

No.: GZIN1711052764PS

Date: Nov 17, 2017

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CUSTOMER NAME: GUANGDONG GONG LI BUILDONG MATERIALS CO.,LTD

ADDRESS: WEST OF THE JIA HE NORTH ROAD, LUBAO TOWN, SANSHUI

FOSHAN CITY, GUANGDONG, CHINA

Sample Name : ASA SYNTHETIC RESIN ROOF TILE (SPANISH STYLE ROOF TILE)

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.

SGS Ref. No. : GZIN1711052728PC, GZIN1711053056MR

Date of Receipt : Nov 03, 2017
Testing Start Date : Nov 03, 2017
Testing End Date : Nov 17, 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 Co., Ltd. GZ Branch Testing

Eleain Fan

Authorized signatory





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Summary of Results:

No.	Test Item	Test Method	Result		Conclusion
1	Charpy Notched Impact Strength	ASTM D6110-10	56J/m C(Complete break)		/
2	Chemical Resistance	With reference to ASTM D543-14 and client's requirement	Fading		/
3	Dimensional	ASTM D1204-14	X direction	0.6%	/
J	Stability	7.01W 21204 14	Y direction	0.04%	,
4	Flexural Test	ASTM D790-17	Flexural Strength	56.4MPa	,
4	r lexurar rest	Procedure A	Flexural Modulus	3370MPa	/
5	Oxygen Index	ASTM D2863-13	30.2%		/
6	Striker Impacted by a Falling Weight	ASTM D4226-16 Procedure A	Mean failure energy: 5.0J		/
7	Tensile Test	ASTM D638-14	Tensile Strength	25.9MPa	/
,	Tonoile Test	7.0 TW 2000 14	Elongation at Break	44%	,
8	Vertical Burning	UL 94-2013 Rev.7- 2017 Section 8	V-0		/
9	Vicat Softening Temperature	ASTM D1525-09	83.0℃		/
10	Bearing Strength	ASTM D953-10 Procedure A	60.9MPa		/

Note: Pass : Meet the requirements;

Fail: Does not meet the requirements;

/: Not Apply to the judgment.



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Original Sample Photo:





Sample A



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1.Test Item: Charpy Notched Impact Strength

Sample Description: Plastic part Test Method: ASTM D6110-10

Test Condition:

Specimen width: 3.35mm (Notch preparation: machining)

The capacity of pendulum: 2J

Impact speed: 3.46m/s

Span: 101.6mm

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

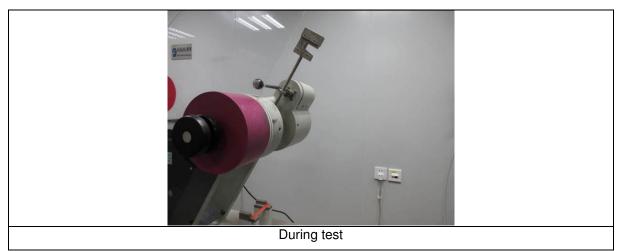
Test Result:

Test Item	Test Result	
Charpy Notched Impact Strength	56J/m C(Complete break)	

Note:

- 1. The smooth surface was faced to the impactor.
- 2.Test specimens were cut from the sample.

Test Photo:





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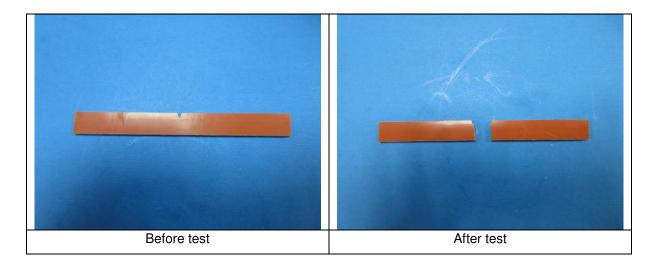
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Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration
				date
Impact Tester	6967	GZMR-PL-E008	2017-10-10	2018-10-09

2.Test Item: Chemical Resistance Sample Description: Plastic part

Test Method: With reference to ASTM D543-14 Practice A and client's requirement

Test Condition:

Condition: Immersed in 35%(m/m)HCl(AR), 23℃, 48h

Lab Environment Condition: (23±2) ℃, (50±5)%RH

Test Result:

Test Item	Appearance
Chemical Resistance	Fading

Note: Test specimens were cut from the sample.



