

Zytel[®] 73G30HSL BK261

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® 73G30HSL BK261 is a 30% glass fibre reinforced, heat stabilised polyamide 6 for injection moulding.

Product information

Desin Identification	R40.0500		100 1040
Resin Identification	PA6-GF30 >PA6-GF30<		ISO 1043 ISO 11469
Part Marking Code		150 1 1409	
ISO designation	150 10390-PA0,	GF30,M1CGHR,S14-090	
Rheological properties	dry/cond.		
Viscosity number	140/*	cm ³ /g	ISO 307, 1628
Moulding shrinkage, parallel	0.2/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.6/-	%	ISO 294-4, 2577
Typical mechanical properties	dry/cond.		
Tensile modulus	9500/5700	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	180/110	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3/6	%	ISO 527-1/-2
Charpy impact strength, 23°C	85/90	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	14/20	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	13/18	kJ/m²	ISO 180/1A
Poisson's ratio	0.34/0.35		
Thermal properties	dry/cond.		
Melting temperature, 10 °C/min	221/*	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	60/15	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	205/*	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	220/*	°C	ISO 75-1/-2
RTI, electrical, 0.75mm	65	°C	UL 746B
RTI, electrical, 1.5mm	65	°C	UL 746B
RTI, electrical, 3.0mm	65	°C	UL 746B
RTI, impact, 0.75mm	65	°C	UL 746B
RTI, impact, 1.5mm	65	°C	UL 746B
RTI, impact, 3.0mm	65	°C	UL 746B
RTI, strength, 0.75mm	65	°C	UL 746B
RTI, strength, 1.5mm	65/*	°C	UL 746B

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RTI, strength, 3.0mm	65	°C	UL 746B
Flammability	dry/cond.		
Burning Behav. at 1.5mm nom. thickn. Thickness tested UL recognition	HB/* 1.5/* yes/*	class mm	IEC 60695-11-10 IEC 60695-11-10 UL 94
Burning Behav. at thickness h Thickness tested	HB/* 0.75/*	class mm	IEC 60695-11-10 IEC 60695-11-10
UL recognition FMVSS Class Burning rate, Thickness 1 mm	yes /* B 31	mm/min	UL 94 ISO 3795 (FMVSS 302) ISO 3795 (FMVSS 302)
Physical/Other properties	dry/cond.		
Humidity absorption, 2mm Density Density of melt	2.1/* 1360/- 1200	% kg/m³ kg/m³	Sim. to ISO 62 ISO 1183
VDA Properties	dry/cond.		
Weather stability delta E Weather stability grey scale Emission of organic compounds Odour Fogging, F-value (refraction) Fogging, G-value (condensate)	1.8 4 8.5 3.5 95/* 0.1/*	μgC/g class % mg	DIN 53236 ISO 105-A02 VDA 277 VDA 270 ISO 6452 ISO 6452
Injection			
Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Min. melt temperature Max. melt temperature Screw tangential speed Mold Temperature Optimum Min. mould temperature Max. mould temperature Hold pressure range Hold pressure time	2 - 4 ≤0.2 270 260 280 ≤0.2 100 70 120 50 - 100	% °C °C °C m/s °C °C °C	
Characteristics			

Characteristics

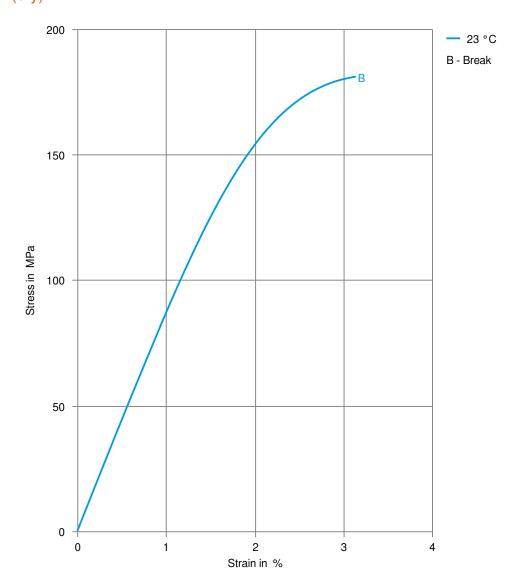
Injection Moulding Processing Special characteristics Heat stabilised or stable to heat





