cushioned) polyvinyl chloride floor coverings	EN 653	1,0	2,8	1,1	E_{fl}
Semi-flexible polyvinyl chloride tiles	EN 654	4,2	5,0	2	E_{fl}
Linoleum on corkment backing	EN 687	2,9	5,3	2,5	E_{fl}
Homogeneous and heterogeneous smooth rubber floor coverings with foam backing	EN 1816	3,4	4,3	4	E_{fl}
Homogeneous and heterogeneous smooth rubber floor coverings	EN 1817	3,0	6,0	1,8	E_{fl}
Homogeneous and heterogeneous relief rubber floor coverings	EN 12199	4,6	6,7	2,5	E_{fl}

[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	**Content of pentachlorophenol (PCP)** 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.	Result: <0.5 ppm* *Details see the following report: 0154063673a 001	P ☒ F ☐ N/A ☐ N/T ☐
4.3	**Formaldehyde emission** 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.	Result: Class E1* *Details see the following report: 21223510(3124761) **	P ☒ F ☐ N/A ☐ N/T ☐

Absatz *Clause*	EN 14041:2004+AC:2005+AC:2006 Anforderungen - Prüfungen / *Requirements - Tests*	Messergebnisse - Bemerkungen *Measuring results - Remarks*	Bewertung *Evaluation*
	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. *NOTE:* *Products of class E1 can be used without causing an indoor air concentration greater than 0,1 x10^{-6}(0,1 ppm) of formaldehyde.*	***Remark: The test was performed in TÜV Rheinland LGA Products GmbH* with Notified Body number 0197.	
	Table 4 – Formaldehyde class E1 [3] 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.		

	Test method	Requirement
Initial type testing [3]	ENV 717-1	Release ≤ 0,124 mg/m^3
Factory production control	ENV 717-1	Release ≤ 0,124 mg/m^3
	EN 717-2	Release ≤ 3,5 mg/m^{2}h

Table 5 – Formaldehyde class E2

	Test method	Requirement
Initial type testing	ENV 717-1	Release > 0,124 mg/m^3
	EN 717-2	Release > 3,5 mg/m^{2}h to ≤ 8 mg/m^{2}h
Factory production control	ENV 717-1	Release > 0,124 mg/m^3
	EN 717-2	Release > 3,5 mg/m^{2}h to ≤ 8 mg/m^{2}h

4.4	**Water-tightness** Where required, resilient floor coverings shall meet the requirements of EN 13553.	The specimen is under water-tightness condition for 3 hours according to EN 13553. *Remark:* 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 ☐ F ☐ N/A ☒ N/T ☐

Absatz *Clause*	EN 14041:2004+AC:2005+AC:2006 Anforderungen - Prüfungen / *Requirements - Tests*	Messergebnisse - Bemerkungen *Measuring results - Remarks*	Bewertung *Evaluation*
		4. *The test was applied by client indecently.*	
4.5	**Slip resistance**	See detailed clauses as below.	P ☒ F ☐ N/A ☐ N/T ☐
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 ≥ 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: μ_{mean}=0.35 Horizontal dynamic coefficient of friction μ_{mean}=0.33 μ_{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 ≥0, 30 when tested ex-factory under dry conditions in accordance with EN 13893 and shall be declared as technical class DS.	P ☒ F ☐ N/A ☐ N/T ☐
4.5.2	**Post-installation care** The floor covering shall be treated, cleaned and maintained in accordance with the manufacturer's instructions. *NOTE :* *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.*	The manufacturer's instruction provided mentioned the floor covering shall be smooth, flat, dry, clean and solid before post-installation.	P ☒ F ☐ N/A ☐ N/T ☐

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Absatz *Clause*	**EN 14041:2004+AC:2005+AC:2006** Anforderungen - Prüfungen / *Requirements - Tests*	Messergebnisse - Bemerkungen *Measuring results - Remarks*	Bewertung *Evaluation*
4.6	**Electrical behaviour (static electricity)**	No declaration by the client.	P ☐ F ☐ N/A ☒ N/T ☐
4.6.1	**Applicability** For those floor coverings for which the manufacturer makes a claim for antistatic performance or electrical resistance.		P ☐ F ☐ N/A ☒ N/T ☐
4.6.2	**Requirements**		P ☐ F ☐ N/A ☒ N/T ☐
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 ☐ F ☐ N/A ☒ N/T ☐
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 $10^9\Omega$. ● 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 $10^6\Omega$.		P ☐ F ☐ N/A ☒ N/T ☐
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 ☐ F ☐ N/A ☒ N/T ☐

Absatz *Clause*	**EN 14041:2004+AC:2005+AC:2006** Anforderungen - Prüfungen / *Requirements - Tests*	Messergebnisse - Bemerkungen *Measuring results - Remarks*	Bewertung *Evaluation*
	Clean the test specimens three times, with an interval of 2 h 15 min between cycles, each cleaning cycle consisting of two strokes: – 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. After this, the test of 4.6.2 shall be repeated and the requirements met. NOTE Dirt and application of polymers can affect the antistatic and electrical properties of resilient and laminate floor coverings.		
4.7	**Thermal conductivity** 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.	No declaration by the client.	P ☐ F ☐ N/A ☒ N/T ☐
5	**Evaluation of conformity**	See detailed clauses as below.	P ☒ F ☐ N/A ☐ N/T ☐
5.1	**General** The conformity of floor coverings with the requirements of this standard (including classes) shall be demonstrated by: – initial type testing; – Factory production control by the manufacturer, including product assessment (see Annex D). 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.	- ITT: see the relevant clauses of this test report. - FPC system is controlled by manufacturer according to AVCP 3 system of CPR.	P ☒ F ☐ N/A ☐ N/T ☐

Absatz *Clause*	**EN 14041:2004+AC:2005+AC:2006** Anforderungen - Prüfungen / *Requirements - Tests*	Messergebnisse - Bemerkungen *Measuring results - Remarks*	Bewertung *Evaluation*
5.2	**Type testing**	See detailed clauses as below.	P ☒ F ☐ N/A ☐ N/T ☐
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).	- Reaction to Fire - Emission of Formaldehyde - Content of PCP - Slipperiness	P ☒ F ☐ N/A ☐ N/T ☐
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. *Note:* *The results of all type tests shall be recorded and held by the manufacturer for at least 5 years.*	P ☒ F ☐ N/A ☐ N/T ☐
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 ☒ F ☐ N/A ☐ N/T ☐

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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 ☐

CE

No. 001CPR2013-07-01[1]

LALUR

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

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

-END OF THE TEST REPORT-

Deutsches Institut für Bautechnik

DIBt

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

Allgemeine bauaufsichtliche Zulassung

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:

LALUR

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.

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 weiter gehender 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 14041[1].

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 Nutzschicht aus PVC,
- einem bedruckten Film aus PVC sowie
- dem Trägermaterial aus PVC.

Die Gesamtdicke der Bodenbeläge muss 2,0 mm bis 5,0 mm (± 10 %) und das Gesamtflächengewicht 3720 g/m^2 bis 10380 g/m^2 (± 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 beigefügt.

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 Tage[3]) durchzuführen. Die Hinweise für die Entnahme von Bodenbelagsproben im Werk für die Emissionsprüfung sind zu beachten[3].

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

Wolfgang Misch
Referatsleiter

Beglaubigt

[3] Veröffentlicht auf der Homepage des DIBt, http://www.dibt.de

Deutsches Institut für Bautechnik DIBt

Anlage 1

Zulassungsgegenstand: "Luxury vinyl tile"

Auflistung der in der Zulassung geregelten Einzelprodukte:

Lfd. Nr.	Name des Bodenbelags
1	JH-LVT

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

Sponsor:

LALUR

Prepared by:	TÜV Rheinland Nederland B.V. Josink Esweg 10 7545 PN ENSCHEDE 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

This classification report consists of 6 pages and may only be used or reproduced in its entirety.

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CONTENTS:

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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

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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/m^2

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/m^2

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

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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: $\mathbf{B_{fl}}$
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/m^2, 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.

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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 -

TÜV Rheinland Nederland B.V.

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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 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-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, 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.

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Date
02-10-2014

Project number
89206631

Report number
89206331.01br

Article
Luxury Vinyl Tile

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±200 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/m2)	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
Mean$_{2-4}$	**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: $\mathbf{B_{fl}}$. The additional classification in relation to smoke production is: **s1.**

The aforementioned quality meets the requirement of reaction to fire classification: $\mathbf{B_{fl} - s1}$

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.

