

DuPont Performance Polymers Zytel® 80G33HS1L BK104 Nylon 66 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 30% Glass Fiber Filled

Material Notes:

Zytel® 80G33HS1L BK104 is a 33% glass fiber reinforced, heat stabilized black polyamide 66 resin with outstanding impact resistance developed using DuPont Super Tough technology. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-80G33HS1L-BK104-Nylon-66-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.33 g/cc	1.33 g/cc	DAM; ASTM D792
Density	1.33 g/cc	0.0480 lb/in ³	DAM; ISO 1183
Filler Content	33 %	33 %	DAM
Water Absorption	0.91 % @Temperature 23.0 °C	0.91 % @Temperature 73.4 °F	Immersion 24h; 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	0.0070 cm/cm @Thickness 2.00 mm	0.0070 in/in @Thickness 0.0787 in	DAM; ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	112 MPa @Temperature 23.0 °C	16200 psi @Temperature 73.4 °F	50%RH; ISO 527
	148 MPa @Temperature 23.0 °C	21500 psi @Temperature 73.4 °F	DAM; ISO 527
Tensile Strength	138 MPa @Temperature 23.0 °C	20000 psi @Temperature 73.4 °F	DAM; ASTM D638
Elongation at Break	3.2 % @Temperature 23.0 °C	3.2 % @Temperature 73.4 °F	DAM; ASTM D638
	3.6 % @Temperature 23.0 °C	3.6 % @Temperature 73.4 °F	DAM; ISO 527
	6.6 % @Temperature 23.0 °C	6.6 % @Temperature 73.4 °F	50%RH; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Modulus	@Temperature 23.0 °C	@Temperature 73.4 °F	50%RH; ISO 527
	8.80 GPa	1280 ksi	DAM; ISO 527
Flexural Strength	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; ASTM D790
	205 MPa	29700 psi	DAM; ISO 178
Flexural Modulus	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; ASTM D790
	214 MPa	31000 psi	DAM; ISO 178
Izod Impact, Notched	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; ASTM D256
	2.00 J/cm	3.75 ft-lb/in	DAM; ASTM D4812
Izod Impact, Unnotched	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; ISO 180/1A
	13.35 J/cm	25.01 ft-lb/in	50%RH; ISO 180/1A
Izod Impact, Notched (ISO)	@Temperature -40.0 °C	@Temperature -40.0 °F	DAM; ISO 180/1A
	15.0 kJ/m ²	7.14 ft-lb/in ²	DAM; ISO 180/1A
Izod Impact, Unnotched (ISO)	@Temperature -30.0 °C	@Temperature -22.0 °F	DAM; ISO 180/1A
	16.0 kJ/m ²	7.61 ft-lb/in ²	DAM; ISO 180/1A
Izod Impact, Notched (ISO)	@Temperature -30.0 °C	@Temperature -22.0 °F	DAM; ISO 180/1A
	17.0 kJ/m ²	8.09 ft-lb/in ²	DAM; ISO 180/1A
Izod Impact, Unnotched (ISO)	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; ISO 180/1A
	21.0 kJ/m ²	9.99 ft-lb/in ²	DAM; ISO 180/1A
Charpy Impact Unnotched	@Temperature 23.0 °C	@Temperature 73.4 °F	50%RH; ISO 179/1eU
	9.60 J/cm ²	45.7 ft-lb/in ²	50%RH; ISO 179/1eU
	9.70 J/cm ²	46.2 ft-lb/in ²	

Mechanical Properties	Metric @ Temperature -40.0 °C	English @ Temperature -40.0 °F	50%RH; ISO 179/1eU Comments
	9.70 J/cm ² @Temperature 23.0 °C	46.2 ft-lb/in ² @Temperature 73.4 °F	DAM; ISO 179/1eU
	10.9 J/cm ² @Temperature -40.0 °C	51.9 ft-lb/in ² @Temperature -40.0 °F	DAM; ISO 179/1eU
Charpy Impact, Notched	1.70 J/cm ² @Temperature -30.0 °C	8.09 ft-lb/in ² @Temperature -22.0 °F	50%RH; ISO 179/1eA
	1.80 J/cm ² @Temperature -40.0 °C	8.57 ft-lb/in ² @Temperature -40.0 °F	DAM; ISO 179/1eA
	1.80 J/cm ² @Temperature -30.0 °C	8.57 ft-lb/in ² @Temperature -22.0 °F	DAM; ISO 179/1eA
	2.00 J/cm ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	DAM; ISO 179/1eA
	2.70 J/cm ² @Temperature 23.0 °C	12.8 ft-lb/in ² @Temperature 73.4 °F	50%RH; 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	160 °C Metric	320 °F English	Comments
CTE, linear, Transverse to Flow	96.0 µm/m-°C	53.3 µin/in-°F	DAM; ASTM E 831
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	96.0 µm/m-°C	53.3 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	119 µm/m-°C	66.1 µin/in-°F	DAM; ASTM E 831
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	119 µm/m-°C	66.1 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	130 µm/m-°C	72.2 µin/in-°F	DAM; ASTM E 831
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	
	130 µm/m-°C	72.2 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	
Melting Point	262 °C	504 °F	10°C/min; DAM; ISO 11357-1/-3
	263 °C	505 °F	
Deflection Temperature at 0.46 MPa (66 psi)	261 °C	502 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	245 °C	473 °F	DAM; ISO 75-1/-2
	245 °C	473 °F	
UL RTI, Electrical	130 °C	266 °F	DAM; UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	130 °C	266 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	DAM; UL 746B
	130 °C	266 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	DAM; UL 746B
	65.0 °C	149 °F	
UL RTI, Mechanical with Impact	@Thickness 0.750 mm	@Thickness 0.0295 in	DAM; UL 746B
	105 °C	221 °F	

Thermal Properties	@Thickness 3.00 mm Metric	@Thickness 0.118 in English	DAM; UL 746B Comments
	105 °C	221 °F	DAM; UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical without Impact	85.0 °C	185 °F	DAM; UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	95.0 °C	203 °F	DAM; UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	105 °C	221 °F	DAM; UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	HB	HB	DAM; IEC 60695-11-10
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	DAM; IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	DAM; IEC 60695-11-10
	@Thickness 3.00 mm	@Thickness 0.118 in	
	HB	HB	DAM; UL94
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	400 V	400 V	DAM; UL 746A
	@Temperature 23.0 °C	@Temperature 73.4 °F	

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