

Inspiramos...

Soluciones para Interiores & Proyectos de Arquitectura para un mejor cambio



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MECHANICAL PROPERTIES

TEST TYPE	VALUE	UNIT	TEST METHOD
Tensile Strength	33.44	MPa	ASTM D638-98
Elongation at break	772.6	%	ASTM D638-98
Tesile Modulus	957	MPa	ASTM D638-98
Yield Stress	24.55	MPa	ASTM D638-98
Charpy Impact Strength	84.80	KJ/m2	ISO 179-97
Shore D Hardness (1 second)	67.8		ASTM D2240-95
Shore D Hardness (15 second)	58.3		ASTM D2240-95
Vicat Softening Point (50 N load)	84.25	°C	ASDM D1525-95
Flexural Modulus	2.036	MPa	ASDM D790-98
Flexural Strength	29.24	MPa	ASDM D790-98
Compressive Strength	169.7	MPa	ASDM D790-98
Yield Stress (Compressive)	48.91	MPa	ASDM D790-98
Heath Deflection Temperature (120° C/Hour)	46.4	°C	ASDM D790-98
Glass Transition Temperature	-95	°C	DSC
Coefficient of Thermal Expansion			
30-60 °C	108	10 ⁻⁶ /K	ASTM E831-93
100-113 °C	750	10 ⁻⁶ /K	ASTM E831-93

PHYSICAL PROPERTIES

PROPERTY	VALUE	UNIT	TEST METHOD
Density	0.9545	g/cubic cm	ASTM D792-98
Flammability (burning rate of sample)	19.9	mm/min	ASDM D635-98
Water absorption	51	ppm weight	ASDM D570-95
Chemical Resistance (Change in Weight)			
a. Sea water (pH 7.6)	0.0216	%	ASDM D543-95
b. Swimming pool water (pH 7.1)	0.0259	%	ASDM D543-95
c. 2 % detergent (pH 7.6)	0.0115	%	ASDM D543-95
d. 5 % citric acid	0.0023	%	ASDM D543-95
e. 5 % NH4 OH (ammonium hydroxide)	0.0076	%	ASDM D543-95
f. 20 % sulfuric acid	0.0006	%	ASDM D543-95
Chemical Resistance (Change in Volume)			
a. Sea water (pH 7.6)	0.2279	%	ASDM D543-95
b. Swimming pool water (pH 7.1)	0.2507	%	ASDM D543-95
c. 2 % detergent (pH 7.6)	0.4206	%	ASDM D543-95
d. 5 % citric acid	0.1260	%	ASDM D543-95
e. 5 % NH4 OH (ammonium hydroxide)	0.1426	%	ASDM D543-95
f. 20 % sulfuric acid	0.2403	%	ASDM D543-95

ACCELERATED WEATHERING TEST

Polyrod made GWC products were tested for accelerated weathering by the Singapore Productivity and Standards Board in accordance with the test methods issued by the International Organization for Standardization (ISO) and the American Society for Testing and Materials (ASTM). The test condition and results are as follows:

Test Method:

1. ISO 4892- 2: 1994

Test Condition

Apparatus used: Xenon test Beta LM

Operating Cycle: 5 mins rain followed by 25 mins rainfree

Light source (Continuous): Xenon lamps NHE 2200

Filter system: Xenochrome 300 in suprax cylinder

UV irradiance: 80 ± 5 W/m² at 300 to 400 nm

Black standard temperature: $55 \pm 5^\circ$ C (dry cycle)

Air temperature in test enclosure: $30 \pm 3^\circ$ C

Relative humidity in test enclosure: $75 \pm 5\%$

Test duration: 2000 hours



2. ISO 105A02: 1993

"Grey Scale for Assessing Change in Color"

3. ASTM D523- 89 (Reapproved 1999)

"Specular Gloss"

Geometry: 60°

4. Accelerated Weathering (Xenon Arc) Test

Test Duration (Lighthouse)	Results
1000	No change in color (Grey Scale 5) 99.2% gloss retention ^a
2000	No change in color (Grey Scale 5) 113.4% gloss retention

Remarks: The Grey Scale for assessing color change ranges from 1 to 5:

5. No perceived difference in color between the tested and untested specimens

Greatest contrast in color between the tested and untested specimens.