The validity of this report will expire five years after its issue or 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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Date
02-10-2014

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APPENDIX I: Flooring Radiant Panel Single Specimen Report

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:\FRPFILES\14090021.CSV
Test number in series	: 4
Flux calibration file name	: C:\FRPSOFT\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.

Date
02-10-2014

Project number
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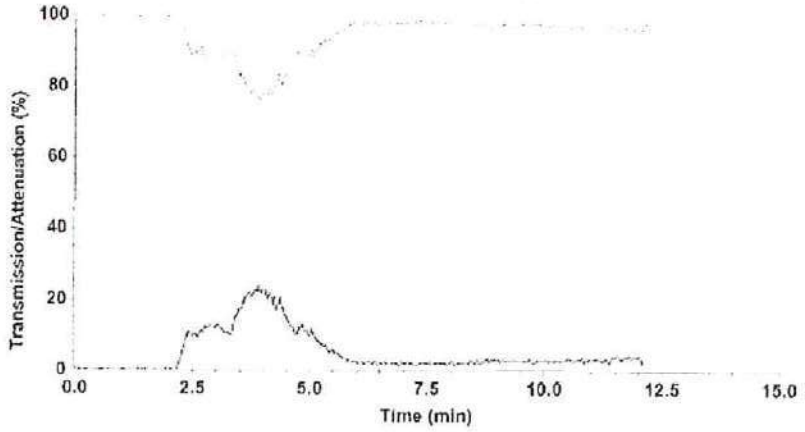
APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



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

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Report produced with the Fire Testing Technology FRPSoft software

jpg

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

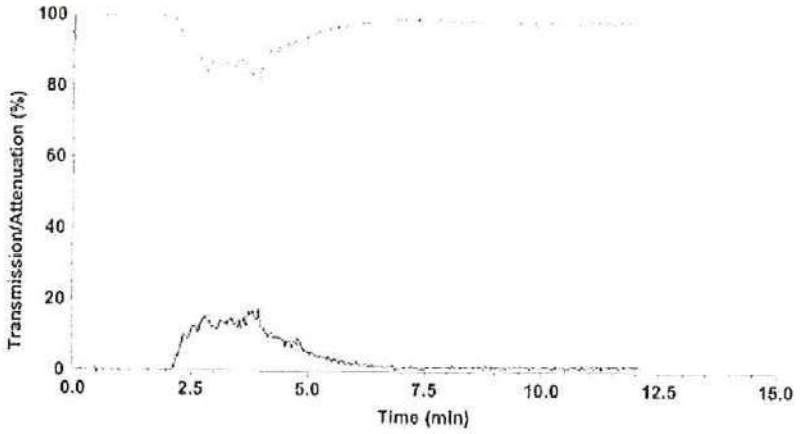
Test Results

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(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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



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

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

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\14090026.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

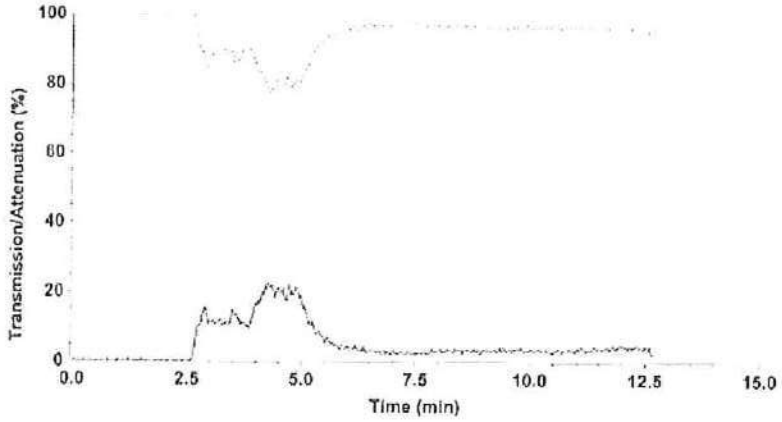
Test Results

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(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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



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

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

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Date
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Project number
89206631

Report number
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APPENDIX I: Flooring Radiant Panel Single Specimen Report

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/m³)	:
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

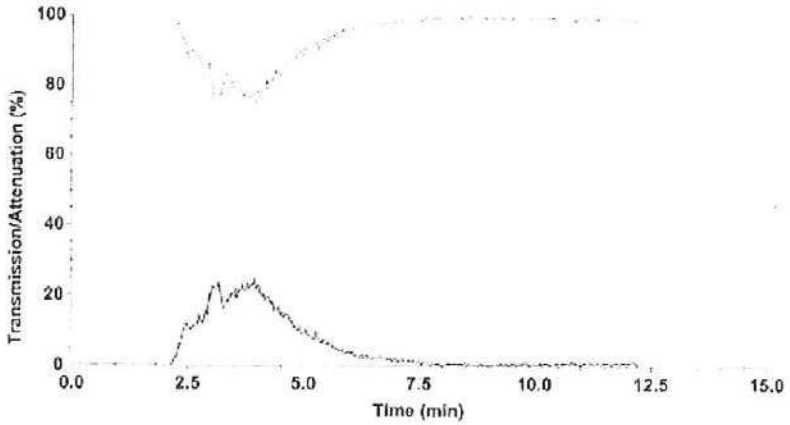
Test Results

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/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)	: 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(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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



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

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

TÜV Rheinland Nederland B.V.

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TÜV Rheinland Nederland B.V.
The Netherlands

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Date
02-10-2014

Project number
89206631

Report number
89206331.02br

Article
Luxury Vinyl Tile

Appendix
I : Flooring Radiant Panel Single 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.

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Date
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Article
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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±200 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/m2)	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
Mean$_{2-4}$	**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

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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: $\mathbf{B_{fl}}$. The additional classification in relation to smoke production is: **s1.**

The aforementioned quality meets the requirement of reaction to fire classification:
$\mathbf{B_{fl} - s1}$

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.

The validity of this report will expire five years after its issue or 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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Date
02-10-2014

Project number
89206631

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APPENDIX I: Flooring Radiant Panel Single Specimen Report

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/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

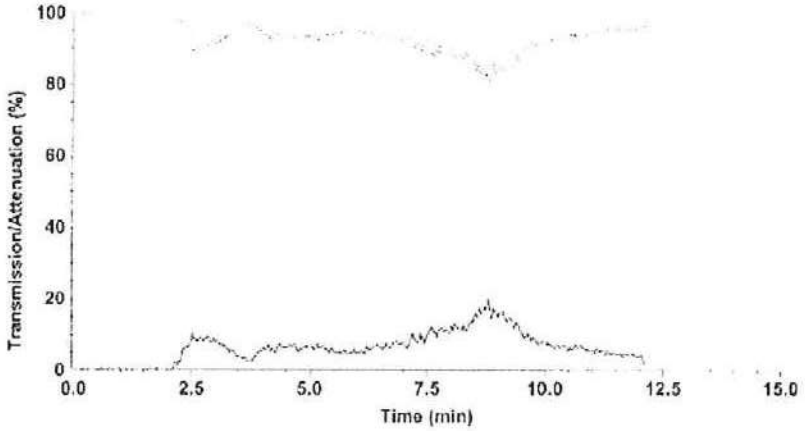
Test Results

Time to ignition	: 2 minutes 01 seconds (121 s)
Time to flameout	: 12 minutes 02 seconds (722 s)
Extent of burning (mm)	: 110
Critical flux at extinguishment (kW/m²)	: 10.77
HF-10 (kW/m²)	: 10.77
HF-20 (kW/m²)	: >= 10.9
HF-30 (kW/m²)	: >= 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(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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



Test name : Prod #1
File name : D:\FRPFILES\I4090019.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

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:\FRPFILES\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

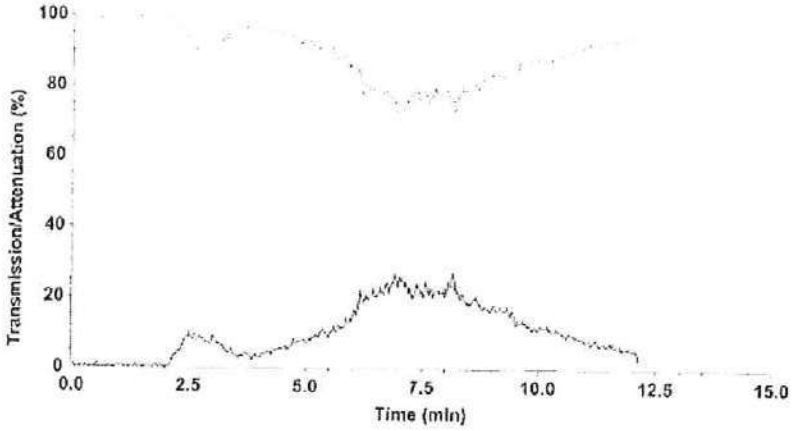
Test Results

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(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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



