

# DuPont™ Zytel®

nylon resin

## Zytel® ST801AW NC010

Zytel® ST801AW NC010 is a Super Tough, high performance polyamide 66 resin. It is UV stabilized and when appropriately colored offers the best resistance to indirect sunlight in automotive interior applications.

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Identification</b>				
Resin Identification	ISO 1043		PA66-HI	
Part Marking Code	ISO 11469		>PA66-HI<	
<b>Mechanical</b>				
Yield Stress	ISO 527	MPa (kpsi)	49 (7.1)	35.5 (5.1)
Yield Strain	ISO 527	%	5	26.5
Stress at Break	ISO 527	MPa (kpsi)		
50mm/min			45 (6.5)	48 (7.0)
Strain at Break	ISO 527	%		
50mm/min			74	
Nominal Strain at Break	ISO 527	%	44	>50
Tensile Modulus	ISO 527	MPa (kpsi)	1900 (276)	775 (112)
Tensile Stress	ISO 527	MPa (kpsi)		
@ 50% Strain			50 (7.2)	48 (7.0)
Flexural Modulus	ISO 178	MPa (kpsi)	1800 (261)	728 (106)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup>		
-40°C (-40°F)			21	
-30°C (-22°F)			23	
-20°C (-4°F)			22	
0°C (32°F)			36	
23°C (73°F)			83	

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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			DAM	50%RH
<b>Mechanical</b>				
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m <sup>2</sup>		
-40°C (-40°F)			240	
-30°C (-22°F)			NB	
-20°C (-4°F)			300	
0°C (32°F)			260	
23°C (73°F)			NB	
<b>Thermal</b>				
Deflection Temperature	ISO 75-1/-2	°C (°F)		
0.45MPa			155 (311)	
1.80MPa			60 (140)	
Melting Temperature	ISO 11357-1/-3	°C (°F)		
10°C/min			262 (504)	
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)		
-30 - 30°C (-22 - 86°F)			1.1 (0.6)	
-40 - 23°C (-40 - 73°F)			1.1 (0.6)	
23 - 55°C (73 - 130°F)			1.2 (0.7)	
55 - 160°C (130 - 320°F)			1.2 (0.7)	
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)		
-30 - 30°C (-22 - 86°F)			1.3 (0.7)	
-40 - 23°C (-40 - 73°F)			1.2 (0.7)	
23 - 55°C (73 - 130°F)			1.4 (0.8)	
55 - 160°C (130 - 320°F)			1.7 (0.9)	
<b>Electrical</b>				
Surface Resistivity	IEC 60093	ohm	2.7E15	7.1E12
Volume Resistivity	IEC 60093	ohm m	2.5E14	2.4E10
Electric Strength	IEC 60243-1	kV/mm (V/mil)	26 (660)	26 (660)
Relative Permittivity	IEC 60250			
1E2 Hz		3.4	6.0	
1E6 Hz		3.2	3.5	

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Property	Test Method	Units	Value	
			DAM	50%RH
<b>Electrical</b>				
Dissipation Factor	IEC 60250	E-4		
1E2 Hz			50	1760
1E6 Hz			110	380
CTI	UL 746A	V	600	
<b>Flammability</b>				
Flammability Classification	IEC 60695-11-10		HB	
0.75mm				
Flammability Classification	UL94		HB	
0.75mm				
High Amperage Arc Ignition Resistance	UL 746A	arcs		
0.75mm				
1.5mm				
3.0mm				
Hot Wire Ignition	UL 746A	s		
0.75mm				
1.5mm				
3.0mm				
<b>Temperature Index</b>				
RTI, Electrical	UL 746B	°C		
0.75mm				
RTI, Impact	UL 746B	°C		
0.75mm				
RTI, Strength	UL 746B	°C		
0.75mm				

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Property	Test Method	Units	Value	
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<b>Other</b>				
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1080 (1.08)	
Hardness, Rockwell Scale R	ISO 2039/2		110	
Water Absorption Immersion 24h	ISO 62, Similar to	%	1.17	
Molding Shrinkage Normal, 2.0mm	ISO 294-4	%	1.8	
Parallel, 2.0mm			2.0	
<b>Processing</b>				
Melt Temperature Range		°C (°F)	270-300 (520-570)	
Melt Temperature Optimum		°C (°F)	290 (555)	
Mold Temperature Range		°C (°F)	50-90 (120-190)	
Mold Temperature Optimum		°C (°F)	70 (160)	
Drying Time, Dehumidified Dryer		h	2-4	
Drying Temperature		°C (°F)	80 (175)	
Processing Moisture Content		%	<0.20	

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