

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 (-31 kJ/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® 70G33L NC010 is a 33% glass fiber reinforced polyamide 66 resin for injection molding.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
^[C] Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.1 / *	%	ISO 294-4, 2577
^[C] Thermal conductivity of melt	0.22	W/(m K)	-
^[C] Spec. heat capacity of melt	2210	J/(kg K)	-
^[C] Ejection temperature	210	°C	-
ASTM Data			
Mold Shrinkage, MD	0.002	mm/mm	ASTM D 955
Mold Shrinkage, TD	0.01	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	10000 / 8000	MPa	ISO 527
^[C] Stress at break	200 / 140	MPa	ISO 527
^[C] Strain at break	3.5 / 5	%	ISO 527
^[C] Tensile creep modulus, 1h	* / 8000	MPa	ISO 899-1
^[C] Tensile creep modulus, 1000h	* / 5500	MPa	ISO 899-1
^[C] Charpy impact strength, +23°C	85 / 100	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	70 / 75	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	13 / 17	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	10 / 10	kJ/m ²	ISO 179/1eA
^[C] Abrasion resistance	10 / *	mm ³	ISO 4649
ASTM Data			
Tensile Strength	186 / -	MPa	ASTM D 638
Elongation at Break	3 / -	%	ASTM D 638
Flexural Modulus	8965 / -	MPa	ASTM D 790
Flexural Strength	262 / -	MPa	ASTM D 790
Izod Impact notched, 1/8 in	117 / -	J/m	ASTM D 256

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Thermal properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Melting temperature, 10°C/min	262 / *	°C	ISO 11357-1/-3
^[C] Glass transition temperature, 10°C/min	80 / *	°C	ISO 11357-1/-2
^[C] Temp. of deflection under load, 1.80 MPa	252 / *	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	261 / *	°C	ISO 75-1/-2
^[C] Coeff. of linear therm. expansion, parallel	18 / *	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	83 / *	E-6/K	ISO 11359-1/-2
^[C] Burning Behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	-
Yellow Card available	yes / *	-	-
^[C] Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10

Thickness tested	0.7 / *	mm	-
Yellow Card available	yes / *	-	-
^[C] Burning rate, FMVSS, Thickness 1 mm	28	mm/min	ISO 3795 (FMVSS 302)
^[C] Oxygen index	24 / *	%	ISO 4589-1/-2
ASTM Data			
UL 94 Flame rating	HB	-	UL 94
Thickness tested	1.5	mm	-
Coefficient of Thermal Expansion, MD	18	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	83	E-6/K	ASTM D 696
DTUL @ 66 psi	261	°C	ASTM D 648
DTUL @ 264 psi	249	°C	ASTM D 648
Melting Temperature	263	°C	ASTM D 3418

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Electrical properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Relative permittivity, 100Hz	4.2 / -	-	IEC 62631-2-1
^[C] Relative permittivity, 1MHz	4 / -	-	IEC 62631-2-1
^[C] Dissipation factor, 100Hz	100 / -	E-4	IEC 62631-2-1
^[C] Dissipation factor, 1MHz	150 / -	E-4	IEC 62631-2-1
^[C] Volume resistivity	1E13 / -	Ohm*m	IEC 62631-3-1
^[C] Comparative tracking index	600 / -	-	IEC 60112
ASTM Data			
Dielectric Strength, Short Time	20.9 / -	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	0.02 / -	-	ASTM D 150
Dielectric Constant, 1 MHz	3.7 / -	-	ASTM D 150
Volume Resistivity	1E15 / -	Ohm*cm	ASTM D 257

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Other properties	dry / cond	Unit	Test Standard
^[C] Water absorption	5.7 / *	%	Sim. to ISO 62
^[C] Humidity absorption	1.8 / *	%	Sim. to ISO 62
^[C] Density	1390 / -	kg/m ³	ISO 1183
Water Absorption, 24hr	0.7	%	ASTM D 570
Density	1380	kg/m ³	ASTM D 792

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Material specific properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Viscosity number	157 / *	cm ³ /g	ISO 307, 1157, 1628

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Characteristics

Processing

Injection Molding

Delivery form

Pellets, Natural Color

Additives

Lubricants, Release agent

Features

Creep Resistance, Weldable

Applications

Automotive, Electrical and Electronical, General Purpose

Regional Availability

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