Test name : Cross #1
File name : D:\FRPFILES\14090020.CSV

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

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Date
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Report number
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APPENDIX I: Flooring Radiant Panel Single Specimen Report

Flooring Radiant Panel Single Specimen Report

Standard	: BN 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

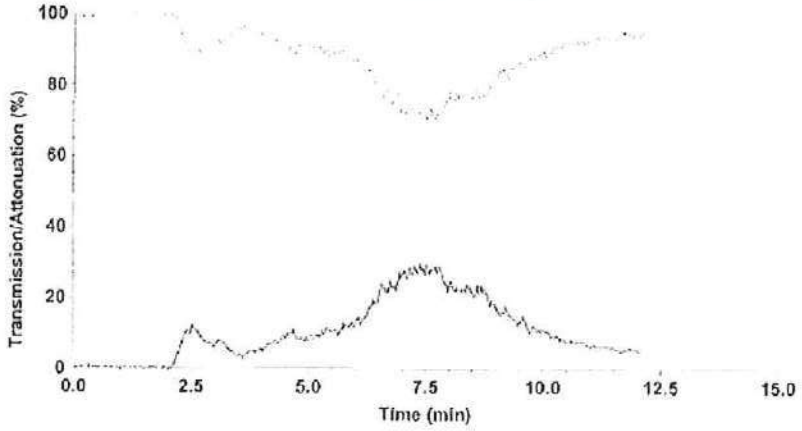
Test Results

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(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.

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



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

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

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Date
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APPENDIX I: Flooring Radiant Panel Single Specimen Report

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(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.

LALUR

TÜVRheinland®
Precisely Right.

Date
02-10-2014

Project number
89206631

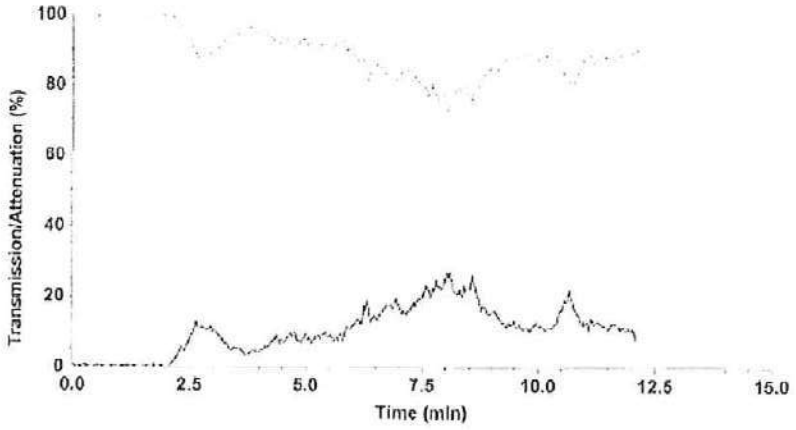
Report number
89206331.02br

Article
Luxury Vinyl Tile

Page
11/11

APPENDIX I: Flooring Radiant Panel Single Specimen Report

Smoke Graph



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

Rake Results

Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)	Position (mm)	Time (s)	Flux (kW/m²)	Qsb (MJ/m²)
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.

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

LALUR

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/m^3 (in compliance with CDPH/EHLB Standard Method v1.1-2010)

floor score

CERTIFIED BY SCS Global Services

ANSI

ANSI ACCREDITED PROGRAM
PRODUCT CERTIFICATION
#0821

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.

SCSglobal SERVICES

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

SGS

Test Report No.: SHHG1512050955SD Date: JAN. 07, 2016 Page: 1 of 3

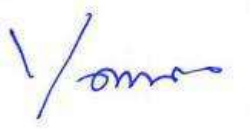
LALUR

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	: LALUR
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

3rd Building, No.889, Yishan Road, Xuhui District Shanghai, China 200233 t (86-21) 61402666*2013 f (86-21) 54500353 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t (86-21) 61402666*2013 f (86-21) 54500353 e sgs.china@sgs.com

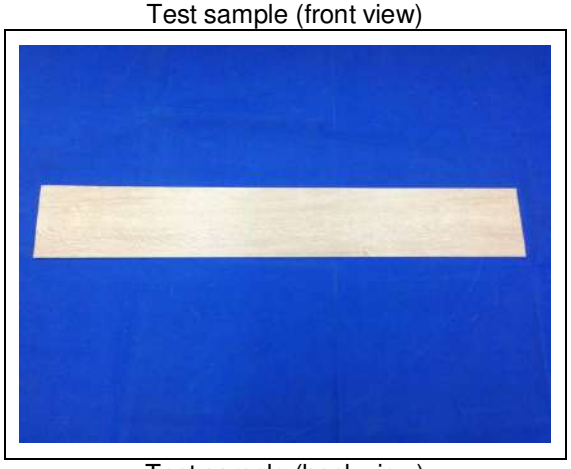
Test Conducted:

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

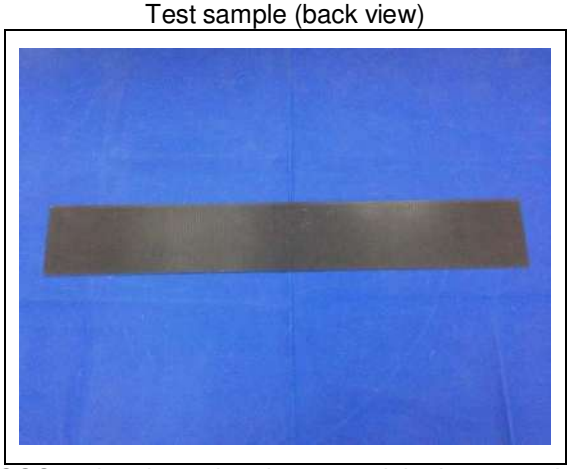
Test Property	Test procedures/requirements	Rating/ Result
Determination of dimensional stability and curing after exposure to heat	1. Measure the curling and dimension of the sample. 2. Store the test pieces for 360+15 min in the oven, which had previously been stabilized at (80±2) ℃. 3. Remove the metal plates bearing the test pieces from the oven. Allow these to cool and recondition at a temperature of (23±2) ℃ 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. $\frac{(L_0 - L_1)}{L_0} \times 100$ L_0 is the initial length L_1 is the length after test	Curling: 0mm Dimensional change: Length direction: 0.10% Width direction: 0.05%

Sample Photo:

Test sample (front view)



Test sample (back view)



SGS authenticate the photo on original report only

End of Report

Prüfbericht-Nr.: *Test Report No.:*	**21233119 002**	**Auftrags-Nr.:** *Order No.:*	3146078	Seite 1 von 10 *Page 1 of 10*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	22.04.2014 2014-04-22	
Auftraggeber: *Client:*	LALUR			
Prüfgegenstand: *Test item:*	PVC-Bodenbelag PVC Floor Covering			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	Luxury vinyl tile, N/A			
Auftrags-Inhalt: *Order content:*	Prüfung auf die Emission flüchtiger organischer Substanzen (VOC) Examination regarding the emissions of volatile organic compounds (VOC)			
Prüfgrundlage: *Test specification:*	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: *Date of receipt:*	10.04.2015 2015-04-10
Prüfmuster-Nr.: *Test sample No.:*	A000094327-001
Prüfzeitraum: *Testing period:*	14.04.2015 – 11.05.2015 2015-04-14 – 2015-05-11
Ort der Prüfung: *Place of testing:*	Emissionsprüfung Nürnberg Emission Testing Nuremberg
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland LGA Products GmbH
Prüfergebnis*: *Test result*:*	Pass

geprüft von / *tested by:*

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
11.05.2015	i.A. Dr. Bernd Maciej, Expert	

kontrolliert von / *reviewed by:*

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
11.05.2015	i.V. Dr. Christian Schelle, Head of laboratory	

Sonstiges / *Other:*

Zustand des Prüfgegenstandes bei Anlieferung:
Condition of the test item at delivery:
Prüfmuster vollständig und unbeschädigt
Test item complete and undamaged

* 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*

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

Liste der verwendeten Prüfmittel
List of used test equipment

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

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

Produktbeschreibung
Product description

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

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

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 / *Chamber volume*:	0.25 m^3
Temperatur / *Temperature*:	(23 ± 1) °C
Rel. Luftfeuchtigkeit / *Rel. air humidity*:	50 % ± 3 %
Luftgeschwindigkeit / *Air velocity:*	0.1 bis 0.3 m/s
Luftwechselrate / *Air exchange rate*:	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

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

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: Innenraumluftverunreinigungen - Teil 3: Messen von Formaldehyd und anderen Carbonylverbindungen in der Innenraumluft und in Prüfkammern - Probenahme mit einer Pumpe (ISO 16000-3:2011)

DIN ISO 16000-6:2012-11: Innenraumluftverunreinigungen - Teil 6: Bestimmung von VOC in der Innenraumluft 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: Innenraumluftverunreinigungen - 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

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

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.

