



# Zytel®

nylon resin

## PRELIMINARY DATA

### Zytel® ST801AHS BK010

**Super Tough, High Performance Black Nylon 66 Resin**

Zytel® ST801AHS BK010 is a Super Tough, high performance black nylon 66 resin. It offers outstanding molding performance in injection molding applications. It replaces Zytel® ST801HS BK010.

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Mechanical</b>				
Yield Stress	ISO 527-1/-2	MPa (kpsi)		
-40°C (-40°F)			78 (11.3)	77 (11.2)
0°C (32°F)			58 (8.4)	53 (7.7)
23°C (73°F)			50 (7.3)	39 (5.7)
100°C (212°F)			27 (3.9)	27 (3.9)
121°C (250°F)			29 (4.2)	28 (4.1)
Yield Strain	ISO 527-1/-2	%		
-40°C (-40°F)			10	13
0°C (32°F)			9	>50
23°C (73°F)			5	39
100°C (212°F)			34	27
121°C (250°F)			50	28
Nominal Strain at Break	ISO 527-1/-2	%		
-40°C (-40°F)			18	32
0°C (32°F)			30	>50
23°C (73°F)			33	>50
100°C (212°F)			>50	>50
121°C (250°F)			>50	>50

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.

**The above data are preliminary and are subject to change as additional data are developed on subsequent lots.**

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The information provided in this data sheet corresponds to our knowledge on the subject at the date of its publication. This information may be subject to revision as new knowledge and experience becomes available. The data provided fall within the normal range of product properties and relate only to the specific material designated; these data may not be valid for such material used in combination with any other materials, additives or pigments or in any process, unless expressly indicated otherwise. The data provided should not be used to establish specification limits or used alone as the basis of design; they are not intended to substitute for any testing you may need to conduct to determine for yourself the suitability of a specific material for your particular purposes. Since DuPont cannot anticipate all variations in actual end-use conditions DuPont makes no warranties and assumes no liability in connection with any use of this information. Nothing in this publication is to be considered as a license to operate under or a recommendation to infringe any patent rights. DuPont advises you to seek independent counsel for a freedom to practice opinion on the intended application or end-use of our products. Caution: Do not use this product in medical applications involving permanent implantation in the human body. For other medical applications see "DuPont Medical Caution Statement", H-50102.

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# Product Information

## Zytel® ST801AHS BK010

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Mechanical</b>				
Strain at Break	ISO 527-1/-2	%	33	
Tensile Modulus	ISO 527-1/-2	MPa (kpsi)		
-40°C (-40°F)			2123 (308)	2626 (381)
0°C (32°F)			2120 (307)	1865 (270)
23°C (73°F)			1900 (276)	1096 (159)
100°C (212°F)			399 (58)	465 (67.4)
121°C (250°F)			406 (59)	460 (67)
Flexural Modulus	ISO 178	MPa (kpsi)		
-40°C (-40°F)			2151 (312)	2851 (413)
0°C (32°F)			1929 (280)	1792 (260)
23°C (73°F)			1900 (276)	832 (121)
100°C (212°F)			690 (100)	353 (51)
121°C (250°F)			240 (35)	310 (45)
Notched Izod Impact	ISO 180/1A	kJ/m <sup>2</sup>		
-40°C (-40°F)			18	
-20°C (-4°F)			21.2	
0°C (32°F)			30	
23°C (73°F)			71.2	
<b>Thermal</b>				
Deflection Temperature	ISO 75-1/-2	°C (°F)		
0.45MPa			230 (446)	
1.80MPa			61 (142)	
Melting Temperature	ISO 3146C	°C (°F)	263 (505)	
CLTE, Parallel	ASTM E 831	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)	

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Property	Test Method	Units	Value	
			DAM	50%RH
<b>Thermal</b>				
CLTE, Normal	ASTM E 831	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)	
<b>Other</b>				
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1090 (1.09)	
Hardness, Rockwell	ISO 2039/2			
Scale R			107	69
Humidity Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			2	
Water Absorption	ASTM D 570	%		
Immersion 24h			1.1	
Molding Shrinkage	ISO 294-4	%		
Normal			1.2	
Parallel			2.4	
<b>Processing</b>				
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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