TEST REPORT

No. : XMIN2109009600CM

Date : Sep 15, 2021

scan to see the report

XMIN2109009600CM

CUSTOMER NAME: ZOLIA QUARTZ STONE CO., LTD.

ADDRESS: NO. JKSC-10, XIAMEN ROAD, HIGH-END STONE PROCESSING AND TRADING ZONE,CENTRAL STONE INDUSTRY PARK , BAIGUO TOWN, MACHENG

Sample Name	:	ARTIFICIAL QUARTZ STONE
Trade mark	:	Zoliaquartz
Manufacturer	:	ZOLIA QUARTZ STONE CO., LTD.
Intended use	:	Internal flooring, stairs

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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Test Required	:	EN 15285:2008 Agglomerated stone - Modular tiles for flooring and stairs (internal and external)
SGS Ref. No.	:	WHIN2108003747SC; SHIN2109063129CM
Date of Receipt	:	Sep 02, 2021
Testing Start Date	:	Sep 02, 2021
Testing End Date	:	Sep 15, 2021
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 Co. , Ltd Xiamen Branch
Testing Center

Civi Huang
Authorized signatory

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TEST REPORT

Summary of Results:

No.	Test Item	Test Method	Result
1	Chemical Resistance	EN 14617-10:2012	F_4
2	Flexural Strength	EN 14617-2:2016	46.9 MPa Classification：F_4
3	Impact Resistance	EN 14617-9:2005	4.63J
4	Slip Resistance	EN 14231:2003	SRV “dry”：81 SRV “wet”：10
5	Water Absorption and Apparent Density	EN 14617-1:2013	Water absorption：0.05% Apparent density：2375 kg/m^3 Classification：W_4
6	Dimensions,Geometric Characteristics and Surface Quality of Modular Tiles	EN 14617-16:2005	See the following
7	Thermal Conductivity and Thermal Resistance*	EN 12664:2001 Heat Flow Meter Method	See Result

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Original Sample Photo:

Sample

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TEST REPORT

1.Test Item: Chemical Resistance

Sample Description: See photo

Test Method: EN 14617-10:2012 Agglomerated stone - Test methods - Part 10: Determination of chemical resistance

Test Condition:

Specimens: Agglomerated stone, 300mm×300mm×20mm, 4pcs, one face polished

Testing surface: polished

Water solutions preparation:

1) Hydrochloric acid solution, 50% (V/V), prepared from N hydrochloric acid solution
2) Sodium hydroxide solution, 50% (V/V), prepared from normal water sodium hydroxide not carbonated solution

The kind and intensity of the light source: CIE D65

Reflection direction of the light: 60°

Test Result:

Chemical resistance	Sample NO.	Reference value	Classification
Hydrochloric acid solution (HCl)	1 (1h)	92.2%	C_4 (see note)
	2 (8h)	98.4%	
Sodium hydroxide solution (NaOH)	3 (1h)	99.5%	
	4 (8h)	95.8%	

Note:

C_1: Agglomerated stones which keep below 60 % of the reference reflection values after 8 h of alkali or acid attack.

C_2: Agglomerated stones which keep between 60 % and 80 % of the reference reflection value after 8 h of alkali attack and 1 h of acid attack.

C_3: Agglomerated stones which keep between 60 % and 80 % of the reference reflection value after 8 h of acid attack and 1 h of alkali attack.

C_4: Agglomerated stones which keep at least 80 % of the reference reflection value after 8 h of acid or alkali attack(or if only in one specimen the attack is between 60% and 80%).

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TEST REPORT

2.Test Item: Flexural Strength

Sample Description: See photo

Test Method: EN 14617-2:2016 Agglomerated stone - Test methods - Part 2: Determination of flexural strength (bending)

Test Condition:

Specimens: 200mm×50mm×20mm, 10pcs

Loading rate: (0.25±0.05) MPa/s

Test Result:

Specimens identification No.	1	2	3	4	5	6	7	8	9	10
Flexural strength (MPa)	48.8	50.0	47.9	44.6	42.0	46.3	51.5	47.6	46.4	44.1
Mean value (MPa)	46.9									
Standard deviation (MPa)	2.9									
Lower expected value (MPa)	41.2									

Classification according to EN 15285:2008/AC:2008: F_4 (see note)

Note: F_1<12.0MPa, 12.0MPa≤F_2<25.0MPa, 25.0MPa≤F_3<40.0MPa, F_4≥40.0MPa

TEST REPORT

3.Test Item: Impact Resistance

Sample Description: See photo

Test Method: EN 14617-9:2005 Agglomerated stone - Test methods - Part 9: Determination of impact resistance

Test Condition:

Specimens: 200mm×200mm×20mm, 4pcs, one face polished

Test Result:

Specimens identification No.	1	2	3	4
Drop height, *h* (m)	0.45	0.45	0.45	0.45
Fracture work, *L* (J)	4.63	4.63	4.63	4.63
Average value (J)	4.63			

Note: The fracture work L in joule is expressed by the formula

$L=M\times h\times g$

Where

M is the sphere mass, 1.040kg

h is the drop height in meters of the sphere which causes the sample to break

g is the gravity acceleration equal to 9.806m/s^2

TEST REPORT

4.Test Item: Slip Resistance

Sample Description: See photo

Test Method: EN 14231:2003 Natural stone test methods - Determination of the slip resistance by means of the pendulum tester