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/m³]				**Test results after 7 days** [µg/m³]
		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 C_6 – C_{22} / *TVOC: total volatile organic compounds within retention range of* C_6 – C_{22}

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

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+.

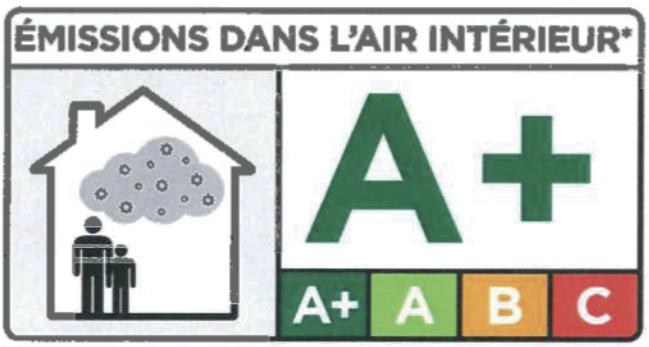


Tabelle 2. Detektierte Einzelkomponenten in µg/m³
Table 2: Detected compounds in µg/m³

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*

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

Attestation

Based on the Test Report No. 21233119 002 the product

Luxury vinyl tile, Article No.: N/A

LALUR

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

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 ≤ 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

198 Kezhu Road,Scientech Park Guangzhou Economic & Technology Development District,Guangzhou,China 510663 t (86-20) 82155555 f (86-20) 82075113 www.sgsgroup.com.cn
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 f (86-20) 82075113 e sgs.china@sgs.com

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

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 ≥ 1 % by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or ≥ 0.2 % by volume for gaseous mixtures; or

(b) a substance that is PBT, or vPvB in an individual concentration of ≥ 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 ≥ 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)△	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

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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Appendix

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]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

(SVHC)

Appendix

Full list of tested SVHC:

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

Appendix

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	Henicosafluoroundecanoic acid	2058-94-8	0.050
VIII	111	Heptacosafluorotetradecanoic acid	376-06-7	0.050
VIII	112	Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic 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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(SVHC)

Appendix

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	Pentacosafluorotridecanoic 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	Tricosafluorododecanoic acid	307-55-1	0.050
VIII	137	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	0.005

(SVHC)

Appendix

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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(SVHC)

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	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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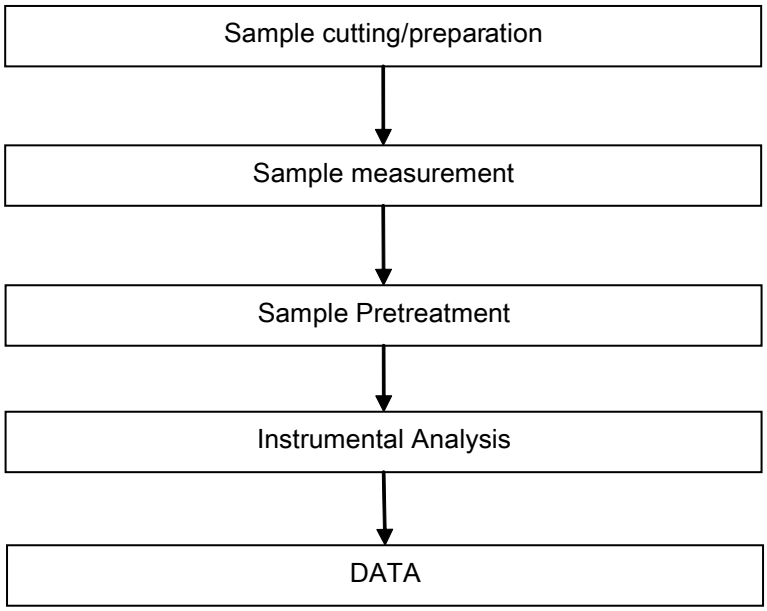
ATTACHMENTS

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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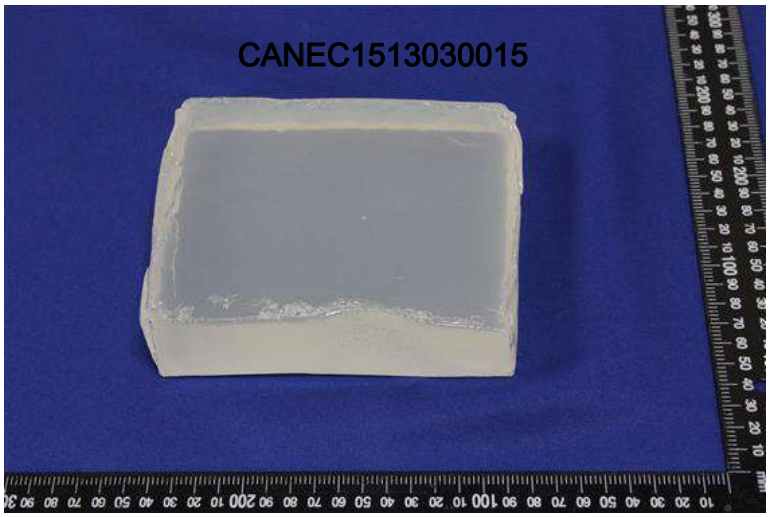
Sample photo:



CAN15-130300.008

SGS authenticate the photo on original report only

*** End of Report ***

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

Sample Description : PVC FLOOR TILE

Manufacturer : LALUR

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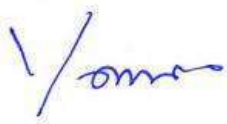
Test Result(s) : FOR FURTHER DETAILS, PLEASE REFER TO THE FOLLOWING PAGE(S)

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 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)

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≤ 0.25mm for side length≤400mm, ≤0.35mm for side length>400mm) Dimension:≤0.13% of nominal length up to 0.5mm maximum	304.8x304.8 406.4x406.4 457.2x457.2 6 0 0 x 6 0 0 101.6x914.4 152.4x914.4 304.8x609.6 228.6x 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±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±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	--

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

TEST REQUETED	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 THICKNSS 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 FASTENSS 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 CONETENT(EN14372:2004)	SHHG1204010950BM
19.FUNGUS TEST(ASTM G21:1999)	SHHG1204010949BM
20.DETERMINATION OF DENSITY(EN436:1994)	SHHG1205013753BM

End of Report

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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 ≤ 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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(SVHC)

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 ≥ 1 % by weight for mixtures that are solid or liquids (i.e., non-gaseous mixtures) or ≥ 0.2 % by volume for gaseous mixtures; or
(b) a substance that is PBT, or vPvB in an individual concentration of ≥ 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 ≥ 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 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 Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic 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) ≥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)△	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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(SVHC)

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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(SVHC)

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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(SVHC)

Appendix

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]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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(SVHC)

Appendix

Full list of tested SVHC:

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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(SVHC)

Appendix

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	Henicosafluoroundecanoic acid	2058-94-8	0.050
VIII	111	Heptacosafluorotetradecanoic acid	376-06-7	0.050
VIII	112	Hexahydromethylphathalic anhydride, Hexahydro-4-methylphathalic anhydride, Hexahydro-1-methylphathalic anhydride, Hexahydro-3-methylphathalic 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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(SVHC)

Appendix

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	Pentacosafluorotridecanoic 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	Tricosafluorododecanoic acid	307-55-1	0.050
VIII	137	Trilead bis(carbonate)dihydroxide (basic lead carbonate)*	1319-46-6	0.005

