

# TEST REPORT

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Date : Sep 05, 2020

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Sample Name : SPC FLOORING

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

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SGS Ref. No. : XMNMLC2001226701; SL82008293771401TX

Date of Receipt : Aug 08, 2020

Testing Start Date : Aug 08, 2020

Testing End Date : Sep.05, 2020

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)

Testing Center

A handwritten signature in blue ink that reads "Bryan".

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Bryan Hong  
Authorized signatory

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## Sample Information:

Flooring, See the photograph.

Lab environment condition: 23±2°C, 50±5%RH

Preconditioning: 23±2°C, 50±5%RH for a minimum of 24h



## Test Result(s):

Nominal value: Length 1220mm, Width 184mm, Overall thickness 5.5mm,  
Wear-layer thickness 0.5mm, Mass per unit area 8000g/m<sup>2</sup>

No.	Test item(s)	Test method(s)	Test condition(s)	Requirement(s) of ISO 10582:2017	Test result(s)
1	Side Length	ISO 24342:2018	Specimen: 1220mm×184mm×5.5mm, 5pcs	Deviation ≤ 0.15 % of nominal length up to 0.5 mm maximum	Average: 1220mm
2	Width			Deviation ≤ 0.10 % of up to 0.5 mm maximum	Average: 184.08mm
3	Squareness			①Side length ≤400mm: ≤0.25mm; ②Side length >400mm: ≤0.35mm; ③Side length >400mm (intended for heat welding): ≤0.50mm;	Deviation range: X Direction: 0.00mm~+0.05mm Y Direction: 0.00mm~+0.05mm
4	Straightness				Deviation range: X Direction: 0.00mm~+0.05mm Y Direction: 0.00mm~+0.05mm
5	Overall thickness	ISO 24346:2006 (R2015)	Specimen: 150mm×150mm×5.5mm, 5pcs Mass applied: 0.20±0.02kg Diameter of upper plate: 25.3±0.10mm Load time: 5s	Average value: Nominal thickness +0.13mm/-0.10mm (5.40mm~5.63mm); Individual results: Average value±0.15mm (5.39mm~5.69mm);	Ave.: 5.54mm Max.: 5.57mm Min.: 5.52mm
6	Thickness of wear layer	ISO 24340:2006 (R2015)	Specimen: 25mm×10mm×5.5mm, 5pcs	Average value: Nominal thickness +13%/-10% & ±0.1mm (0.450mm~0.565mm); Individual results: > average value - 0.05mm or -15%, whichever is greater (>0.474mm)	Ave.: 0.524mm Max.: 0.538mm Min.: 0.503mm

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No.	Test item(s)	Test method(s)	Test condition(s)	Requirement(s) of ISO 10582:2017	Test result(s)
7	Mass per unit area	ISO 23997:2007 (R2018)	Specimen: 100mm×100mm×5.5mm, 5pcs	Nominal value +13%/-10%	Average: 8000 g/m <sup>2</sup> Deviation from nominal value: -0.05%
8	Locking strength	ISO 10582:2017 Annex D	Specimens: 10 pieces of long side specimens (X Direction) 100mm×100mm×5.5mm, 10 pieces of short side specimens (Y Direction) 100mm×100mm×5.5mm Loading rate: 100 mm/min	Only for Commercial use: Class 31, 32, 33: ≥1.5 kN/m; Class 34: ≥2.0 kN/m	Long side(X): 5.1 kN/m  Short side(Y): 6.0 kN/m
9	Colour Fastness To Light	ISO 105-B02:2014; Method 3	Use Xenon arc lamp, Exposure Cycle: A1, no flip-flop mode was used	6 minimum	Comparison upto blue wool reference 6; Grade(B.W.S): 6
10	Classification	ISO 10874:2009	See Annex A	See Annex A	Complied with class 23, class 32 (See Annex A)

The logo for PORCEMALL features the word "PORCEMALL" in a bold, black, sans-serif font. The letter "O" is replaced by a circular emblem containing a stylized, three-lobed shape resembling a propeller or a mechanical part, rendered in black and white.

