

Styron CALIBREâ„¢ 302-10 Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Overview: CALIBREâ„¢ 300-10 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 CALIBREâ„¢ 300-10 series products are available in 4 additive packages: CALIBREâ„¢ 300: No mold release or UV Stabilizer. CALIBREâ„¢ 301: Mold release. CALIBREâ„¢ 302: UV stabilizer. CALIBREâ„¢ 303: Mold release and UV stabilizer. Applications: Appliances Storage media housings Business equipment Electrical components Lighting Transportation Houseware Recreation Packaging applications Govt. and Industry Standards: CSA Underwriters Laboratory (UL) Information provided by Styron

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styron-CALIBRE-302-10-Polycarbonate-Resin.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183/B
Water Absorption	0.32 %	0.32 %	Equilibrium, 50% RH; ISO 62
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
	0.15 %	0.15 %	ISO 62
	@Temperature 23.0 Â°C, Time 86400 sec	@Temperature 73.4 Â°F, Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	ISO 294-4
Melt Flow	10 g/10 min	10 g/10 min	ISO 1133
	@Load 1.20 kg, Temperature 300 Â°C	@Load 2.65 lb, Temperature 572 Â°F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	73	73	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength at Break	71.0 MPa	10300 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; ASTM D638; ISO 527-2/50
Tensile Modulus	2.30 GPa	334 ksi	ISO 527-2/50

Mechanical Properties	2.41 GPa Metric	350 ksi English	50 mm/min; ASTM D638 Comments
Flexural Strength	96.5 MPa	14000 psi	Method I (3 point load), 2.0 mm/min; ASTM D790
	97.0 MPa	14100 psi	2.0 mm/min; ISO 178
Flexural Modulus	2.40 GPa	348 ksi	2.0 mm/min; 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)	90.0 kJ/mÂ² @Temperature 23.0 Â°C	42.8 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 180/4A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 Â°C	NB @Temperature 73.4 Â°F	ISO 180; ASTM D256
Charpy Impact, Notched	3.50 J/cmÂ² @Temperature 23.0 Â°C	16.7 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 179/1eA
Dart Drop, Total Energy	87.0 J	64.2 ft-lb	3.39 m/sec; ASTM D3763
Abrasion	45	45	[%] Taber; ISO 9352

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	ISO 11359-2
Hot Ball Pressure Test	125 Â°C	257 Â°F	IEC 60335-1
Deflection Temperature at 0.46 MPa (66 psi)	144 Â°C	291 Â°F	Annealed; ISO 75-2/B; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	125 Â°C	257 Â°F	Unannealed; ISO 75-2/A
	128 Â°C	262 Â°F	Unannealed; ASTM D648
	141 Â°C	286 Â°F	Annealed; ASTM D648; ISO 75-2/A
Vicat Softening Point	149 Â°C @Load 5.10 kg	300 Â°F @Load 11.2 lb	Rate A (50Â°C/h); ASTM D1525; ISO 306/B50
	HB	HB	

Thermal Properties	Metric	English	Comments
	HB	HB	
	@Thickness 1.59 mm	@Thickness 0.0626 in	
	@Thickness 3.20 mm	@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	3.0	IEC 60250
	@Frequency 60.0 Hz	@Frequency 60.0 Hz	
	3.0	3.0	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	17.0 kV/mm	432 kV/in	IEC 60243-1
Dissipation Factor	0.0010	0.0010	ASTM D150
	@Frequency 50.0 Hz	@Frequency 50.0 Hz	
	0.0020	0.0020	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	250 V	250 V	Solution A; IEC 60112
	@Thickness 2.00 mm	@Thickness 0.0787 in	

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

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