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Appendix

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	0.05
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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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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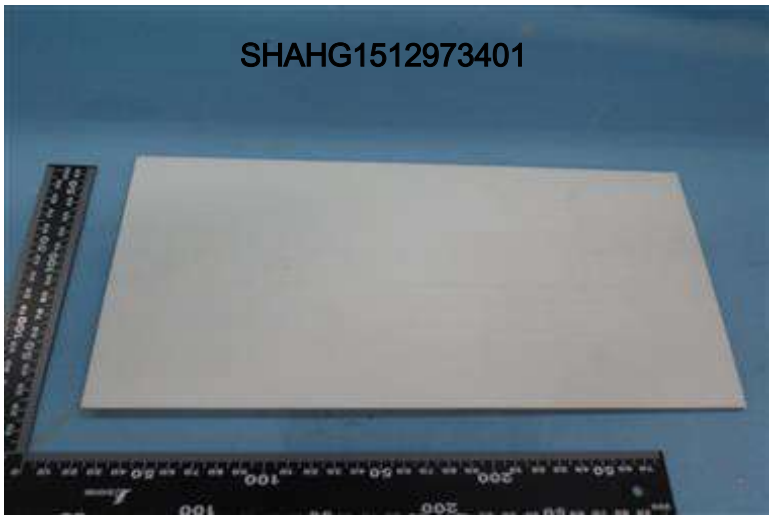
Sample photo:



SHA15-129734.001

SGS authenticate the photo on original report only

*** End of Report ***

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Test Report

Report Number:151215003SHF-BP-21

Applicant Name: LALUR

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	Jodie Zhou	Sally Xie
Assistant Manager	Senior Technical supervisor	Technical supervisor

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 ±0.4mm/305mm	Pass
Thickness	ASTM F386-11	Claimed value: 5.0mm Average: 5.04mm Min.: 5.00mm Max.:5.06mm	A tolerance of ±0.13mm	Pass
Squareness	ASTM F2055-10	Short edge Max.: 0.06mm/152mm Long edge Max.: 0.16mm/600mm	≤0.25mm/305mm	Pass

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 ±0.4mm/305mm	Pass
Thickness	ASTM F386-11	Claimed value: 5.0mm Average: 5.06mm Min.: 5.05mm Max.:5.08mm	A tolerance of ±0.13mm	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	≤0.25mm/305mm	Pass
Residual indentation	ASTM F1914-07(2011)	Average: 6.9% Max. : 7.3%	Average ≤ 8% Max ≤ 10%	Pass
Flexibility	ASTM F137-08(2013)	No crack or break when using Φ25.4mm mandrel	No crack or break when using Φ25.4mm mandrel	Pass
Dimension Stability	ASTM F2199-09	MD Max.: 0.06mm/180mm CMD Max.: 0.14mm/180mm	≤0.51mm/305mm	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)	ΔE*= 0.30	ΔE* shall not greater than 8.0 after 7 days exposure to 70℃	Pass
Resistance to Light	ASTM F1515-03(2008)	ΔE*= 1.81	ΔE* shall not greater than 8.0 after a 300h exposure	Pass

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

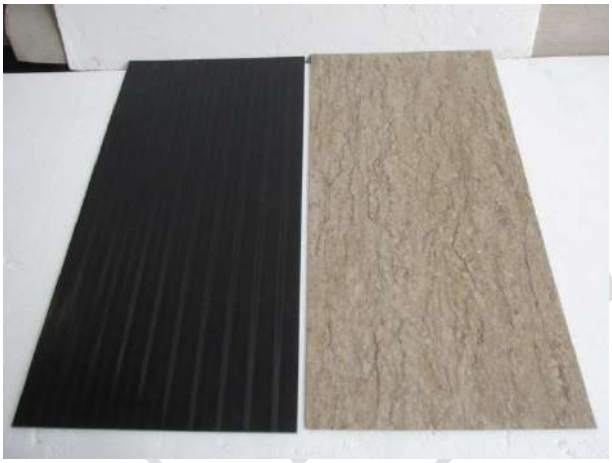
Test Item	Test Method	Test Result
Formaldehyde content	ASTM D6007-14	ND Detection limit =0.02 ppm
Castor chair resistance	NALFA/ANSI LF-11	No visible damage after 25000 revolutions
Coefficient of friction	ASTM D2394-05(2011)	Static Coefficient of friction Dry: 0.58, Wet: 0.74 Sliding Coefficients of 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].

Appendix A: Sample photos

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



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

Fig.1-2 Sample received

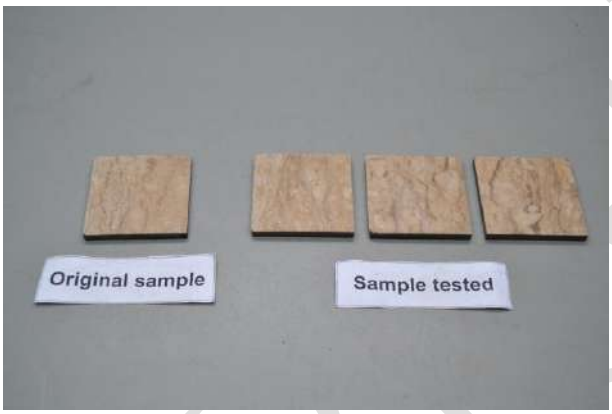


Fig.3 After resistance to heat test

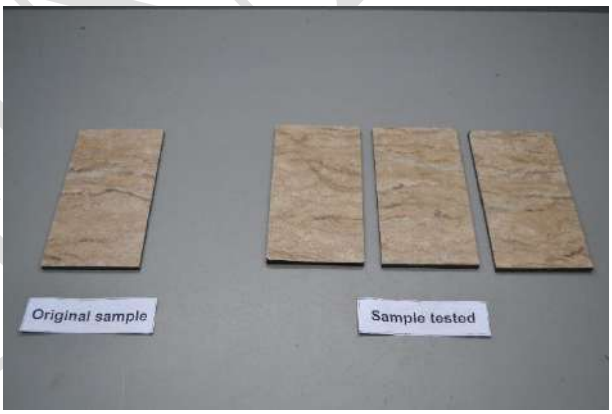


Fig.4 After resistance to light test

Fig.4 After fungi test

Appendix B

Test result of Resistance to Chemicals

Regent	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_2SO_4)	0	0	0
Household ammonia solution (5% NH_4OH)	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

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

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 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.

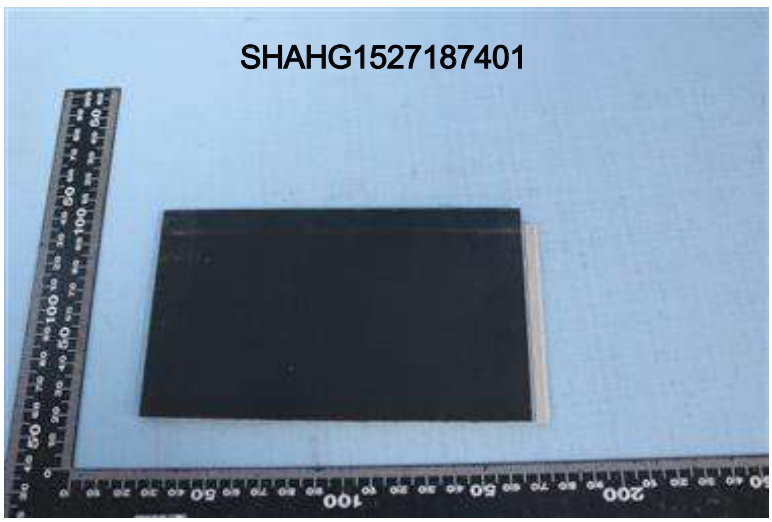
Test Item(s)	CAS NO.	Limit	Unit	MDL	*001*
Dibutyl Phthalate (DBP)	84-74-2	1000	mg/kg	50	ND
Benzylbutyl Phthalate (BBP)	85-68-7	1000	mg/kg	50	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	1000	mg/kg	50	ND
Diisononyl Phthalate (DINP)	28553-12-0 /68515-48-0	1000	mg/kg	50	ND
Di-n-octyl Phthalate (DNOP)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

3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***

3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

TEST REPORT

No. : XMIN191102761CCM
Date : Dec.11, 2019

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

Sample Name	:	SPC FLOORING
Material	:	PVC resin, $CaCO_3$
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

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/m^2
Project description	:	No decoration of sample surface, sample installation was assembled directly. The test specimen was covered on a 150mm concrete floor, testing area 11.3m^2
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 125m^3, receiving room volume 100m^3, 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

