DuPont Performance Polymers Zytel® ST801AHS NC010 Nylon 66 (Unverified Data**)

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Zytel® ST801AHS NC010 is a Super Tough, high performance polyamide 66 resin. It offers outstanding molding performance in injection molding applications.Information provided by DuPont

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Zytel-ST801AHS-NC010-Nylon-66-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.08 g/cc	0.0390 lb/in³	DAM; ISO 1183
Water Absorption	1.1 % @Temperature 23.0 °C	1.1 % @Temperature 73.4 °F	DAM; Immersion 24h; ISO 62, Similar to
	6.7 % @Temperature 23.0 °C	6.7 % @Temperature 73.4 °F	DAM; Saturation, immersed; ISO 62, Similar to
	2.0 % @Thickness 1.00 mm, Temperature 23.0 °C	2.0 % @Thickness 0.0394 in, Temperature 73.4 °F	DAM; Equilibrium 50%RH; ISO 62, Similar to
Linear Mold Shrinkage, Flow	0.020 cm/cm @Thickness 2.00 mm	0.020 in/in @Thickness 0.0787 in	DAM; ISO 294-4
Linear Mold Shrinkage, Transverse	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	DAM; ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Stress	45.0 MPa @Strain 50.0 %, Temperature 23.0 °C	6530 psi @Strain 50.0 %, Temperature 73.4 °F	50%RH; ISO 527
	52.0 MPa @Strain 50.0 %, Temperature 23.0 °C	7540 psi @Strain 50.0 %, Temperature 73.4 °F	DAM; ISO 527
Tensile Strength, Yield	39.0 MPa @Temperature 23.0 °C	5660 psi @Temperature 73.4 °F	50%RH; ISO 527
	52.0 MPa @Temperature 23.0 °C	7540 psi @Temperature 73.4 °F	DAM; ISO 527
	47 %	47 %	

Mechanical Properties	Metric	English	Comments
Elongation at Break	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; ISO 527
	>= 50 % @Temperature 23.0 °C	>= 50 % @Temperature 73.4 °F	50%RH; ISO 527
	>= 50 % @Temperature 23.0 °C	>= 50 % @Temperature 73.4 °F	50%RH; ISO 527
Elongation at Yield	4.0 % @Temperature 23.0 °C	4.0 % @Temperature 73.4 °F	DAM; ISO 527
	>= 50 % @Temperature 23.0 °C	>= 50 % @Temperature 73.4 °F	50%RH; ISO 527
Tensile Modulus	0.910 GPa @Temperature 23.0 °C	132 ksi @Temperature 73.4 °F	50%RH; ISO 527
	2.00 GPa @Temperature 23.0 °C	290 ksi @Temperature 73.4 °F	DAM; ISO 527
Flexural Modulus	0.823 GPa @Temperature 23.0 °C	119 ksi @Temperature 73.4 °F	50%RH; ISO 178
	1.89 GPa @Temperature 23.0 °C	274 ksi @Temperature 73.4 °F	DAM; ISO 178
Izod Impact, Notched (ISO)	14.0 kJ/m² @Temperature -20.0 °C	6.66 ft-lb/in² @Temperature -4.00 °F	DAM; ISO 180/1A
	16.0 kJ/m² @Temperature -40.0 °C	7.61 ft-lb/in² @Temperature -40.0 °F	50%RH; ISO 180/1A
	19.0 kJ/m² @Temperature -40.0 °C	9.04 ft-lb/in² @Temperature -40.0 °F	DAM; ISO 180/1A
	20.0 kJ/m² @Temperature -20.0 °C	9.52 ft-lb/in² @Temperature -4.00 °F	50%RH; ISO 180/1A
	76.0 kJ/m² @Temperature 23.0 °C	36.2 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 180/1A
	94.0 kJ/m² @Temperature 23.0 °C	44.7 ft-lb/in² @Temperature 73.4 °F	50%RH; ISO 180/1A
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	50%RH; ISO 179/1eU

Mechanical Properties	Metric	English	Comments
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	DAM; ISO 179/1eU
Charpy Impact, Notched	1.70 J/cm² @Temperature -30.0 °C	8.09 ft-lb/in² @Temperature -22.0 °F	50%RH; ISO 179/1eA
	2.00 J/cm² @Temperature -30.0 °C	9.52 ft-lb/in² @Temperature -22.0 °F	DAM; ISO 179/1eA
	7.50 J/cm² @Temperature 23.0 °C	35.7 ft-lb/in² @Temperature 73.4 °F	DAM; ISO 179/1eA
	11.0 J/cm² @Temperature 23.0 °C	52.3 ft-lb/in² @Temperature 73.4 °F	50%RH; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	80.0 µm/m-°C @Temperature -30.0 - 30.0 °C	44.4 µin/in-°F @Temperature -22.0 - 86.0 °F	DAM; ASTM E 831
	80.0 µm/m-°C @Temperature -40.0 - 23.0 °C	44.4 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ASTM E 831
	80.0 µm/m-°C @Temperature -30.0 - 30.0 °C	44.4 µin/in-°F @Temperature -22.0 - 86.0 °F	DAM; ISO 11359-1/-2
	80.0 µm/m-°C @Temperature -40.0 - 23.0 °C	44.4 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	90.0 µm/m-°C @Temperature 23.0 - 55.0 °C	50.0 µin/in-°F @Temperature 73.4 - 131 °F	DAM; ASTM E 831
	90.0 µm/m-°C @Temperature 23.0 - 55.0 °C	50.0 µin/in-°F @Temperature 73.4 - 131 °F	DAM; ISO 11359-1/-2
	100 µm/m-°C @Temperature 55.0 - 160 °C	55.6 µin/in-°F @Temperature 131 - 320 °F	DAM; ASTM E 831
	100 µm/m-°C @Temperature 55.0 -	55.6 µin/in-°F @Temperature 131 -	DAM; ISO 11359-1/-2

