

Zytel® ST801A NC010A

NYLON RESIN
DuPont Performance Polymers

Message:
Unreinforced, Super Toughened, Polyamide 66

General Information				
Additive		demoulding		
RoHS Compliance		Contact manufacturer		
Forms		Particle		
Processing Method		Film extrusion		
		Extrusion		
		Casting		
		Sheet extrusion molding		
		Coating		
		Profile extrusion molding		
		Injection molding		
Multi-Point Data		Shear Stress vs. Shear Rate (ISO 11403-1)		
		Viscosity vs. Shear Rate (ISO 11403-2)		
Part Marking Code (ISO 11469)		>PA66-HI		
Resin ID (ISO 1043)		PA66-HI		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.07	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Transverse flow	1.4	--	%	ISO 294-4
Flow	1.8	--	%	ISO 294-4
Water Absorption (23°C, 24 hr)	1.1	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2000	900	MPa	ISO 527-2
Tensile Stress (50% Strain)	49.0	44.0	MPa	ISO 527-2
Tensile Strain (Break)	> 50	> 50	%	ISO 527-2
Tensile Creep Modulus				ISO 899-1
1 hr	--	800	MPa	ISO 899-1
1000 hr	--	700	MPa	ISO 899-1
Flexural Modulus	1800	700	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA

-30°C	20	20	kJ/m ²	ISO 179/1eA
23°C, local fracture	70	100	kJ/m ²	ISO 179/1eA
Notched Izod Impact				ISO 180/1A
-40°C	20	17	kJ/m ²	ISO 180/1A
-30°C	15	15	kJ/m ²	ISO 180/1A
23°C	80	90	kJ/m ²	ISO 180/1A
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	157	--	°C	ISO 75-2/B
1.8 MPa, not annealed	63.0	--	°C	ISO 75-2/A
Glass Transition Temperature ¹	75.0	--	°C	ISO 11357-2
Vicat Softening Temperature	205	--	°C	ISO 306/B50
Melting Temperature ²	262	--	°C	ISO 11357-3
Linear thermal expansion coefficient				
Flow: 23 to 55°C	1.4E-4	--	cm/cm/°C	ASTM E831
Flow	1.4E-4	--	cm/cm/°C	ISO 11359-2
Flow: -40 to 23°C	1.1E-4	--	cm/cm/°C	ISO 11359-2
Flow: 55 to 160°C	1.6E-4	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 55°C	1.3E-4	--	cm/cm/°C	ASTM E831
Lateral	1.3E-4	--	cm/cm/°C	ISO 11359-2
Horizontal: -40 to 23°C	1.1E-4	--	cm/cm/°C	ISO 11359-2
Horizontal: 55 to 160°C	1.3E-4	--	cm/cm/°C	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+12	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	8.7E+12	ohms·cm	IEC 60093
Dielectric Strength	25	--	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	3.50	5.90		IEC 60250
1 MHz	3.30	3.50		IEC 60250
Dissipation Factor				IEC 60250
100 Hz	5.0E-3	0.16		IEC 60250
1 MHz	0.010	0.038		IEC 60250
Comparative Tracking Index	600	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate ³ (1.00 mm)	< 100	--	mm/min	ISO 3795
Flame Rating				UL 94, IEC 60695-11-10, -20
0.8 mm	HB	--		UL 94, IEC 60695-11-10, -20

1.5 mm	HB	--		UL 94, IEC 60695-11-10, -20
Oxygen Index	20	--	%	ISO 4589-2
FMVSS Flammability	B	--		FMVSS 302
Melt Temperature, Optimum	290		°C	
Mold Temperature, Optimum	80		°C	
Drying Recommended	yes			
Hold Pressure Time	4.00		s/mm	
Maximum Screw Tangential Speed	300		mm/sec	
Fill Analysis	Dry	Conditioned	Unit	
Ejection Temperature	190	--	°C	
Injection	Dry	Unit		
Drying Temperature	80		°C	
Drying Time - Desiccant Dryer	2.0 - 4.0		hr	
Suggested Max Moisture	0.20		%	
Processing (Melt) Temp	280 - 300		°C	
Mold Temperature	50 - 100		°C	
Holding Pressure	50.0 - 100		MPa	
NOTE				
1.	10°C/min			
2.	10°C/min			
3.	FMVSS 302			

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