

Styron CALIBRE 302-6 Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Overview: CALIBRE 300-6 Polycarbonate resins offer exceptional impact resistance, heat distortion resistance, and optical clarity as well as high melt strength for blow molding and sheet applications. The CALIBRE 300-6 series products are available in 4 additive packages: CALIBRE 300: No mold release or UV Stabilizer. CALIBRE 301: Mold release. CALIBRE 302: UV stabilizer. CALIBRE 303: Mold release and UV stabilizer.

Govt. and Industry Standards: CSA (Canadian Standards Association) Underwriters Laboratory Inc. (UL)

Applications: Automotive interiors Automotive exteriors Sheet applications Electrical lighting/switches Small & large appliances Beverage containers/serviceware Powder equipment

Information provided by Styron

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styron-CALIBRE-302-6-Polycarbonate-Resin.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183/A; ASTM D792
Water Absorption	0.25 %	0.25 %	Equilibrium, 50% RH; ISO 62; ASTM D570
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
Linear Mold Shrinkage, Flow	0.15 %	0.15 %	ISO 62; ASTM D570
	@Temperature 23.0 Å°C, Time 86400 sec	@Temperature 73.4 Å°F, Time 24.0 hour	
Melt Flow	6.0 g/10 min	6.0 g/10 min	ASTM D1238; ISO 1133
	@Load 1.20 kg, Temperature 300 Å°C	@Load 2.65 lb, Temperature 572 Å°F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	73	73	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength at Break	72.0 MPa	10400 psi	ISO 527-2/50
	72.4 MPa	10500 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527-2/50; ASTM D638
Elongation at Break	150 %	150 %	50 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527-2/50; ASTM D638

Tensile Modulus Mechanical Properties	2.30 GPa Metric	334 ksi English	ISO 527-2/50 Comments
	2.41 GPa	350 ksi	50 mm/min; ASTM D638
Flexural Strength	96.5 MPa	14000 psi	Method I (3 point load), 2.0 mm/min; ASTM D790
	97.0 MPa	14100 psi	3-point; ISO 178
Flexural Modulus	2.40 GPa	348 ksi	3-point; ISO 178
	2.41 GPa	350 ksi	Method I (3 point load), 2.0 mm/min; ASTM D790
Izod Impact, Notched	9.10 J/cm @Temperature 23.0 Â°C	17.0 ft-lb/in @Temperature 73.4 Â°F	ASTM D256
Izod Impact, Notched (ISO)	93.0 kJ/mÂ² @Temperature 23.0 Â°C	44.3 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 180/A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	ASTM D256; ISO 180
Charpy Impact, Notched	5.50 J/cmÂ² @Temperature 23.0 Â°C	26.2 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 179/1eA
Tensile Impact Strength	588 kJ/mÂ²	280 ft-lb/inÂ²	ASTM D1822
Dart Drop, Total Energy	90.4 J	66.7 ft-lb	3.39 m/sec; ASTM D3763
Abrasion	45	45	[%] Taber; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.0 Âµm/m-Â°C @Temperature -40.0 - 82.0 Â°C	37.8 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
Deflection Temperature at 0.46 MPa (66 psi)	145 Â°C	293 Â°F	Annealed; ASTM D648
	146 Â°C	295 Â°F	Annealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	126 Â°C	259 Â°F	Unannealed; ISO 75-2/B
	129 Â°C	264 Â°F	Unannealed; ASTM D648

Thermal Properties	142 Â°C Metric	288 Â°F English	Annealed; ASTM D648 Comments
	143 Â°C	289 Â°F	Annealed; ISO 75-2/B
Vicat Softening Point	151 Â°C @Load 5.10 kg	304 Â°F @Load 11.2 lb	Rate A (50Â°C/h); ISO 306/B50; ASTM D1525
Flammability, UL94	HB @Thickness 1.59 mm	HB @Thickness 0.0626 in	
	HB @Thickness 3.20 mm	HB @Thickness 0.126 in	
Oxygen Index	26 %	26 %	ISO 4289-2

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542; ISO 489
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 @Frequency 60.0 Hz	3.0 @Frequency 60.0 Hz	ASTM D150
	3.0 @Frequency 1.00e+6 Hz	3.0 @Frequency 1.00e+6 Hz	ASTM D150
Dielectric Strength	17.0 kV/mm	432 kV/in	ASTM D149
	17.0 kV/mm	432 kV/in	IEC 60243-1
Dissipation Factor	0.0010 @Frequency 50.0 Hz	0.0010 @Frequency 50.0 Hz	ASTM D150
	0.0020 @Frequency 1.00e+6 Hz	0.0020 @Frequency 1.00e+6 Hz	ASTM D150
Comparative Tracking Index	250 V @Thickness 2.00 mm	250 V @Thickness 0.0787 in	Solution A; IEC 60112

Descriptive Properties	Value	Comments
Average Extent of Burring	3 cm	ASTM D635

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