



TEST REPORT

No. : GZCCM130300183-01

Date : Jun .17, 2013

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ZHAOQING FUSHENG COMPOSITE MATERIAL CO., LTD
ZHENGLONG 2ND STREET, DAWANG HI-TECH INDUSTRIAL ZONE, SIHUI, ZHAOQING, GUANGDONG,
P.R.CHINA

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

Sample Name : 蒙尔特纯亚克力板材
SGS Ref. No. : XMCCM130400305, GZMR130303995, SP130503053, SHMR130504569
Test Performed : Selected test(s) as requested by applicant
Date of Receipt : Mar. 28, 2013, May. 20, 2013
Test Period : Mar. 28, 2013 to May. 20, 2013

Test result(s) : Please refer to the following page(s)

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

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co.,Ltd
Guangzhou Branch

Jimmy Chan
Technical Supervisor

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SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou Branch Test Centre (Guangdong) Chemical Laboratory

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Test Information:

Sample description: Artificial stone

1. Load test

Test method: ANSI/ICPA SS-1-2001 Section 5.2.1

Test condition: Specimen: 810mm×660mm×12.5mm, 2 pcs

Test result:

No cracks in the surface of the unit after test.

Residual deflection: 0.16 mm

Performance requirement in ANSI/ICPA SS-1-2001 Section 5.2.2:

The shall be no cracks in the surface of the unit when inspected after inking, as described in 3.3.1 of ANSI Z124.6-1997. The maximum residual deflection 10 minutes after removal of the load shall not exceed 0.010 inch (0.25mm).

Conclusion: Pass

2. Impact test (point impact)

Test method: ANSI/ICPA SS-1-2001 Section 5.3.1

Test condition: Specimen: 810mm×660mm×12.5mm, 1pc

Test result: After test, there were no visible cracks or chips on the surface of sample.

Performance requirement in ANSI/ICPA SS-1-2001 Section 5.3.1.2:

The unit shall not show any cracks or chips after inking as described in 3.3.1 of ANSI Z124.6-1997.

Conclusion: Pass

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

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3. Colorfastness and aging test

Test method: ANSI/ICPA SS-1-2001 Section 6.1, with reference to ASTM D2565-99(2008) and ASTM D2244-11

Test condition:

Test cycle: Irradiance: 0.35W/ (m²·nm)@340nm

102 min light at (63±5)°C BPT, (50±5)%RH, 18 min light and water spray

Filter: Boro/Boro

Exposure period: 200h

Test result:

Sample	Appearance	ΔE^*_{ab}
1	No cracking, crazing, blistering, or significant change in surface texture.	1.4

Note: ΔE^*_{ab} was measured by sphere spectrophotometer under D65 standard light source and with 10° observer.

The results include specular reflection condition, 5mm aperture.

Performance requirement in ANSI/ICPA SS-1-2001 Section 6.1.2:

Tested specimens shall not show any cracking, crazing, blistering, or significant change in surface texture when compared to the control specimen. The tested specimens shall be inspected for color change by the method stated in ASTM 2244 and average color difference between the tested specimens and the untested control specimen shall be no more than ± 2 CIE units(Illuminant D65,10° specimen) when using a light source(Illuminant D65, 10° CIE standard Observer), and CIELAB color scale.

Conclusion: Pass

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

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4. Stain resistance test

Test method: ANSI/ICPA SS-1-2001 Section 6.2 and IAPMO/ANSI Z124.6-2007 Section 5.2

Test condition: Specimen: 100×100×12.7mm

Reagents: See table 1

Contact time: 16h

Test result: The total rating: 60

The maximum thickness of material removed to eliminate the stain: 0.052mm

Requirement in IAPMO/ANSI Z124.6-2007 section 5.2.2:

The maximum stain resistance rating: 64;

The maximum allowable thickness of material removed to eliminate the stain: 0.127mm.

Conclusion: Pass

5. Cigarette burn test

Test method: ANSI/ICPA SS-1-2001 Section 6.3 and IAPMO/ANSI Z124.6-2007 Section 5.4

Test condition: Specimen: 100×100×12.7mm

Three brands of cigarettes: 555, Kent and Marlboro

Contact time: (120±2) s

Test result: There is no ignition and progressive glow of the surface during or after contact with the lighted cigarettes. And the surface of the specimens exits visible stain, which can be wiped out using abrasive and polishing compound to approximate the original specimens.

Requirement in IAPMO/ANSI Z124.6-2007 section 5.4.2:

There shall be no ignition or progressive glow of the surface during or after contact with the lighted cigarettes. Any resulting damage shall not impair the serviceability of the unit and shall be restorable, using abrasive and polishing compound to approximate the original finish.

Conclusion: Pass

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6. Chemical resistance test

Test method: ANSI/ICPA SS-1-2001 Section 6.4 and IAPMO/ANSI Z124.6-2007 Section 5.5

Test condition: Specimen: 100×100×12.7mm

Liquid reagents: See table 2

Test time: 16h with liquid reagents →liquid reagents removed, 23±2 °C, 50±5%RH, 24h

Test result: The surface of the specimens were unaffected by the reagents.

