

DuPont™ Zytel®

nylon resin

Zytel® ST801 NC010A

Zytel® ST801 is an unreinforced, super tough polyamide 66 for injection molding and extrusion. It offers outstanding break resistance over a wide temperature and humidity range and high productivity.

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)	50 (7.3)	43 (6.2)
Tensile Stress	ISO 527	MPa (kpsi)		39 (5.7)
@ 50% Strain				
Nominal Strain at Break	ISO 527	%	32	>50
Yield Strain	ISO 527	%	5.7	37
Tensile Modulus	ISO 527	MPa (kpsi)	2000 (290)	900 (131)
Tensile Creep Modulus	ISO 899	MPa (kpsi)		
1h				1200 (174)
1000h				750 (109)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²		
-30°C (-22°F)			18	17
23°C (73°F)			80	115
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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2005.

040730/050907

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.

Zytel® ST801 NC010A

Property	Test Method	Units	Value	
			DAM	50%RH
Thermal				
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	132 (270)	
1.80MPa			64 (147)	
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	263 (505)	
CLTE, Normal 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.9 (0.5)	
CLTE, Parallel 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.2 (0.67)	
Vicat Softening Temperature 50N	ISO 306	°C (°F)	205 (401)	
Electrical				
Surface Resistivity	IEC 60093	ohm	1E15	>1E15
Relative Permittivity	IEC 60250			
1E2 Hz			3.2	8
1E6 Hz			2.9	3.6
Volume Resistivity	IEC 60093	ohm m	1E13	1E11
Dissipation Factor	IEC 60250	E-4		
1E2 Hz			80	1800
1E6 Hz			140	550
Electric Strength	IEC 60243-1	kV/mm (V/mil)		
1.0mm			31 (787)	39 (990)
CTI	IEC 60112	V	600	
CTI	UL 746A	V		
3.0mm			>600	

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2005.

040730/050907

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.

Zytel® ST801 NC010A

Property	Test Method	Units	Value	
			DAM	50%RH
Flammability				
Flammability Classification	IEC 60695-11-10		HB	
0.81mm				
1.5mm				
3.0mm	UL94		HB	
Flammability Classification				
0.81mm				
1.5mm	ISO 4589-1/-2	%	20	
3.0mm				
Oxygen Index				
Glow Wire Flammability Index	IEC 60695-2-12	°C		
0.81mm				
1.5mm				
3.0mm	IEC 60695-2-13	°C	650	
Glow Wire Ignition Temperature				
0.81mm				
1.5mm	UL 746A	arcs	675	
3.0mm				
High Amperage Arc Ignition Resistance				
0.81mm	UL 746A	s	675	
1.5mm				
3.0mm				
Hot Wire Ignition	UL 746A		9	
0.81mm				
1.5mm				
3.0mm			15	
			20	

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2005.

040730/050907

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.

Zytel® ST801 NC010A

Property	Test Method	Units	Value	
			DAM	50%RH
Temperature Index				
RTI, Electrical	UL 746B	°C		
0.81mm			125	
1.5mm			125	
3.0mm			125	
RTI, Impact	UL 746B	°C		
0.81mm			75	
1.5mm			75	
3.0mm			75	
RTI, Strength	UL 746B	°C		
0.81mm			85	
1.5mm			85	
3.0mm			85	
Other				
Density	ISO 1183	kg/m ³ (g/cm ³)	1080 (1.08)	
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			2.2	
Saturation, immersed			6.7	
Molding Shrinkage	ISO 294-4	%		
Parallel, 2.0mm			1.7	
Processing				
Melt Temperature Range		°C (°F)	280-300 (535-570)	
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	

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 DuPont Oval Logo, DuPont™, The miracles of science™ and Zytel® are trademarks or registered trademarks of DuPont Company. Copyright© 2005.

040730/050907

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.