

DuPont Performance Polymers Zytel® E53 NC010 Nylon 66


Categories: [Polymer](#); [Thermoplastic](#); [Nylon \(Polyamide\)](#); [Nylon 66](#)

Material Notes: Unreinforced High Viscosity Polyamide 66

DuPont and Dow have completed their merger but further transactions/spinoffs are planned.

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in ³	DAM; ISO 1183
Water Absorption	8.5 % @Thickness 2.00 mm	8.5 % @Thickness 0.0787 in	DAM; Sim. to ISO 62
Moisture Absorption	2.70 % @Thickness 2.00 mm	2.70 % @Thickness 0.0787 in	DAM; Sim. to ISO 62
Viscosity Test	350 cm ³ /g	3.50 dl/g	DAM; ISO 307 1157 1628
Linear Mold Shrinkage, Flow	0.016 cm/cm	0.016 in/in	DAM; ISO 294-4 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	55.0 MPa	7980 psi	50%RH; ISO 527-1/-2
	84.0 MPa	12200 psi	DAM; ISO 527-1/-2
Elongation at Break	>= 50 %	>= 50 %	DAM; Nominal; ISO 527-1/-2
	>= 50 %	>= 50 %	50%RH; Nominal; ISO 527-1/-2
Elongation at Yield	4.4 %	4.4 %	DAM; ISO 527-1/-2
	30 %	30 %	50%RH; ISO 527-1/-2
Tensile Modulus	1.20 GPa	174 ksi	50%RH; ISO 527-1/-2
	3.00 GPa	435 ksi	DAM; ISO 527-1/-2
Charpy Impact Unnotched	NB	NB	DAM; ISO 179/1eU
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	DAM; ISO 179/1eA
	4.00 J/cm ²	19.0 ft-lb/in ²	50%RH; ISO 179/1eA
	0.400 J/cm ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	50%RH; ISO 179/1eA
	0.600 J/cm ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	DAM; ISO 179/1eA

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	DAM; IEC 60093
Dielectric Constant	3.9 @Frequency 100 Hz	3.9 @Frequency 100 Hz	DAM; IEC 60250

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	100 µm/m-°C	55.6 µin/in-°F	DAM; ISO 11359-1/-2
CTE, linear, Transverse to Flow	100 µm/m-°C	55.6 µin/in-°F	DAM; ISO 11359-1/-2
Melting Point	263 °C	505 °F	DAM; 10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	205 °C	401 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	74.0 °C	165 °F	DAM; ISO 75-1/-2

Descriptive Properties

Delivery form	Pellets
Processing	Casting
	Coatable
	Film Extrusion
	Other Extrusion
	Profile Extrusion
	Sheet Extrusion
Regional Availability	Europe
	Near East/Africa

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.