

DuPont Performance Polymers Zytel® 45HSB NC010 Nylon 66 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Zytel® 45HSB NC010 is a high viscosity, heat stabilized polyamide 66 resin for injection molding and extrusion. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-45HSB-NC010-Nylon-66-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	DAM; ASTM D792
Density	1.14 g/cc	0.0412 lb/in ³	DAM; ISO 1183
Linear Mold Shrinkage, Flow	0.014 cm/cm	0.014 in/in	DAM; ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Linear Mold Shrinkage, Transverse	0.014 cm/cm	0.014 in/in	DAM; ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength	83.0 MPa	12000 psi	DAM; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	55.0 MPa	7980 psi	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	83.0 MPa	12000 psi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	>= 50 %	>= 50 %	DAM; nominal; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	>= 50 %	>= 50 %	50%RH; nominal; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	90 %	90 %	DAM; ASTM D638
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	4.0 %	4.0 %	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	25 %	25 %	

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	50%RH- ISO 527 Comments
Tensile Modulus	1.30 GPa	189 ksi	50%RH; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	3.10 GPa	450 ksi	DAM; ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	2.80 GPa	406 ksi	DAM; ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	3.03 GPa	439 ksi	DAM; ASTM D790
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched	0.640 J/cm	1.20 ft-lb/in	DAM; ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	6.00 kJ/m²	2.86 ft-lb/in²	DAM; ISO 180/1A
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	6.00 kJ/m²	2.86 ft-lb/in²	DAM; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.550 J/cm²	2.62 ft-lb/in²	DAM; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.600 J/cm²	2.86 ft-lb/in²	DAM; 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; 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; ISO 11359-1/-2
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	
Melting Point	262 °C	504 °F	10°C/min; DAM; ISO 11357-1/-3
	262 °C	504 °F	
Deflection Temperature at 0.46 MPa (66 psi)	200 °C	392 °F	DAM; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	DAM; ASTM D648

Thermal Properties	70.0 °C Metric	158 °F English	DAM: ISO 75-1/-2 Comments
UL RTI, Electrical	140 °C	284 °F	DAM; UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
	140 °C	284 °F	DAM; UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	140 °C	284 °F	DAM; UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
UL RTI, Mechanical with Impact	95.0 °C	203 °F	DAM; UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	110 °C	230 °F	DAM; UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	110 °C	230 °F	DAM; UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	115 °C	239 °F	DAM; UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	125 °C	257 °F	DAM; UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	125 °C	257 °F	DAM; UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	HB	HB	DAM; IEC 60695-11-10
	@Thickness 3.00 mm	@Thickness 0.118 in	
	HB	HB	DAM; IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	DAM; IEC 60695-11-10
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	HB	HB	DAM; UL94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	DAM; UL94
	@Thickness 3.00 mm	@Thickness 0.118 in	
	HB	HB	DAM; UL94
	@Thickness 0.710 mm	@Thickness 0.0280 in	

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

Processing Properties	Metric	English	Comments
Melt Temperature	280 - 290 °C	536 - 554 °F	DAM; Extrusion
	285 °C	545 °F	DAM; Optimum; Extrusion
	290 °C	554 °F	DAM; Optimum; Injection Molding
	280 - 300 °C	536 - 572 °F	DAM; Injection Molding
Mold Temperature	70.0 °C	158 °F	DAM; optimum; Injection Molding
	50.0 - 90.0 °C	122 - 194 °F	DAM; Injection Molding
Drying Temperature	80.0 °C	176 °F	DAM; Extrusion
	80.0 °C	176 °F	DAM; Injection Molding
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	DAM; Injection Molding
	4.00 - 6.00 hour	4.00 - 6.00 hour	DAM; Extrusion
Moisture Content	<= 0.050 %	<= 0.050 %	DAM; Extrusion
	<= 0.050 %	<= 0.050 %	DAM; Injection Molding

Descriptive Properties	Value	Comments
Additive	Heat Stabilizer	DAM
Appearance	Natural Color	DAM
Drying Recommended	Yes, if moisture content of resin exceeds recommended level	DAM
Extrudable - Coating	Yes	DAM
Extrudable - Filament	Yes	DAM
Extrudable - Sheet	Yes	DAM
Extrudable - Tubing	Yes	DAM
Features	Heat Aging Resistance, Good	DAM

Descriptive Properties	Molecular Wt., High Value	DAM Comments
	Viscosity, High	DAM
Forms	Pellets	DAM
Generic	Nylon 66	DAM
Heat Stabilized	Yes	DAM
Material Status	Current	DAM
Part Marking Code	>PA66<	ISO 11469; DAM
Polymer Family	Polyamide	DAM
Polymer Type	PA66	DAM
Processing Method	Extrusion	DAM
	Extrusion	DAM
	Injection Molding	DAM
Product Category	Extrusion Resins	DAM
	Unreinforced Resins	DAM
Resin Identification	PA66	ISO 1043; DAM
RoHS Compliance	Contact Manufacturer	DAM
Ultrasonic Weldable	Yes	DAM
Uses	Gears	DAM
	Stock Material for Machining	DAM

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