

DuPont Performance Polymers Zytel® FG77G33L NC010 Nylon 612

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

Material Notes:

33% Glass Reinforced Polyamide 612 with Developed for Food Contact Applications Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-FG77G33L-NC010-Nylon-612.php

Physical Properties	Metric	English	Comments
Density	1.32 g/cc	0.0477 lb/in ³	DAM; ISO 1183
Water Absorption	1.8 %	1.8 %	DAM; Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Moisture Absorption	0.700 %	0.700 %	DAM; Sim. to ISO 62
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Water Absorption at Saturation	0.30 %	0.30 %	DAM; Immersion 24h; ASTM D570
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	DAM; ISO 294-4 2577
Linear Mold Shrinkage, Transverse	0.0090 cm/cm	0.0090 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	140 MPa	20300 psi	50%RH; ISO 527-1/-2
	168 MPa	24400 psi	DAM; ISO 527-1/-2
Elongation at Break	3.2 %	3.2 %	DAM; ISO 527-1/-2
	3.2 %	3.2 %	50%RH; ISO 527-1/-2
Tensile Modulus	7.90 GPa	1150 ksi	50%RH; ISO 527-1/-2
	9.50 GPa	1380 ksi	DAM; ISO 527-1/-2
Flexural Modulus	7.00 GPa	1020 ksi	50%RH; ISO 178
	8.20 GPa	1190 ksi	DAM; ISO 178
Izod Impact, Notched (ISO)	12.0 kJ/m ²	5.71 ft-lb/in ²	50%RH; ISO 180/1A
	13.0 kJ/m ²	6.19 ft-lb/in ²	DAM; ISO 180/1A
	10.0 kJ/m ²	4.76 ft-lb/in ²	50%RH; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	10.0 kJ/m ²	4.76 ft-lb/in ²	

Mechanical Properties	Metric @ Temperature -40.0 °C	English @ Temperature -40.0 °F	50%RH; ISO 180/1A Comments
	11.0 kJ/m ² @Temperature -40.0 °C	5.23 ft-lb/in ² @Temperature -40.0 °F	DAM; ISO 180/1A
	11.0 kJ/m ² @Temperature -30.0 °C	5.23 ft-lb/in ² @Temperature -22.0 °F	DAM; ISO 180/1A
Izod Impact, Unnotched (ISO)	60.0 kJ/m ²	28.6 ft-lb/in ²	50%RH; ISO 180/1U
	70.0 kJ/m ²	33.3 ft-lb/in ²	DAM; ISO 180/1U
	45.0 kJ/m ² @Temperature -30.0 °C	21.4 ft-lb/in ² @Temperature -22.0 °F	50%RH; ISO 180/1U
	60.0 kJ/m ² @Temperature -30.0 °C	28.6 ft-lb/in ² @Temperature -22.0 °F	DAM; ISO 180/1U
Charpy Impact Unnotched	8.00 J/cm ²	38.1 ft-lb/in ²	DAM; ISO 179/1eU
	9.00 J/cm ²	42.8 ft-lb/in ²	50%RH; ISO 179/1eU
	6.00 J/cm ² @Temperature -30.0 °C	28.6 ft-lb/in ² @Temperature -22.0 °F	DAM; ISO 179/1eU
	6.50 J/cm ² @Temperature -30.0 °C	30.9 ft-lb/in ² @Temperature -22.0 °F	50%RH; ISO 179/1eU
Charpy Impact, Notched	1.20 J/cm ²	5.71 ft-lb/in ²	50%RH; ISO 179/1eA
	1.30 J/cm ²	6.19 ft-lb/in ²	DAM; ISO 179/1eA
	1.00 J/cm ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	50%RH; ISO 179/1eA
	1.00 J/cm ² @Temperature -40.0 °C	4.76 ft-lb/in ² @Temperature -40.0 °F	50%RH; ISO 179/1eA
	1.10 J/cm ² @Temperature -30.0 °C	5.23 ft-lb/in ² @Temperature -22.0 °F	DAM; ISO 179/1eA
	1.20 J/cm ² @Temperature -40.0 °C	5.71 ft-lb/in ² @Temperature -40.0 °F	DAM; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	17.0 μm/m-°C	9.44 μin/in-°F	DAM; ISO 11359-1/-2

Thermal Properties	16.0 $\mu\text{m}/\text{m}\cdot\text{C}$ Metric	8.89 $\mu\text{in}/\text{in}\cdot\text{F}$ English	Comments DAM; ISO 11359-1/-2
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	
	26.0 $\mu\text{m}/\text{m}\cdot\text{C}$	14.4 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
CTE, linear, Transverse to Flow	113 $\mu\text{m}/\text{m}\cdot\text{C}$	62.8 $\mu\text{in}/\text{in}\cdot\text{F}$	DAM; ISO 11359-1/-2
	83.0 $\mu\text{m}/\text{m}\cdot\text{C}$	46.1 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	158 $\mu\text{m}/\text{m}\cdot\text{C}$	87.8 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 55.0 - 160 °C	@Temperature 131 - 320 °F	DAM; ISO 11359-1/-2
Specific Heat Capacity	2.13 J/g·°C	0.509 BTU/lb·°F	
Thermal Conductivity	0.260 W/m-K	1.80 BTU-in/hr-ft ² -°F	of melt
Melting Point	218 °C	424 °F	DAM; 10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	216 °C	421 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	200 °C	392 °F	DAM; ISO 75-1/-2
Glass Transition Temp, Tg	65.0 °C	149 °F	DAM; 10°C/min; ISO 11357-1/-2

Descriptive Properties	Value	Comments
Additives	Release agent	
Delivery Form	Pellets	
Part Marking Code	>PA612-GF33<	ISO 11469
Processing	Injection Moulding	
Regional Availability	Asia Pacific	
	Europe	
	Global	
	Near East/Africa	
	North America	
	South and Central America	

Resin Identification Descriptive Properties	PA612-GF33 Value	Comments
	PA612-GF33	ISO 1043

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