



**Zytel®**

nylon resin

**PRELIMINARY DATA**

**Zytel® ST801HS NC010**

**Super Tough Nylon 66 Resin**

Zytel® ST801HS NC010 is a heat stabilized Super Tough nylon 66 resin. It offers outstanding impact resistance and high productivity.

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Mechanical</b>				
Tensile Strength	ASTM D 638	MPa (kpsi)		
-40C (-40F)			80 (11.6)	69 (10.0)
23C (73F)			51.7 (7.5)	41.4 (6.0)
77C (170F)			40.7 (5.9)	
121C (250F)			5 (5.0)	
Elongation at Break	ASTM D 638	%		
-40C (-40F)			20	10
23C (73F)			60	210
77C (170F)			220	170
121C (250F)			275	
Shear Strength	ASTM D 732	MPa (kpsi)	57.9 (8.4)	
Poisson's Ratio				0.41
Flexural Modulus	ASTM D 790	MPa (kpsi)		
-40C (-40F)			1965 (285)	2344 (340)
23C (73F)			1689 (245)	862 (125)
77C (170F)			476 (69)	393 (57)
121C (250F)			345 (50)	324 (47)
Tensile Impact Strength	ASTM D 1822	kJ/m2 (ft lb/in2)		
Long specimen			588 (280)	1155 (550)
Izod Impact	ASTM D 256	J/m (ft lb/in)		
-40C (-40F)			160 (3.0)	139 (2.6)
23C (73F)			907 (17.0)	1068 (20.0)

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.  
 Mechanical properties measured at 23°C (73°F) 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 or additives 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. 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-51459 or H-50102.

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# Product Information

## Zytel® ST801HS NC010

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Thermal</b>				
Heat Deflection Temperature 0.45MPa (66psi), Annealed	ASTM D 648	°C (°F)	216 (421)	
1.8MPa (264psi), Annealed			71 (160)	
CLTE, Parallel	ASTM D 696	E-4/C	1.2	
Melting Point	ASTM D 3418	°C (°F)	263 (505)	
<b>Electrical</b>				
Volume Resistivity	ASTM D 257	ohm cm	1 E14	1 E13
Dielectric Constant	ASTM D 150			
1E2 Hz			3.2	5.5
1E3 Hz			3.2	4.5
1E6 Hz			2.9	3.2
Dissipation Factor	ASTM D 150			
1E2 Hz			0.01	0.20
1E3 Hz			0.01	0.10
1E6 Hz			0.02	0.05
Arc Resistance	ASTM D 495	s	131	
CTI	UL 746A	V		
3.0mm			>600	
<b>Flammability</b>				
Rating @ Thickness	UL94		HB	
Thickness Tested	UL94	mm	0.75	
Limited Oxygen Index	ASTM D 2863	%	18	19
High Amperage Arc Ignition Resistance	UL 746A	arcs	>200	
High Voltage Arc Tracking Rate	UL 746A	mm/min (in/min)	7.6 (0.3)	
Hot Wire Ignition	UL 746A	s		
3.0mm			20	
<b>Temperature Index</b>				
RTI, Electrical	UL 746B	°C		
0.75mm			130	
1.5mm			130	
3.0mm			130	
RTI, Mechanical with Impact	UL 746B	°C		
0.75mm			65	
1.5mm			105	
3.0mm			105	
RTI, Mechanical without Impact	UL 746B	°C		
0.75mm			95	
1.5mm			105	
3.0mm			110	

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# Product Information

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Property	Test Method	Units	Value	
			DAM	50%RH
<b>Other</b>				
Specific Gravity	ASTM D 792		1.08	
Hardness, Rockwell Scale R	ASTM D 785		112	89
Water Absorption	ASTM D 570	%	1.2	
Immersion 24h			6.7	
Saturation				
<b>Processing</b>				
Melt Temperature Range		°C (°F)	288-293 (550-560)	
Mold Temperature Range		°C (°F)	38-93 (100-200)	
Drying Time, Dehumidified Dryer		h	2-4	
Drying Temperature		°C (°F)	80 (176)	
Processing Moisture Content		%	<0.20	

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