

Styron CALIBRE[®],ç 301EP-22 Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Overview: CALIBRE[®],ç 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 CALIBRE[®],ç 300EP-22 series products are available in 4 additive packages: CALIBRE[®],ç 300EP: No mold release or UV Stabilizer. CALIBRE[®],ç 301EP: Mold release. CALIBRE[®],ç 302EP: UV stabilizer. CALIBRE[®],ç 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-301EP-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 °C	@Temperature 73.4 °F	
	0.15 %	0.15 %	ISO 62
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °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 °C	@Load 2.65 lb, Temperature 572 °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
Tensile Strength, Yield	60.0 MPa	8700 psi	ISO 527-2/50
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
Flexural Strength	97.0 MPa	14100 psi	2.0 mm/min; ISO 178

Flexural Modulus Mechanical Properties	2.40 GPa Metric	348 ksi English	2.0 mm/min; ISO 178 Comments
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
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
Deflection Temperature at 1.8 MPa (264 psi)	122 Â°C	252 Â°F	Unannealed; ISO 75-2/A
	139 Â°C	282 Â°F	Annealed; ISO 75-2/A
Vicat Softening Point	147 Â°C	297 Â°F	ISO 306/B50
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
Glow Wire Test	875 Â°C @Thickness 2.00 mm	1610 Â°F @Thickness 0.0787 in	IEC 60695-2-12
	875 Â°C @Thickness 3.00 mm	1610 Â°F @Thickness 0.118 in	IEC 60695-2-12
	900 Â°C @Thickness 1.00 mm	1650 Â°F @Thickness 0.0394 in	IEC 60695-2-12

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542; ISO 489
Haze	1.0 %	1.0 %	ASTM D1003

Transmission Visible Optical Properties	89 % Metric	89 % English	ASTM D1003 Comments
Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+15$ ohm-cm	$\geq 1.00\text{e}+15$ 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	
	3.0	3.0	IEC 60250
	@Frequency 100 Hz	@Frequency 100 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	
Hot Wire Ignition, HWI	775 sec	775 sec	IEC 60695-2-13
	@Thickness 2.00 mm	@Thickness 0.0787 in	
	775 sec	775 sec	IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	
	800 sec	800 sec	IEC 60695-2-13
	@Thickness 1.00 mm	@Thickness 0.0394 in	

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