DuPont Performance Polymers Zytel® 77G43L NC010 Nylon 612 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 612 , Nylon 612, Glass Fiber Filler

Material Notes:

Zytel® 77G43L NC010 is a 43% glass fiber reinforced polyamide 612 resin for injection molding.Information provided by DuPont Performance Polymers

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-77G43L-NC010-Nylon-612-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	DAM; ASTM D792
Density	1.42 g/cc	0.0513 lb/in³	DAM; ISO 1183
Filler Content	43 %	43 %	DAM
Water Absorption	0.14 % @Temperature 23.0 °C	0.14 % @Temperature 73.4 °F	Immersion 24h; DAM; ASTM D570
	1.7 % @Temperature 23.0 °C	1.7 % @Temperature 73.4 °F	Saturation, immersed; DAM; ISO 62, Similar to
	1.7 % @Thickness 2.00 mm, Temperature 23.0 °C	1.7 % @Thickness 0.0787 in, Temperature 73.4 °F	Saturation; DAM; ASTM D570
	2.1 % @Thickness 1.00 mm, Temperature 23.0 °C	2.1 % @Thickness 0.0394 in, Temperature 73.4 °F	Equilibrium 50%RH; DAM; ISO 62, Similar to
Linear Mold Shrinkage, Flow	0.0030 cm/cm @Thickness 2.00 mm	0.0030 in/in @Thickness 0.0787 in	DAM; ISO 294-4
Linear Mold Shrinkage, Transverse	0.0080 cm/cm @Thickness 2.00 mm	0.0080 in/in @Thickness 0.0787 in	DAM; ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	DAM; ISO 2039/2
	118	118	DAM; ASTM D785
Tensile Strength at Break	165 MPa @Temperature 23.0 °C	23900 psi @Temperature 73.4 °F	50%RH; ISO 527

Mechanical Properties	Metric	English	Comments
	200 MPa @Temperature 23.0 °C	29000 psi @Temperature 73.4 °F	ISO 527
Tensile Strength	165 MPa @Temperature 23.0 °C	23900 psi @Temperature 73.4 °F	50%RH; ASTM D638
	190 MPa @Temperature 23.0 °C	27600 psi @Temperature 73.4 °F	DAM; ASTM D638
Elongation at Break	3.0 % @Temperature 23.0 °C	3.0 % @Temperature 73.4 °F	DAM; ASTM D638
	3.0 % @Temperature 23.0 °C	3.0 % @Temperature 73.4 °F	DAM; ISO 527
	5.0 % @Temperature 23.0 °C	5.0 % @Temperature 73.4 °F	50%RH; ASTM D638
	5.0 % @Temperature 23.0 °C	5.0 % @Temperature 73.4 °F	50%RH; ISO 527
Tensile Modulus	11.5 GPa @Temperature 23.0 °C	1670 ksi @Temperature 73.4 °F	50%RH; ISO 527
	12.5 GPa @Temperature 23.0 °C	1810 ksi @Temperature 73.4 °F	DAM; ISO 527
Flexural Strength	269 MPa @Temperature 23.0 °C	39000 psi @Temperature 73.4 °F	DAM; ASTM D790
Flexural Modulus	8.62 GPa @Temperature 23.0 °C	1250 ksi @Temperature 73.4 °F	50%RH; ASTM D790
	11.0 GPa @Temperature 23.0 °C	1600 ksi @Temperature 73.4 °F	DAM; ISO 178
	11.0 GPa @Temperature 23.0 °C	1600 ksi @Temperature 73.4 °F	DAM; ASTM D790
Shear Strength	83.0 MPa @Temperature 23.0 °C	12000 psi @Temperature 73.4 °F	DAM; ASTM D732
Izod Impact, Notched	1.60 J/cm @Temperature 23.0 °C	3.00 ft-lb/in @Temperature 73.4 °F	50%RH; ASTM D256
	1.70 J/cm	3.18 ft-lb/in	

