

Styron EMERGE[®], 4850-10 Polycarbonate

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

EMERGE[®], 4850-10 advanced resin provides superior ignition resistance and ultraviolet light resistance in opaque applications. It has an f1 rating by Underwriters Laboratories Inc. Physical properties and process-ability are outstanding for this class of polycarbonate resins.

Applications: Consumer Electronics Information Technology Equipment Appliances 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-4850-10-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	58.6 MPa	8500 psi	ASTM D638
Tensile Strength, Yield	61.4 MPa	8900 psi	ASTM D638
Elongation at Break	115 %	115 %	ASTM D638
Tensile Modulus	2.38 GPa	345 ksi	ASTM D638
Flexural Strength	97.9 MPa	14200 psi	ASTM D790
Flexural Modulus	2.33 GPa	338 ksi	ASTM D790
Izod Impact, Notched	6.94 J/cm	13.0 ft-lb/in	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	64.8 Âµm/m-Â°C @Temperature -40.0 - 82.2 Â°C	36.0 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 (un annealed)	Metric 137 Â°C	English 279 Â°F	Comments annealed: ASTM D648
Deflection Temperature at 0.46 MPa (264 psi)	127 Â°C	260 Â°F	unannealed; ASTM D648
Vicat Softening Point	151 Â°C	304 Â°F	50Â°C/hr, 50N; ASTM D1525
UL RTI, Electrical	125 Â°C	257 Â°F	UL 746
UL RTI, Mechanical with Impact	105 Â°C	221 Â°F	UL 746
UL RTI, Mechanical without Impact	125 Â°C	257 Â°F	UL 746
Flammability, UL94	V-0	V-0	0.0625 in
	V-0	V-0	0.125 in
Oxygen Index	36 %	36 %	ASTM D2863
Glow Wire Test	960 Â°C @Thickness 2.00 mm	1760 Â°F @Thickness 0.0787 in	IEC 60695-2-10

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	225 V @Thickness 2.00 mm	225 V @Thickness 0.0787 in	IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	288 - 316 Â°C	550 - 601 Â°F	
Mold Temperature	71.0 - 104 Â°C	160 - 219 Â°F	
Drying Temperature	121 Â°C	250 Â°F	
Dry Time	3 - 4 hour	3 - 4 hour	

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