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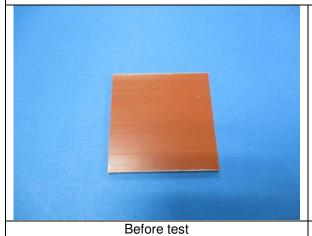
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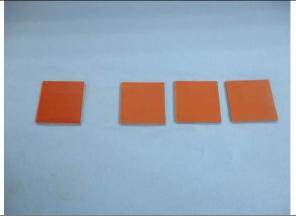
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Test Photo:



During test





Reference sample

Tested sample



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3.Test Item: Dimensional Stability Sample Description: Plastic part Test Method: ASTM D1204-14

Test Condition:

Specimen: 25cm × 25cm

Medium: Talc powder

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

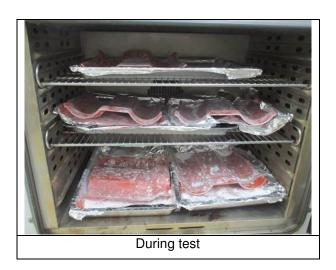
Test Result:

Test Item	Test Result	
Dimensional Stability	X direction	0.6%
2 monotonal Glasmy	Y direction	0.04%

Note:

- Dimensional Stability, %=(Dimension after test-Dimension before test)/Dimension before test×100
- 2. Test specimens were cut from the sample.

Test Photo:





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Equipment Information:

Equipment	Model	Equipment No.	Calibration	Next Calibration
Equipment			date	date
Oven	FD115	GZMR-AG-E077	2017-06-12	2018-06-11
Digital Vernier Caliper	0~200mm/0.01mm	GZMR-PL-E041-13	2016-12-19	2017-12-18

4.Test Item: Flexural Test

Sample Description: Plastic part

Test Method: ASTM D790-17 Procedure A

Test Condition:

Specimen: 127mm×13.08mm×3.49mm

Testing speed: 1.4mm/min

Span: 52mm

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

Test Result:

Test Item	Test Result
Flexural Strength	56.4MPa
Flexural Modulus	3370MPa

Note:

- 1. The smooth surface was faced to the loading.
- 2. Test specimens were cut from the sample.



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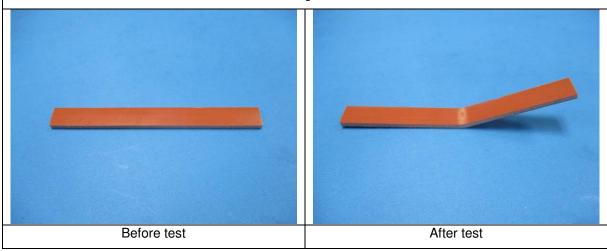
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Test Photo:



During test



Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Universal Testing Machine	Z1.0	GZMR-PL-E168	2017-10-10	2018-10-09



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5.Test Item: Oxygen Index

Sample Description: Plastic part Test Method: ASTM D2863-13

Test Condition:

Specimen: Type III

Specimen thickness: 3.3mm Ignition procedure: Procedure A

Lab Environment Condition: (23±2)°C, (50±5)%RH

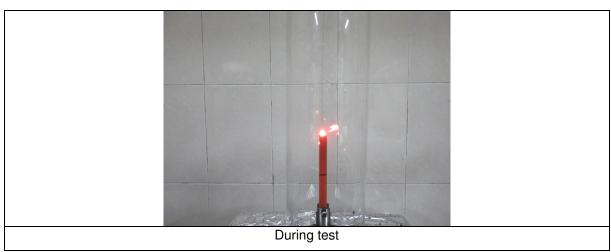
Test Result:

Test Item	Test Result
Oxygen Index	30.2%

Note:

- 1. Burning behavior: erratic burning.
- 2.Test specimens were cut from the sample.