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No.	Test item(s)	Test method(s)	Test condition(s)	Test result(s)
11	Dimensional stability (see note 2)	EN 434:1994	Specimens: 610mm×184mm×5.5mm, 3pcs Condition: 23±2°C, 50±5%RH, 24h → 80±2°C, 360min → 23±2°C, 50±5%RH, 24h	Average: X Direction: 0.10% Y Direction: -0.05%
12	Curling (see note 3)			Average: 0.0mm
13	Effect of a Castor Chair	EN 425:2002	Load: 90kg Type of wheels: Type W Cycles: 25000	There are no visible damages caused by detachment of layers, opening of joints, and crazing, see photos.
14	Peel Strength	EN 431:1994	Specimens: 200mm×50mm×5.5mm, 3 pcs for X direction; 184mm×50mm×5.5mm, 3 pcs for Y direction Loading rate: 100mm/min	X direction: 120 N/50mm Y direction: 120 N/50mm
15	Migration of Certain Elements	EN 71-3:2019	See Annex B	Not Detected PASS

Note: 1. All test specimens were cut from the original samples, see the photograph.

2. Dimensional stability, % = (Dimension before exposure to heat - Dimension after exposure to heat)/Dimension before exposure to heat ×100.

3. Curling, mm = Dimension after exposure to heat - Dimension before exposure to heat.

4. Test item 15 was carried out by SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch.

5. Sample for test item 13 were received in second time, dated: Oct.29, 2020.



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## Annex A

Classification

### Test Requirement:

ISO 10582:2017 Resilient floor coverings - Heterogeneous poly(vinyl chloride) floor coverings - Specification

ISO 10874:2009 Resilient, textile and laminate floor coverings - Classification

Declared class: class 23, class 32

Type of product: Heterogeneous

### Test Result:

Nominal value:

Overall thickness: 5.5mm; Wear layer thickness: 0.5mm

Test item(s)	Overall thickness	Thickness of wear layer
Test method(s)	ISO 24346:2006(R2015)	ISO 24340:2006(R2015)
Test condition	Specimen: 150mm×150mm×5.5mm, 5pcs Mass applied: 0.20±0.02kg Diameter of upper plate: 25.3±0.1mm Load time: 5s	Specimen: 25mm×10mm×5.5mm, 5pcs
Test result(s)	Ave.: 5.54mm Max.: 5.57mm Min.: 5.52mm	Ave.: 0.524mm Max.: 0.538mm Min.: 0.503mm
Requirement of ISO 10582:2017	Average value: Nominal thickness +0.13mm/-0.10mm (5.40mm~5.63mm); Individual results: Average value±0.15mm (5.35mm~5.69mm); Classification requirements for level of use: Domestic - Class 23: 1.5mm Commercial - Class 32: 2.0mm	Average value: Nominal thickness +13%/-10% & ±0.1mm (0.450mm~0.565mm); Individual results: > average value -0.05mm or -15%, whichever is greater (>0.474mm) Classification requirements for level of use: Domestic - Class 23, type I: 0.30mm Commercial - Class 32, type I: 0.40mm
Conclusion	Pass	Pass







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Class	Symbol	Evaluation				Conclusion
		Type of wear layer*	Overall thickness	Thickness of wear layer	Locking strength	
23		Declared binder content: $\geq 80\%$ * (Type I)	Satisfied	Satisfied	No requirement <sup>(3)</sup>	Pass
32		Declared binder content: $\geq 80\%$ * (Type I)	Satisfied	Satisfied	Satisfied	Pass

Note (1): \* The type of wear layer was declared by manufacturer, which was not verified due to the protection of recipe. The classification of the wear layer shall be identified according to below table.

Type	Minimum wear layer binder content
I	80%
II	30%

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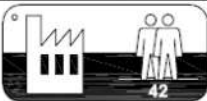

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Note (2): Classification scheme (described in ISO 10874:2009):

Table 1 - Classification

Class	Symbol	Intensity of use	Description
		Domestic	Areas considered for residential use
21		Moderate/Light	Areas with low or intermittent use
22		General/Medium	Areas with medium use
22+		General	Areas with medium to heavy use
23		Heavy	Areas with heavy use
		Commercial	Areas considered for public and commercial use
31		Moderate	Areas with low or intermittent use
32		General	Areas with medium use
33		Heavy	Areas with heavy use
34		Very heavy	Areas with intense use
		Light industrial	Areas considered for light industrial use
41		Moderate	Areas where work is mainly sedentary with occasional use of light vehicles
42		General	Areas where work is mainly standing and/or with vehicular traffic
43		Heavy	Other light industrial areas

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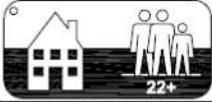





