

Styron CALIBRE® 300 6 Polycarbonate, General Purpose

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Unreinforced, Flame Retardant

Material Notes:

CALIBRE® 300 series are general purpose, UL listed polycarbonate resins. CALIBRE 300 series resins exhibit an excellent physical property balance of heat resistance, transparency and impact strength. The CALIBRE 300 series can be supplied with a mold release package, a UV stabilizer package or both. The CALIBRE 300 series resins are typically used for appliances, storage media housings, extruded sheet, electrical components and lighting. Available Melt Flow Rates: 4, 6, 10, 15. Associated products: CALIBRE 300: without a mold release and UV stabilization package CALIBRE 301: including a mold release package CALIBRE 302: including a UV stabilizer package CALIBRE 303: including a mold release and UV stabilizer package. Data provided by Dow Chemical. This product line was spun off from Dow Chemical to Styron in 2010.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Styron-CALIBRE-300-6-Polycarbonate-General-Purpose.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	ASTM Data
Melt Density	1.00 g/cc	0.0361 lb/in ³	Melt density
Water Absorption	0.15 %	0.15 %	
Moisture Absorption at Equilibrium	0.32 %	0.32 %	Humidity Absorption
Linear Mold Shrinkage	0.0060 cm/cm	0.0060 in/in	
Melt Flow	6.0 g/10 min @Load 1.20 kg, Temperature 300 °C	6.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM Data

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	
Tensile Strength, Ultimate	72.4 MPa	10500 psi	ASTM Data
Tensile Strength, Yield	62.1 MPa	9010 psi	ASTM Data
Elongation at Break	150 %	150 %	ASTM Data
Elongation at Yield	6.0 %	6.0 %	ISO Data
Tensile Modulus	2.41 GPa	350 ksi	ASTM Data
Izod Impact, Notched	9.07 J/cm	17.0 ft-lb/in	ASTM Data
Izod Impact, Unnotched	NB	NB	ASTM Data
Charpy Impact Unnotched	NB	NB	ISO Data

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	1.40 J/cm ²	6.66 ft-lb/in ²	ISO Data, Low Temp
	9.50 J/cm ²	45.2 ft-lb/in ²	ISO Data
Tensile Impact Strength	589 kJ/m ²	280 ft-lb/in ²	ASTM Data
Impact Test	90.4 J	66.7 ft-lb	Instrumented Dart Total Energy
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.4 µm/m-°C	38.0 µin/in-°F	ASTM data
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Specific Heat Capacity	1.96 J/g-°C	0.468 BTU/lb-°F	
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft ² -°F	
Deflection Temperature at 1.8 MPa (264 psi)	129 °C	264 °F	Unannealed; ASTM Data
Vicat Softening Point	157 °C	315 °F	
Flammability, UL94	V-2	V-2	
	@Thickness 3.20 mm	@Thickness 0.126 in	
Oxygen Index	26 %	26 %	

Optical Properties	Metric	English	Comments
Haze	1.1 %	1.1 %	
Transmission, Visible	89 %	89 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	2.00e+17 ohm-cm	2.00e+17 ohm-cm	ASTM Data
Dielectric Constant	2.93	2.93	ASTM Data
	@Frequency 60 Hz	@Frequency 60 Hz	
	2.93	2.93	ASTM Data
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	16.5 kV/mm	419 kV/in	

Electrical Properties Dissipation Factor	0.00050 Metric	0.00050 English	Comments
	@Frequency 60 Hz	@Frequency 60 Hz	
	0.0017	0.0017	ASTM Data
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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