

DuPont Performance Polymers Zytel® E53 NC010 Nylon 66 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Zytel® E53 NC010 is a very high viscosity polyamide 66 resin for extrusion. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-E53-NC010-Nylon-66-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in ³	DAM; ISO 1183
Water Absorption	2.7 %	2.7 %	Equilibrium 50%RH; DAM; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	8.5 %	8.5 %	Saturation, immersed; DAM; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Linear Mold Shrinkage, Flow	0.016 cm/cm	0.016 in/in	DAM; ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	55.0 MPa	7980 psi	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	84.0 MPa	12200 psi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	>= 50 %	>= 50 %	50%RH; nominal; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	>= 50 %	>= 50 %	DAM; nominal; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	>= 100 %	>= 100 %	50%RH; nominal; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	4.4 %	4.4 %	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	30 %	30 %	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	1.20 GPa	174 ksi	50%RH; ISO 527

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
	3.00 GPa	435 ksi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	6.00 kJ/m ²	2.86 ft-lb/in ²	DAM; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	50%RH; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	DAM; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.400 J/cm ²	1.90 ft-lb/in ²	50%RH; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	DAM; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.700 J/cm ²	3.33 ft-lb/in ²	DAM; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	4.00 J/cm ²	19.0 ft-lb/in ²	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	278 µin/in-°F	DAM; ASTM E 831
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	500 µm/m-°C	278 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
CTE, linear, Transverse to Flow	100 µm/m-°C	55.6 µin/in-°F	DAM; ASTM E 831
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
	100 µm/m-°C	55.6 µin/in-°F	DAM; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
Melting Point	263 °C	505 °F	10°C/min; DAM; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	205 °C	401 °F	DAM; ISO 75-1/-2

Thermal Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm @Temperature 23.0 °C	1.00e+13 ohm-cm @Temperature 73.4 °F	DAM; IEC 60093
Dielectric Constant	3.9 @Frequency 100 Hz, Temperature 23.0 °C	3.9 @Frequency 100 Hz, Temperature 73.4 °F	DAM; IEC 60250
Dissipation Factor	0.010 @Frequency 100 Hz, Temperature 23.0 °C	0.010 @Frequency 100 Hz, Temperature 73.4 °F	DAM; IEC 60250
Comparative Tracking Index	600 V @Temperature 23.0 °C	600 V @Temperature 73.4 °F	50%RH; IEC 60112
	600 V @Temperature 23.0 °C	600 V @Temperature 73.4 °F	DAM; IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	290 °C	554 °F	DAM; Optimum
	280 - 300 °C	536 - 572 °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	<= 0.050 %	<= 0.050 %	DAM

Descriptive Properties	Value	Comments
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	DAM
Forms	Pellets	DAM
Generic	Nylon 66	DAM
Material Status	Current	DAM
Part Marking Code	>PA66<	ISO 11469; DAM
Processing Method	Extrusion	DAM

Descriptive Properties	Value	Comments
Product Category	Unreinforced Resins	DAM
Resin Identification	PA66	ISO 1043; DAM
RoHS Compliance	Contact Manufacturer	DAM

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