TECSIO
FIND YOU

PRODUCT SPECIFICATIONS

Product	Dimensions	Overall Thickness：	2.5MM
		Width and Length:	228.6 X 1219.2 X 2.5MM
	Packaging	Per Carton	16 Planks 4.4593 sq.m. 22.5 kgs.
		Per Pallet	48 Cartons 214.05 sq.m. 1100 kgs.
		Per 20'GP Container	22 Pallets 4709.10 sq.m. 24200 kgs.
	Construction	Top Layers	High Definition Decor Film
			Ceramic Bead UV-Polyurethane Coating
			0.55MM Wear Layer
		Core	2.5mm Vinyl Composite: 0% wood,
			100% Virgin Material
		Density	≥ 1950 kg/m3
		Pad	Not Recommended
		Bevel	V Bevel
	Installation	Glue Down	
	Under Floor Heating	Approved - See installation manual for details	
	Warranty	Lifetime limited residential, 10 year limited light commercial, 6 year limited commercial	

S/N	Performance / Properties	Test Method	Criteria
A. Dimensions and Dimension Tolerance			
1	Tile side length	ISO 24342 or EN 427	≤0.15% of nominal length up to 0.5mm maximum
2	Tile square-ness	ISO 24342 or EN 427	Permissible deviation For ≤ 400mm : ≤0.25mm For > 400mm : ≤0.35mm
3	Overall thickness	ISO 24346 or EN 428	Average value should be nominal value with a tolerance of -0.10/+0.13 mm. Individual results should be average value ± 0.15mm.
4	Thickness of wear layer	ISO 24340 or EN 429	Average value should be nominal value with a tolerance of -0.10/+0.13% but not more than 0.1mm. Individual values should not vary more than 0.05mm or 15% below the average, whichever is greater.
5	Total mass per unit area	ISO 23997 or EN 430	Average value (g/m^2) should be nominal value with a tolerance of -10% / +13%.
B. Physical Properties			
1	Dimensional stability after exposure to heat	ISO 23999 or EN 434	≤ 0.25%
2	Curling after exposure to heat	ISO 23999 or EN 434	≤ 2mm
3	Residual indentation	ISO 24343-1 Part 1 or EN 433	≤ 0.1mm
4	Effect of castor chair	ISO 4918 or EN 425	After 25,000 cycles, no delamination shall occur. No disturbance to the surface other than a slight change in appearance
			Type W; Only minor changes in surface, no delamination
5	Abrasion resistance	EN 660 Part 1 & 2	Wear Group T Volume loss F≤ $2.0mm^3$
6	Slip resistance	SS 485 (Dry floor friction test)	Coefficient of friction ≥ 0.4
		SS485 (Wet condition- pendulum friction test)	Classification X minimum

C.	**Chemical Properties**		
1	Color fastness to artificial light	ISO 105-B02 or ASTM F1515	Grade 6 minimum $\Delta E \leq 8$ after 300 hr where E is irradiance in W/m^2
2	Stain & Chemical resistance	ISO 26987 or EN 423	Achieve Class 0 – no change, when test with common household stains and chemicals e.g. Olive oil, Coffee, Vinegar, Wine, Household ammonia, Household bleach etc. for contact duration of 2 hours
D.	**Fire Performance**		
1	Toxicity	BS 6853 Annex B	Achieve R < 1.0
2	Smoke Production	EN 13501-1 / EN	Achieve S1
3	Flame spread/ ignition	EN 13501-1 / EN	Achieve B fl
4	Cigarette burn	EN 1399	Class 3 minimum
E.	**Other Criteria**		
1	Floor Score recognized by SCS Global Services	Indoor Air Quality Certified to SCS-EC10.3-2014 v4.0 Conforms to the CDPH/EHLB Standard Method v1.2-2017 for the school classroom and private office parameters when modeled as Flooring. Measured Concentration of Total Volatile Organic Compounds (TVOC): Less than/equal to 0.5 mg/m3	
2	CE Certificate recognized by Center for textile Science and Engineering	Comply with the technical requirements referenced in EN 14041,EN 13501-1,EN717-1 and EN 13893	

GHENT UNIVERSITY

CENTRE FOR TEXTILE SCIENCE AND ENGINEERING

DEPARTMENT OF MATERIALS, TEXTILES AND CHEMICAL ENGINEERING

Technologiepark 70A, B-9052 Gent
T +32 9 264 57 35 - F +32 9 264 58 46
www.textiles.ugent.be - textiles@ugent.be

Contact	e-mail	date
Didier Van Daele	FloorAndFire@ugent.be	06/08/2020

TEST REPORT 20-0703-01

Samples received

Name	*Date of receipt*
PVC Flooring 1.5mm	17/07/2020

Aim of the test

Determination of the fire behaviour

Test conditions

Small flame test

Standard:	**ISO 11925-2 (2010 + AC 2011)***
Method:	The use surface of a vertically put specimen placed (loose laid) on a fibre cement board (according to EN 13238) is ignited by a propane gas flame. Under condition of a surface flame attack with 15 s exposure time, there shall be no flame spread in excess of 150 mm vertically from the point of the test flame within 20 s from the time application. If the boundary line is not reached within 20 s, the sample meets the requirements for the class E_{fl}.
Number of tests:	3 lengthwise and 3 crosswise
Conditioning samples:	23 ± 2 °C and 50 ± 5 % R.H.

