

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® 70G13HS1L NC010 is a 13% glass fiber reinforced, heat stabilized polyamide 66 resin for injection molding.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
^[C] Molding shrinkage, parallel	0.7 / *	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.2 / *	%	ISO 294-4, 2577
^[C] Thermal conductivity of melt	0.16	W/(m K)	-
^[C] Spec. heat capacity of melt	2370	J/(kg K)	-
^[C] Eff. thermal diffusivity	8.5E-8	m ² /s	-
^[C] Ejection temperature	210	°C	-
ASTM Data			
Mold Shrinkage, MD	0.006	mm/mm	ASTM D 955
Mold Shrinkage, TD	0.012	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	5500 / 3500	MPa	ISO 527
^[C] Stress at break	120 / 75	MPa	ISO 527
^[C] Strain at break	3 / 13	%	ISO 527
^[C] Tensile creep modulus, 1h	* / 3300	MPa	ISO 899-1
^[C] Tensile creep modulus, 1000h	* / 2200	MPa	ISO 899-1
^[C] Charpy impact strength, +23°C	32 / 70	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	30 / 30	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	5 / 6	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	- / 4	kJ/m ²	ISO 179/1eA
ASTM Data			
Tensile Strength	121 / -	MPa	ASTM D 638
Elongation at Break	3 / -	%	ASTM D 638
Flexural Modulus	4830 / -	MPa	ASTM D 790
Flexural Strength	165 / -	MPa	ASTM D 790
Rockwell Hardness	R 122 /	-	ASTM D 785
Izod Impact notched, 1/8 in	48 / -	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	235 / *	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	255 / *	°C	ISO 75-1/-2
^[C] Coeff. of linear therm. expansion, parallel	40 / *	E-6/K	ISO 11359-1/-2
^[C] Coeff. of linear therm. expansion, normal	93 / *	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	26	mm/min	ISO 3795 (FMVSS 302)
ASTM Data			
UL 94 Flame rating	HB	-	UL 94
Thickness tested	0.71	mm	-
Coefficient of Thermal Expansion, MD	40	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	96	E-6/K	ASTM D 696
DTUL @ 264 psi	243	°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] Dissipation factor, 100Hz	70 / 2400	E-4	IEC 62631-2-1
^[C] Dissipation factor, 1MHz	70 / 2400	E-4	IEC 62631-2-1
^[C] Volume resistivity	>1E13 / -	Ohm*m	IEC 62631-3-1

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Other properties	dry / cond	Unit	Test Standard
^[C] Water absorption	7.6 / *	%	Sim. to ISO 62
^[C] Humidity absorption	2.2 / *	%	Sim. to ISO 62
^[C] Density	1230 / -	kg/m ³	ISO 1183
Density	1220	kg/m ³	ASTM D 792

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Material specific properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Viscosity number	137 / *	cm ³ /g	ISO 307, 1157, 1628

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Characteristics

Processing

Injection Molding

Delivery form

Pellets, Granules, Natural Color

Additives

Lubricants, Release agent

Special Characteristics

Heat stabilized or stable to heat

Features

Thermal Stability, Weldable

Applications

Automotive, General Purpose

Regional Availability

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