

TEST REPORT

No. : XMCCM150100007

Date : Jan.04, 2015

Page: 1 of 9

QINGDAO BAREFOOT CONSTRUCTION MATERIAL CO., LTD
NO.6 CHANGCHENG SOUTH ROAD, CHENGYANG DISTRICT, QINGDAO, SHANDONG PROVINCE,
CHINA

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

Sample Name : WPC PLANK
SGS Ref. No. : QDHG 201404431, QDHG 201404303, QDHG 201404429, QDHG
201404430
Test required : Selected test(s) as requested by applicant
Date of Receipt : Nov.25, 2014
Test Period : Nov.25, 2014 to Dec.30, 2014
Test result(s) : For further details, please refer to the following page(s)

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

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



Civi Huang
Authorized Signatory



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TEST REPORT

No. : XMCCM150100007

Date : Jan.04, 2015

Page: 2 of 9

Summary of test results:(Average value)

Test items	Test methods	Test results	GB/T 24508-2009 Requirement in standard for Element face wood plastic floor	Conclusion	
Bending strength	GB/T 24508-2009 6.5.2 GB/T 17657-1999 4.9.4	4275 N	Use in public place \geq 2200 N	Pass	
Impact resistance in normal temperature	GB/T 24508-2009 6.5.3 GB/T 18102-2007 6.3.16	8.57 mm	\leq 12 mm	Pass	
Impact resistance in low temperature	GB/T 24508-2009 6.5.6	No break	No break	Pass	
Density	GB/T 24508-2009 6.5.4 GB/T 17657-1999 4.2	1.33 g/cm ³	\geq 0.85 g/cm ³	Pass	
Water absorption	GB/T 24508-2009 6.5.5 GB/T 17657-1999 4.6	0.83 %	\leq 3.0% (base material no foaming)	Pass	
Sizes change after water absorption	GB/T 24508-2009 6.5.7	Length direction: 0.04 % Width direction: 0.03 % Thickness direction: 0.22%	Length direction: \leq 0.3 % Width direction: \leq 0.4 % Thickness direction: \leq 0.5 %	Pass	
Cold and thermal cycling	GB/T 24508-2009 6.5.9	No cracking or bubbling Size change: -0.04 mm	No chap, No bubble Size change: \leq 0.5mm	Pass	
Formaldehyde	GB/T 24508-2009 6.5.21 GB 18580-2001 6.3	ND	E0 \leq 0.5 mg/L E1 \leq 1.5 mg/L	Pass	
Soluble Heavy Metal of Substrate	GB/T 24508-2009 6.5.23 GB 18586-2001	Soluble Lead	12 mg/m ²	\leq 20 mg/m ²	Pass
		Soluble Cadmium	ND	\leq 20 mg/m ²	Pass
Volatile Matter	GB/T 24508-2009 6.5.25 GB 18586-2001	7.4 g/m ²	\leq 40 g/m ²	Pass	
Slip resistance	GB/T 24508-2009 Section 6.5.16	36	\geq 35	Pass	
Colour fastness resistance	GB/T 24508-2009 Section 6.5.20 GB/T 15102-2006 Section 6.5.19	> Class 4	\geq Class 4	Pass	

Note: Impact resistance in low temperature, cold and thermal cycling, formaldehyde and soluble heavy metal of substrate were carried out by a SGS internal laboratory.

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



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No. : XMCCM150100007

Date : Jan.04, 2015

Page: 3 of 9

1. Bending strength

Test Method:

GB/T 24508-2009 6.5.2 wood-plastic flooring- Bending strength

GB/T 17657-1999 4.9 Test methods of evaluating the properties of wood-based panels and surface decorated wood-based panels - Determination of modulus of elasticity in bending and of bending strength

Specimens: WPC, 400mm×148mm×25mm, 3pcs

Loading rate: 9.1 mm/min

Span: 350 mm

Test Result:

Specimens identification No.	1	2	3
Bending strength (N)	4287	4332	4205
Mean value (N)	4275		

2. Impact resistance in normal temperature

Test Method:

GB/T 24508-2009 6.5.3 wood-plastic flooring- Impact resistance in normal temperature

GB/T 18102-2007 6.3.16 Laminate flooring- Impact resistance

Specimens: WPC, 300mm×148mm×25mm, 3pcs

Falling height: 1.75 m

Test Result:

Specimens identification No.	1	2	3
Diameter of pit(mm)	8.56	8.51	8.64
Mean value (mm)	8.57		

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No. : XMCCM150100007

Date : Jan.04, 2015

Page: 4 of 9

3. Impact resistance in low temperature

Test Method:

GB/T 24508-2009 6.5.6 wood-plastic flooring- Impact resistance in low temperature

Specimens: WPC, 300mm×148mm×25mm, 3pcs

Condition:

-10℃, 2h→Finish test in 10 s

Weight of steel ball: 800 g

Diameter of steel ball: 50 mm

Falling height: 1000 mm

Span: 200 mm

Test Result:

After testing, there is no break for the specimens.

