

DuPont Performance Polymers Zytel® 74G33W BK196 Nylon 66 (Unverified Data**)

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

Material Notes:

Zytel® 74G33W BK196 is a high gloss automotive weatherable black 33% glass reinforced nylon 66 and nylon 6 comelt resin. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-74G33W-BK196-Nylon-66-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.39 g/cc	1.39 g/cc	DAM; ASTM D792
Density	1.39 g/cc	0.0502 lb/in ³	DAM; ISO 1183
Filler Content	33 %	33 %	DAM
Linear Mold Shrinkage, Flow	0.0013 cm/cm @Thickness 2.00 mm	0.0013 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	125 MPa @Temperature 23.0 °C	18100 psi @Temperature 73.4 °F	50%RH; ISO 527
	185 MPa @Temperature 23.0 °C	26800 psi @Temperature 73.4 °F	DAM; ISO 527
Tensile Strength	117 MPa @Temperature 23.0 °C	17000 psi @Temperature 73.4 °F	50%RH; ASTM D638
	180 MPa @Temperature 23.0 °C	26100 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

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	50%RH; ISO 527
Tensile Modulus	7.08 GPa	1030 ksi	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	10.0 GPa	1450 ksi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	270 MPa	39200 psi	DAM; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	5.17 GPa	750 ksi	50%RH; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	8.90 GPa	1290 ksi	DAM; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	9.30 GPa	1350 ksi	DAM; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched	1.33 J/cm	2.49 ft-lb/in	DAM; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.60 J/cm	3.00 ft-lb/in	50%RH; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	13.85 J/cm	25.95 ft-lb/in	DAM; ASTM D4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	14.4 J/cm	27.0 ft-lb/in	50%RH; ASTM D4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	11.0 kJ/m ²	5.23 ft-lb/in ²	DAM; ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	12.0 kJ/m ²	5.71 ft-lb/in ²	DAM; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	80.0 kJ/m ²	38.1 ft-lb/in ²	DAM; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	8.00 J/cm ²	38.1 ft-lb/in ²	DAM; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.00 J/cm ²	4.76 ft-lb/in ²	

Charpy Impact, Notched Mechanical Properties	Metric @ Temperature -40.0 °C	English @ Temperature -40.0 °F	DAM; ISO 179/1eA Comments
	1.20 J/cm ²	5.71 ft-lb/in ²	DAM; ISO 179/1eA
	@ Temperature 23.0 °C	@ Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	500 µm/m-°C	278 µin/in-°F	DAM; ASTM E 831
	@ Temperature -40.0 - 23.0 °C	@ Temperature -40.0 - 73.4 °F	
	500 µm/m-°C	278 µin/in-°F	
	@ Temperature 23.0 - 55.0 °C	@ Temperature 73.4 - 131 °F	DAM; ASTM E 831
	500 µm/m-°C	278 µin/in-°F	DAM; ASTM E 831
	@ Temperature 55.0 - 160 °C	@ Temperature 131 - 320 °F	
	500 µm/m-°C	278 µin/in-°F	
	@ Temperature -40.0 - 23.0 °C	@ Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	500 µm/m-°C	278 µin/in-°F	DAM; ISO 11359-1/-2
	@ Temperature 23.0 - 55.0 °C	@ Temperature 73.4 - 131 °F	
	500 µm/m-°C	278 µin/in-°F	
	@ Temperature 55.0 - 160 °C	@ Temperature 131 - 320 °F	DAM; ISO 11359-1/-2
CTE, linear, Transverse to Flow	71.0 µm/m-°C	39.4 µin/in-°F	DAM; ASTM E 831
	@ Temperature -40.0 - 23.0 °C	@ Temperature -40.0 - 73.4 °F	
	71.0 µm/m-°C	39.4 µin/in-°F	
	@ Temperature -40.0 - 23.0 °C	@ Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	108 µm/m-°C	60.0 µin/in-°F	DAM; ASTM E 831
	@ Temperature 23.0 - 55.0 °C	@ Temperature 73.4 - 131 °F	
	108 µm/m-°C	60.0 µin/in-°F	
	@ Temperature 23.0 - 55.0 °C	@ Temperature 73.4 - 131 °F	DAM; ISO 11359-1/-2
	125 µm/m-°C	69.4 µin/in-°F	DAM; ASTM E 831
	@ Temperature 55.0 -	@ Temperature 131 -	

Thermal Properties	160 °C Metric	320 °F English	Comments
	125 µm/m-°C	69.4 µin/in-°F	
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	DAM; ISO 11359-1/-2
Melting Point	255 °C	491 °F	10°C/min; DAM; ISO 11357-1/-3
	257 °C	495 °F	DAM; ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	250 °C	482 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	225 °C	437 °F	DAM; ISO 75-1/-2
	225 °C	437 °F	DAM; ASTM D648

Processing Properties	Metric	English	Comments
Melt Temperature	290 °C	554 °F	DAM; Optimum
	280 - 300 °C	536 - 572 °F	DAM
Mold Temperature	70.0 - 120 °C	158 - 248 °F	DAM
	100 °C	212 °F	DAM; optimum
Drying Temperature	80.0 °C	176 °F	DAM
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	DAM
Moisture Content	<= 0.20 %	<= 0.20 %	DAM

Descriptive Properties	Value	Comments
Appearance	Black Color	DAM
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	DAM
Features	Gloss, High	DAM
	Surface Finish, Good	DAM
	Weather Resistance, Good	DAM
Filler	Glass fiber reinforcement	DAM
Forms	Pellets	DAM
Generic	Nylon 66	DAM
Material Status	Current	DAM

Part Marking Code Descriptive Properties	-PA66+PA6-GF33- Value	ISO 11469: DAM Comments
Processing Method	Injection Molding	DAM
Product Category	Glass Reinforced Resins	DAM
	UV Resistant/Weatherable Resins	DAM
Region Available - Global	Yes	DAM
Resin Identification	PA66+PA6-GF33	ISO 1043; DAM
RoHS Compliance	Contact Manufacturer	DAM
Uses	Appliance Components	DAM
	Automotive Applications	DAM
	Automotive Interior Applications	DAM
	Parts, Engineering	DAM
	Parts, Machine/Mechanical	DAM

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