Test Photo:





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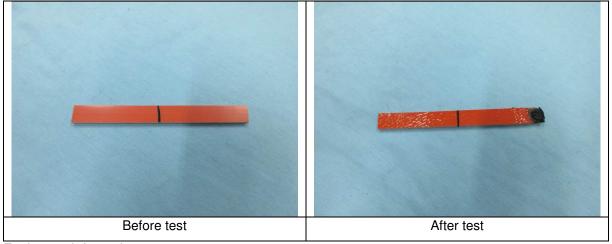
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Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Oxygen Index Tester	Oxygen Index	GZMR-PL-E108	2017-09-13	2018-03-12

6.Test Item: Striker Impacted by a Falling Weight

Sample Description: Plastic part

Test Method: ASTM D4226-16 Procedure A

Test Condition:

Specimen thickness: 3.35mm

Geometry: H.25 Strike weight: 3.6kg

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

Test Result:

Test Item	Test Result	
Striker Impacted by a Falling Weight	Mean failure energy: 5.0J	

Note:

- 1. The smooth surface was faced to the striker.
- 2.Test specimens were cut from the sample.



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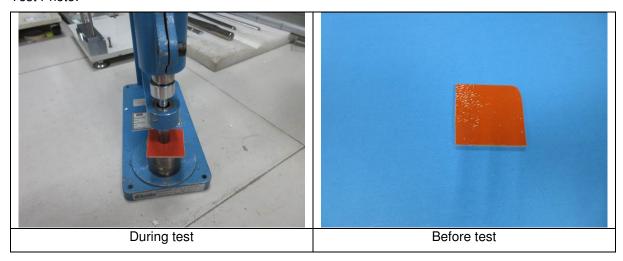


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Test Photo:



Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Impact Tester	IG-1121	GZMR-AG-E004	2017-06-12	2018-06-11

7.Test Item: Tensile Test

Sample Description: Plastic part Test Method: ASTM D638-14

Test Condition:

Specimen: Type I

Specimen thickness: 3.26mm Testing speed: 5mm/min Gauge length: 50mm

Distance between grips: 115mm

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



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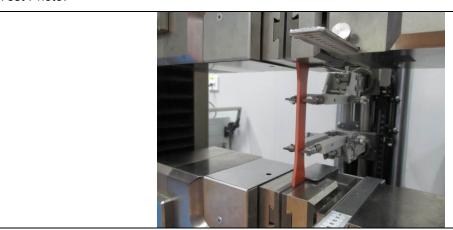
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Test Result:

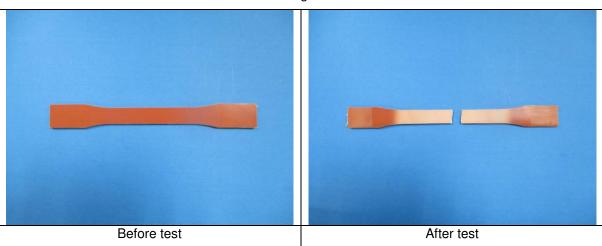
Test Item	Test Result
Tensile Strength	25.9MPa
Elongation at Break	44%

Note: Test specimens were cut from the sample.

Test Photo:



During test



Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Universal Testing Machine	Z030	GZMR-PL-E140	2017-10-10	2018-10-09



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8.Test Item: Vertical Burning Sample Description: Plastic part

Test Method: UL 94-2013 Rev.7-2017 Section 8

Test Condition:

Specimen: 128mm×13.4mm×3.3mm

Test Result:

Conditioning	As received :(23±2)℃, (50±5)%RH, 48h		Ageing: (70±2)°C, 168h→ Desiccator, (23±2)°C, 4h							
Specimen	1	2	3	4	5	1	2	3	4	5
Afterflame time after the first flame application (s), t ₁	0	0	0	0	0	0	0	0	0	0
Afterflame time after the second flame application (s), t ₂	0	0	0	0	0	0	0	0	0	0
Afterglow time after the second application (s), t ₃	0	0	0	0	0	0	0	0	0	0
Total afterflame time for any condition set (s), t ₁ +t ₂	0 0									
Afterflame time plus afterglow time after the second flame application (s), $t_2 + t_3$	0	0	0	0	0	0	0	0	0	0
Whether or not specimen burn up to the holding clamp	No	No	No	No	No	No	No	No	No	No
Whether or not the cotton was ignited by flaming particles or drops	No	No	No	No	No	No	No	No	No	No

Classification: V-0 (See table 1)



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No.: GZIN1711052764PS

Date: Nov 17, 2017

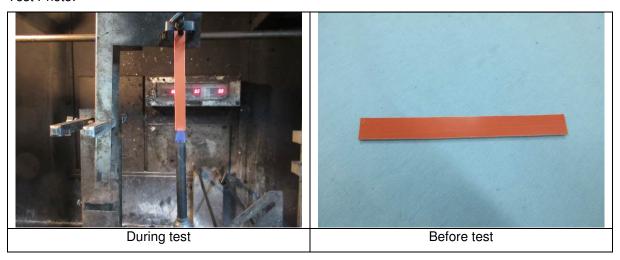
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Table 1