Requirement in IAPMO/ANSI Z124.6-2007 section 5.5.2:

The surface of the specimens shall be unaffected by the reagents except for superficial surface changes which are removable by sanding with 600 grit wet or dry sandpaper and water. Any resulting damage shall not impair the serviceability of the unit, and shall be easily repairable by using abrasive and polishing compounds to approximate the original specimens.

Conclusion: Pass

7. Heated pan test

Test method: ANSI/ICPA SS-1-2001 Section 6.5 and IAPMO/ANSI Z124.6-2007 Section 5.6

Test condition: Specimen: 250×250×12.7mm

An aluminum disk: 150±6mm in diameter and 7±1mm in thickness

Testing procedure: ① Aluminum disk heated for 15±0.5min at 185±5°C → ② Place the disk on the test area of the specimen and remain for 10±0.5min →③ Remove the disk Repeat ①②③ for two more times →Room ambient temperature, 4h

Test result: The specimens have no surface deterioration

Requirement in IAPMO/ANSI Z124.6-2007 section 5.6.2:

There shall be no cracking, crazing, discoloration, or blistering. Any discoloration shall be removable using abrasive and polishing compounds to approximate the original specimens and serviceability.

Conclusion: Pass

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8. High temperature resistance test

Test method: ANSI/ICPA SS-1-2001 Section 6.6 and ANSI/NEMA LD 3-2005 Section 3.6.2

Test condition: Specimen: 250×250×12.7mm

Testing procedure: Heat the wax in the vessel to 185℃ → Cool the wax to 180±1℃ → Place the vessel on the specimen for 20min → Remove the vessel → Room temperature, 24h

Test result: No effect – no change in color or surface finish.

The specimen shall be examined for blisters, crazing, delamination, whitening, or cracking. The resistance to high temperature shall be reported as one of the following:

- a. No effect – no change in color or surface finish.
- b. Slight effect – a change in color or surface finish only visible from all angles and directions.
- c. Moderate effect – a change in color or surface finish visible from all angles and directions, but does not appreciably alter the original condition of the specimen.
- d. Severe effect – a change in color or surface finish which obviously and markedly alters the original condition of the specimen.

9. Water resistance test

Test method: ANSI/ICPA SS-1-2001 Section 6.7.1

Test condition: Specimen: 300mm×300mm×12.5mm

Test result: After test, there was no visual cracking, crazing, blistering, peeling, delamination or other damage.

Performance requirement in ANSI/ICPA SS-1-2001 Section 6.7.2:

No cracking, crazing, blistering, peeling or delamination from the substrate, if used, shall be permissible.

Inspection for cracking and crazing shall be made using an ink solution as described in 3.3.1 of ANSI Z124.6-1997

Conclusion: Pass

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

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10. Barcol Hardness

Test method: With reference to ASTM D2583-07

Test condition: Specimen thickness: 12.55mm

Test result: 69

Note: The sample of test item 10 was submitted by client for the second time. Date received: May. 20, 2013.

11. Flexural strength and Flexural modulus

Test method: Reference to ASTM D790-10 Procedure A

Test condition:

Specimen: 127×13.5×12.6mm

Testing speed: 1.3mm/min

Span: 100mm

Test result: Flexural strength: 69.6MPa

Flexural modulus: 5370MPa

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

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Table 1 Liquid reagents used in stain resistance test

Black crayon	Grape juice
Black liquid shoe polish	Lipstick (contrasting color)
Blue washable ink	Hair dye (contrasting color)
Gentian violet solution	Iodine solution (1% alcohol solution)
Beet juice	Wet tea bag

Table 2 Liquid reagents used in chemical resistance test

Naphtha	Toluene
Ethyl alcohol	Ethyl acetate
Amyl acetate	Lye solution, (1 to 2% water solution)
1 part commercial household ammonia solution, 9 parts water by volume	Acetone
Citric acid, 10% water solution	Trisodium phosphate, (5 parts TSP to 95 parts water by weight)
Urea, 6.0% water solution	Vinegar
Hydrogen peroxide solution, 3% water solution	Pine oil
Concentrated sodium hypochlorite solution	---

