

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® MT409AHS BK010 is a Medium Toughened, high performance, heat stabilized polyamide 66 resin having good stiffness, improved knit line strength, surface appearance with outstanding processability.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
ISO Data			
^[C] Molding shrinkage, parallel	1.7 / *	%	ISO 294-4, 2577
^[C] Molding shrinkage, normal	1.7 / *	%	ISO 294-4, 2577
^[C] Ejection temperature	190	°C	-

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
ISO Data			
^[C] Tensile Modulus	2400 / 1100	MPa	ISO 527
^[C] Yield stress	61 / 43	MPa	ISO 527
^[C] Yield strain	5 / 28	%	ISO 527
^[C] Nominal strain at break	25 / >50	%	ISO 527
^[C] Charpy impact strength, +23°C	N / N	kJ/m ²	ISO 179/1eU
^[C] Charpy impact strength, -30°C	N / N	kJ/m ²	ISO 179/1eU
^[C] Charpy notched impact strength, +23°C	17 / 40	kJ/m ²	ISO 179/1eA
^[C] Charpy notched impact strength, -30°C	13 / 12	kJ/m ²	ISO 179/1eA

ASTM Data

Tensile Modulus	2700 / -	MPa	ASTM D 638
Tensile Strength	61 / -	MPa	ASTM D 638
Elongation at Break	35 / -	%	ASTM D 638
Flexural Modulus	2400 / -	MPa	ASTM D 790
Rockwell Hardness	R 113 /	-	ASTM D 785
Izod Impact notched, 1/8 in	133 / -	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	65 / *	°C	ISO 75-1/-2
^[C] Temp. of deflection under load, 0.45 MPa	187 / *	°C	ISO 75-1/-2
^[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] 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 / *	-	-
Thickness tested	3.0 / *	mm	-
Yellow Card available	yes / *	-	-
^[C] Burning rate, FMVSS, Thickness 1 mm	29	mm/min	ISO 3795 (FMVSS 302)

[C] Oxygen index	21 / *	%	ISO 4589-1/-2
ASTM Data			
UL 94 Flame rating	HB	-	UL 94
Thickness tested	1.5	mm	-
Coefficient of Thermal Expansion, MD	100	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	100	E-6/K	ASTM D 696
Melting Temperature	260	°C	ASTM D 3418

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	3.9 / 9.8	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	3.7 / 4	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	60 / 4350	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	130 / 5100	E-4	IEC 62631-2-1
[C] Volume resistivity	>1E13 / 9.7E9	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	* / 4.7E11	Ohm	IEC 62631-3-2
[C] Comparative tracking index	600 / -	-	IEC 60112

[C]: CAMPUS

Other properties	dry / cond	Unit	Test Standard
[C] Humidity absorption	2.1 / *	%	Sim. to ISO 62
[C] Density	1110 / -	kg/m ³	ISO 1183
Water Absorption, 24hr	1.3	%	ASTM D 570
Density	1110	kg/m ³	ASTM D 792

[C]: CAMPUS

Characteristics

Processing

Injection Molding, Profile Extrusion

Delivery form

Black

Special Characteristics

High impact or impact modified, Heat stabilized or stable to heat

Features

Thermal Stability, Weldable

Chemical Resistance

General Chemical Resistance, Grease Resistance, Oil Resistance

Applications

Automotive, Electrical and Electronical, Sports Equipment

Regional Availability

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