



# ROYAL GLOBAL ENERGY

RGE's core business Oil, Gas, Refining and Petrochemicals

Product Name: POLYCARBONATE			
Property	Unfilled	30% Glass	ASTM
Density (lb/in <sup>3</sup> ) (g/cm <sup>3</sup> )	0.043	0.052	D792
	1.2	1.43	
Water Absorption, 24 hrs (%)	0.12	0.12	D570
Tensile Strength (psi)	9,500	19,000	D638
Tensile Modulus (psi)	320,000	-	D638
Tensile Elongation at Break (%)	60	10	D638
Flexural Strength (psi)	15,000	23,000	D790
Flexural Modulus (psi)	375,000	1,100,000	D790
Compressive Strength (psi)	12,000	18,000	D695
Compressive Modulus (psi)	240,000	500,000	D695
Hardness, Rockwell	M70 / R118	M92	D785
IZOD Notched Impact (ft-lb/in)	13	2	D256
Coefficient of Linear Thermal Expansion (x 10 <sup>-5</sup> in./in./°F)	3.9	1.2	D696
Heat Deflection Temp (°F / °C) at 264 psi	270 / 132	295 / 146	D648
Glass Transition Temp (°F / °C)	293 / 145	300 / 149	D3418
Max Operating Temp (°F / °C)	250 / 121	270 / 132	-
Thermal Conductivity (BTU-in/ft <sup>2</sup> -hr-°F)	1.3	1.3	C177
(x 10 <sup>-4</sup> cal/cm-sec-°C)	6.9	6.9	
Flammability Rating			
@ less than .45" (11.5mm) thickness	H-B	H-B	UL94
@ .45" (11.5mm) thickness and above	V-0	V-0	
Dielectric Strength (V/mil) short time, 1/8" thick	390	470	D149
Dielectric Constant at 60 Hz	3.17	3.35	D150
Dissipation Factor at 60 Hz	0.0009	0.0011	D150
Volume Resistivity (ohm-cm) at 50% RH	1016	1016	D257