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

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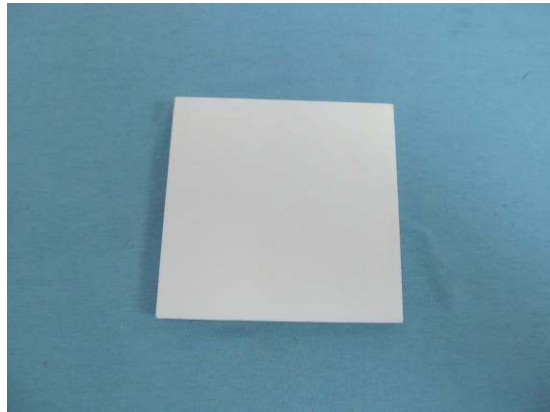
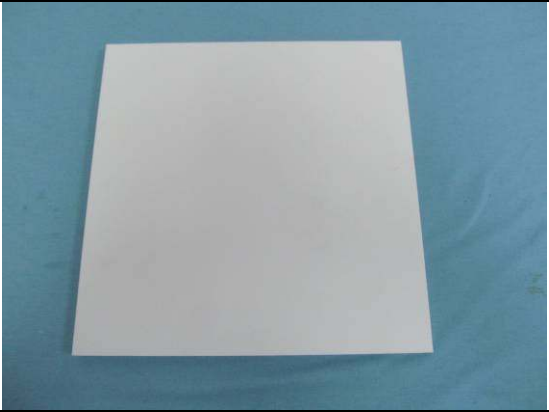
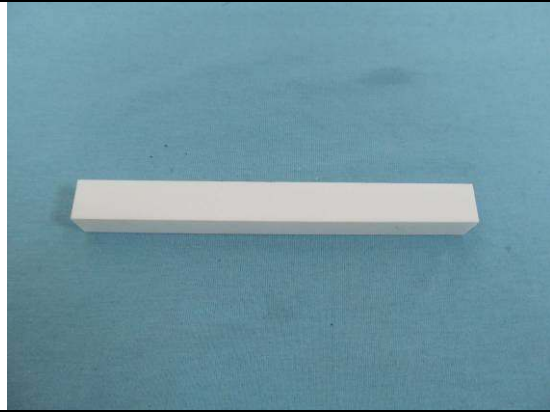
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Photo:

	
Sample for Load test, Impact resistance and Water resistance test	Specimen for stain resistance, cigarette burn and chemical resistance test
	
Specimen for heated pan and high temperature resistance test	Specimen for flexural strength and flexural modulus

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

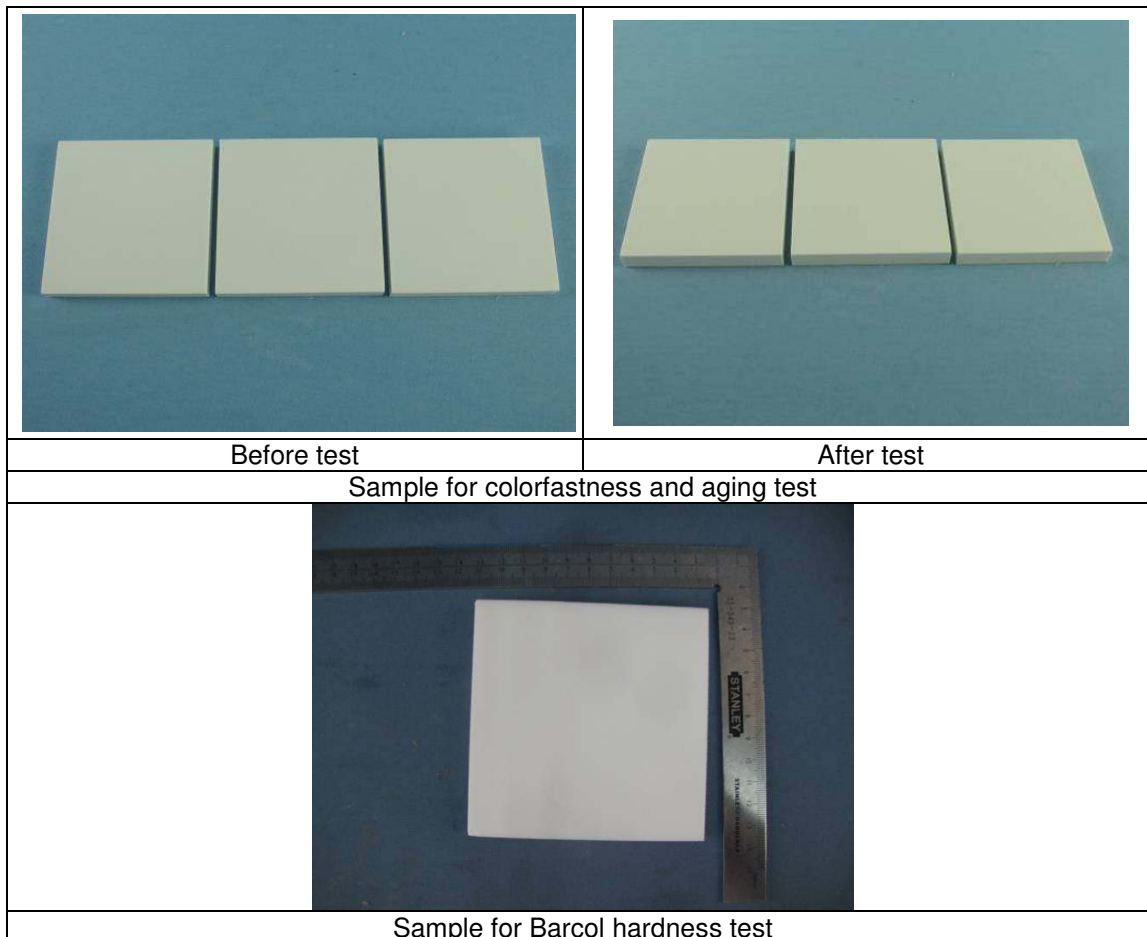
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Sample for Barcol hardness test

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

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