DuPont Performance Polymers Zytel® 105F BK010 Nylon 66 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Zytel® 105F BK010 is a lubricated, fast cycling, weather resistant PA 66 resin. Zytel® 105F BK010 contains finely dispersed carbon black.Information provided by DuPont Performance Polymers

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-105F-BK010-Nylon-66-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.15 g/cc	1.15 g/cc	DAM; ASTM D792
Density	1.14 g/cc	0.0412 lb/in³	DAM; ISO 1183
Water Absorption	0.95 % @Temperature 23.0 °C	0.95 % @Temperature 73.4 °F	Immersion 24h; DAM; ASTM D570
	2.7 % @Temperature 23.0 °C	2.7 % @Temperature 73.4 °F	Equilibrium 50%RH; DAM; ISO 62, Similar to
	8.5 % @Temperature 23.0 °C	8.5 % @Temperature 73.4 °F	Saturation, immersed; DAM; ISO 62, Similar to
	9.0 % @Temperature 23.0 °C	9.0 % @Temperature 73.4 °F	Saturation; DAM; ASTM D570
Linear Mold Shrinkage	0.012 cm/cm @Thickness 3.20 mm	0.012 in/in @Thickness 0.126 in	Flow; DAM
Linear Mold Shrinkage, Flow	0.013 cm/cm @Thickness 2.00 mm	0.013 in/in @Thickness 0.0787 in	DAM; ISO 294-4
Linear Mold Shrinkage, Transverse	0.013 cm/cm @Thickness 2.00 mm	0.013 in/in @Thickness 0.0787 in	DAM; ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	121	121	DAM; ASTM D785
Tensile Strength	41.4 MPa @Temperature 77.0 °C	6000 psi @Temperature 171 °F	50%RH; ASTM D638
	48.3 MPa @Temperature 77.0 °C	7010 psi @Temperature 171 °F	DAM; ASTM D638

Mechanical Properties	Metric	English	Comments
	82.0 MPa @Temperature 23.0 °C	8550 psi @Temperature 73.4 °F	50%RH; ASTM D638
	83.0 MPa @Temperature 23.0 °C	12000 psi @Temperature 73.4 °F	DAM; ASTM D638
	111 MPa @Temperature -40.0 °C	16100 psi @Temperature -40.0 °F	50%RH; ASTM D638
	114 MPa @Temperature -40.0 °C	16500 psi @Temperature -40.0 °F	DAM; ASTM D638
Tensile Strength, Yield	60.0 MPa @Temperature 23.0 °C	8700 psi @Temperature 73.4 °F	50%RH; ISO 527
	85.0 MPa @Temperature 23.0 °C	12300 psi @Temperature 73.4 °F	DAM; ISO 527
Elongation at Break	10 % @Temperature -40.0 °C	10 % @Temperature -40.0 °F	50%RH; ASTM D638
	10 % @Temperature -40.0 °C	10 % @Temperature -40.0 °F	DAM; ASTM D638
	24 % @Temperature 23.0 °C	24 % @Temperature 73.4 °F	DAM; nominal; ISO 527
	>= 25 % @Temperature 23.0 °C	>= 25 % @Temperature 73.4 °F	DAM; ASTM D638
	30 % @Temperature 23.0 °C	30 % @Temperature 73.4 °F	DAM; ISO 527
	>= 50 % @Temperature 23.0 °C	>= 50 % @Temperature 73.4 °F	50%RH; nominal; ISO 527
	>= 50 % @Temperature 23.0 °C	>= 50 % @Temperature 73.4 °F	50%RH; ISO 527
	>= 120 % @Temperature 23.0 °C	>= 120 % @Temperature 73.4 °F	50%RH; ASTM D638
	>= 120 % @Temperature 77.0 °C	>= 120 % @Temperature 171 °F	DAM; ASTM D638
	>= 200 %	>= 200 %	

