

DuPont Performance Polymers Zytel® 77G43L BK031 Nylon 612 (Unverified Data**)

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

Material Notes:

Zytel® 77G43L BK031 is a 43% glass fiber reinforced, black 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-BK031-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/in ³	DAM; ISO 1183
Filler Content	43 %	43 %	DAM
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
Tensile Strength at Break	200 MPa @Temperature 23.0 °C	29000 psi @Temperature 73.4 °F	DAM; ISO 527
Tensile Strength	185 MPa @Temperature 23.0 °C	26800 psi @Temperature 73.4 °F	DAM; ASTM D638
Elongation at Break	2.8 % @Temperature 23.0 °C	2.8 % @Temperature 73.4 °F	DAM; ASTM D638
	3.0 % @Temperature 23.0 °C	3.0 % @Temperature 73.4 °F	DAM; ISO 527
Tensile Modulus	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	11.0 GPa @Temperature 23.0 °C	1600 ksi @Temperature 73.4 °F	DAM; ASTM D790

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; ISO 178
Izod Impact, Notched	1.70 J/cm @Temperature 23.0 °C	3.18 ft-lb/in @Temperature 73.4 °F	DAM; ASTM D256
Izod Impact, Unnotched	16.0 J/cm @Temperature 23.0 °C	30.0 ft-lb/in @Temperature 73.4 °F	DAM; ASTM D4812
Izod Impact, Notched (ISO)	15.0 kJ/m ² @Temperature -40.0 °C	7.14 ft-lb/in ² @Temperature -40.0 °F	DAM; ISO 180/1A
	17.0 kJ/m ² @Temperature 23.0 °C	8.09 ft-lb/in ² @Temperature 73.4 °F	DAM; ISO 180/1A
Charpy Impact, Notched	1.60 J/cm ² @Temperature -40.0 °C	7.61 ft-lb/in ² @Temperature -40.0 °F	DAM; ISO 179/1eA
	1.70 J/cm ² @Temperature 23.0 °C	8.09 ft-lb/in ² @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 - 160 °C	278 µin/in-°F @Temperature 131 - 320 °F	DAM; ISO 11359-1/-2

Thermal Properties CTE, linear, Transverse to Flow	73.0 µm/m-°C Metric	40.6 µin/in-°F English	Comments DAM; ASTM E 831
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	73.0 µm/m-°C	40.6 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	104 µm/m-°C	57.8 µin/in-°F	DAM; ASTM E 831
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	104 µm/m-°C	57.8 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	139 µm/m-°C	77.2 µin/in-°F	DAM; ASTM E 831
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	
	139 µm/m-°C	77.2 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	
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)	205 °C	401 °F	DAM; ISO 75-1/-2
	205 °C	401 °F	DAM; ASTM D648
UL RTI, Electrical	105 °C	221 °F	DAM; UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	120 °C	248 °F	DAM; UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	120 °C	248 °F	DAM; UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	120 °C	248 °F	DAM; UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	120 °C	248 °F	

Thermal Properties	Metric	English	DAM: UL 746B Comments
Flammability, UL94	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	DAM; IEC 60695-11-10
	HB @Thickness 0.710 mm	HB @Thickness 0.0280 in	
	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	
	HB @Thickness 0.710 mm	HB @Thickness 0.0280 in	
	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	>= 600 V	>= 600 V	DAM; UL 746A
	@Temperature 23.0 °C	@Temperature 73.4 °F	

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	<= 0.15 %	<= 0.15 %	DAM

Descriptive Properties	Value	Comments
Additive	Lubricant	DAM
Appearance	Black Color	DAM
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	DAM

Features Descriptive Properties	Dimensional Stability, Good Value	DAM Comments
	Lubricated	DAM
	Moisture Absorption, Low	DAM
Filler	Glass fiber reinforcement	DAM
Forms	Pellets	DAM
Generic	Nylon 612	DAM
Material Status	Current	DAM
Part Marking Code	>PA612-GF43<	ISO 11469; DAM
Polymer Family	Polyamide	DAM
Polymer Type	PA612	DAM
Processing Method	Injection Molding	DAM
Product Category	Glass Reinforced Resins	DAM
Region Available - Global	Yes	DAM
Resin Identification	PA612-GF43	ISO 1043; DAM
RoHS Compliance	Contact Manufacturer	DAM
Ultrasonic Weldable	Yes	DAM
Uses	Appliance Components	DAM
	Automotive Applications	DAM
	Electrical/Electronic Applications	DAM
	Industrial Applications	DAM

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