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
Identification				
Resin Identification	ISO 1043		PA66-HI	
Part Marking Code	ISO 11469		>PA66-HI<	
Mechanical				
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^2		
-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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Property	Test Method	Units	Value	
			DAM	50%RH
Mechanical				
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2		
-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	
Thermal				
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)	
Electrical				
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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			DAM	50%RH
Electrical				
Dissipation Factor	IEC 60250	E-4		
1E2 Hz			50	1760
1E6 Hz			110	380
CTI	UL 746A	V	600	
Flammability				
Flammability Classification	IEC 60695-11-10			
0.75mm			HB	
Flammability Classification	UL94			
0.75mm			HB	
High Amperage Arc Ignition Resistance	UL 746A	arcs		
0.75mm			150	
1.5mm			150	
3.0mm			150	
Hot Wire Ignition	UL 746A	s		
0.75mm			19	
1.5mm			28	
3.0mm			73	
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.75mm			125	
RTI, Impact	UL 746B	°C		
0.75mm			75	
RTI, Strength	UL 746B	°C		
0.75mm			85	

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Property	Test Method	Units	Value	
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Other				
Density	ISO 1183	kg/m^3 (g/cm^3)	1080 (1.08)	
Hardness, Rockwell	ISO 2039/2			
Scale R			110	
Water Absorption	ISO 62, Similar to	%		
Immersion 24h			1.17	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			1.8	
Parallel, 2.0mm			2.0	
Processing				
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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