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Note (3): Classification requirements for level of use (specified in ISO 10582:2017):

Table 3 - Classification requirements for level of use (minimal)

Class	Symbol	Level of use	Thickness of wear layer, nominal value mm		Nominal overall thickness mm	Seam strength <sup>a)</sup> [N/50mm]	Locking strength (when applicable) [kN/m]
			Type I	Type II			
		Domestic			All types		
21		Moderate/Light	0.15	0.40	1.0	No requirement	No requirement
22		General/Medium	0.20	0.50	1.5		
22+		General	0.20	0.50	1.5		
23		Heavy	0.30	0.65	1.5		
Commercial							
31		Moderate	0.30	0.65	2.0	When welded in accordance with the manufacturer's instructions: Average value ≥ 240 Individual value ≥ 180	1.5
32		General	0.40	0.80	2.0		1.5
33		Heavy	0.55	1.00	2.0		1.5
34		Very heavy	0.70	1.50	2.0		2

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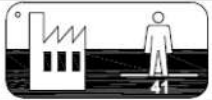
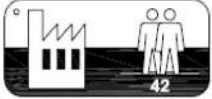

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Table 3 (continued)

Class	Symbol	Level of use	Thickness of wear layer, nominal value mm		Nominal overall thickness mm	Seam strength <sup>a)</sup> [N/50mm]	Locking strength (when applicable) [kN/m]
			Type I	Type II			
		Light industrial			All types		
41		Moderate	0.40	0.80	2.0	When welded in accordance with the manufacturer's instructions: Average value ≥ 240 Individual value ≥ 180	Not applicable <sup>b)</sup>
42		General	0.55	1.0	2.0		Not applicable <sup>b)</sup>
43		Heavy	0.70	1.50	2.0		Not applicable <sup>b)</sup>
Test Method			ISO 24340		ISO 24346	ISO 16906	Annex D
<p>a. Seam strength is not required for products which are intended for gluing with dry-joint laying, for loose lay or floating installation and for tiles/planks with a locking system on the edges.</p> <p>b. Tiles and planks with mechanical locking for floating installation are currently not suitable for use in classes 41, 42 and 43</p>							

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## Annex B

Migration of Certain Elements

Test Part Description:

Specimen No.	SGS Sample ID	Description
SN1	001	Transparent plastic part

Remarks :

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

### EN 71-3:2019 - Migration of Certain Elements (Category III: Scrapped-off toy material)

Test Method : With reference to EN 71-3:2019, analysis was performed by ICP-OES.  
Chromium (VI) was analyzed by IC-UV/LC-ICP-MS.

<u>Test Item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Soluble Aluminum (Al)	70000	mg/kg	50	ND
Soluble Arsenic (As)	47	mg/kg	10	ND
Soluble Boron (B)	15000	mg/kg	50	ND
Soluble Barium (Ba)	18750	mg/kg	50	ND
Soluble Cadmium (Cd)	17	mg/kg	5	ND
Soluble Cobalt (Co)	130	mg/kg	10	ND
Soluble Chromium (III) (Cr III)	460	mg/kg	5	ND
Soluble Copper (Cu)	7700	mg/kg	50	ND
Soluble Mercury (Hg)	94	mg/kg	10	ND
Soluble Manganese (Mn)	15000	mg/kg	50	ND
Soluble Nickel (Ni)	930	mg/kg	10	ND
Soluble Lead (Pb)	23	mg/kg	10	ND
Soluble Antimony (Sb)	560	mg/kg	10	ND
Soluble Selenium (Se)	460	mg/kg	10	ND
Soluble Strontium (Sr)	56000	mg/kg	50	ND
Soluble Tin (Sn)	180000	mg/kg	4.9	ND
Soluble Organic Tin	12	mg/kg	-	ND
Soluble Zinc (Zn)	46000	mg/kg	50	ND
Soluble Chromium (VI) (Cr VI)	0.053	mg/kg	0.020	ND
<b>Conclusion</b>				<b>PASS</b>



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Notes:

- 1.Soluble Chromium (III)= Soluble Total Chromium- Soluble Chromium (VI)
- 2.Confirmation test of soluble organic tin is not required in case of soluble tin, after conversion, does not exceed the soluble organic tin requirement as specified in EN 71-3:2019.

Original Sample Photo:



Original Sample

Sample for test item 13

Specimen for test item 13 - After test

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