Fire Behaviour

Standard:	**EN ISO 9239-1 (2010)***
Method:	Before the test the samples are **not cleaned**. A floorcovering is put on **(loose laid)** a fibre cement board (according to EN 13238). During the test, the specimen is irradiated by a gas radiator at an angle of 30°. A small flame is used to ignite the specimen. The specimen is ignited during 10 minutes. In case of inflammable specimens, the test lasts until the flame is extinguished, but 30 minutes at the most. The criterion is the burned length, from which the critical radiant flux is deduced using a calibration curve.
Number of tests:	4
Conditioning samples:	23 ± 2 °C and 50 ± 5 % R.H.

The tests were finished in week 32/2020.

OBTAINED RESULTS

Small flame test

Ignition time : 15 s

Lengthwise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	18	-	no
3	15	-	no

Crosswise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	15	-	no
3	16	-	no

Fire behaviour

Specimen number	1 Length	2 Width	3 Width	4 Width	Average Specimens 2,3,4
Flame spread after 10 min (mm)	80	85	65	95	
Flame spread after 20 min (mm)	80	85	65	95	
Flame spread after 30 min (mm)	80	85	65	95	
Flame spread at extinction (mm)	80	85	65	95	
Flame time	12min 0s	12min 11s	12min 0s	12min 12s	
Critical heat flux CHF at extinction (kW/m²)	11.0	11.0	11.0	11.0	11.0
Total smoke production at end of test (%.min)	32	40	52	43	45

c.o.

LIEDTS Eddy
Technician

Didier Van Daele
Head of Floor covering and Fire Tests

Prof. Dr. Paul KIEKENS, dr. h. c.
Director

ENCLOSURE TO REPORT 20-0703-01

Classification according to EN 13501–1

Warning: this statement cannot be used for CE labelling purposes

Classification	EN ISO 11925-2 (ignition time = 15 s)	EN ISO 9239-1 (test period = 30 min)	CLASS
B_{fl}	Fs ≤ 150 mm in 20 s	Critical flux ≥ 8.0 kW/m²	**X**
C_{fl}	Fs ≤ 150 mm in 20 s	Critical flux ≥ 4.5 kW/m²	
D_{fl}	Fs ≤ 150 mm in 20 s	Critical flux ≥ 3.0 kW/m²	
E_{fl}	Fs ≤ 150 mm in 20 s	No demand	
F_{fl}	No demand	No demand	

Additional classification smoke development

		CLASS
Smoke development ≤ 750%.min	s1	**X**
Smoke development > 750%.min	s2	

GHENT UNIVERSITY

CENTRE FOR TEXTILE SCIENCE AND ENGINEERING

DEPARTMENT OF MATERIALS, TEXTILES AND CHEMICAL ENGINEERING

Technologiepark 70A, B-9052 Gent
T +32 9 264 57 35 - F +32 9 264 58 46
www.textiles.ugent.be - textiles@ugent.be

Contact
Didier Van Daele

e-mail
FloorAndFire@ugent.be

date
06/08/2020

TEST REPORT 20-0703-03

Samples received

Name	*Date of receipt*
PVC Flooring 12mm	17/07/2020

Aim of the test

Determination of the fire behaviour

Test conditions

Small flame test

Standard: **ISO 11925-2 (2010 + AC 2011)***

Method: The use surface of a vertically put specimen placed (loose laid) on a fibre cement board (according to EN 13238) is ignited by a propane gas flame. Under condition of a surface flame attack with 15 s exposure time, there shall be no flame spread in excess of 150 mm vertically from the point of the test flame within 20 s from the time application.
If the boundary line is not reached within 20 s, the sample meets the requirements for the class E_{fl}.

Number of tests: 3 lengthwise and 3 crosswise

Conditioning samples: 23 ± 2 °C and 50 ± 5 % R.H.

Fire Behaviour

Standard:	**EN ISO 9239-1 (2010)***
Method:	Before the test the samples are **not cleaned**. A floorcovering is put on **(loose laid)** a fibre cement board (according to EN 13238). During the test, the specimen is irradiated by a gas radiator at an angle of 30°. A small flame is used to ignite the specimen. The specimen is ignited during 10 minutes. In case of inflammable specimens, the test lasts until the flame is extinguished, but 30 minutes at the most. The criterion is the burned length, from which the critical radiant flux is deduced using a calibration curve.
Number of tests:	4
Conditioning samples:	23 ± 2 °C and 50 ± 5 % R.H.

The tests were finished in week 32/2020.