Criteria conditions	V-0	V-1	V-2
Afterflame time for each individual specimen t_1 or t_2	≤10s	≤30s	≤30s
Total afterflame time for any condition set (t ₁ plus t ₂ for the 5 specimens)	≤50s	≤250s	≤250s
Afterflame plus afterglow time for each individual specimen after the second flame application (t_2+t_3)	≤30s	≪60s	≤60s
Afterflame or afterglow of any specimen up to the holding clamp	No	No	No
Cotton indicator ignited by flaming particles or drops	No	No	Yes

Note: Test specimens were cut from the sample.

Test Photo:





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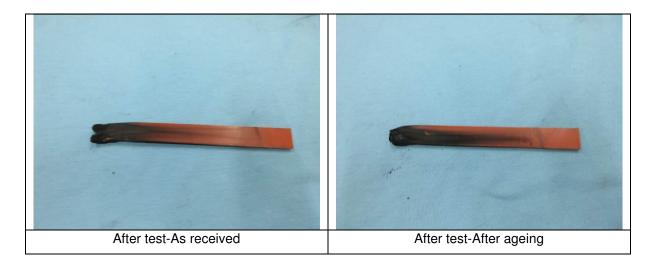
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Equipment Information:

Courie no out	Model	Consideration to No.	Calibratian data	Next Calibration
Equipment	Model	Equipment No.	Calibration date	date
Hot Air Aging Oven	LR05A	GZMR-AG-E073	2017-10-16	2018-10-15
Horizontal/Vertical	HVUL2	GZMR-PL-E032	2017-07-10	2018-07-09
Flame Chamber	IIVOLZ	GZIVII I I LOOZ	2017 07 10	2010 07 00

9.Test Item: Vicat Softening Temperature

Sample Description: Plastic part Test Method: ASTM D1525-09

Test Condition:

Specimen thickness: 3.29mm Heat-transfer media: Silicone oil Rate of temperature: 50°C/h

Load: 50N

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



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Test Result:

Test Item	Test Result
Vicat Softening Temperature	83.0℃

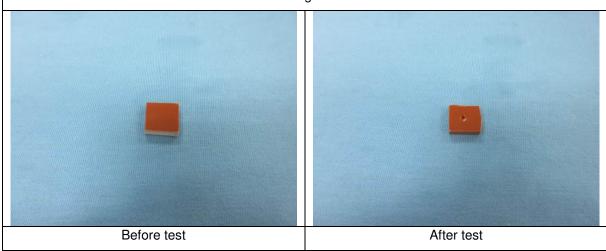
Note:

- 1. The smooth surface was faced to the loading.
- 2. Test specimens were cut from the sample.

Test Photo:



During test





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Equipment Information:

Equipment	Model	Equipment No.	Calibration	Next Calibration
Equipment	Wodei		date	date
HDT and VICAT Tester	P/N 6911.000	GZMR-PL-E009	2017-08-29	2018-08-28

10.Test Item: Bearing StrengthSample Description: Plastic part

Test Method: ASTM D953-10 Procedure A

Test Condition:

Specimen: Type I

Specimen thickness: 3.27mm

Bearing hole diameter: 3.12mm

Testing speed: 1.3mm/min

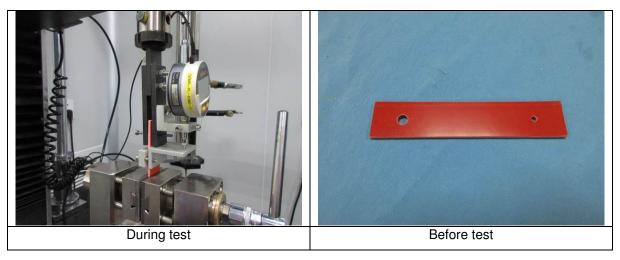
Lab Environmental Condition: (23±2) ℃, (50±5)%RH

Test Result:

Test Item	Test Result
Bearing Strength	60.9MPa

Note: Test specimens were cut from the sample.

Test Photo:





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Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Universal Testing Machine	CMT4304	GZMR-PL-E062	2017-10-10	2018-10-09

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



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