

**Product Texts**

Common features of Zytel® nylon resin include mechanical and physical properties such as high mechanical strength, excellent balance of stiffness and toughness, good high temperature performance, good electrical and flammability properties, good abrasion and chemical resistance. In addition, Zytel® nylon resins are available in different modified and reinforced grades to create a wide range of products with tailored properties for specific processes and end-uses. Zytel® nylon resin, including most flame retardant grades, offer the ability to be coloured.

The good melt stability of Zytel® nylon resin normally enables the recycling of properly handled production waste. If recycling is not possible, we recommend, as the preferred option, incineration with energy recovery (-31kJ/g of base polymer) in appropriately equipped installations. For disposal, local regulations have to be observed.

Zytel® nylon resin typically is used in demanding applications in the automotive, furniture, domestic appliances, sporting goods and construction industry.

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

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Molding shrinkage, parallel	1.4 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	1.4 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Density of melt	970	kg/m <sup>3</sup>	-
<sup>[C]</sup> Thermal conductivity of melt	0.16	W/(m K)	-
<sup>[C]</sup> Spec. heat capacity of melt	2790	J/(kg K)	-
<sup>[C]</sup> Eff. thermal diffusivity	5E-8	m <sup>2</sup> /s	-
<sup>[C]</sup> Ejection temperature	190	°C	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	3100 / 1400	MPa	ISO 527
<sup>[C]</sup> Yield stress	82 / 55	MPa	ISO 527
<sup>[C]</sup> Yield strain	4.5 / 25	%	ISO 527
<sup>[C]</sup> Nominal strain at break	20 / >50	%	ISO 527
<sup>[C]</sup> Tensile creep modulus, 1h	* / 1400	MPa	ISO 899-1
<sup>[C]</sup> Tensile creep modulus, 1000h	* / 930	MPa	ISO 899-1
<sup>[C]</sup> Charpy impact strength, +23°C	N / N	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	400 / N	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	6 / 13	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	4.5 / 3	kJ/m <sup>2</sup>	ISO 179/1eA
<b>ASTM Data</b>			
Tensile Strength	83 / -	MPa	ASTM D 638
Tensile Strength at Yield	83 / -	MPa	ASTM D 638
Elongation at Yield	4 / -	%	ASTM D 638
Elongation at Break	50 / -	%	ASTM D 638
Flexural Modulus	2800 / -	MPa	ASTM D 790
Rockwell Hardness	R 113 /	-	ASTM D 785
Izod Impact notched, 1/8 in	53 / -	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	32 / -	J/m	ASTM D 256
Temperature	-40	°C	-

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	262 / *	°C	ISO 11357-1/-3
<sup>[C]</sup> Glass transition temperature, 10°C/min	70 / *	°C	ISO 11357-1/-2
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	70 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	190 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Vicat softening temperature, B	240 / *	°C	ISO 306
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	100 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	110 / *	E-6/K	ISO 11359-1/-2

<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	V-2 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	-
Yellow Card available	yes / *	-	-
<sup>[C]</sup> Burning Behav. at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested	0.7 / *	mm	-
Yellow Card available	yes / *	-	-
<sup>[C]</sup> Oxygen index	28 / *	%	ISO 4589-1/-2
<b>ASTM Data</b>			
UL 94 Flame rating	V-2	-	UL 94
Thickness tested	1.5	mm	-
DTUL @ 66 psi	210	°C	ASTM D 648
DTUL @ 264 psi	65	°C	ASTM D 648
Melting Temperature	263	°C	ASTM D 3418

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Relative permittivity, 100Hz	3.8 / 8	-	IEC 62631-2-1
<sup>[C]</sup> Relative permittivity, 1MHz	3.6 / 4.6	-	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 100Hz	140 / -	E-4	IEC 62631-2-1
<sup>[C]</sup> Dissipation factor, 1MHz	180 / 1000	E-4	IEC 62631-2-1
<sup>[C]</sup> Volume resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Electric strength	31.5 / 26	kV/mm	IEC 60243-1
<sup>[C]</sup> Comparative tracking index	600 / -	-	IEC 60112
<b>ASTM Data</b>			
Dielectric Strength, Short Time	16.5 / -	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	0.02 / -	-	ASTM D 150
Dielectric Constant, 1 MHz	3.7 / -	-	ASTM D 150
Surface Resistivity	* / 1E14	Ohm	ASTM D 257
Volume Resistivity	1E15 / -	Ohm*cm	ASTM D 257

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
<sup>[C]</sup> Water absorption	8.5 / *	%	Sim. to ISO 62
<sup>[C]</sup> Humidity absorption	2.6 / *	%	Sim. to ISO 62
<sup>[C]</sup> Density	1140 / -	kg/m <sup>3</sup>	ISO 1183
Water Absorption, 24hr	1.2	%	ASTM D 570
Density	1140	kg/m <sup>3</sup>	ASTM D 792

[C]: CAMPUS

Film Properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Strain at yield, parallel	4.5 / *	%	ISO 527-3

[C]: CAMPUS

Material specific properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Viscosity number	150 / *	cm <sup>3</sup> /g	ISO 307, 1157, 1628

[C]: CAMPUS

## Characteristics

### Processing

Injection Molding

### Chemical Resistance

General Chemical Resistance, Grease Resistance, Oil Resistance

## Zytel® 101F NC010

PA66

Celanese

### Delivery form

Pellets, Natural Color

### Additives

Lubricants, Release agent

### Features

Fatigue Resistance, Weldable

### Applications

Automotive, Electrical and Electronical

### Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa