

Shell Carilon® DP P1000 Polyketone (discontinued **)

Category : Polymer , Thermoplastic , Polyketone

Material Notes:

Shell announced in Feb. 2000 that the Carilon product line is being discontinued. CARILON® Thermoplastic Polymer DP P1000 is the first in a family of developmental engineering polyketone resins from Shell Chemical Company. Due to CARILON Polymer's balance of stiffness, toughness, and chemical resistance coupled with its easy processing, CARILON Polymer is expected to find application in the appliance, automotive, electrical, and other industries. Data provided by Shell Chemical.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Shell-Carilon-DP-P1000-Polyketone-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.24 g/cc	0.0448 lb/in ³	ASTM D792
Water Absorption	0.45 %	0.45 %	24 hour immersion; ASTM D570
Moisture Absorption at Equilibrium	0.53 %	0.53 %	at 50% RH at Equilibrium; ASTM D570
Water Absorption at Saturation	2.1 %	2.1 %	at saturation; ASTM D570
Linear Mold Shrinkage, Flow	0.020 cm/cm	0.020 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.021 cm/cm	0.021 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	105	105	ASTM D785
Tensile Strength, Ultimate	55.0 MPa	7980 psi	ASTM D638
Tensile Strength, Yield	60.0 MPa	8700 psi	ASTM D638
Elongation at Break	>= 300 %	>= 300 %	ASTM D638
Elongation at Yield	22 %	22 %	ASTM D638
Tensile Modulus	1.60 GPa	232 ksi	ASTM D638
Flexural Strength	55.0 MPa	7980 psi	at 5% strain; ASTM D790
Flexural Modulus	1.60 GPa	232 ksi	ASTM D790
Izod Impact, Notched	2.40 J/cm	4.50 ft-lb/in	ASTM D256
	0.500 J/cm @Temperature -40.0 °C	0.937 ft-lb/in @Temperature -40.0 °F	
Izod Impact, Unnotched	NB	NB	ASTM D256

Gardner Impact Mechanical Properties	≥ 45.0 J Metric	≥ 33.2 ft-lb English	Comments
	28.0 J	20.7 ft-lb	
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Tensile Impact Strength	210 kJ/m ²	99.9 ft-lb/in ²	ASTM D1822
Coefficient of Friction, Dynamic	0.49	0.49	Thrust washer testing against steel at 0.05 m/s (2 in/s) and 2 MPa
Limiting Pressure Velocity	1.10 MPa-m/sec	31400 psi-ft/min	at 0.5 m/s
Taber Abrasion, mg/1000 Cycles	12	12	1 kg load; CS-17 Wheel; ASTM D1044

Thermal Properties	Metric	English	Comments
Melting Point	220 °C	428 °F	
Deflection Temperature at 0.46 MPa (66 psi)	210 °C	410 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	105 °C	221 °F	ASTM D648
Vicat Softening Point	215 °C	419 °F	ASTM D1525

Electrical Properties	Metric	English	Comments
Electrical Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	ASTM D257
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	ASTM D257
Dielectric Constant	5.2	5.2	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	5.7	5.7	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	21.0 kV/mm	533 kV/in	Short Term; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.012	0.012	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.040	0.040	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	100 sec	100 sec	ASTM D495
Comparative Tracking Index	600 V	600 V	UL746A

Processing Properties	Metric	English	Comments
Melt Temperature	260 °C	500 °F	

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