OBTAINED RESULTS

Small flame test

Ignition time : 15 s

Lengthwise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	15	-	no
3	15	-	no

Crosswise

Sample	Burning time (s)	After glowing time (s)	Boundary line reached within 20 s
1	15	-	no
2	15	-	no
3	15	-	no

Fire behaviour

Specimen number	1 Length	2 Width	3 Width	4 Width	Average Specimens 2,3,4
Flame spread after 10 min (mm)	105	120	130	125	
Flame spread after 20 min (mm)	105	120	130	125	
Flame spread after 30 min (mm)	105	120	130	125	
Flame spread at extinction (mm)	105	120	130	125	
Flame time	12min 29s	12min 15s	12min 19s	12min 13s	
Critical heat flux CHF at extinction (kW/m²)	11.0	10.4	10.4	10.5	10.4
Total smoke production at end of test (%.min)	71	71	64	69	68

LIEDTS Eddy
Technician

Didier Van Daele
Head of Floor covering and Fire Tests

Prof. Dr. Paul KIEKENS, dr. h. c.
Director

ENCLOSURE TO REPORT 20-0703-03

Classification according to EN 13501–1

Warning: this statement cannot be used for CE labelling purposes

Classification	EN ISO 11925-2 (ignition time = 15 s)	EN ISO 9239-1 (test period = 30 min)	CLASS
B_{fl}	Fs ≤ 150 mm in 20 s	Critical flux ≥ 8.0 kW/m²	**X**
C_{fl}	Fs ≤ 150 mm in 20 s	Critical flux ≥ 4.5 kW/m²	
D_{fl}	Fs ≤ 150 mm in 20 s	Critical flux ≥ 3.0 kW/m²	
E_{fl}	Fs ≤ 150 mm in 20 s	No demand	
F_{fl}	No demand	No demand	

Additional classification smoke development

		CLASS
Smoke development ≤ 750%.min	s1	**X**
Smoke development > 750%.min	s2	

GHENT UNIVERSITY

CENTRE FOR TEXTILE SCIENCE AND ENGINEERING

DEPARTMENT OF MATERIALS, TEXTILES AND CHEMICAL ENGINEERING

Technologiepark 70A, B-9052 Gent
T +32 9 264 57 35 - F +32 9 264 58 46
www.textiles.ugent.be - textiles@ugent.be

Classification Report

CLASSIFICATION OF REACTION TO FIRE PERFORMANCE IN ACCORDANCE WITH EN 13501-1:2018

Sponsor	
Manufacturer:	
Prepared by	**Ghent University - Centre for Textile Science and Engineering** **Technologiepark 70A, 9052 Zwijnaarde, Belgium**
Notified Body N°	**1611**
Product Name	**PVC Flooring** (as given by the sponsor)
Report N° / Issue N°	CR 20-0703-01
Date of issue	6/08/2020

1. Introduction

This classification report defines the classification assigned to PVC Flooring, in accordance with the procedures given in EN 13501-1:2018

2. Details of classified product

2.1 General

The product PVC Flooring is defined as being suitable for floor covering applications.

2.2 Product description

The product, PVC Flooring is described below and in the test report(s) listed in Clause 3.1.

Product description	PVC resin, Calcium Carbonates, Stabilizers, Plasticizers
Composition of use-surface	UV coating
Composition of backing layer	Pvc bottom layer
Flame retardant treatment	No

3. Reports and Results in support of Classification

3.1 Test reports

Name of test laboratory	Name of sponsor	Test report number	Test method
Ghent University - Centre for Textile Science and Engineering		20-0703-01 20-0703-03	EN ISO 9239-1
Ghent University - Centre for Textile Science and Engineering		20-0703-01 20-0703-03	EN ISO 11925-2

3.2 Test results

Test method	Parameter	No. of tests	Results	
			Average	Compliance
EN ISO 9239-1	Critical flux (kW/m²)	4	11.0	B fl
	Smoke (%.min)		45	s1
EN ISO 11925-2	Fs	6	PASS	PASS
EN ISO 9239-1	Critical flux (kW/m²)	4	10.4	B fl
	Smoke (%.min)		68	s1
EN ISO 11925-2	Fs	6	PASS	PASS

4. Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with EN 13501-1:2018

4.2 Classification

The product, PVC Flooring, in relation to its reaction to fire behavior is classified: **B fl**
The additional classification in relation to smoke production is: **s1**

Therefore, taking into account the limitations given in §5:

Reaction to fire classification: B fl - s1

4.3 Field of application

This classification is valid for the following product parameters:

	Min.	Max.
Range of total mass (kg/m²)	2.85	23
Range of total thickness (mm)	1.5	12

This classification is valid for the following end use applications:

Deposition method	-
Substrates	Not specified
Joints	-
Other aspects of end use conditions	Used as interior flooring for home, hotel, school, office, hospital, shops etc.

5. Limitations

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

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

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.