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; ASTM D256
Izod Impact, Notched (ISO)	15.0 kJ/m² @Temperature -40.0 °C	7.14 ft-lb/in² @Temperature -40.0 °F	DAM; ISO 180/1A
	17.0 kJ/m² @Temperature 23.0 °C	8.09 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 180/1A
Charpy Impact Unnotched	8.50 J/cm² @Temperature -30.0 °C	40.4 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eU
	10.0 J/cm² @Temperature 23.0 °C	47.6 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eU
Charpy Impact, Notched	1.70 J/cm² @Temperature -40.0 °C	8.09 ft-lb/in² @Temperature -40.0 °F	DAM; ISO 179/1eA
	1.70 J/cm² @Temperature -30.0 °C	8.09 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eA
	1.70 J/cm² @Temperature 23.0 °C	8.09 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	500 µm/m-°C @Temperature -40.0 - 23.0 °C	278 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ASTM E 831
	500 µm/m-°C @Temperature 23.0 - 55.0 °C	278 µin/in-°F @Temperature 73.4 - 131 °F	DAM; ASTM E 831
	500 µm/m-°C @Temperature 55.0 - 160 °C	278 µin/in-°F @Temperature 131 - 320 °F	DAM; ASTM E 831
	500 µm/m-°C @Temperature -40.0 - 23.0 °C	278 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	500 µm/m-°C @Temperature 23.0 - 55.0 °C	278 µin/in-°F @Temperature 73.4 - 131 °F	DAM; ISO 11359-1/-2
	500 µm/m-°C @Temperature 55.0 -	278 µin/in-°F @Temperature 131 -	DAM; ISO 11359-1/-2

Thermal Properties	Metric	English	Comments
	160 °C	320 °F	
CTE, linear, Transverse to Flow	73.0 µm/m-°C @Temperature -40.0 - 23.0 °C	40.6 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ASTM E 831
	73.0 µm/m-°C @Temperature -40.0 - 23.0 °C	40.6 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	104 µm/m-°C @Temperature 23.0 - 55.0 °C	57.8 µin/in-°F @Temperature 73.4 - 131 °F	DAM; ASTM E 831
	104 µm/m-°C @Temperature 23.0 - 55.0 °C	57.8 µin/in-°F @Temperature 73.4 - 131 °F	DAM; ISO 11359-1/-2
	139 µm/m-°C @Temperature 55.0 - 160 °C	77.2 µin/in-°F @Temperature 131 - 320 °F	DAM; ASTM E 831
	139 µm/m-°C @Temperature 55.0 - 160 °C	77.2 µin/in-°F @Temperature 131 - 320 °F	DAM; ISO 11359-1/-2
Melting Point	217 °C	423 °F	DAM; ASTM D3418
	218 °C	424 °F	10°C/min; DAM; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	215 °C	419 °F	DAM; ASTM D648
	217 °C	423 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	203 °C	397 °F	DAM; ISO 75-1/-2
	205 °C	401 °F	DAM; ASTM D648
Glass Transition Temp, Tg	70.0 °C	158 °F	10°C/min; DAM; ISO 11357-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm @Temperature 23.0 °C	1.00e+12 ohm-cm @Temperature 73.4 °F	50%RH; ASTM D257
	1.00e+15 ohm-cm @Temperature 23.0 °C	1.00e+15 ohm-cm @Temperature 73.4 °F	DAM; ASTM D257
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	DAM; IEC 60093

Electrical Properties	Metric @Temperature 23.0 °C	English @Temperature 73.4 °F	Comments
Surface Resistance	1.00e+15 ohm @Temperature 23.0 °C	1.00e+15 ohm @Temperature 73.4 °F	DAM; ASTM D257
Dielectric Constant	3.6 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.6 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	DAM; ASTM D150
	3.6 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.6 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	DAM; IEC 60250
	4.0 @Frequency 1000 Hz, Temperature 23.0 °C	4.0 @Frequency 1000 Hz, Temperature 73.4 °F	DAM; ASTM D150
Dielectric Strength	19.7 kV/mm @Thickness 3.20 mm, Temperature 23.0 °C	500 kV/in @Thickness 0.126 in, Temperature 73.4 °F	DAM; Short Time; ASTM D149
Dissipation Factor	0.020 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	0.020 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	DAM; ASTM D150
	0.020 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	0.020 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	DAM; IEC 60250
	0.030 @Frequency 1000 Hz, Temperature 23.0 °C	0.030 @Frequency 1000 Hz, Temperature 73.4 °F	DAM; ASTM D150
Comparative Tracking Index	>= 600 V @Thickness 3.00 mm, Temperature 23.0 °C	>= 600 V @Thickness 0.118 in, Temperature 73.4 °F	DAM; UL 746A
	>= 600 V @Thickness 3.00 mm, Temperature 23.0 °C	>= 600 V @Thickness 0.118 in, Temperature 73.4 °F	DAM; UL 746A

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