

-RMS 74



# DuPont™ Zytel®

nylon resin

## Zytel® 101F NC010

Zytel® 101F NC010 is an internally lubricated polyamide 66 resin for injection molding. It was developed for fast cycles and high productivity.

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Identification</b>				
Resin Identification	ISO 1043		PA66	
Part Marking Code	ISO 11469		>PA66<	
<b>Mechanical</b>				
Yield Stress	ISO 527	MPa (kpsi)	82 (11.9)	55 (8.0)
Strain at Break	ISO 527	%		
50mm/min			40	>100
Nominal Strain at Break	ISO 527	%	20	>100
Yield Strain	ISO 527	%	4.5	25
Tensile Modulus	ISO 527	MPa (kpsi)	3100 (450)	1400 (200)
Tensile Creep Modulus	ISO 899	MPa (kpsi)		
1h				1400 (200)
1000h				930 (135)
Poisson's Ratio			0.4	
Flexural Modulus	ISO 178	MPa (kpsi)	2800 (410)	1200 (174)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup>		
-30°C (-22°F)			4.5	3
23°C (73°F)			6	13
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m <sup>2</sup>		
-30°C (-22°F)			400	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.

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*P. Heibinder*  
10/28/08

**Zytel® 101F NC010**

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Thermal</b>				
Deflection Temperature 0.45MPa	ISO 75F	°C (°F)	200 (392)	
1.80MPa			70 (158)	
Melting Temperature 10°C/min	ISO 11357-1-3	°C (°F)	262 (504)	
CLTE, Normal 23 - 55°C (73 - 130°F)	ISO 11359-1-2	E-4/C (E-4/F)	1.1 (0.61)	
CLTE, Parallel 23 - 55°C (73 - 130°F)	ISO 11359-1-2	E-4/C (E-4/F)	1.0 (0.55)	
Vicat Softening Temperature 50N	ISO 306	°C (°F)	238 (460)	
<b>Electrical</b>				
Surface Resistivity	IEC 60093	ohm	1E12	1E12
Relative Permittivity 1E2 Hz	IEC 60250		3.8	
1E6 Hz			3.5	4.6
Volume Resistivity			IEC 60093	ohm m
Dielectric Constant 1E2 Hz	IEC 60250		4.0	8.0
1E3 Hz			3.9	7.0
1E6 Hz			3.6	4.6
Dissipation Factor 1E2 Hz	IEC 60250	E-4	140	
1E3 Hz			200	200
1E6 Hz			180	1000
Electric Strength 1.0mm	IEC 60243-1	kV/mm (V/mil)	31.5 (800)	26 (660)
CTI 3.0mm	UL 746A	V	>600	

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*D. Heikander*  
 10/28/08



Zytel® 101F NC010

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Flammability</b>				
Flammability Classification 0.71mm	IEC 60695-11-10		V-2	
Flammability Classification 0.71mm	UL94		V-2	
Oxygen Index	ISO 4589-1/-2	%	28	
Glow Wire Flammability Index 0.71mm	IEC 60695-2-12	°C	960	
1.5mm			960	
3.0mm			960	
Glow Wire Ignition Temperature 0.71mm	IEC 60695-2-13	°C	725	
1.5mm			750	
3.0mm			800	
High Amperage Arc Ignition Resistance 0.71mm	UL 746A	arcs	120	
1.5mm			168	
3.0mm			182	
6.0mm			200	
High Voltage Arc Tracking Rate	UL 746A	mm/min (in/min)	5 (0.2)	
Hot Wire Ignition 0.71mm	UL 746A	s	7	
1.5mm			13	
3.0mm			17	
6.0mm			20	
<b>Temperature Index</b>				
RTI, Electrical 0.71mm	UL 746B	°C	130	
RTI, Impact 0.71mm	UL 746B	°C	75	
RTI, Strength 0.71mm	UL 746B	°C	85	

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*R. Richardson*  
 10/28/88

**Zytel® 101F NC010**

Property	Test Method	Units	Value	
			DAM	50%RH
<b>Other</b>				
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1140 (1.14)	
Water Absorption	ISO 62, Similar to	%		
Equilibrium 50%RH			2.6	
Saturation, immersed			8.5	
Molding Shrinkage	ISO 294-4	%		
Normal, 2.0mm			1.4	
Parallel, 2.0mm			1.4	
Mold Shrinkage		%		
Flow, 3.2mm (0.126in)			1.5	
<b>Processing</b>				
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	

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*D. Petros*  
 10/28/08