Johanna Louwagie
Head of certification

Prof. Dr. Paul KIEKENS, dr. h. c.
Director

中国认可
检测
TESTING
CNAS L0599

Test Report

ASH20-066044-01

Date: 02 Nov 2020

Client Name:
Client Address:

Sample Name:	VINYL FLOORING
Manufacturer:	/
Sample Batch No.:	/
Production Date:	/

Above information and sample(s) was/were submitted and certified by the client, SGS quoted the information with no responsibility as to the accuracy, adequacy and/or completeness.

SGS Reference No. :	SHIN2010067224CM
Date of Sample Received :	27 Oct 2020
Testing Period :	27 Oct 2020 - 02 Nov 2020
Test Requested :	Selected test(s) as requested by client.
Test Method :	Please refer to next page(s).
Test Result(s) :	Please refer to next page(s).

Unless otherwise stated the results shown in this test report refer only to the items tested, and for clients internal use only, not to the society has the proof function. This document cannot be used for improper publicity, without prior written approval of the SGS.

scan to see the report

ASH20-066044-01

SGS Authorized Signature

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

SGS-CSTC Standards Technical Services (Shanghai) Co.,Ltd. Testing Center Agricultural and Food Laboratory

3rd Building,No.889,Yishan Road,Shanghai,China 200233 t 400 - 691 - 0488 f (86-21) 6140 2547 www.sgsgroup.com.cn
中国・上海・宜山路889号3号楼 邮编:200233 t 400 - 691 - 0488 f (86-21) 6140 2547 e sgs.china@sgs.com

Test Report

ASH20-066044-01

Date: 02 Nov 2020

Sample Description :

Specimen No.	SGS Sample ID	Description
1	ASH20-066044.001	sample in bag

Test Result(s) :

Test Requested : Test of antimicrobial activity

Test Method : ISO 22196:2011 Measurement of antibacterial activity on plastics and other non-porous surfaces

ASH20-066044.001

Test organism(s)	Escherichia coli ATCC 8739
Concentration of bacteria (cells/mL)	3.5x10^5
Volume of test inoculum (mL)	0.4
U_o	3.95
Ut	6.00
At	3.90
B (cells/cm²)	1.0x10^6
C (cells/cm²)	8.0x10^3
R	2.1
*The antibacterial activity rate (%)	99.2

Notes :

1.The control sample is plastic film without antimicrobial activity, provided by SGS laboratory.
2.U_o: the average of the common logarithm of the number of viable bacteria(cells/cm²) recovered from the untreated test specimens immediately after inoculation.
3.Ut: the average of the common logarithm of the number of viable bacteria(cells/cm²) recovered from the untreated test specimens after 24 h.
4.At: the average of the common logarithm of the number of viable bacteria(cells/cm²) recovered from the treated test specimens after 24 h.
5.R: the value of antimicrobial activity,R=Ut-At.
6.* The calculation formula of the antibacterial activity rate is 【(B-C)/B】*100%;
B: arithmetic average of the numbers of bacteria obtained from control samples after 24 h incubation(cells/cm²);
C: arithmetic average of the numbers of bacteria obtained from samples after 24 h incubation(cells/cm²).
7.Pre-treatment: The surface of test specimen was wiped with 70% ethanol, rinsed with sterile water and let it air-dry.
8.Test the vertical stripe side.

3rd Building,No.889,Yishan Road,Shanghai,China 200233 t 400 - 691 - 0488 f (86-21) 6140 2547 www.sgsgroup.com.cn
中国・上海・宜山路889号3号楼 邮编:200233 t 400 - 691 - 0488 f (86-21) 6140 2547 e sgs.china@sgs.com

Test Report

ASH20-066044-01

Date: 02 Nov 2020

Sample photo:

ASH20-066044.001

SGS authenticate the photo on original report only

*** End ***

3rd Building,No.889,Yishan Road,Shanghai,China 200233 t 400 - 691 - 0488 f (86-21) 6140 2547 www.sgsgroup.com.cn
中国・上海・宜山路889号3号楼 邮编:200233 t 400 - 691 - 0488 f (86-21) 6140 2547 e sgs.china@sgs.com

TEST REPORT

No. : SHIN180702077CCM
Date : Jul. 13, 2018

CUSTOMER NAME:

ADDRESS:

Sample Name : LVT

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	:	Dimension stability
Test Method	:	ASTM F2199-09(2014)
Date of Receipt	:	Jul. 09, 2018
Testing Start Date	:	Jul. 09, 2018
Testing End Date	:	Jul. 13, 2018
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)

Signed for
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Joyce Li

Joyce Li
Authorized signatory

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

Summary of Result(s):

No.	Test Item	Test Method	Result	Conclusion
1	Dimension stability	ASTM F2199-09(2014)	See Result	/

Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
/: Not Apply to the judgment.

