

DuPont™ Zytel®

nylon resin

Zytel® ST801AHS BK010

Zytel® ST801AHS BK010 is a Super Tough, high performance, black polyamide 66 resin. It offers outstanding molding performance in injection molding 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)	47 (6.8)	39 (5.7)
Tensile Stress	ISO 527	MPa (kpsi)		
@ 50% Strain			45 (6.5)	
Strain at Break	ISO 527	%		
50mm/min			74	
Nominal Strain at Break	ISO 527	%	50	>50
Yield Strain	ISO 527	%	33	39
Tensile Modulus	ISO 527	MPa (kpsi)	1800 (261)	1096 (159)
Flexural Modulus	ISO 178	MPa (kpsi)	1900 (276)	832 (121)
Notched Charpy Impact Strength	ISO 179/1cA	kJ/m ²		
-40°C (-40°F)			20	
23°C (73°F)			76	
Unnotched Charpy Impact Strength	ISO 179/1cU	kJ/m ²	NB	

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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Product Information

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Property	Test Method	Units	Value	
			DAM	50%RH
Thermal				
Deflection Temperature	ISO 75f	°C (°F)		
0.45MPa			147 (297)	
1.80MPa			61 (142)	
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)			1.0 (0.6)	
23 - 55°C (73 - 130°F)			1.2 (0.7)	
55 - 160°C (130 - 320°F)			1.3 (0.7)	
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)		
-30 - 30°C (-22 - 86°F)			1.2 (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)			1.9 (1.1)	
Electrical				
CTI	UL 746A	V		
3.0mm			>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			>200	
1.5mm			>200	
3.0mm			>200	
High Voltage Arc Tracking Rate	UL 746A	mm/min (in/min)	7.6 (0.3)	
Hot Wire Ignition	UL 746A	s		
0.75mm			9	
1.5mm			14	
3.0mm			18	

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Property	Test Method	Units	Value	
			DAM	50%RH
Temperature Index				
RTI, Electrical	UL 746B	°C	130	
0.75mm				
RTI, Impact	UL 746B	°C	65	
0.75mm				
1.5mm			105	
RTI, Strength	UL 746B	°C	95	
0.75mm				
1.5mm			105	
3.0mm			110	
Other				
Density	ISO 1183	kg/m ³ (g/cm ³)	1090 (1.09)	
Hardness, Rockwell	ISO 2039/2			
Scale R			107	69
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			2	
Immersion 24h			1.1	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			1.5	
Parallel, 2.0mm			2.3	
Processing				
Melt Temperature Range		°C (°F)	270-300 (520-570)	
Melt Temperature Optimum		°C (°F)	280 (535)	
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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