

DuPont™ Zytel®

nylon resin

PRELIMINARY DATA

Zytel® ST811HS NC010

Zytel® ST811HS is an extrudable Super Tough polyamide 6 resin. Flexible, non-plasticized grade, suitable for cable and rope jacketing, hose inner cores and molded fasteners and ski binding parts.

Property	Test Method	Units	Value		
			DAM	50%RH	
Identification					
Resin Identification	ISO 1043		PA6-HI		
Part Marking Code	ISO 11469		>PA6-HI<		
Mechanical					
Yield Stress	ISO 527	MPa (kpsi)	31 (4.5)		
Yield Strain	ISO 527	%	29		
Nominal Strain at Break	ISO 527	%	>50	>50	
Tensile Modulus	ISO 527	MPa (kpsi)	900 (131)	400 (58)	
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²			
			-30°C (-22°F)	14	13
			23°C (73°F)	71	129
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²			
			-30°C (-22°F)	NB	NB
			23°C (73°F)	NB	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.

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

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Property	Test Method	Units	Value	
			DAM	50%RH
Thermal				
Deflection Temperature 0.45MPa	ISO 75-1/-2	°C (°F)	170 (338)	
1.80MPa			47 (117)	
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	218 (424)	
CLTE, Parallel 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	2 (1.11)	
CLTE, Normal 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.8 (1)	
Vicat Softening Temperature 50N	ISO 306	°C (°F)	95 (203)	
Electrical				
CTI	UL 746A	V	>600	
Flammability				
Flammability Classification 0.75mm	IEC 60695-11-10		HB	
1.5mm			HB	
3.0mm			HB	
Flammability Classification 0.75mm	UL94		HB	
1.5mm			HB	
3.0mm			HB	
High Amperage Arc Ignition Resistance 0.75mm	UL 746A	arcs	200	
1.5mm			>200	
3.0mm			>200	

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			DAM	50%RH
Flammability				
Hot Wire Ignition	UL 746A	s		
0.75mm			9	
1.5mm			14	
3.0mm			18	
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.75mm			130	
1.5mm			130	
3.0mm			130	
RTI, Impact	UL 746B	°C		
0.75mm			65	
1.5mm			105	
3.0mm			105	
RTI, Strength	UL 746B	°C		
0.75mm			95	
1.5mm			100	
3.0mm			110	
Other				
Density	ISO 1183	kg/m ³ (g/cm ³)	1040 (1.04)	
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			2.3	
Saturation, immersed			6.8	
Molding Shrinkage	ISO 294-4	%		
Parallel, 2.0mm			1.8	
Mold Shrinkage				
Flow, 3.2mm (0.125in)			1.8	
Transverse, 3.2mm (0.125in)			1.8	

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Property	Test Method	Units	Value	
			DAM	50%RH
Processing				
Melt Temperature Range		°C (°F)	260-280 (500-535)	
Melt Temperature Optimum		°C (°F)	270 (520)	
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		%	<0.05	

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