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TEST REPORT

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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	:	

SIRIM QAS INTERNATIONAL SDN. BHD. Seksyen Sivil & Binaan

10 AUG 2009

Approved Signatories

(FAIZ MOHD YUSUF)
Senior Technical Executive

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

TEST REPORT

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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, hi = 8 W/m^2K
vi) Heat transfer coefficients towards the outside, he= 23 W/m^2K

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

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

iii) Total Solar Energy Transmittance (Solar Factor)

$g = \tau_e + q_i$ where, τ_e = Solar direct transmittance

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TEST REPORT

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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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