4. Density

Test Method:

GB/T 24508-2009 6.5.4 Wood-plastic flooring- Density

GB/T 17657-1999 4.9 Test methods of evaluating the properties of wood-based panels and surface decorated wood-based panels - Determination of density

Specimens: WPC, 80mm×50mm×25mm, 3pcs

Test Result:

Specimens identification No.	1	2	3
Density (g/cm ³)	1.36	1.30	1.32
Mean value (g/cm ³)	1.33		

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TEST REPORT

No. : XMCCM150100007

Date : Jan.04, 2015

Page: 5 of 9

5. Water absorption

Test Method:

GB/T 24508-2009 6.5.5 Wood-plastic flooring- Water absorption

GB/T 17657-1999 4.9 Test methods of evaluating the properties of wood-based panels and surface decorated wood-based panels - Determination of water absorption

Specimens: WPC, 80mm×50mm×25mm, 3pcs

Test Result:

Specimens identification No.	1	2	3
Water absorption (%)	0.82	0.81	0.85
Mean value (%)	0.83		

6. Sizes change after water absorption

Test Method:

GB/T 24508-2009 6.5.7 wood-plastic flooring- Sizes change after water absorption

Specimens: WPC, 148mm×100mm×25mm, 3pcs

Soak time: 24 hours

Test Result:

Specimens identification No.	1	2	3
Length change (%)	0.03	0.05	0.03
Mean value (%)	0.04		
Width change (%)	0.02	0.05	0.02
Mean value (%)	0.03		
Thickness change (%)	0.23	0.22	0.21
Mean value (%)	0.22		

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



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TEST REPORT

No. : XMCCM150100007

Date : Jan.04, 2015

Page: 6 of 9

7. Cold and thermal cycling

Test Method:

GB/T 24508-2009 6.5.9 wood-plastic flooring - Cold and thermal cycling

Specimens: WPC, 183mm×148mm×25mm, 3pcs

Test Result:

Condition:

a.23±2 °C, 1 h

b.-29±2 °C, 6 h

c.23±2 °C, 1 h

d.52±2 °C, 16 h

a~d as 1 cycle, total 3 cycles→ 23±2 °C, 6 h

Number of specimens tested: 2

Lab Environmental Condition: 23±2 °C, 50±5 % RH

Test Result:

Test Item	Test Result	Requirement in GB/T 24508-2009	Conclusion
Appearance	No cracking or bubbling	No cracking or bubbling	Pass
Dimensional Change	-0.04 mm	≤0.5 mm	Pass

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TEST REPORT

No. : XMCCM150100007

Date : Jan.04, 2015

Page: 7 of 9

8. Formaldehyde

Test Method:

With reference to GB/T 24508-2009& GB 18580-2001 Section 6.3, Analysis was performed by UV-Vis.

GB/T 24508-2009 6.5.21 Wood-plastic flooring- Formaldehyde

GB/T 18580-2001 6.3 Indoor decorating and refurbishing materials – limit of formaldehyde emission of wood-based panels and finishing products

Specimens: WPC, 300mm×150mm×25mm, 1pcs

Test Result:

Test Item	Unit	MDL	001
Formaldehyde Emission Content	mg/L	0.2	ND

Remarks:

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

9. Soluble Heavy Metal of Substrate

Test Method:

With reference to GB/T 24508-2009&GB 18586-2001, Analysis was performed by ICP OES

GB/T 24508-2009 6.5.23 Wood-plastic flooring- Soluble Heavy Metal of Substrate

GB/T 18586-2001 Indoor decorating and refurbishing materials – limit of harmful substances of polyvinyl chloride floor coverings

Specimens: WPC, 10mm×10mm×2mm, 20pcs

Test Result:

Test Item	Unit	MDL	001
Soluble Lead (Pb)	mg/m ²	2	12
Soluble Cadmium (Cd)	mg/m ²	2	ND

