DuPont Performance Polymers Zytel® 151 NC010 Nylon 612 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 612

Material Notes:

Zytel® 151 NC010 is a PA 612 resin.Information provided by DuPont Performance Polymers

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-151-NC010-Nylon-612-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.06 g/cc	0.0383 lb/in³	DAM; ISO 1183
Water Absorption	1.3 % @Temperature 23.0 °C	1.3 % @Temperature 73.4 °F	Equilibrium 50%RH; DAM; ISO 62, Similar to
	3.0 % @Temperature 23.0 °C	3.0 % @Temperature 73.4 °F	Saturation, immersed; DAM; ISO 62, Similar to
Linear Mold Shrinkage	0.011 cm/cm @Thickness 3.20 mm	0.011 in/in @Thickness 0.126 in	Flow; DAM
	0.011 cm/cm @Thickness 3.20 mm	0.011 in/in @Thickness 0.126 in	Transverse; 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	0.014 cm/cm @Thickness 2.00 mm	0.014 in/in @Thickness 0.0787 in	DAM; ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	114	114	DAM; ISO 2039/2
Tensile Strength, Yield	54.0 MPa @Temperature 23.0 °C	7830 psi @Temperature 73.4 °F	50%RH; ISO 527
	62.0 MPa @Temperature 23.0 °C	8990 psi @Temperature 73.4 °F	DAM; ISO 527
Elongation at Break	17 % @Temperature 23.0 °C	17 % @Temperature 73.4 °F	DAM; nominal; ISO 527
	>= 50 %	>= 50 %	50%RH; nominal; ISO 527

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	4.5 % @Temperature 23.0 °C	4.5 % @Temperature 73.4 °F	DAM; ISO 527
	18 % @Temperature 23.0 °C	18 % @Temperature 73.4 °F	50%RH; ISO 527
Tensile Modulus	1.70 GPa @Temperature 23.0 °C	247 ksi @Temperature 73.4 °F	50%RH; ISO 527
	2.40 GPa @Temperature 23.0 °C	348 ksi @Temperature 73.4 °F	DAM; ISO 527
Flexural Modulus	1.44 GPa @Temperature 23.0 °C	209 ksi @Temperature 73.4 °F	50%RH; ISO 178
	2.10 GPa @Temperature 23.0 °C	305 ksi @Temperature 73.4 °F	DAM; ISO 178
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 23.0 °C	1.90 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 180/1A
	4.50 kJ/m² @Temperature -30.0 °C	2.14 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 180/1A
	4.50 kJ/m² @Temperature 23.0 °C	2.14 ft-lb/in² @Temperature 73.4 °F	50%RH; ISO 180/1A
Charpy Impact Unnotched	4.00 J/cm² @Temperature -30.0 °C	19.0 ft-lb/in² @Temperature -22.0 °F	50%RH; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	DAM; ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	50%RH; ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	DAM; 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

Mechanical Properties	Metric	English	Comments
	0.350 J/cm²	1.67 ft-lb/in²	DAM; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.350 J/cm²	1.67 ft-lb/in²	DAM; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.400 J/cm²	1.90 ft-lb/in²	50%RH; 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 @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
CTE, linear, Transverse to Flow	90.0 µm/m-°C @Temperature -40.0 - 23.0 °C	50.0 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	120 µm/m-°C @Temperature 23.0 - 55.0 °C	66.7 µin/in-°F @Temperature 73.4 - 131 °F	DAM; ISO 11359-1/-2
	180 µm/m-°C @Temperature 55.0 - 160 °C	100 µin/in-°F @Temperature 131 - 320 °F	DAM; ISO 11359-1/-2
Melting Point	218 °C	424 °F	10°C/min; DAM; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	135 °C	275 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	62.0 °C	144 °F	DAM; ISO 75-1/-2
UL RTI, Electrical	105 °C @Thickness 0.860 mm	221 °F @Thickness 0.0339 in	DAM; UL 746B
	105 °C @Thickness 1.50 mm	221 °F @Thickness 0.0591 in	DAM; UL 746B

Thermal Properties	Metric	English	Comments
	105 °C @Thickness 3.00 mm	221 °F @Thickness 0.118 in	DAM; UL 746B
UL RTI, Mechanical with Impact	65.0 °C @Thickness 3.00 mm	149 °F @Thickness 0.118 in	DAM; UL 746B
	65.0 °C @Thickness 0.860 mm	149 °F @Thickness 0.0339 in	DAM; UL 746B
	65.0 °C @Thickness 1.50 mm	149 °F @Thickness 0.0591 in	DAM; UL 746B
UL RTI, Mechanical without Impact	65.0 °C @Thickness 3.00 mm	149 °F @Thickness 0.118 in	DAM; UL 746B
	65.0 °C @Thickness 1.50 mm	149 °F @Thickness 0.0591 in	DAM; UL 746B
	65.0 °C @Thickness 0.860 mm	149 °F @Thickness 0.0339 in	DAM; UL 746B
Flammability, UL94	V-2 @Thickness 0.860 mm	V-2 @Thickness 0.0339 in	DAM; IEC 60695-11-10
	V-2 @Thickness 1.50 mm	V-2 @Thickness 0.0591 in	DAM; IEC 60695-11-10
	V-2 @Thickness 3.00 mm	V-2 @Thickness 0.118 in	DAM; IEC 60695-11-10
	V-2 @Thickness 0.860 mm	V-2 @Thickness 0.0339 in	DAM; UL94
	V-2 @Thickness 1.50 mm	V-2 @Thickness 0.0591 in	DAM; UL94
	V-2 @Thickness 3.00 mm	V-2 @Thickness 0.118 in	DAM; UL94

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	600 V @Temperature 23.0 °C	600 V @Temperature 73.4 °F	DAM; IEC 60112
	>= 600 V	>= 600 V	DAM; ASTM D3638

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

Processing Properties	Metric	English	Comments
Melt Temperature	250 °C	482 °F	DAM; Optimum
	230 - 290 °C	446 - 554 °F	DAM
Mold Temperature	70.0 °C	158 °F	DAM; optimum
	50.0 - 90.0 °C	122 - 194 °F	DAM
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
Appearance	Natural Color	DAM
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	DAM
Forms	Pellets	DAM
Generic	Nylon 612	DAM
Material Status	Current	DAM
Part Marking Code	>PA612<	ISO 11469; DAM
Processing Method	Injection Molding	DAM
Product Category	Unreinforced Resins	DAM
Region Available - Global	Yes	DAM
Resin Identification	PA612	ISO 1043; DAM
RoHS Compliance	Contact Manufacturer	DAM

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