Test item: Dimensional stability

Test method: ASTM F2199-09(2014)

Test condition:

Specimen: 18in×18in×0.086in, 3pcs

Pretreatment condition: Conditioning in air maintained at 23±1℃ and 50±5%RH for 24h

Heating temperature: 82℃

Heating time: 6h

Lab environmental condition: 23±1℃, 50±5%RH

Test result:

Test Item	Test result			
	Linear change		Average value	
	MD	AMD	MD	AMD
Linear change (%)	-0.070	-0.095	-0.057	-0.079
	-0.052	-0.075		
	-0.050	-0.066		

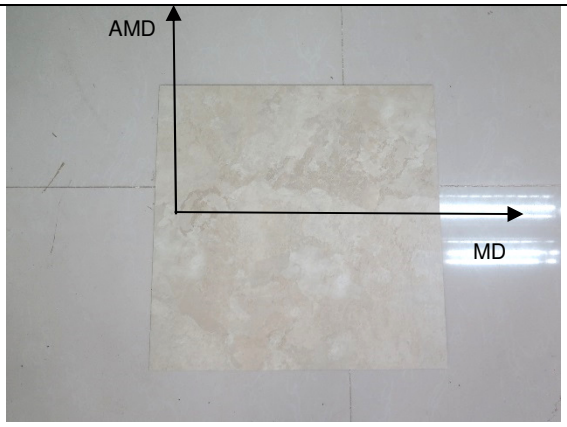
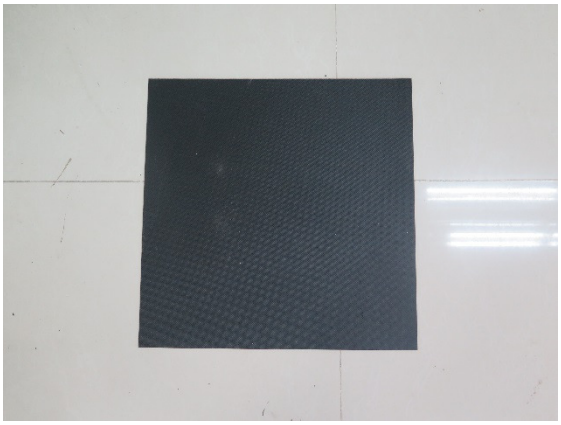
Note: A negative value indicates shrinkage, and a positive value indicates expansion.

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN180702077CCM
Date : Jul. 13, 2018

Sample photos:

	
Front view	Back view

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

In the territory of the People's Republic of China, the test report with CMA logo expresses that the test methods are within the scope of China Metrology Accreditation (CMA); Without CMA logo expresses that part/all of the test methods are not within the scope of China Metrology Accreditation (CMA), and just for client internal reference.

TEST REPORT

No. : SHIN180702076CCM
Date : Jul. 13, 2018

CUSTOMER NAME:

ADDRESS:

Sample Name : LVT

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	:	Impact
Test Method	:	ASTM F1265-03a(2013)
Date of Receipt	:	Jul. 09, 2018
Testing Start Date	:	Jul. 09, 2018
Testing End Date	:	Jul. 13, 2018
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)

Signed for
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Joyce Li

Joyce Li
Authorized signatory

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

Summary of Result(s):

No.	Test Item	Test Method	Result	Conclusion
1	Impact	ASTM F1265-03a(2013)	See Result	/

Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
/: Not Apply to the judgment.

Test item: Impact

Test method: ASTM F1265-03a(2013)

Test condition:

Specimen: 150mm×150mm×2mm, 3pcs

Pretreatment condition: Conditioning in air maintained at 25±1℃ and 50±5%RH for 24h

Steel ball: Diameter: 25.4mm, Weight: 65g

Height of Impact: 508mm

Number of impact times: 4 times

Lab environmental condition: 25±1℃, 50±5%RH

Test result:

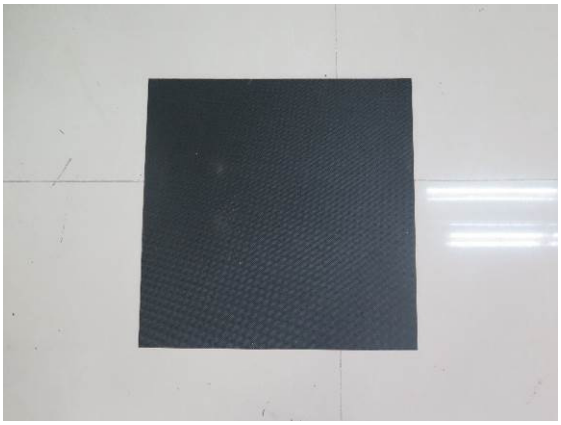
Test item	Test result
Impact	The tile did not break or crack.
	The tile did not break or crack.
	The tile did not break or crack.

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编: 201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN180702076CCM
Date : Jul. 13, 2018

Sample photos:

	
Front view	Back view

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

In the territory of the People's Republic of China, the test report with CMA logo expresses that the test methods are within the scope of China Metrology Accreditation (CMA); Without CMA logo expresses that part/all of the test methods are not within the scope of China Metrology Accreditation (CMA), and just for client internal reference.

