Zytel® 158 NC010

PA612 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® 158 NC010 is an intermediate viscosity polyamide 612 resin.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
[C] Molding shrinkage, parallel	**1.5 / ***	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.5 / ***	%	ISO 294-4, 2577
[C] Density of melt	**900**	kg/m³	-
[C] Thermal conductivity of melt	**0.19**	W/(m K)	-
[C] Spec. heat capacity of melt	**2800**	J/(kg K)	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**2400 / 1500**	MPa	ISO 527
[C] Yield stress	**62 / 52**	MPa	ISO 527
[C] Yield strain	**4.3 / 19**	%	ISO 527
[C] Nominal strain at break	**35 / >50**	%	ISO 527
[C] Charpy impact strength, +23°C	**N / N**	kJ/m²	ISO 179/1eU
[C] Charpy impact strength, -30°C	**N / N**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**4.2 / 8**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**4.2 / 4**	kJ/m²	ISO 179/1eA
ASTM Data			
Tensile Strength	**61 / -**	MPa	ASTM D 638
Tensile Strength at Yield	**61 / -**	MPa	ASTM D 638
Elongation at Yield	**7 / -**	%	ASTM D 638
Elongation at Break	**150 / -**	%	ASTM D 638
Flexural Modulus	**2030 / -**	MPa	ASTM D 790
Rockwell Hardness	**R 114 /**	-	ASTM D 785
Izod Impact notched, 1/8 in	**53 / -**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**48 / -**	J/m	ASTM D 256
Temperature	**-40**	°C	-

[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	**60 / ***	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**62 / ***	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**135 / ***	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**180 / ***	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**120 / ***	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**120 / ***	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	**0.9 / ***	mm	-
Yellow Card available	**yes / ***	-	-
[C] Oxygen index	**25 / ***	%	ISO 4589-1/-2
ASTM Data			
UL 94 Flame rating	**HB**	-	UL 94
Thickness tested	**1.5**	mm	-
Coefficient of Thermal Expansion, MD	**120**	E-6/K	ASTM D 696

Coefficient of Thermal Expansion, TD	**120**	E-6/K	ASTM D 696
DTUL @ 264 psi	**55**	°C	ASTM D 648
Melting Temperature	**218**	°C	ASTM D 3418
Limiting Oxygen Index	**25**	%	ASTM D 2863

[C]: CAMPUS

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
ISO Data			
[C] Relative permittivity, 100Hz	**3.6 / 6**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**3.2 / 4**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**140 / 1500**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**165 / 1000**	E-4	IEC 62631-2-1
[C] Volume resistivity	**>1E13 / 1E11**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	*** / 1E12**	Ohm	IEC 62631-3-2
[C] Electric strength	**36 / 36**	kV/mm	IEC 60243-1
ASTM Data			
Dissipation Factor, 1 MHz	**0.02 / -**	-	ASTM D 150
Dielectric Constant, 1 MHz	**3.5 / -**	-	ASTM D 150
Volume Resistivity	**1E15 / -**	Ohm*cm	ASTM D 257

[C]: CAMPUS

Other properties	**dry / cond**	**Unit**	**Test Standard**
[C] Water absorption	**3 / ***	%	Sim. to ISO 62
[C] Humidity absorption	**1.3 / ***	%	Sim. to ISO 62
[C] Density	**1060 / -**	kg/m³	ISO 1183
Water Absorption, 24hr	**0.25**	%	ASTM D 570
Density	**1060**	kg/m³	ASTM D 792

[C]: CAMPUS

Film Properties	**dry / cond**	**Unit**	**Test Standard**
ISO Data			
[C] Strain at yield, parallel	**4.3 / ***	%	ISO 527-3

[C]: CAMPUS

Material specific properties	**dry / cond**	**Unit**	**Test Standard**
ISO Data			
[C] Viscosity number	**120 / ***	cm³/g	ISO 307, 1157, 1628

[C]: CAMPUS

Characteristics

Processing
Injection Molding, Other Extrusion, Coating

Additives
Release agent

Delivery form
Pellets, Natural Color

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