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No. : XMCCM150100007

Date : Jan.04, 2015

Page: 8 of 9

10. Volatile matter

Test Method:

GB/T 24508-2009 6.5.25 wood-plastic flooring- Volatile matter

GB/T 18586-2001 Indoor decorating and refurbishing materials – limit of harmful substances of polyvinyl chloride floor coverings

Specimens: WPC, 100mm×100mm×25mm, 3pcs

Heat time: 6 hours

Test Result:

Specimens identification No.	1	2	3
Volatile matter(g/m ²)	7.3	7.4	7.5
Mean value (g/m ²)	7.4		

11. Slip resistance

Test Method:

GB/T 24508-2009 Section 6.5.16, Wood-plastic composite flooring - Slip resistance

Specimens: WPC, 1000mm×150mm×25mm, 1pcs

Environment temperature: 22.4 °C

Water temperature: 20.1 °C

Test surface & Test direction: see the photo

Test Result:

Specimens identification No.	1	2	3	4	5
Slip resistance value	35	36	35	36	36
Mean value	36				
Technical requirements of GB/T 24508:2009	≥35				
Conclusion	Pass				

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TEST REPORT

No. : XMCCM150100007

Date : Jan.04, 2015

Page: 9 of 9

12. Colour fastness resistance

Test Method:

GB/T 24508-2009 Section 6.5.20 Wood-plastic composite flooring - Colour fastness resistance

GB/T 15102-2006 Section 6.5.19 surface decorated wood-based panels with paper impregnated thermosetting resins

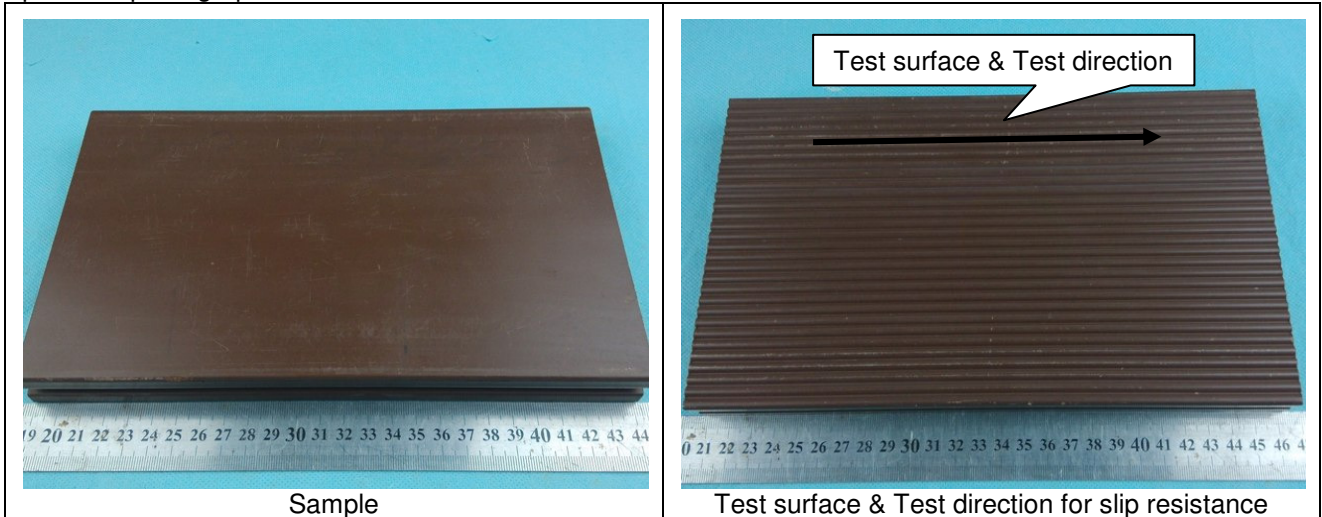
Specimens: WPC, 180mm×150mm×25mm, 1pcs

Test Result:

Test Item	Test result
Colour fastness resistance	> Class 4
Technical requirements of GB/T 24508:2009	≥ Class 4
Conclusion	Pass

Note: Colour fastness resistance was carried out by an external laboratory assessed as competent.

Specimen photographs:



SGS authenticate the photos on original report only

Note: The test results were transferred from report No.: XMCCM141101207 dated: 2014.12.12; XMCCM141101208-01 dated:2014.12.17; XMCCM141101209 dated:2014.12.15; XMCCM141101210 dated:2014.12.30 issued by SGS.

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