

# **TEST REPORT**

REPORT NO.: HV-10-06932XA PAGE: 1 OF 10

DATE: NOVEMBER 18, 2010

#### PROWANG PLASTIC CO., LTD.

NO.55, FENGTIAN RD., DAPI SHIANG, YUNLIN COUNTY 63147, TAIWAN (R.O.C)

The following merchandise was submitted and identified by the vendor as:

Product Description: PVC FOAM SHEET > PLAWOOD

Style/Item No.: L-550 \ W-800

Manufacturer/Vendor: PROWANG PLASTIC CO., LTD.

Country of Origin: Taiwan

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Required: (According to client's test specification, please see following sheets in detail.)

- (1) Vicat Softening Temperature
- (2) Heat Deflection Temperature
- (3) Coefficient of Linear Thermal Expansion
- (4) Thermal Conductivity
- (5) Water Absorption
- (6) Breakdown Voltage
- (7) Surface Resistivity
- (8) Volume Resistivity

Test Result: -PLEASE SEE ATTACHED SHEETS-

Date of Receive: OCTOBER 27, 2010

Date of Testing: OCTOBER 27, 2010 ~ NOVEMBER 17, 2010

Signed for and on behalf of SGS Taiwan Ltd.

Given Chang Manager

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## (1) Vicat Softening Temperature

**Test Equipment:** 

Name	Brand	Model
Deflection Temperature Tester	CEAST	6911

#### Lab Environmental Conditions:

Ambient temperature:  $23\pm2^{\circ}$ C Relative humidity:  $50\pm5\%$ RH

### **Test Method/ Specification:**

ASTM D1525-09 Standard Test Method for Vicat Softening Temperature of Plastics

**Test Condition:** 

Load: 10 N

Size of the Specimens:  $10\text{mm} \times 10\text{mm}$ Rate of the Heat:  $120^{\circ}\text{C/hr}$ 

rate of the freat.

Test Result:

L-550:  $73.9 ^{\circ}$ C W-800:  $107.8 ^{\circ}$ C

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### (2)Heat Deflection Temperature

#### **Test Equipment:**

Name	Brand	Model
Deflection Temperature Tester	CEAST	6911

### Lab Environmental Conditions:

Ambient temperature: 23±2°C Relative humidity: 50±5%RH

# <u>Test Method/ Specification:</u>

ASTM D648-07 Standard Test Method for Deflection Temperature of Plastics Under

Flexural Load in the Edgewise Position (Procedure B)

**Test Condition:** 

Load: 66 psi

Size of the Specimens: 127mm×13mm

Rate of the Heat: 120°C/hr 100 mm Support Span: Diameter of the loading nose and supports: 6 mm

**Test Result:** 

70.8 °C L-550: W-800: 84.7 °C

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## (3) Coefficient of Linear Thermal Expansion

#### **Test Equipment:**

	Name	Brand	Model
TMA	(Thermomechanical Analyzer)	TA	Q400

### Lab Environmental Conditions:

Ambient temperature: 23±2°C Relative humidity: 50±5%RH

## <u>Test Method/ Specification:</u>

Refter to ASTM D696-08 Standard Test Method for Coefficient of Linear Thermal Expansion of

Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer

### **Test Conditions:**

The Rate of Temperature: 10°C/min

The Scan Range of Temperature: -30~50°C Size of the Specimens:  $10\text{mm}\times10\text{mm}$ 

#### Test Result:

6.583×10<sup>-5</sup> 1/°C L-550: 13.14×10<sup>-5</sup> 1/°C W-800:

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(4) Thermal Conductivity

<u>Test Equipment</u>:

Name	Brand	Model
Heat flow meter	NETZSCH	Lambda 2300V

### <u>Lab Environmental Conditions</u>:

Ambient temperature:  $23\pm2^{\circ}$ C Relative humidity:  $50\pm5\%$ RH

### <u>Test Method/ Specification</u>:

ASTM C518-04 Standard Test Method for Steady-State Thermal Transmission

Properties by Means of the Heat Flow Meter Apparatus

<u>Test Condition</u>:

Average Temperature: 60±5 °C

Size of the Specimens: 300mm×300mm

<u>Test Result</u>:

L-550: 0.0768 W/m·K W-800: 0.1256 W/m·K

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### (6)Breakdown Voltage

# <u>Test Equipment</u>:

Name	Brand	Model
Super Megohmmeter	HIOKI	SM-8220
Resistivity Cell	HIOKI	SME-8310

#### <u>Lab Environmental Conditions</u>:

Ambient Temperature :  $23\pm2^{\circ}$ C Relative Humidity :  $50\pm5\%$ RH

<u>Test Method</u>:

JIS K6911(1995) Testing methods for thermosetting plastics

**Test Condition:** 

Size of the Specimens: 200mm×200mm

<u>Test Result</u>:

L-550 : 2.15 kV/mm W-800 : 4.08 kV/mm

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### (7)Surface Resistivity

### **Test Equipment:**

Name	Brand	Model
High Resistance Meter	Agilent	4339B
Resistivity Cell	Agilent	16008B

### <u>Lab Environmental Conditions</u>:

Ambient Temperature : 23±2°C

Relative Humidity: 50±5%RH

<u>Test Method</u>:

ASTM D257-07 Standard Test Methods for DC Resistance or Conductance of

**Insulating Materials** 

Test Condition:

Voltage: 500 V Time: 60 sec

Size of the Specimens: 100mm×100mm

<u>Test Result</u>:

L-550:  $8.4083 \times 10^{15} \Omega$  $2.6599 \times 10^{16} \Omega$ W-800:

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### (8) Volume Resistivity

### <u>Test Equipment</u>:

Name	Brand	Model
High Resistance Meter	Agilent	4339B
Resistivity Cell	Agilent	16008B

### <u>Lab Environmental Conditions</u>:

Ambient Temperature : 23±2°C

Relative Humidity: 50±5%RH

<u>Test Method</u>:

ASTM D257-07 Standard Test Methods for DC Resistance or Conductance of

**Insulating Materials** 

<u>Test Condition</u>:

Voltage: 500 V

Time: 60 sec

Size of the Specimens: 100mm×100mm

<u>Test Result</u>:

L-550:  $2.4041 \times 10^{15} \ \Omega \cdot \text{cm}$ W-800:  $1.5304 \times 10^{16} \ \Omega \cdot \text{cm}$ 

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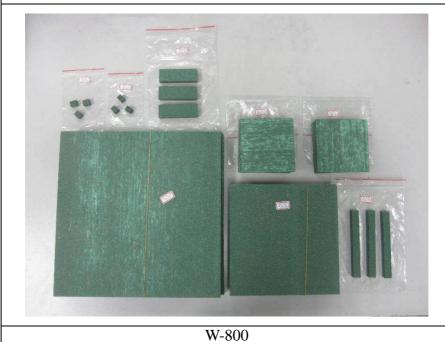
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### <u>Test Photo</u>:



L-550



- The End of Test Report -

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