

TEST REPORT

REPORT NO.: 2009CB2338

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Applicant : SPACE CENTRAL SDN BHD
No. 24, Jalan Industri USJ 1/11,
Taman Perindustrian USJ 1,
47600 Subang Jaya, Selangor.

Manufacturer : B.P PRODUCTS & SUPPLY CO. LTD.
139/4 Moo T. Samkhaipuek, Muang District,
Nakorupathorn 7300 Thailand

Product : Fibreglass Reinforced Polyester Roofing Sheet

Reference Standard/
Method of Test : ISO 9050 : 2003
Determination Of Light Transmittance, Solar Direct Transmittance, Total
Solar Energy Transmittance, Ultraviolet Transmittance, And Related Glazing
Factors

Description of Sample : Two pieces of Fibreglass Reinforced Polyester Roofing Sheet – GSM 1800 &
GSM 2400, both with size of 50 mm length x 50 mm width were received for
testing.

Brand : SPACE
Model : SUNLITE

Date Received : 31st July 2009

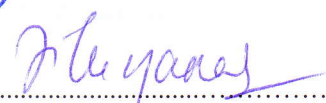
Job No. : J20095042239 / SQAS / CCST / T.REC / 08

Issued Date :

Approved Signatories


(FAIZ MOHD YUSUF)
Senior Technical Executive




(YM RAJA NOR SIHA RAJA ABD.HANAN)
Group Leader
Civil & Construction Section
Testing Services Department

10 AUG 2009

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Product : Fibreglass Reinforced Polyester Roofing Sheet

Test Method : ISO 9050:2003
Determination Of Light Transmittance, Solar Direct Transmittance, Total Solar Energy Transmittance, Ultraviolet Transmittance And Related Glazing Factors

Instrument : 1) Perkin Elmer – Lambda 750
2) Standard Sample Holder

Test Conditions : For the purpose of providing basic information on the performance of glazing units, following conventional conditions have been stated for simplicity; (clause 3.5.6.1)

- i) Positions of glazing materials : vertical
- ii) Outside surface : wind velocity : approximately 4 m/s
- iii) Hemispherical emissivity : 0.837
- iv) Inside surface : natural convection, emissivity optional
- v) Heat transfer coefficients towards the inside, $h_i = 8 \text{ W/m}^2\text{K}$
- vi) Heat transfer coefficients towards the outside, $h_e = 23 \text{ W/m}^2\text{K}$

Measurement Range : For computing the visible light transmittance, visible light reflectance, solar direct transmittance, solar direct reflectance and ultra violet transmittance, the following parameters were taken into consideration:

- i) spectral range, 380 – 780 nm, (light transmittance and reflectance)
- ii) spectral range, 300 – 2500 nm, (solar direct transmittance and reflectance)
- iii) spectral range, 300 – 380 nm, (UV – transmittance)

Calculations : i) The solar & light direct absorption will be calculated using this formula

$$\tau + \rho + \alpha = 1$$

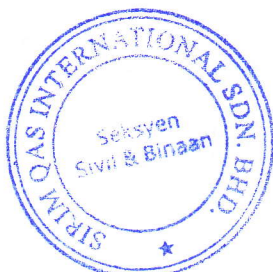
τ = Transmittance value
 ρ = Reflectance value
 α = Absorption value

ii) Secondary Heat Transfer Factor Towards the Inside for single glazing

$$q_i = \alpha_e \left(\frac{h_i}{h_e + h_i} \right) \quad \text{where, } \alpha_e = \text{Solar direct absorption}$$

iii) Total Solar Energy Transmittance (Solar Factor)

$$g = \tau_e + q_i \quad \text{where, } \tau_e = \text{Solar direct transmittance}$$



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Product : Fibreglass Reinforced Polyester Roofing Sheet

Brand : SPACE

Model : SUNLITE

Test Results.

Marking	Light Direct (%)			Solar Direct (%)		
	Transmittance	Reflectance	Absorption	Transmittance	Reflectance	Absorption
1800 GSM	7.17	6.21	86.62	11.40	7.96	80.64
2400 GSM	4.43	3.39	92.19	6.34	3.34	90.32

Marking	Ultra Violet (%) Transmittance	Secondary Heat Transfer Factor	Total Solar Energy Transmittance
1800 GSM	0.01	0.21	0.32
2400 GSM	0.01	0.23	0.30



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