Mechanical Properties	Metric	English	Comments
	@Temperature 77.0 °C	@Temperature 171 °F	50%RH; ASTM D638
Elongation at Yield	25 % @Temperature 23.0 °C	25 % @Temperature 73.4 °F	50%RH; ISO 527
Tensile Modulus	1.50 GPa @Temperature 23.0 °C	218 ksi @Temperature 73.4 °F	50%RH; ISO 527
	3.20 GPa @Temperature 23.0 °C	464 ksi @Temperature 73.4 °F	DAM; ISO 527
Flexural Modulus	0.690 GPa @Temperature 77.0 °C	100 ksi @Temperature 171 °F	DAM; ASTM D790
	0.690 GPa @Temperature 77.0 °C	100 ksi @Temperature 171 °F	50%RH; ASTM D790
	1.38 GPa @Temperature 23.0 °C	200 ksi @Temperature 73.4 °F	50%RH; ASTM D790
	2.83 GPa @Temperature 23.0 °C	410 ksi @Temperature 73.4 °F	DAM; ASTM D790
	3.93 GPa @Temperature -40.0 °C	570 ksi @Temperature -40.0 °F	50%RH; ASTM D790
	4.48 GPa @Temperature -40.0 °C	650 ksi @Temperature -40.0 °F	DAM; ASTM D790
Shear Strength	65.5 MPa @Temperature 23.0 °C	9500 psi @Temperature 73.4 °F	50%RH; ASTM D732
	72.4 MPa @Temperature 23.0 °C	10500 psi @Temperature 73.4 °F	DAM; ASTM D732
Izod Impact, Notched	0.480 J/cm @Temperature 23.0 °C	0.899 ft-lb/in @Temperature 73.4 °F	DAM; ASTM D256
	0.590 J/cm @Temperature -40.0 °C	1.11 ft-lb/in @Temperature -40.0 °F	50%RH; ASTM D256
	0.590 J/cm @Temperature -40.0 °C	1.11 ft-lb/in @Temperature -40.0 °F	DAM; ASTM D256
	0.640 J/cm @Temperature 77.0 °C	1.20 ft-lb/in @Temperature 171 °F	DAM; ASTM D256

Mechanical Properties	Metric	English	Comments
	1.10 J/cm @Temperature 23.0 °C	2.06 ft-lb/in @Temperature 73.4 °F	50%RH; ASTM D256
	2.70 J/cm @Temperature 77.0 °C	5.06 ft-lb/in @Temperature 171 °F	50%RH; ASTM D256
Izod Impact, Notched (ISO)	3.00 kJ/m² @Temperature -30.0 °C	1.43 ft-lb/in² @Temperature -22.0 °F	50%RH; ISO 180/1A
	4.00 kJ/m² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 180/1A
	5.00 kJ/m² @Temperature 23.0 °C	2.38 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 180/1A
	12.0 kJ/m² @Temperature 23.0 °C	5.71 ft-lb/in² @Temperature 73.4 °F	50%RH; ISO 180/1A
Charpy Impact Unnotched	4.50 J/cm² @Temperature 23.0 °C	21.4 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eU
	5.50 J/cm² @Temperature -30.0 °C	26.2 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eU
	5.50 J/cm² @Temperature -30.0 °C	26.2 ft-lb/in² @Temperature -22.0 °F	50%RH; ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	50%RH; ISO 179/1eU
Charpy Impact, Notched	0.300 J/cm² @Temperature -30.0 °C	1.43 ft-lb/in² @Temperature -22.0 °F	50%RH; ISO 179/1eA
	0.400 J/cm² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eA
	0.600 J/cm² @Temperature 23.0 °C	2.86 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eA
	1.50 J/cm² @Temperature 23.0 °C	7.14 ft-lb/in² @Temperature 73.4 °F	50%RH; ISO 179/1eA
Tensile Impact Strength	340 kJ/m² @Temperature 23.0 °C	162 ft-lb/in² @Temperature 73.4 °F	DAM; Long specimen; ASTM D1822

Mechanical Properties	Metric	English	Comments
	920 kJ/m²	438 ft-lb/in²	50%RH; Long specimen; ASTM D1822
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Creep Modulus, 1 hour	1340 MPa @Temperature 23.0 °C	194000 psi @Temperature 73.4 °F	50%RH; ISO 899
Tensile Creep Modulus, 1000 hours	600 MPa @Temperature 23.0 °C	87000 psi @Temperature 73.4 °F	50%RH; ISO 899

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+14 ohm-cm @Temperature 23.0 °C	1.00e+14 ohm-cm @Temperature 73.4 °F	DAM; ASTM D257
Dielectric Constant	3.4 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.4 @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
	3.7 @Frequency 100 Hz, Temperature 23.0 °C	3.7 @Frequency 100 Hz, Temperature 73.4 °F	DAM; ASTM D150
	3.7 @Frequency 1000 Hz, Temperature 23.0 °C	3.7 @Frequency 1000 Hz, Temperature 73.4 °F	DAM; ASTM D150
	3.7 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.7 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	50%RH; ASTM D150
	4.6 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	4.6 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	50%RH; IEC 60250
	5.4 @Frequency 1000 Hz, Temperature 23.0 °C	5.4 @Frequency 1000 Hz, Temperature 73.4 °F	50%RH; ASTM D150

Electrical Properties	Metric	English	Comments
	6.5 @Frequency 100 Hz, Temperature 23.0 °C	6.5 @Frequency 100 Hz, Temperature 73.4 °F	50%RH; ASTM D150
Dissipation Factor	0.010 @Frequency 100 Hz, Temperature 23.0 °C	0.010 @Frequency 100 Hz, Temperature 73.4 °F	DAM; ASTM D150

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