



TEST REPORT

No. : GZMR110715577

Date : Jul 28, 2011

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FOSHAN CITY YALIDA DECORATION MATERIAL CO., LTD
HUIYIN RD., BAINI TOWN, SANSHUI DIST., FOSHAN CITY, GUANGDONG, P.R. CHINA

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

Sample Name : ALUMINIUM COMPOSITE PANEL
Brand : IDEABOND, K-MARK
Material : ALUMINIUM, PLASTIC
Spec. : 1220*2440MM
Manufacturer : FOSHAN CITY YALIDA DECORATION MATERIAL CO., LTD
SGS Ref No. : GP110720345-2.1, KV-11-06591X
Test Performed : Selected test(s) as requested by applicant
Date of Receipt : Jul 15, 2011
Test Period : Jul 15, 2011 to Jul 26, 2011
Test result(s) : Please refer to the following page(s)

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

Signed for and on behalf of
SGS-CSTC Ltd.

May Huo
Engineer

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GZMR

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Test Information:

Sample description: Aluminium Composite Panel

No	Test item	Test method	Test condition	Result
1	Unit weight	As client's requirement	Specimen: 201×200×4.14mm Number of specimens tested: 1	5.67kg/m ²
2	Heat deflection temperature	With reference to ASTM D648-07 Method B and client's requirement	Specimen width: 12.55mm Specimen depth: 4.31mm Rate of temperature: 120°C/h Load: 1.82MPa	112.8°C
3	Flexural strength	ASTM D790-10 Procedure A	Specimen: 129×12.89×4.30mm Testing speed: 1.8mm/min Span: 69mm	97.9MPa
4	Flexural modulus			11180MPa
5	Shear strength	ASTM D732-10	Specimen thickness: 4.19mm Punch diameter: 25.0mm Testing speed: 1.3mm/min	27.6MPa
6	Peel strength	ASTM D903-98(2010)	Specimen width: 24.5mm Separation speed: 152.4mm/min	0.84kgf/mm
7	Tensile strength	ASTM D638-10	Specimen: Type I Specimen thickness: 4.24mm Testing speed: 5mm/min	46.5MPa
8	Tensile strength at yield			46.5MPa
9	Gloss	ASTM D523-08	60° geometry	31
10	Coating thickness	ASTM D7091-05	---	27.0µm

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

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No	Test item	Test method	Test condition	Result
11	Adhesion	ASTM D3359-09 ⁰² method B	Tape: Permacel 99 Space: 1mm	Classification: 5B (see note 1)
12	Pencil hardness	ASTM D3363-05(2011)	Pencil: Mitsubishi®	Scratch hardness: 2H (see note 2)
13	Flexibility test (T-bend)	ASTM D4145-10 clause 6.1	Tape: Permacel 99	No cracking: 0T
14	Impact resistance	ASTM D2794-93(2010)	Diameter of the punch: 15.9mm Impact model: intrusion	Impact failure end point: 180kg·cm
15	Resistance to chemical	ASTM D1308-02(2007) clause 7.2	5%(m/m)NaOH Spot test, covered,16h	No visual change
			5%(m/m)HCl Spot test, covered,16h	No visual change
16	Solvent resistance	With reference to ASTM D2248-01a(2007) and client's requirement	25°C, immersed,72h	No visual change
17	Abrasion resistance	ASTM D968-05(2010) method A	Litres of abrasive: 92.0L Coating thickness: 1.06mil	Abrasion resistance: 86.8L/mil
18	Coefficient of linear thermal expansion(1/°C)	Ref. ASTM D696 - 08	Test temperature range: Ramp 10°C/min from -30°C to 30°C; Purge gas: Nitrogen (N ₂), Purity 99.995%, Flow rate 50ml/min; Measurement Direction :Thickness	240.1×10 ⁻⁶ (See test spectrum)

Note: 1. In ASTM D3359 method B, 5B is the best and 0B is the worst.