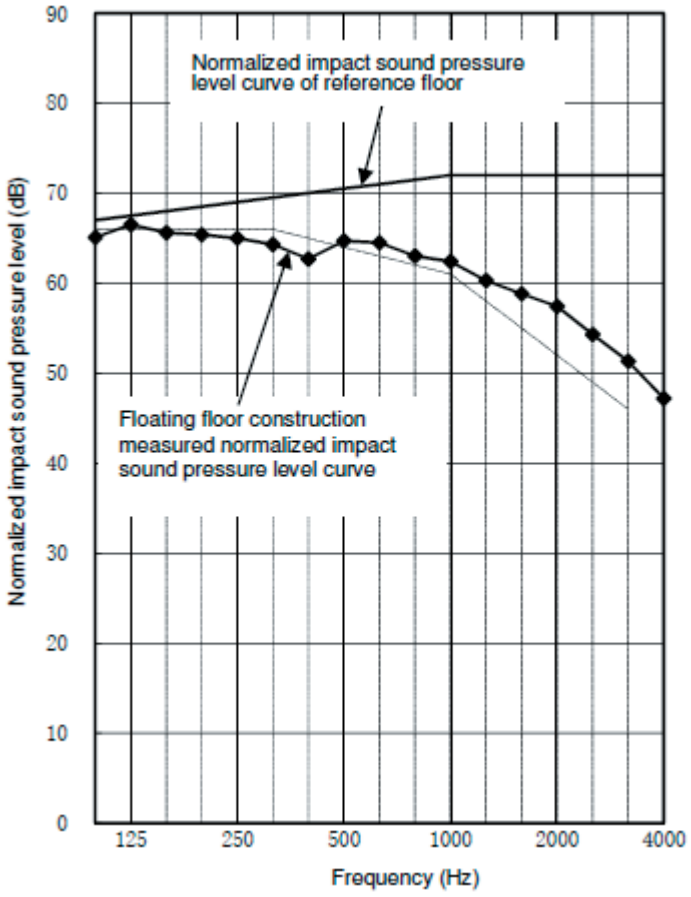
******** To be continued********

TEST REPORT

No. : XMIN191102761CCM
Date : Dec.11, 2019

Appendix 1:

Frequency spectrum of normalized impact sound pressure level			
Frequency f(Hz)	$L_{n,w}$ (dB)	L_n(dB)	L (dB)
100	67.0	65.1	1.9
125	67.5	66.5	1.0
160	68.0	65.6	2.4
200	68.5	65.4	3.1
250	69.0	65.0	4.0
315	69.5	64.3	5.2
400	70.0	62.7	7.3
500	70.5	64.7	5.8
630	71.0	64.5	6.5
800	71.5	63.0	8.5
1000	72.0	62.4	9.6
1250	72.0	60.3	11.7
1600	72.0	58.8	13.2
2000	72.0	57.4	14.6
2500	72.0	54.3	17.7
3150	72.0	51.3	20.7
4000	72.0	47.2	24.8
L_w =14 dB ; $C_{I,}$ =0dB ;			



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

Photo Appendix:

SGS authenticate the photo on original report only

*******End of report********

TEST REPORT

No. : XMIN191102763CCM
Date : Dec.11, 2019

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

Sample Name	:	SPC FLOORING
Material	:	PVC resin, $CaCO_3$
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.

****

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

检验检测专用章
inspection & testing services

TEST REPORT

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/m^2
Project description	:	No decoration of sample surface, sample installation was assembled directly. The test specimen was covered on a 150mm concrete floor, testing area 11.3m^2
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 125m^3, receiving room volume 100m^3, air temperature 19.5 , air humidity 33.5%

Test Result

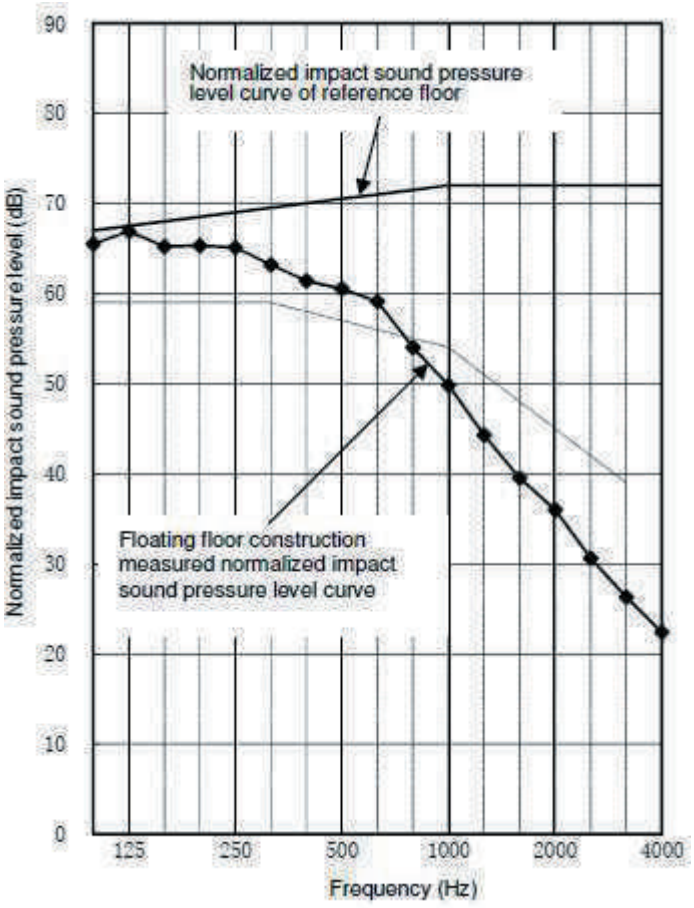
Test Item	Test Standard	Result
Improvement of impact sound insulation	ISO 10140-1:2016 ISO 717-2:2013	L_w = 19 dB

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

TEST REPORT

Appendix 1:

Frequency spectrum of normalized impact sound pressure level			
Frequency f(Hz)	$L_{n,w}$ (dB)	L_n(dB)	L (dB)
100	67.0	65.5	1.5
125	67.5	66.9	0.6
160	68.0	65.2	2.8
200	68.5	65.3	3.2
250	69.0	65.1	3.9
315	69.5	63.2	6.3
400	70.0	61.4	8.6
500	70.5	60.5	10.0
630	71.0	59.1	11.9
800	71.5	54.0	17.5
1000	72.0	49.8	22.2
1250	72.0	44.3	27.7
1600	72.0	39.5	32.5
2000	72.0	36.0	36.0
2500	72.0	30.6	41.4
3150	72.0	26.3	45.7
4000	72.0	22.4	49.6
L_w =19 dB ; $C_{I,}$ =-6dB ;			



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

Photo Appendix:

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

TEST REPORT

No. : XMIN191102762CCM
Date : Dec.11, 2019

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

Sample Name	:	SPC FLOORING
Material	:	PVC resin, $CaCO_3$
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

检验检测专用章 Inspection & Testing Services
SGS-CSTC Standards Technical Services Co., Ltd. Xiamen Branch Testing Center Commercial Construction Material Laboratory

TEST REPORT

No. : XMIN191102762CCM
Date : Dec.11, 2019

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/m^2
Project description	:	No decoration of sample surface, sample installation was assembled directly. The test specimen was covered on a 150mm concrete floor, testing area 11.3m^2
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 125m^3, receiving room volume 100m^3, 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

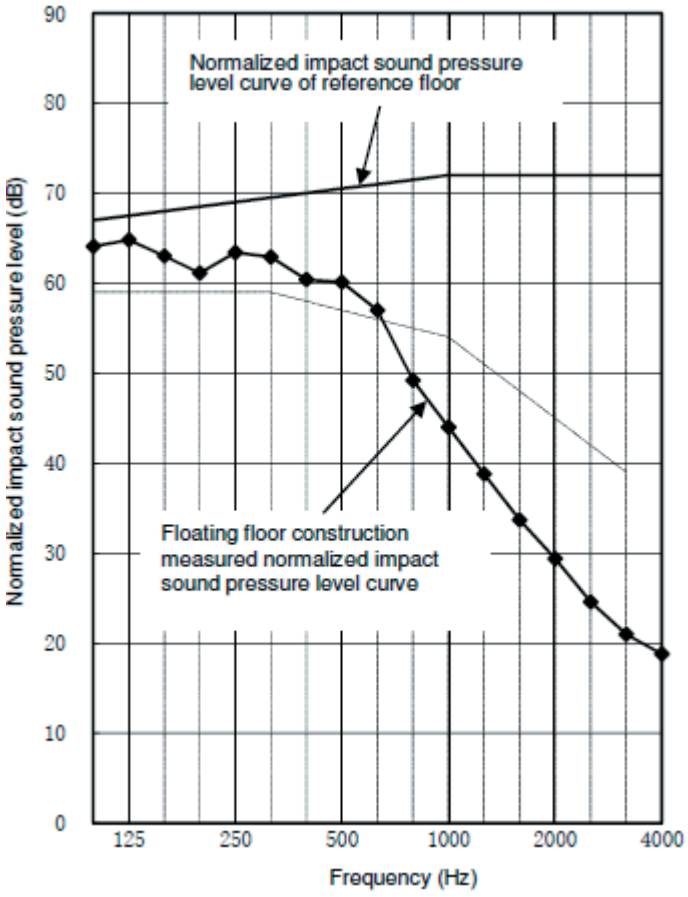
******** To be continued********

TEST REPORT

No. : XMIN191102762CCM
Date : Dec.11, 2019

Appendix 1:

