

Zytel® ST801A NC010A NYLON RESIN

Product Description

Zytel® ST801A NC010A is a Super Tough, high performance, polyamide 66 resin. It is partially UV stabilized and when appropriately colored offers limited protection to indirect sunlight exposure.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific • Central America	• Europe • Latin America • North America	• South America
Additive	• Impact Modifier		
Features	• Fuel Resistant • Good Chemical Resistance • Grease Resistant	• High Impact Resistance • Impact Modified • Low Temperature Toughness	• Oil Resistant • Ultra High Toughness • Ultrasonic Weldable
Uses	• Appliance Components • Automotive Applications	• Electrical/Electronic Applications • Industrial Applications	• Sporting Goods
RoHS Compliance	• Contact Manufacturer		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		
Part Marking Code (ISO 11469)	• >PA66-HI<		
Resin ID (ISO 1043)	• PA66-HI		
Product Category	• Color Stable Resins	• Toughened Resins	• Unreinforced Resins

Physical	Dry	Conditioned	Unit	Test Method
Density	1.07	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow: 2.00 mm	1.7	--	%	
Flow: 2.00 mm	2.0	--	%	
Water Absorption (23°C, 24 hr)	1.1	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	2000	900	MPa	ISO 527-2
Tensile Stress				ISO 527-2
Yield, 23°C	48.0	43.0	MPa	
50% Strain, 23°C	49.0	44.0	MPa	
Tensile Strain (Yield, 23°C)	20	> 50	%	ISO 527-2
Nominal Tensile Strain at Break (23°C)	50	> 50	%	ISO 527-2
Tensile Creep Modulus				ISO 899-1
1 hr	--	800	MPa	
1000 hr	--	700	MPa	
Flexural Modulus (23°C)	1800	682	MPa	ISO 178

Impact	Dry	Conditioned	Unit	Test Method
Notched Izod Impact Strength				ISO 180/1A
-40°C	20	17	kJ/m ²	
-30°C	15	15	kJ/m ²	
-20°C	23	22	kJ/m ²	
23°C	73	93	kJ/m ²	

Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	157	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	63.0	--	°C	ISO 75-2/A
Glass Transition Temperature	75.0	--	°C	ISO 11357-2

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To find out more, visit [DuPont Performance Polymers](#) or contact the nearest DuPont location.

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Thermal	Dry	Conditioned	Unit	Test Method
Melting Temperature ²	262	--	°C	ISO 11357-3
CLTE				ASTM E831 ISO 11359-2
Flow: -40 to 23°C	0.00011	--	cm/cm/°C	
Flow: -30 to 30°C	0.00012	--	cm/cm/°C	
Flow: 23 to 55°C	0.00014	--	cm/cm/°C	
Flow: 55 to 160°C	0.00016	--	cm/cm/°C	
Transverse: -40 to 23°C	0.00011	--	cm/cm/°C	
Transverse: -30 to 30°C	0.00011	--	cm/cm/°C	
Transverse: 23 to 55°C	0.00013	--	cm/cm/°C	
Transverse: 55 to 160°C	0.00013	--	cm/cm/°C	
RTI Elec (0.810 mm)	125	--	°C	UL 746
RTI Imp (0.810 mm)	75.0	--	°C	UL 746
RTI Str (0.810 mm)	85.0	--	°C	UL 746
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.2E+16	1.0E+12	ohm	IEC 60093
Volume Resistivity	3.7E+16	8.7E+12	ohm·cm	IEC 60093
Electric Strength (23°C, 2.00 mm)	25	26	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
23°C, 100 Hz	3.50	5.90		
23°C, 1 MHz	3.30	3.50		
Dissipation Factor				IEC 60250
23°C, 100 Hz	0.0050	0.16		
23°C, 1 MHz	0.010	0.038		
Comparative Tracking Index (CTI) (3.00 mm)	> 600	--	V	UL 746
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (0.810 mm)	HB	--		UL 94 IEC 60695-11-10, -20
Oxygen Index	20	--	%	ISO 4589-2
Injection	Dry Unit			
Drying Temperature	80.0 °C			
Drying Time	2.0 to 4.0 hr			
Suggested Max Moisture	< 0.20 %			
Processing (Melt) Temp	270 to 300 °C			
Melt Temperature, Optimum	280 °C			
Mold Temperature	50.0 to 90.0 °C			
Mold Temperature, Optimum	70 °C			
Drying Recommended	Yes, if moisture content of resin exceeds recommended level			

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min

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Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.

ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.

Test temperatures are 23°C unless otherwise stated.

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