2. In ASTM D3363, 6H is the hardest and 6B is the softest.

3. Test specimens of test item 7 and 8 were cut from the sample.

4. The protected films were ripped off before test.

5. The test item 18 was conducted in SGS Taiwan Ltd.

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

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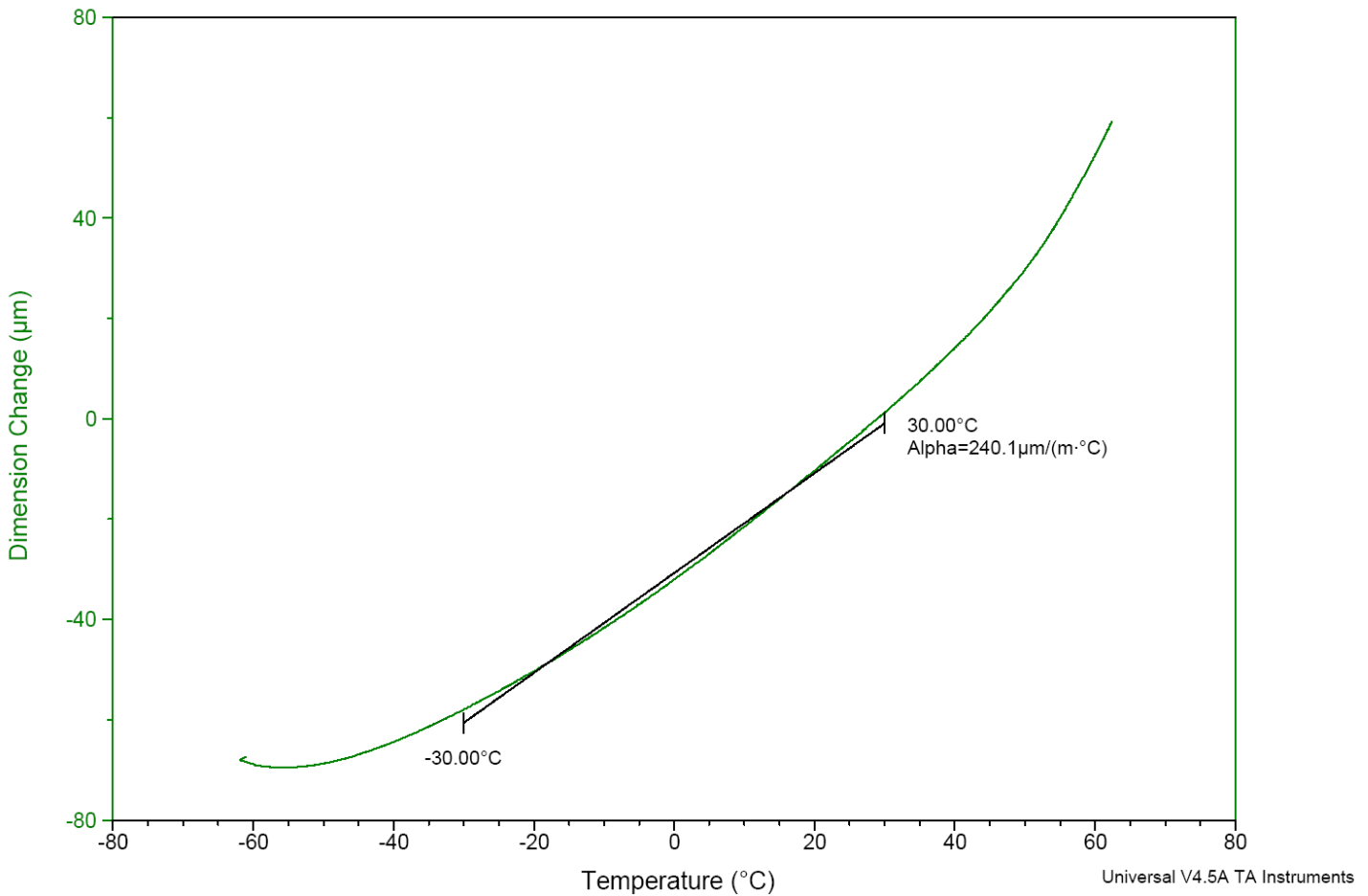
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Test Spectrum:

Sample: KV-11-06591
Size: 4.1468 mm

TMA

File: C:\TA\Data\TMA\2011.07\KV-11-06591.001
Operator: Mina Hsu
Run Date: 20-Jul-2011 10:43
Instrument: TMA Q400 V7.4 Build 93



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

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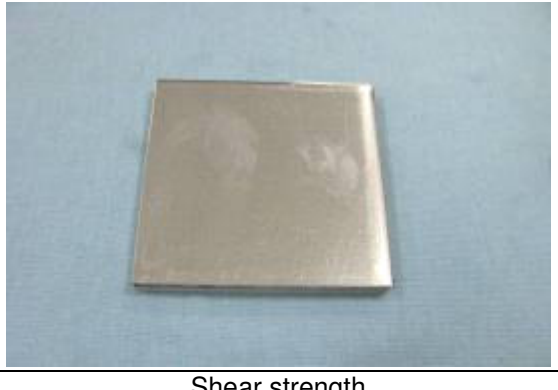


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Photo:

	
Unit weight	Heat deflection temperature
	
Flexural test	Shear strength
	
Peel strength	Tensile test

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

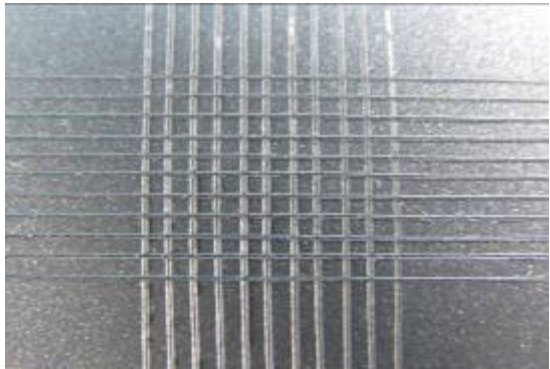

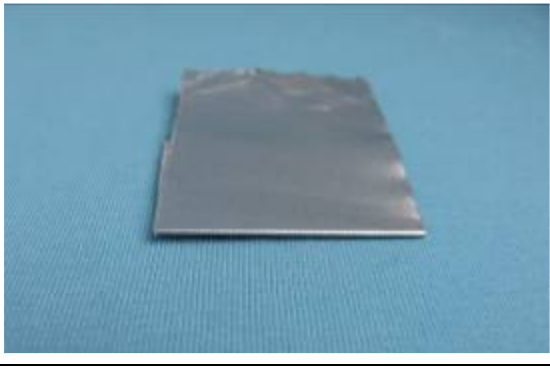
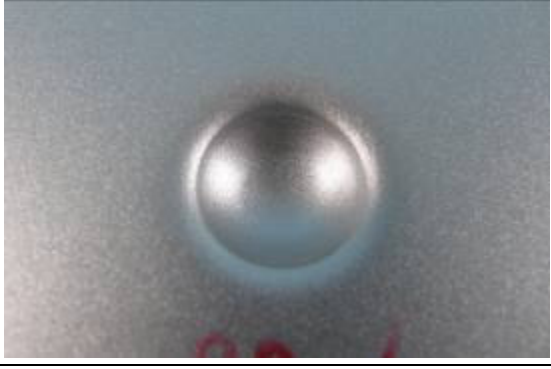
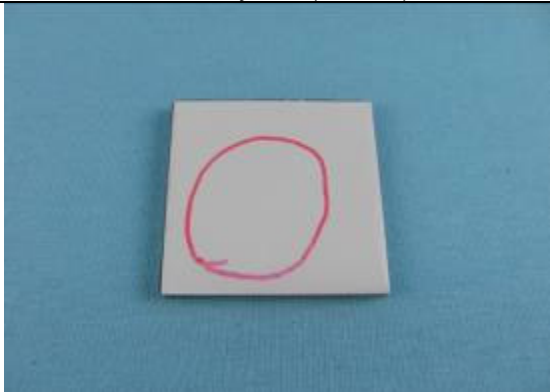
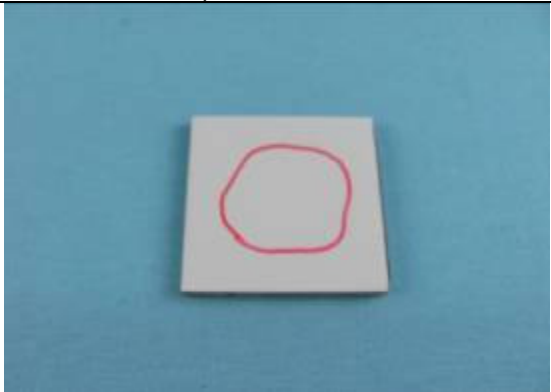
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Adhesion	Pencil hardness
	
Flexibility test (T-bend)	Impact resistance
	
Resistance to chemical - 5%(m/m)NaOH	Resistance to chemical -5%(m/m)HCl

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

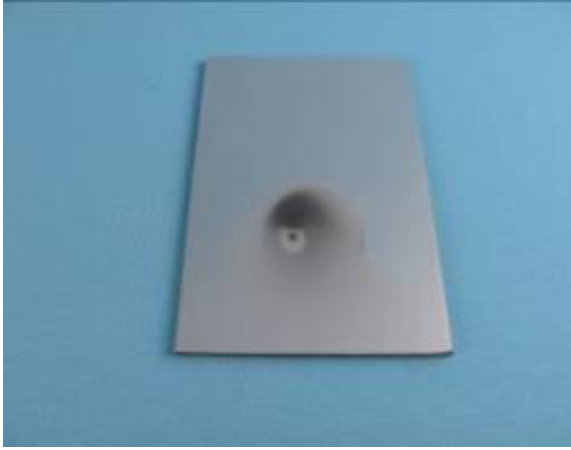
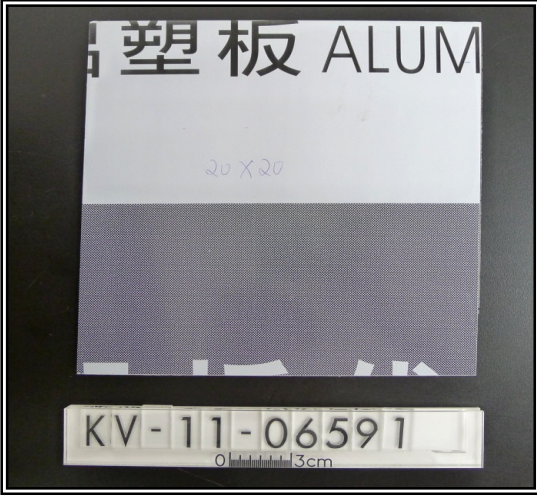

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<p>Falling sand abrasion</p>	<p>Coefficient of linear thermal expansion</p>
	
<p>Solvent resistance</p>	

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

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