

Shell Carilon® D26HM100 Polyketone, General-Purpose Injection Molding Grade (discontinued **)

Category : Polymer , Thermoplastic , Polyketone

Material Notes:

Shell announced in Feb. 2000 that the Carilon product line is being discontinued. CARILON Polymer D26HM100 is a general-purpose injection molding grade with mechanical properties which classify it as an engineering thermoplastic. This grade has an excellent balance of stiffness and toughness over a broad temperature range, high resilience and good wear resistance. CARILON Polymer D26HM100 can also withstand short-term exposure to elevated temperatures. Moreover this polymer exhibits a high resistance to hydrocarbons, solvents, salt solutions, weak acids and weak bases. CARILON Polymer D26HM100 is easy to process on standard injection molding equipment. Cycle times are generally short. Parts show good mold definition with glossy mar-resistant surfaces. CARILON Polymers' low moisture sensitivity means that no conditioning of parts before assembly or use is necessary. Data provided by Shell Chemical.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Shell-Carilon-D26HM100-Polyketone-General-Purpose-Injection-Molding-Grade-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	0.50 %	0.50 %	at 50% RH at Equilibrium; ASTM D570
Water Absorption at Saturation	2.1 %	2.1 %	at saturation; ASTM D570
Linear Mold Shrinkage, Flow	0.022 cm/cm	0.022 in/in	ASTM D955
Linear Mold Shrinkage, Transverse	0.021 cm/cm	0.021 in/in	ASTM D955
Melt Flow	6.0 g/10 min @Load 2.16 kg, Temperature 240 °C	6.0 g/10 min @Load 4.76 lb, Temperature 464 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	105	105	ASTM D785
Hardness, Shore D	75	75	ISO 868
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

Mechanical Properties	Metric	English	Comments
Flexural Modulus	1.60 GPa	232 ksi	ASTM D790
Izod Impact, Notched	2.40 J/cm	4.50 ft-lb/in	
	0.500 J/cm @Temperature -40.0 °C	0.937 ft-lb/in @Temperature -40.0 °F	ASTM D256
Izod Impact, Unnotched	NB	NB	ASTM D256
Charpy Impact Unnotched	NB	NB	ISO 179
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179
Charpy Impact, Notched	1.80 J/cm ²	8.57 ft-lb/in ²	ISO 179
	0.400 J/cm ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	ISO 179
Gardner Impact	>= 45.0 J	>= 33.2 ft-lb	
	28.0 J @Temperature -40.0 °C	20.7 ft-lb @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	Thrust Washer 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
CTE, linear	110 µm/m-°C @Temperature 25.0 - 55.0 °C	61.1 µin/in-°F @Temperature 77.0 - 131 °F	ASTM E831
Melting Point	220 °C	428 °F	
Maximum Service Temperature, Air	90.0 °C	194 °F	UL-746B Long Term Relative temperature Index; Mechanical w/o Impact
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 Thermal Properties	210 °C Metric	410 °F English	ASTM D1525 Comments
UL RTI, Mechanical with Impact	85.0 °C @Thickness 0.750 mm	185 °F @Thickness 0.0295 in	UL-746B
UL RTI, Mechanical without Impact	90.0 °C @Thickness 0.750 mm	194 °F @Thickness 0.0295 in	UL-746B
Flammability, UL94	HB	HB	
Oxygen Index	21 %	21 %	ISO 4589

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	5.7 @Frequency 1e+6 Hz	5.7 @Frequency 1e+6 Hz	ASTM D150
	6.3 @Frequency 1000 Hz	6.3 @Frequency 1000 Hz	ASTM D150
Dielectric Strength	21.0 kV/mm @Thickness 1.60 mm	533 kV/in @Thickness 0.0630 in	Short Term; ASTM D149
Dissipation Factor	0.010 @Frequency 1000 Hz	0.010 @Frequency 1000 Hz	ASTM D150
	0.060 @Frequency 1e+6 Hz	0.060 @Frequency 1e+6 Hz	ASTM D150
Arc Resistance	100 sec	100 sec	ASTM D495
Comparative Tracking Index	600 V	600 V	UL746A

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