Test Condition:

Specimen: 200mm×150mm×20mm, 6pcs

Type of slider: Slider 57

Test surface: polished

Test Result:

Specimens identification No.	1	2	3	4	5	6
Mean pendulum value (Dry condition)	80	82	80	80	81	82
Slip resistance value (SRV “dry”)	81					
Mean pendulum value (Wet condition)	11	10	10	10	11	11
Slip resistance value (SRV “wet”)	10					

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TEST REPORT

5.Test Item: Apparent Density and Water Absorption

Sample Description: See photo

Test Method: EN 14617-1:2013 Agglomerated stone - Test methods - Part 1: Determination of apparent density and water absorption

Test Condition:

Specimens: 100mm×100mm×20mm, 6pcs

Test Result:

Specimens identification No.	1	2	3	4	5	6
Water absorption (%)	0.04	0.05	0.04	0.05	0.04	0.05
Arithmetic mean of the water absorption (%)	0.05					
Apparent density (kg/m^3)	2374	2375	2377	2373	2376	2374
Arithmetic mean of the apparent density (kg/m^3)	2375					

Classification according to EN 15285:2008/AC:2008: W_4 (see note)

Note: W_1>2.0%, 2.0%≥W_2>0.5%, 0.5%≥W_3>0.05%, W_4≤0.05%

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TEST REPORT

6.Test Item: Dimensions, Geometric Characteristics and Surface Quality of Modular Tiles

Sample Description: See photo

Test Method: EN 14617-16:2005 Agglomerated stone - Test methods - Part 16: Determination of dimensions, geometric characteristics and surface quality of modular tiles

Test Condition:

Nominal size: 300mm×300mm×20mm, 10pcs

Test Result:

Test items	EN 15285:2008/AC:2008 Requirements	Test results	Conclusion
Length and width	Nominal dimensions± 0,5 mm	0.10~0.24	Pass
Thickness	Nominal dimensions± 0,7 mm	-0.03~0.15	Pass
Straightness	± 0,3 mm	-0.06~0.03	Pass
Rectangularity	± 0,9 mm	-0.26~0.37	Pass
Flatness-centre curvature	± 0,2 % referred to length	-0.04%~0.02%	Pass
Flatness-edge curvature	± 0,2 % referred to length	-0.05%~0.03%	Pass
Flatness-warping	± 0,2 % referred to length	-0.06%~0.05%	Pass
Surface quality	Any visual variations are permissible provided that they are characteristic of the relevant type of agglomerated stone and provided that they do not adversely affect the performance of the tiles.	No defects	Pass

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7. Test Item: Thermal Conductivity and Thermal Resistance*

Test Method: EN 12664:2001 Heat Flow Meter Method

Test Condition:

Specimen: 300mm×299mm×19.6mm, 1pc

Density: about 2417kg/m^3

Mean temperature: 23℃

Temperature difference: 10℃

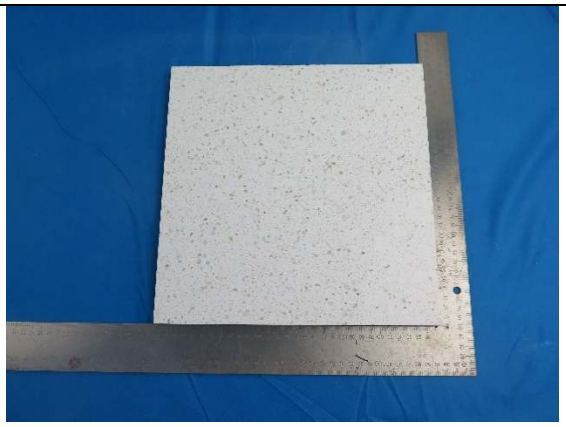
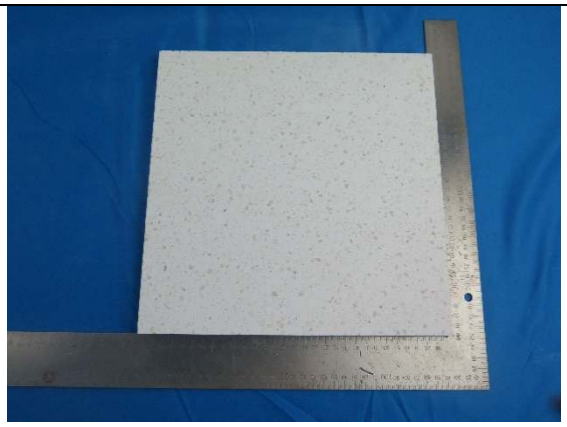
Lab Environmental Condition: 23±2℃, 50±5%RH

Test Result:

Test Item	Test Result
Thermal Conductivity	0.472 W/(m·K)
Thermal Resistance	0.042 (m^2·K)/W

Note: The test result can not be compared with other results obtained from different test conditions, and should not be cited to the use condition directly.

Specimen Photo(s):

	
This Surface Contacts with Hot Plate.	This Surface Contacts with Cold Plate.

Note: * test project/method was carried out by subcontractors.

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

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