Thermal Properties	Metric	English	Comments
	160 °C	320 °F	
CTE, linear, Transverse to Flow	100 µm/m-°C @Temperature -30.0 - 30.0 °C	55.6 µin/in-°F @Temperature -22.0 - 86.0 °F	DAM; ISO 11359-1/-2
	100 µm/m-°C @Temperature -40.0 - 23.0 °C	55.6 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ISO 11359-1/-2
	100 µm/m-°C @Temperature -30.0 - 30.0 °C	55.6 µin/in-°F @Temperature -22.0 - 86.0 °F	DAM; ASTM E 831
	100 µm/m-°C @Temperature -40.0 - 23.0 °C	55.6 µin/in-°F @Temperature -40.0 - 73.4 °F	DAM; ASTM E 831
	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
	120 µm/m-°C @Temperature 23.0 - 55.0 °C	66.7 µin/in-°F @Temperature 73.4 - 131 °F	DAM; ASTM E 831
	150 µm/m-°C @Temperature 55.0 - 160 °C	83.3 µin/in-°F @Temperature 131 - 320 °F	DAM; ASTM E 831
	150 µm/m-°C @Temperature 55.0 - 160 °C	83.3 µin/in-°F @Temperature 131 - 320 °F	DAM; ISO 11359-1/-2
Melting Point	262 °C	504 °F	DAM; 10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	157 °C	315 °F	DAM; ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	62.0 °C	144 °F	DAM; ISO 75-1/-2
Glass Transition Temp, Tg	75.0 °C	167 °F	DAM; 10°C/min; ISO 11357-1/-2

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.70e+12 ohm-cm @Temperature 23.0 °C	2.70e+12 ohm-cm @Temperature 73.4 °F	50%RH; IEC 60093
	1.80e+16 ohm-cm @Temperature 23.0 °C	1.80e+16 ohm-cm @Temperature 73.4 °F	DAM; IEC 60093

Electrical Properties	Metric	English	Comments
Surface Resistance	5.00e+12 ohm @Temperature 23.0 °C	5.00e+12 ohm @Temperature 73.4 °F	50%RH; IEC 60093
	3.00e+15 ohm @Temperature 23.0 °C	3.00e+15 ohm @Temperature 73.4 °F	DAM; IEC 60093
Dielectric Constant	3.3 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.3 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	DAM; IEC 60250
	3.5 @Frequency 100 Hz, Temperature 23.0 °C	3.5 @Frequency 100 Hz, Temperature 73.4 °F	DAM; IEC 60250
	3.6 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.6 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	50%RH; IEC 60250
	6.2 @Frequency 100 Hz, Temperature 23.0 °C	6.2 @Frequency 100 Hz, Temperature 73.4 °F	50%RH; IEC 60250
Dielectric Strength	24.0 kV/mm @Thickness 2.00 mm, Temperature 23.0 °C	610 kV/in @Thickness 0.0787 in, Temperature 73.4 °F	50%RH; IEC 60243-1
	24.0 kV/mm @Thickness 2.00 mm, Temperature 23.0 °C	610 kV/in @Thickness 0.0787 in, Temperature 73.4 °F	DAM; IEC 60243-1
Dissipation Factor	0.0050 @Frequency 100 Hz, Temperature 23.0 °C	0.0050 @Frequency 100 Hz, Temperature 73.4 °F	DAM; IEC 60250
	0.011 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	0.011 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	DAM; IEC 60250
	0.040 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	0.040 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	50%RH; IEC 60250
	0.177 @Frequency 100 Hz, Temperature 23.0 °C	0.177 @Frequency 100 Hz, Temperature 73.4 °F	50%RH; IEC 60250
	600 V	600 V	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	@Temperature 23.0 °C	@Temperature 73.4 °F	DAM; IEC 60112
	>= 600 V @Thickness 3.00 mm, Temperature 23.0 °C	>= 600 V @Thickness 0.118 in, Temperature 73.4 °F	50%RH; UL 746A

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