

Styron CALIBREâ„¢ 302EP-22 Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Overview: CALIBREâ„¢ 300EP-22 Series are polycarbonate resins that offer exceptional impact resistance, heat distortion resistance and optical clarity for injection molding applications. Their high melt flow rate allows complex parts to be easily molded. The CALIBREâ„¢ 300EP-22 series products are available in 4 additive packages: CALIBREâ„¢ 300EP: No mold release or UV Stabilizer. CALIBREâ„¢ 301EP: Mold release. CALIBREâ„¢ 302EP: UV stabilizer. CALIBREâ„¢ 303EP: Mold release and UV stabilizer. Applications: Appliances Storage Electrical components Lighting diffusers 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-302EP-22-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	22 g/10 min	22 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	65.0 MPa	9430 psi	ISO 527-2/50
	65.5 MPa	9500 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	120 %	120 %	ISO 527-2/50
Elongation at Yield	6.0 %	6.0 %	ISO 527-2/50
Tensile Modulus	2.30 GPa	334 ksi	ISO 527-2/50

Mechanical Properties	2.34 GPa Metric	339 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	7.50 J/cm @Temperature 23.0 Â°C	14.1 ft-lb/in @Temperature 73.4 Â°F	ASTM D256
Izod Impact, Notched (ISO)	74.0 kJ/mÂ² @Temperature 23.0 Â°C	35.2 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 180/A
Charpy Impact, Notched	2.00 J/cmÂ² @Temperature 23.0 Â°C	9.52 ft-lb/inÂ² @Temperature 73.4 Â°F	ISO 179/1eA
Tensile Impact Strength	378 kJ/mÂ²	180 ft-lb/inÂ²	ASTM D1822
Dart Drop, Total Energy	72.3 J	53.3 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	37.8 Âµin/in-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)	142 Â°C	288 Â°F	Annealed; ISO 75-2/B; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	122 Â°C	252 Â°F	Unannealed; ISO 75-2/A
	126 Â°C	259 Â°F	Unannealed; ASTM D648
	139 Â°C	282 Â°F	Annealed; ASTM D648; ISO 75-2/A
Vicat Softening Point	147 Â°C	297 Â°F	ISO 306/B50
Flammability, UL94	V-2 @Thickness 1.59 mm	V-2 @Thickness 0.0626 in	
	V-2 @Thickness 3.20 mm	V-2 @Thickness 0.126 in	

Oxygen Index Thermal Properties	26 % Metric	26 % English	ISO 4289-2 Comments
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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	IEC 60093
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	

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