Zytel® 70G33HS1L NC010

PA66-GF33 Celanese

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® 70G33HS1L NC010 is a 33% 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	**0.3 / ***	%	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	**11000 / 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/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**70 / 75**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**13 / 17**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**10 / 10**	kJ/m²	ISO 179/1eA
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
Rockwell Hardness	**M 101 /**	-	ASTM D 785
Izod Impact notched, 1/8 in	**117 / -**	J/m	ASTM D 256

[C]: CAMPUS

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	**0.8 / ***	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

[C]: CAMPUS

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 / 1E9**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	*** / 1E15**	Ohm	IEC 62631-3-2
[C] Electric strength	**46 / 38**	kV/mm	IEC 60243-1
[C] Comparative tracking index	**400 / -**	-	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

[C]: CAMPUS

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/m³	ISO 1183
Water Absorption, 24hr	**0.7**	%	ASTM D 570
Density	**1380**	kg/m³	ASTM D 792

[C]: CAMPUS

Material specific properties	**dry / cond**	**Unit**	**Test Standard**
ISO Data			
[C] Viscosity number	**153 / ***	cm³/g	ISO 307, 1157, 1628

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Delivery form
Pellets, Natural Color

Additives
Lubricants, Release agent

Special Characteristics
Heat stabilized or stable to heat

Features
Creep Resistance, Thermal Stability, Weldable

Applications
Automotive, Electrical and Electronical

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