Frequency spectrum of normalized impact sound pressure level			
Frequency f(Hz)	$L_{n,w}$ (dB)	L_n(dB)	L (dB)
100	67.0	64.1	2.9
125	67.5	64.8	2.7
160	68.0	63.0	5.0
200	68.5	61.1	7.4
250	69.0	63.4	5.6
315	69.5	62.9	6.6
400	70.0	60.4	9.6
500	70.5	60.1	10.4
630	71.0	57.0	14.0
800	71.5	49.2	22.3
1000	72.0	44.0	28.0
1250	72.0	38.8	33.2
1600	72.0	33.7	38.3
2000	72.0	29.4	42.6
2500	72.0	24.6	47.4
3150	72.0	21.0	51.0
4000	72.0	18.8	53.2
L_w =21 dB ; $C_{I,}$ =-6dB ;			



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

Photo Appendix:

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

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD CZECH
FSC® CO Org Certification

Czech

Hereby certify that the organization below has has passed independent reviews

LALUR

Scope of the certification
The production and sale of products covered in FSC 100%, FSC MIX. This certificate complies with Forest Stewdship 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

FSC
www.fsc.org
FSC® A000530
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

TÜV SÜD Czech s.r.o. • Novodvorská 994 • 142 21 Prague 4 • Czech Republic • certification@tuv-sud.cz

TÜV®

CODE OF CERTIFICATE:TSUD-COC-000953

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

TÜV SÜD Czech s.r.o.
TÜV SÜD

TEST Report

SCOPE OF WORKs

<Performance testing – Co-extrusion Composite Flooring>

REPORT NUMBER

170516049GZU-001

ISSUE DATE

25-May-17

REVISION DATE

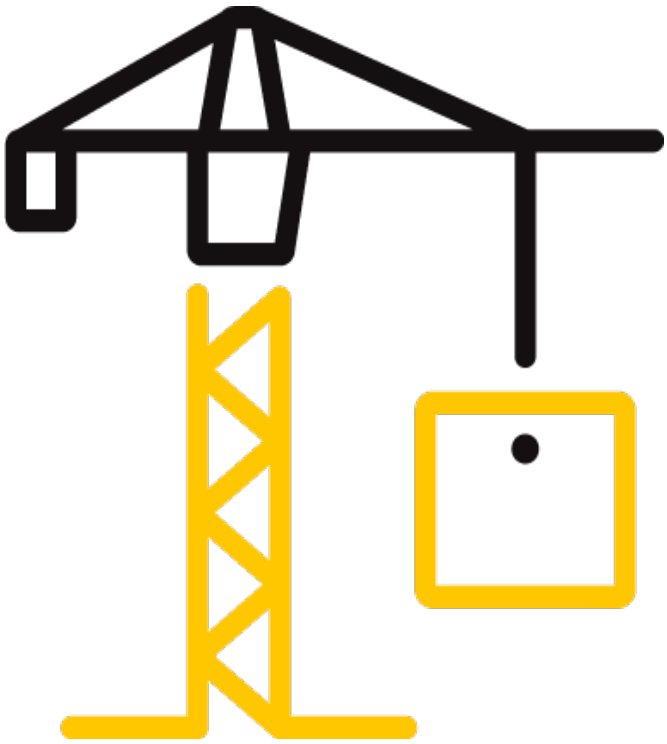
01-Jun-17

PAGES

12

DOCUMENT CONTROL NUMBER

TTRF-CHEM-EN



Test Report

Report Number: 170516049GZU-001

Report Date: 2017-06-01

Test Items, Method and Results：

Applicant:

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

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 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 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 dipicrateΔ	6477-64-1	ND
53	Lead styphnateΔ	15245-44-0	ND
54	Lead azide; Lead diazideΔ	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 diarsenateΔ	3687-31-8	ND
59	Calcium arsenateΔ	7778-44-1	ND
60	Arsenic acidΔ	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 octahydroxideΔ	49663-84-5	ND
68	Potassium hydroxyoctaoxodizincate di-chromateΔ	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 trioxideΔ	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 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	Pentacosafluorotridecanoic acid	72629-94-8	ND
87	Tricosafluorododecanoic acid	307-55-1	ND
88	Henicosafluoroundecanoic acid	2058-94-8	ND
89	Heptacosafluorotetradecanoic 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 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 trioxideΔ	12060-00-3	ND
103	Lead titanium zirconium oxideΔ	12626-81-2	ND
104	Silicic acid, lead salt Δ	11120-22-2	ND

Test Items, Method and Results：

No.	Chemical substance	CAS No.	Result % (w/w)
105	Silicic acid (H2Si2O5), 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 cynamidateΔ	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 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	CadmiumΔ	7440-43-9	ND
140	Cadmium oxideΔ	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 sulphideΔ	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 chlorideΔ	10108-64-2	ND
154	Sodium perborate; perboric acid, sodium saltΔ	--	ND

Test Items, Method and Results：

No.	Chemical substance	CAS No.	Result % (w/w)
155	Sodium peroxometaborateΔ	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 fluorideΔ	7790-79-6	ND
160	Cadmium sulphateΔ	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 ≥ 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 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
Dection 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 ainimals)
   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).

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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:

Revison 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

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TEST Report

SCOPE OF WORKs

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

REPORT NUMBER

170527113GZU-003

ISSUE DATE

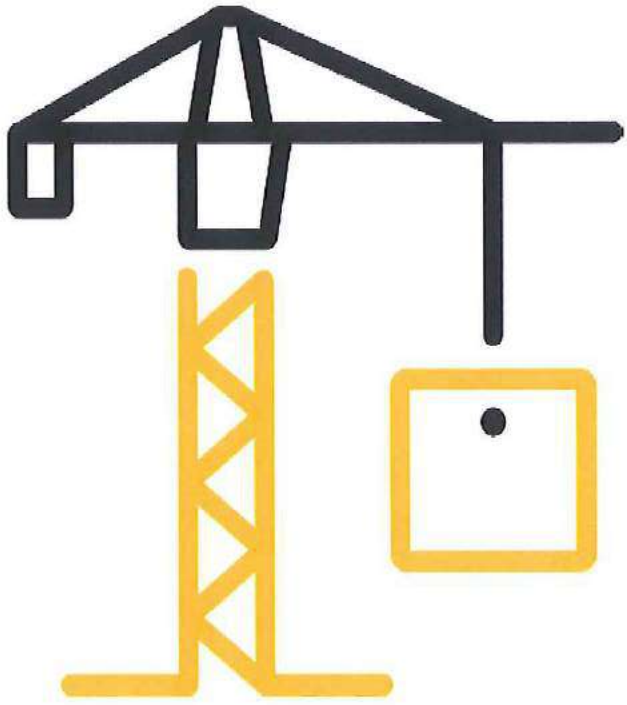
20-Jun-17

PAGES

4

DOCUMENT CONTROL NUMBER

TTRF-PERF02-EN



Test Report

Report Number: 170527113GZU-003
Report Date: 2017-6-20

Applicant:

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).