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN180702075CCM
Date : Jul. 13, 2018

CUSTOMER NAME:

ADDRESS:

Sample Name : LVT

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	:	Residual indentation
Test Method	:	ASTM F1700-18 Section 6.5 & ASTM F1914-17
Date of Receipt	:	Jul. 09, 2018
Testing Start Date	:	Jul. 09, 2018
Testing End Date	:	Jul. 13, 2018
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)

Signed for
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Joyce Li

Joyce Li
Authorized signatory

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN180702075CCM
Date : Jul. 13, 2018

Summary of Result(s):

No.	Test Item	Test Method	Test Result	Conclusion
1	Residual indentation	ASTM F1700-18 Section 6.5 & ASTM F1914-17	5.9%	/

Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
/: Not Apply to the judgment.

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

Test item: Residual Indentation

Test method: ASTM F1700-18 Section 6.5 & ASTM F1914-17

Test condition:

Specimen: 50mm×50mm×2mm, 3pcs

Pretreatment condition: Conditioning in air maintained at 23±2℃ and 50±5%RH for 6h

Test temperature: 23℃

Foot diameter: 4.52mm

Total load: 63.5kg

Indentation time: 10min

Recovery time: 60min

Lab environmental condition: 23±2℃, 50±5%RH

Test result:

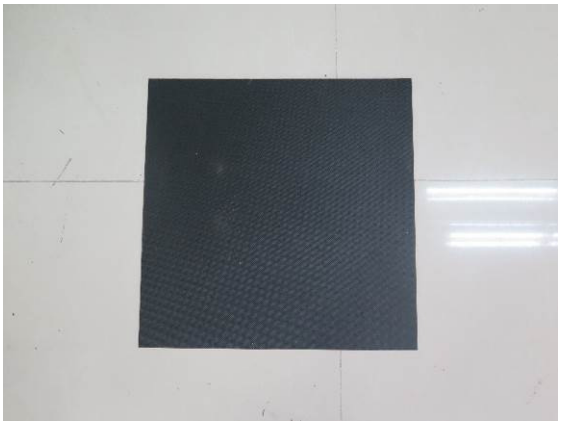
Test Item	Test result			
	Individual value			Average value
Residual Indentation (%)	5.2	7.2	5.3	5.9

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编: 201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN180702075CCM
Date : Jul. 13, 2018

Sample photos:

	
Front view	Back view

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

In the territory of the People's Republic of China, the test report with CMA logo expresses that the test methods are within the scope of China Metrology Accreditation (CMA); Without CMA logo expresses that part/all of the test methods are not within the scope of China Metrology Accreditation (CMA), and just for client internal reference.

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN180702078CCM
Date : Jul. 13, 2018

CUSTOMER NAME:

ADDRESS:

Sample Name : LVT

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	:	Static load resistance
Test Method	:	ASTM F970-17
Date of Receipt	:	Jul. 09, 2018
Testing Start Date	:	Jul. 09, 2018
Testing End Date	:	Jul. 13, 2018
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)

Signed for
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Joyce Li

Joyce Li
Authorized signatory

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国・上海・浦东康桥东路1159弄69号 邮编: 201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

Summary of Result(s):

No.	Test Item	Test Method	Test Result	Conclusion
1	Static load resistance	ASTM F970-17	0.01mm	/

Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
/: Not Apply to the judgment.

Test item: Static load resistance

Test method: ASTM F970-17

Test condition:

Specimen: 50.8mm×50.8mm×2mm, 3pcs

Pretreatment condition: Conditioning in air maintained at 23±2℃ and 50±5%RH for 24h

Load specified by client: 75lb

Indenter Diameter: 28.6mm

Holding time: 24h

Recovery time: 24h

Lab environmental condition: 23±2℃, 50±5%RH

Test result:

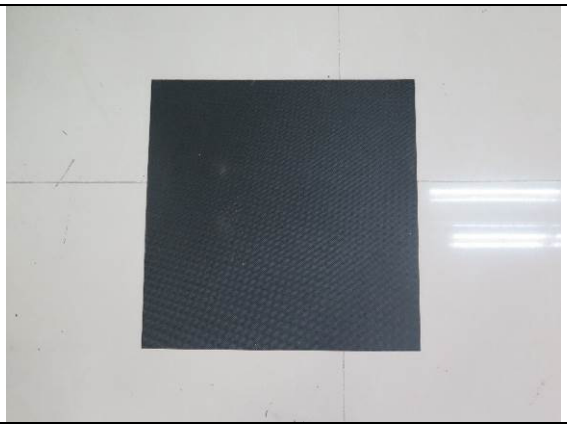
Test item	Test result			
	Individual value			Average value
Static load resistance– Residual indentation (mm)	0.00	0.02	0.02	0.01

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN180702078CCM
Date : Jul. 13, 2018

Original sample photo(s):

	
Front view	Back view

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

In the territory of the People's Republic of China, the test report with CMA logo expresses that the test methods are within the scope of China Metrology Accreditation (CMA); Without CMA logo expresses that part/all of the test methods are not within the scope of China Metrology Accreditation (CMA), and just for client internal reference.

