

Styron CALIBRE® 301 EP Polycarbonate

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Information provided by DowThis 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-CALIBRE-301-EP-Polycarbonate.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Water Absorption	0.15 %	0.15 %	23Â°C, 24hrs; ASTM D570
Water Absorption at Saturation	0.32 %	0.32 %	23Â°C, 50% RH; ASTM D570
Linear Mold Shrinkage	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ASTM D955
Melt Flow	22 g/10 min @Load 1.20 kg, Temperature 300 Â°C	22 g/10 min @Load 2.65 lb, Temperature 572 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	72	72	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength, Ultimate	65.5 MPa	9500 psi	ASTM D638
Tensile Strength, Yield	60.0 MPa	8700 psi	ASTM D638
Elongation at Break	120 %	120 %	ASTM D638
Tensile Modulus	2.34 GPa	340 ksi	2 in/min; ASTM D638
Flexural Strength	96.5 MPa	14000 psi	ASTM D790
Flexural Modulus	2.41 GPa	350 ksi	ASTM D790
Izod Impact, Notched	7.47 J/cm	14.0 ft-lb/in	0.125 in; 10 mil notch; ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256
Tensile Impact Strength	378 kJ/mÂ²	180 ft-lb/inÂ²	ASTM D1822, Type S
Dart Drop, Total Energy	72.0 J @Thickness 3.20 mm	53.1 ft-lb @Thickness 0.126 in	203 m/min; ASTM D1822

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric $\mu\text{m/m-}\text{Â}^\circ\text{C}$	English $\text{in/in-}\text{Â}^\circ\text{F}$	Comments
CTE, linear	@Temperature -40.0 - 82.2 $\text{Â}^\circ\text{C}$	@Temperature -40.0 - 180 $\text{Â}^\circ\text{F}$	ASTM D696
Deflection Temperature at 0.46 MPa (66 psi)	142 $\text{Â}^\circ\text{C}$	288 $\text{Â}^\circ\text{F}$	annealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	126 $\text{Â}^\circ\text{C}$	258 $\text{Â}^\circ\text{F}$	Unannealed, 0.125 in; ASTM D648
	139 $\text{Â}^\circ\text{C}$	282 $\text{Â}^\circ\text{F}$	annealed; ASTM D648
Vicat Softening Point	147 $\text{Â}^\circ\text{C}$	297 $\text{Â}^\circ\text{F}$	50 $\text{Â}^\circ\text{C/hr}$, 50N Load; ASTM D1525
Flammability, UL94	V-2	V-2	0.0625 in
	V-2	V-2	0.125 in
Flammability Test	1.0	1.0	[inches] Average Extent of Burning; ASTM D635
Oxygen Index	26 %	26 %	ASTM D2863

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542
Haze	1.0 %	1.0 %	ASTM D1003
Transmission, Visible	89 %	89 %	ASTM D1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+17 ohm-cm	2.00e+17 ohm-cm	ASTM D257
Dielectric Constant	3.0	3.0	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
	3.0	3.0	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	16.5 kV/mm	420 kV/in	ASTM D149
Dissipation Factor	0.0010	0.0010	ASTM D150
	@Frequency 60 Hz	@Frequency 60 Hz	
	0.0020	0.0020	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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