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	-

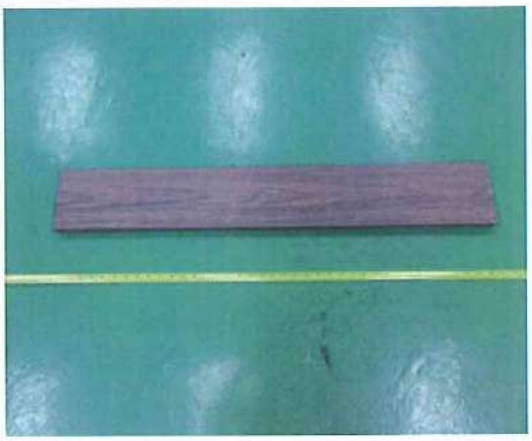
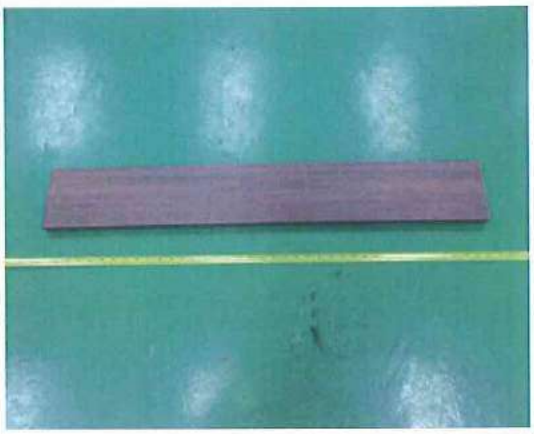
Table 1: Slip-resistance classification based upon the corrected mean overall acceptance angle

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

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>A1. Face view of sample</td><td>A2. Back view of sample</td></tr>
<tr><td>  </td><td>Blank</td></tr>
<tr><td>A3. Side view of sample</td><td></td></tr>
</table>

Approved by:

Name: Jeff Deng
Title: Assit Manager

Drafted by:

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

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TEST Report

SCOPE OF WORKs

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

REPORT NUMBER

170915103GZU-003

ISSUE DATE

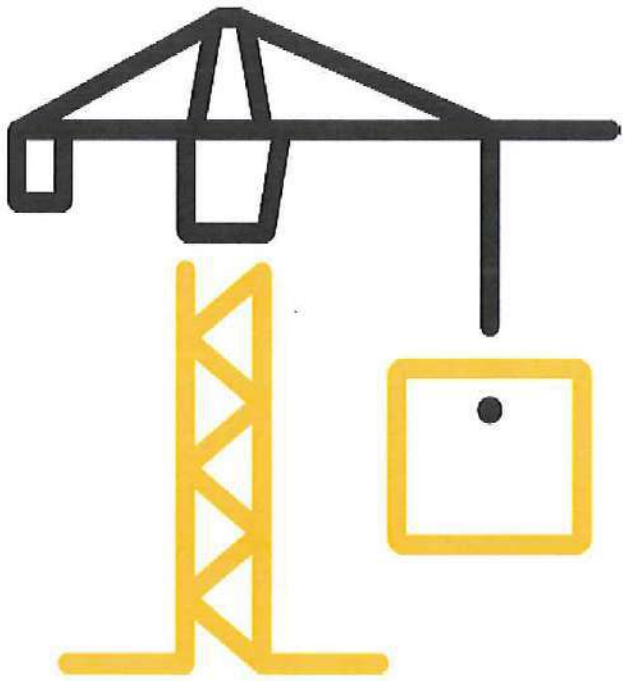
26-Sep-17

PAGES

4

DOCUMENT CONTROL NUMBER

TTRF-PERF02-EN-a



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).

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

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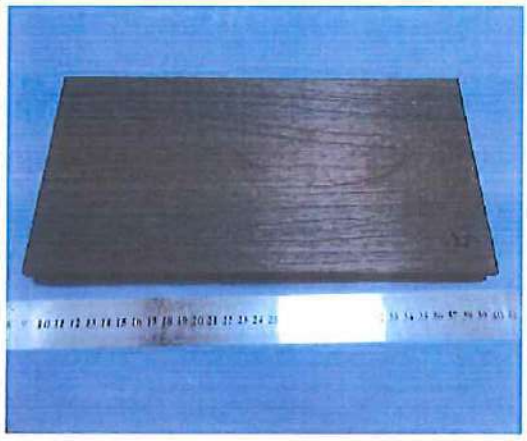
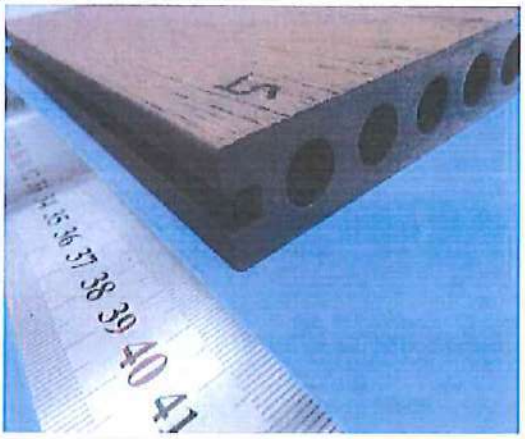
Test Report

Report Number: 170915103GZU-003
Report Date: 2017-09-26

Appendix A: Sample received photo

	
Front view of sample (test surface)	Section view of sample
	Blank
Back view of sample	

Approved by:

Name: Jeff Deng
Title: Assitant Manager

Drafted by:

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

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TEST Report

SCOPE OF WORKs

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

REPORT NUMBER

170908094GZU-007

ISSUE DATE

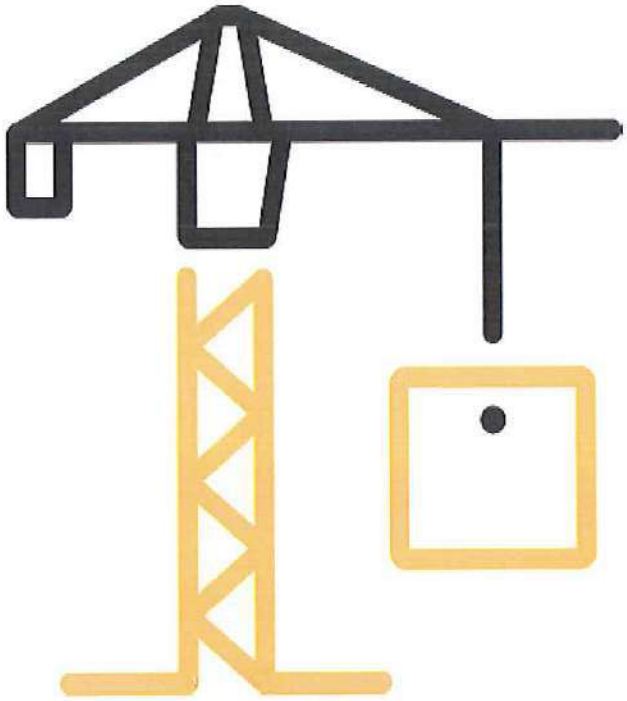
12-Dec-17

PAGES

4

DOCUMENT CONTROL NUMBER

TTRF-PERF02-EN-a



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).

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.

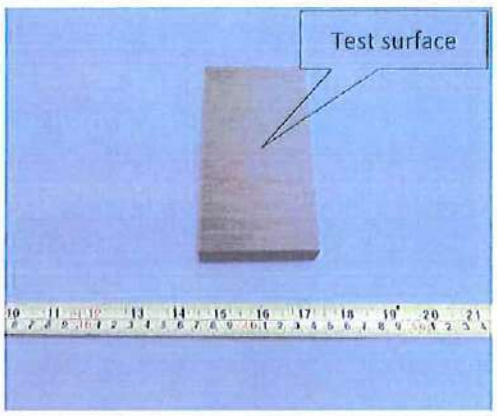
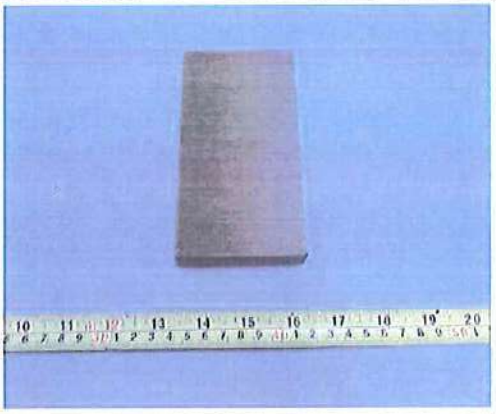
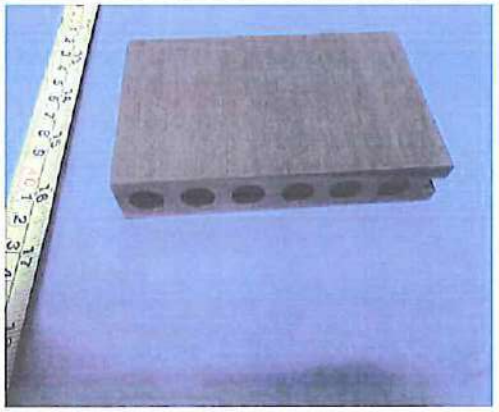
When determining the test result, measurement uncertainty has been considered.

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

Test Report

Report Number: 170908094GZU-007
Report Date: 2017-12-12

Appendix A: Sample received photo

	
A1. Face view of sample	A2. Back view of sample
	Blank
A3. Side view of sample	

Approved by:

Name: Jeff Deng
Title: Assit Manager

Drafted by:

Name: Martin Guo
Title: Engineer

Revision:

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

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The End of Report