No.69, Block 1159, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t(86-21)61196300 f(86-21)61191853/68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1159弄69号 邮编:201319 t(86-21)61196300 f(86-21)61191853/68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN170400938CCM

Date : Apr. 14, 2018

1

CUSTOMER NAME:

ADDRESS:

Sample Name: VINYL FLOOR

Product specification : 180×1220×2.5mm

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	:	Wear resistance
Test Method	:	EN 660-2:1999+ A1:2003 & EN 649:2011
Date of Receipt	:	Apr. 05, 2017
Testing Start Date	:	Apr. 05, 2017
Testing End Date	:	Apr. 14, 2017
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)

Signed for
SGS-CSTC Standards Technical Services （Shanghai）Co., Ltd.

Erin Huang
Authorized signatory

No.69, Block 1158, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t (86-21) 61196300 f (86-21) 61191853 / 68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1158弄69号 邮编: 201319 t (86-21) 61196300 f (86-21) 61191853 / 68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN170400938CCM
Date : Apr. 14, 2018

Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Wear resistance	EN 660-2:1999+ A1:2003 & EN 649:2011	See result	/

Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
/ : Not Apply to the judgment.

No.69, Block 1158, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t (86-21) 61196300 f (86-21) 61191853 / 68183920 www.sgsgroup.com.cn
中国 · 上海 · 浦东康桥东路1158弄69号 邮编: 201319 t (86-21) 61196300 f (86-21) 61191853 / 68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN170400938CCM
Date : Apr. 14, 2018

Test Item: Wear resistance

Sample Description: See photo

Test Method: EN 660-2:1999+ A1:2003 & EN 649:2011

Test Condition:

Weigh the specimens to an accuracy of ±0.1mg after conditioning. Load each wheel with a weight of (1±0.01) kg. The flow of abrasive is (21±3)g/min. Abrade one specimen during 5000 revolutions, with a break for weighing after each cycle of 1000 revolutions, and then test the two remaining specimens. If, however, the first specimen is abraded through before 5000 revolutions, discard it and test the two remaining specimen in cycles of 200 revolutions stopping the test after 2000 revolutions or when the specimen is abraded through.

Calculate the average mass loss. Fm, in milligrams per 100 revolutions for each specimen as follows:

$$F_m = \frac{F_{tot}}{n} \times 100$$

Calculate the loss of volume for each specimen for 100 revolutions as follows:

$$F_V = \frac{F_m}{\rho}$$

Requirement of EN 649:2011:

Characteristic	Requirements for wear group			
	T	P	M	F
Volume loss Fv(mm^3)/100 revolutions	Fv≤2.0	2.0＜Fv≤4.0	4.0＜Fv≤7.5	7.5＜Fv≤15.0

Test result:

Test result	Wear group
Fv=0.20 mm^3/100 revolutions	T

Note: 1. Test specimens were cut from the sample.

2. The test was performed by SGS other internal laboratory.

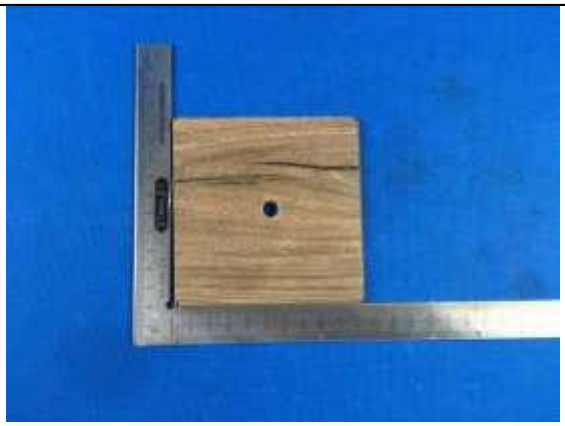
No.69, Block 1158, East Kang Qiao Road, Pudong District, Shanghai, China. 201319 t (86-21) 61196300 f (86-21) 61191853 / 68183920 www.sgsgroup.com.cn
中国·上海·浦东康桥东路1158弄69号 邮编: 201319 t (86-21) 61196300 f (86-21) 61191853 / 68183920 e sgs.china@sgs.com

TEST REPORT

No. : SHIN170400938CCM
Date : Apr. 14, 2018
Page: 4 of 4

Test Photos:

During test



Before test

After test

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

GHENT UNIVERSITY

CENTRE FOR TEXTILE SCIENCE AND ENGINEERING

DEPARTMENT OF MATERIALS, TEXTILES AND CHEMICAL ENGINEERING

Technologiepark 70A, B-9052 Gent
T +32 9 264 57 35 - F +32 9 264 58 46
www.textiles.ugent.be - textiles@ugent.be

TYPE EXAMINATION CERTIFICATE

No. 20-0703-01

Certificate issued by Notified Body N° 1611

1. Product name: PVC Flooring
2. Product material: PVC
3. Product type:
   a. thickness: 1.5 mm - 12 mm
   b. density: 1800 - 2000 kg/m³
4. Numerical code of product classification:
   a. fire behaviour: **B fl s1**
   b. formaldehyde: **E1**
   c. slip resistance: **DS**
5. Usage of the product: Used as interior flooring for home, hotel, school, office, hospital, shops etc.
6. Manufacturer:
7. Address:

This certificate assures the compliance of properties of the product, which complies with the technical requirements referenced in EN 14041, EN 13501-1, EN 717-1 and EN 13893. The certificate only applies to materials that correspond to the tested sample.

