

## Styron CALIBRE<sup>®</sup>,ç 301-10 Polycarbonate Resin

Category : Polymer , Thermoplastic , Polycarbonate (PC)

### Material Notes:

Overview: CALIBRE<sup>®</sup>,ç 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 CALIBRE<sup>®</sup>,ç 300-10 series products are available in 4 additive packages: CALIBRE<sup>®</sup>,ç 300: No mold release or UV Stabilizer. CALIBRE<sup>®</sup>,ç 301: Mold release. CALIBRE<sup>®</sup>,ç 302: UV stabilizer. CALIBRE<sup>®</sup>,ç 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-301-10-Polycarbonate-Resin.php](http://www.lookpolymers.com/polymer_Styron-CALIBRE-301-10-Polycarbonate-Resin.php)

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in <sup>3</sup>	ISO 1183/B
Water Absorption	0.32 %	0.32 %	Equilibrium, 50% RH; ISO 62
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
Linear Mold Shrinkage, Flow	0.15 %	0.15 %	ISO 62
	@Temperature 23.0 Å°C, Time 86400 sec	@Temperature 73.4 Å°F, Time 24.0 hour	
Melt Flow	10 g/10 min	10 g/10 min	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	71.0 MPa	10300 psi	ISO 527-2/50
Tensile Strength, Yield	60.0 MPa	8700 psi	ISO 527-2/50
Elongation at Break	150 %	150 %	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

Mechanical Properties	Metric	English	Comments
Izod Impact, Unnotched (ISO)	90.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	42.8 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 180/A
Charpy Impact, Notched	1.30 J/cm <sup>2</sup> @Temperature -30.0 °C	6.19 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/1eA
	3.50 J/cm <sup>2</sup> @Temperature 12.0 °C	16.7 ft-lb/in <sup>2</sup> @Temperature 53.6 °F	ISO 179/1eA
Abrasion	45	45	[%] Taber; ISO 9352

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-2
Hot Ball Pressure Test	125 °C	257 °F	IEC 60335-1
Deflection Temperature at 0.46 MPa (66 psi)	144 °C	291 °F	Annealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	125 °C	257 °F	Unannealed; ISO 75-2/A
	141 °C	286 °F	Annealed; ISO 75-2/A
Vicat Softening Point	149 °C	300 °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 °C @Thickness 2.00 mm	1610 °F @Thickness 0.0787 in	IEC 60695-2-12
	875 °C @Thickness 3.00 mm	1610 °F @Thickness 0.118 in	IEC 60695-2-12
	900 °C @Thickness 1.00 mm	1650 °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	89 %	89 %	ASTM D1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+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	
Dielectric Strength	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	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	
Dissipation Factor	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	
Hot Wire Ignition, HWI	775 sec	775 sec	IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	
Hot Wire Ignition, HWI	800 sec	800 sec	IEC 60695-2-13
	@Thickness 1.00 mm	@Thickness 0.0394 in	

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