Zytel® E51HSB NC010

PA66 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® E51HSB NC010 is a high molecular weight, heat stabilized polyamide 66 resin for injection molding and extrusion.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
[C] Molding shrinkage, parallel	**1.3 / ***	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**1.3 / ***	%	ISO 294-4, 2577
[C] Density of melt	**980**	kg/m³	-
[C] Thermal conductivity of melt	**0.16**	W/(m K)	-
[C] Spec. heat capacity of melt	**2790**	J/(kg K)	-
[C] Ejection temperature	**190**	°C	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**3100 / 1200**	MPa	ISO 527
[C] Yield stress	**84 / 55**	MPa	ISO 527
[C] Yield strain	**4.3 / 29**	%	ISO 527
[C] Nominal strain at break	**35 / -**	%	ISO 527
[C] Charpy impact strength, +23°C	**N / -**	kJ/m²	ISO 179/1eU
[C] Charpy notched impact strength, +23°C	**7 / 21**	kJ/m²	ISO 179/1eA
[C] Charpy notched impact strength, -30°C	**6 / 4**	kJ/m²	ISO 179/1eA

[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	**70 / ***	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**67 / ***	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**200 / ***	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**221 / ***	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**100 / ***	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**100 / ***	E-6/K	ISO 11359-1/-2
[C] Oxygen index	**20 / ***	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Volume resistivity	**>1E13 / 1E11**	Ohm*m	IEC 62631-3-1
[C] Comparative tracking index	**600 / -**	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
[C] Water absorption	**8.5 / ***	%	Sim. to ISO 62
[C] Humidity absorption	**2.6 / ***	%	Sim. to ISO 62
[C] Density	**1140 / -**	kg/m³	ISO 1183

[C]: CAMPUS

Material specific properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Viscosity number	**310 / ***	cm³/g	ISO 307, 1157, 1628

[C]: CAMPUS

Characteristics

Processing
Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion, Coating, Casting

Delivery form
Pellets, Natural Color

Additives
Release agent

Special Characteristics
Heat stabilized or stable to heat

Regional Availability
North America, Europe, Asia Pacific, South and Central America