The results of tests and findings on conformity of the properties of the given type with technical requirements are referenced in classification report CR-20-0703-01, Test Reports 20-0703-01, 20-0703-02, 20-0703-03 and MVZ–A-2020-001501.

Date of issuing: 6/08/2020

Valid until: August 2025

The Centre for Textile Science and Engineering of Ghent University (Belgium) is recognized as notified laboratory N° 1611 for the European regulation 305/2011 for construction products.

For: Didier Van Daele
Head of floorcovering/fire tests

Prof. Dr. Paul KIEKENS, dr. h. c.
Director

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

For the following product(s):

Vinyl Tile:

Luxury Vinyl Tile *(Maximum thickness: 7.0mm),* Wood Plastic Composite (WPC) Flooring *(Maximum thickness: 11.0mm),*
Wood Plastic Composite (WPC) Flooring with pad *(Maximum thickness: 12.0mm)*
Rigid Core Vinyl Tile *(Maximum thickness: 8.0mm),* Rigid Core Vinyl Tile with pad *(Maximum thickness: 9.0mm)*

The product(s) meet(s) all of the necessary qualifications to be certified for the following claim(s):

FloorScore®

Indoor Air Quality Certified to SCS-EC10.3-2014 v4.1
Conforms to the CDPH/EHLB Standard Method v1.2-2017 (California Section 01350), effective April 1, 2017, 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 v1.2-2017)

Registration # SCS-FS-07090
Valid from: June 1, 2022 to May 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.

Stanley Mathuram, PE, Executive Vice President
SCS Global Services
2000 Powell Street, Ste. 600, Emeryville, CA 94608 USA

Dřevařský ústav
Timber Institute

MATERIAL AND PRODUCT TESTING DEPARTMENT
Testing Laboratory No. 1031 accredited by ČIA according to EN ISO/IEC 17025:2018

L 1031

TEST REPORT
No. MVZ-A-2021-001951

Customer:

Object of the test:

PVC FLOORING

Date: 2021-10-07

Number of pages: 2
Number of annexes: 0
Copies: 2 Copy No. 1: Customer
Copy No. 2: MVZ archive
Copy No: 1

The results of tests contained in this Test Protocol apply only to the tested subject, as was received, and the Test Protocol does not mean approval of the product by the body granting accreditation or by any other body. The testing laboratory is not responsible for the information supplied by the customer. Customer data is marked in italics in the protocol. The tests outside the extent of accreditation and sub-contracted are designated. The ČIA accreditation does not apply to the results of tests titled „Outside the extent of accreditation".
The Protocol shall not be copied otherwise but as a whole, and to use its part or section you need the written consent of the testing laboratory.
Original copies have relief stamp.
In case of misunderstanding, the Czech version is valid.

ZKUŠEBNÍ LABORATOŘ AKREDITOVANÁ ČIA
MATERIÁLOVÁ A VÝROBKOVÁ ZKUŠEBNA
Dřevařský ústav Timber Institute
č. 1031

Ing. Anna Součková
head of the Material and product testing department

Timber-wood research and development institute, Prague, state enterprise
Na Florenci 7-9, 111 71 Praha 1
Material and product testing department
Borská 471, 262 72 Březnice

email: mvz@vvud.cz
web: www.vvud.cz

phone: +420 318 682 401

1. OBJECT AND PURPOSE OF THE TEST:

The purpose of the test is the determination of the formaldehyde release of the supplied sample of PVC Flooring.

2. TEST SAMPLES:

Sample codes (laboratory):	sample No. 278
Sample name:	PVC Flooring
Sample description:	PVC Flooring
Producer:	
Quantity, size:	3 pieces, (600 x 190) mm
Nominal thickness:	8 mm
Date of production:	unknown
Date of reception:	September 27. 2021
Place of reception:	VVÚD - MVZ
Received:	VVÚD; Šárka Podlenová
Handed down:	by post

3. TEST METHOD:

- TP-VVÚD-2.64.001 (ČSN EN 717-1) - Determination of formaldehyde in test chamber of VVÚD.

Testing conditions for TP-VVÚD-2.64.001 (ČSN EN 717-1):

Volume of the chamber	0,225 m^3
determination of emission value	by the acetylacetone method

4. DATE OF THE TEST:

4 to 6 October 2021

5. TEST RESULTS:

Sample No. 278

chamber value	0,001 mg HCHO/m^3 of air

This test report made by: Petra Volfová

- End of report -