

Styron EMERGE[®] 4600-10 Polycarbonate

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

EMERGE[®] PC 4600-10 advanced resin is formulated to supply both clarity and enhanced ignition resistance while maintaining excellent physical properties. Applications: Information Technology Equipment Sockets, Plugs, and Switches Street Lights, Safety Lights, and Reflectors Information provided by Dow This product line was spun off from Dow Chemical to Styron in 2010.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styron-EMERGE-4600-10-Polycarbonate.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Linear Mold Shrinkage	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
Melt Flow	10 g/10 min @Load 1.20 kg, Temperature 300 Â°C	10 g/10 min @Load 2.65 lb, Temperature 572 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	123	123	ASTM D785
Tensile Strength, Ultimate	65.5 MPa	9500 psi	ASTM D638
Tensile Strength, Yield	60.7 MPa	8800 psi	ASTM D638
Elongation at Break	120 %	120 %	ASTM D638
Elongation at Yield	6.0 %	6.0 %	ASTM D638
Tensile Modulus	2.24 GPa	325 ksi	ASTM D638
Flexural Strength	100 MPa	14500 psi	ASTM D790
Flexural Modulus	2.41 GPa	350 ksi	ASTM D790
Izod Impact, Notched	8.76 J/cm	16.4 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	68.4 Âµm/m-Â°C @Temperature -40.0 - 82.2 Â°C	38.0 Âµin/in-Â°F @Temperature -40.0 - 180 Â°F	ASTM D696
Hot Ball Pressure Test	>= 125 Â°C	>= 257 Â°F	IEC 60335-1

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (69 psi)	127 Â°C	260 Â°F	unannealed; ASTM D648
	140 Â°C	284 Â°F	annealed; ASTM D648
Vicat Softening Point	154 Â°C	309 Â°F	50Â°C/hr, 50N; ASTM D1525
UL RTI, Electrical	125 Â°C	257 Â°F	UL 746
UL RTI, Mechanical with Impact	110 Â°C	230 Â°F	UL 746
UL RTI, Mechanical without Impact	125 Â°C	257 Â°F	UL 746
Flammability, UL94	V-2	V-2	0.0625 in
	V-0	V-0	0.125 in
Oxygen Index	41 %	41 %	ASTM D2863
Glow Wire Test	960 Â°C	1760 Â°F	IEC 60695-2-10
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Optical Properties	Metric	English	Comments
Transmission, Visible	84 - 88 %	84 - 88 %	ASTM D1003

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.0	3.0	ASTM D150
	@Frequency 100 - 1.00e+6 Hz	@Frequency 100 - 1.00e+6 Hz	
Dielectric Strength	16.7 kV/mm	425 kV/in	ASTM D149
Dissipation Factor	0.0010	0.0010	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0040	0.0040	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	250 V	250 V	IEC 60112
	@Thickness 2.00 mm	@Thickness 0.0787 in	

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