Zytel® 77G33L NC010

PA612-GF33 Celanese

Product Texts

Zytel® LCPA long chain polyamide resins provide an innovative and growing portfolio of flexible polymers with excellent thermal, chemical, and hydrolysis resistance. The diverse selection of Zytel® LCPA grades is targeted for a range of performance characteristics, balancing temperature resistance, flexibility and low permeation.

Zytel® 77G33L NC010 is a 33% glass fiber reinforced polyamide 612 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	**0.9 / ***	%	ISO 294-4, 2577
[C] Thermal conductivity of melt	**0.26**	W/(m K)	-
[C] Spec. heat capacity of melt	**2130**	J/(kg K)	-
[C] Eff. thermal diffusivity	**7.5E-8**	m²/s	-
[C] Ejection temperature	**210**	°C	-
ASTM Data			
Mold Shrinkage, MD	**0.001**	mm/mm	ASTM D 955
Mold Shrinkage, TD	**0.009**	mm/mm	ASTM D 955

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**9500 / 7900**	MPa	ISO 527
[C] Stress at break	**170 / 140**	MPa	ISO 527
[C] Strain at break	**3.2 / 3.2**	%	ISO 527
[C] Charpy impact strength, +23°C	**80 / 90**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**60 / 65**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**13 / 12**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**11 / 10**	kJ/m²	ISO 179/1eA
ASTM Data			
Tensile Strength	**165 / -**	MPa	ASTM D 638
Elongation at Break	**3 / -**	%	ASTM D 638
Flexural Modulus	**8270 / -**	MPa	ASTM D 790
Flexural Strength	**255 / -**	MPa	ASTM D 790
Rockwell Hardness	**R 118 /**	-	ASTM D 785
Izod Impact notched, 1/8 in	**128 / -**	J/m	ASTM D 256

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Melting temperature, 10°C/min	**218 / ***	°C	ISO 11357-1/-3
[C] Glass transition temperature, 10°C/min	**65 / ***	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**200 / ***	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**216 / ***	°C	ISO 75-1/-2
[C] Coeff. of linear therm. expansion, parallel	**20 / ***	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**110 / ***	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	**23**	mm/min	ISO 3795 (FMVSS 302)
[C] Oxygen index	**23 / ***	%	ISO 4589-1/-2
ASTM Data			
UL 94 Flame rating	**HB**	-	UL 94
Thickness tested	**0.71**	mm	-
DTUL @ 66 psi	**220**	°C	ASTM D 648

DTUL @ 264 psi	**210**	°C	ASTM D 648
Melting Temperature	**217**	°C	ASTM D 3418

[C]: CAMPUS

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
ISO Data			
[C] Relative permittivity, 100Hz	**4.1 / -**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**3.7 / -**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**135 / -**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**200 / -**	E-4	IEC 62631-2-1
[C] Volume resistivity	**1E13 / 1E10**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	*** / 1E12**	Ohm	IEC 62631-3-2
[C] Electric strength	**33 / 30**	kV/mm	IEC 60243-1
[C] Comparative tracking index	**600 / -**	-	IEC 60112
ASTM Data			
Dielectric Strength, Short Time	**20.5 / -**	kV/mm	ASTM D 149
Dissipation Factor, 1 MHz	**0.02 / -**	-	ASTM D 150
Dielectric Constant, 1 MHz	**3.4 / -**	-	ASTM D 150
Surface Resistivity	*** / 1E15**	Ohm	ASTM D 257
Volume Resistivity	**1E15 / -**	Ohm*cm	ASTM D 257

[C]: CAMPUS

Other properties	**dry / cond**	**Unit**	**Test Standard**
[C] Water absorption	**1.8 / ***	%	Sim. to ISO 62
[C] Humidity absorption	**0.7 / ***	%	Sim. to ISO 62
[C] Density	**1320 / -**	kg/m³	ISO 1183
Water Absorption, 24hr	**0.16**	%	ASTM D 570
Density	**1320**	kg/m³	ASTM D 792

[C]: CAMPUS

Material specific properties	**dry / cond**	**Unit**	**Test Standard**
ISO Data			
[C] Viscosity number	**100 / ***	cm³/g	ISO 307, 1157, 1628

[C]: CAMPUS

Characteristics

Processing
Injection Molding

Delivery form
Pellets, Natural Color

Additives
Lubricants, Release agent

Features
Weldable

Applications
Automotive, Electrical and Electronical

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