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Stress-strain (dry)



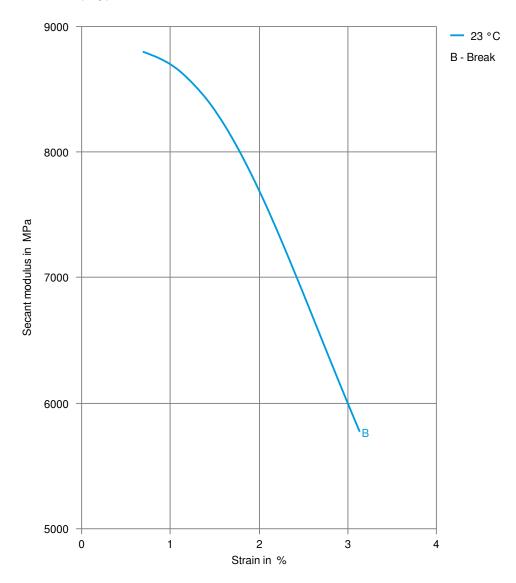




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NYLON RESIN

Secant modulus-strain (dry)



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Chemical Media Resistance

Acids

- ✓ Acetic Acid (5% by mass), 23°C
- ✓ Citric Acid solution (10% by mass), 23°C
- ✓ Lactic Acid (10% by mass), 23°C
- ★ Hydrochloric Acid (36% by mass), 23°C
- X Nitric Acid (40% by mass), 23°C
- ★ Sulfuric Acid (38% by mass), 23°C
- X Sulfuric Acid (5% by mass), 23°C
- ★ Chromic Acid solution (40% by mass), 23°C

Bases

- ✗ Sodium Hydroxide solution (35% by mass), 23°C
- ✓ Sodium Hydroxide solution (1% by mass), 23°C
- Ammonium Hydroxide solution (10% by mass), 23°C

Alcohols

- ✓ Isopropyl alcohol, 23°C
- ✓ Methanol, 23°C
- ✓ Ethanol, 23°C

Hydrocarbons

- ✓ n-Hexane, 23°C
- ✓ Toluene, 23°C
- ✓ iso-Octane, 23°C

Ketones

✓ Acetone, 23°C

Ethers

✓ Diethyl ether, 23°C

Mineral oils

- ✓ SAE 10W40 multigrade motor oil, 23°C
- ✓ SAE 10W40 multigrade motor oil, 130°C
- ✓ SAE 80/90 hypoid-gear oil, 130°C
- ✓ Insulating Oil, 23°C

Standard Fuels

- ✓ ISO 1817 Liquid 1 E5, 60°C
- ✓ ISO 1817 Liquid 2 M15E4, 60°C
- ¥ ISO 1817 Liquid 3 M3E7, 60°C
- X ISO 1817 Liquid 4 M15, 60°C
- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C
- ✓ Diesel fuel (pref. ISO 1817 Liquid F), 23°C
- X Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- X Diesel fuel (pref. ISO 1817 Liquid F), >90°C

Salt solutions

- ✓ Sodium Chloride solution (10% by mass), 23°C
- ✗ Sodium Hypochlorite solution (10% by mass), 23°C

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- Sodium Carbonate solution (20% by mass), 23°C
- Sodium Carbonate solution (2% by mass), 23°C
- X Zinc Chloride solution (50% by mass), 23°C

Other

- Ethyl Acetate, 23°C
- ★ Hydrogen peroxide, 23°C
- ✓ DOT No. 4 Brake fluid, 130°C
- ✓ DOT No. 4 Brake fluid, 120°C
- **X** Ethylene Glycol (50% by mass) in water, 108°C
- ✓ 1% nonylphenoxy-polyethyleneoxy ethanol in water, 23°C
- ✓ 50% Oleic acid + 50% Olive Oil, 23°C
- ✓ Water, 23°C
- X Water, 90°C
- ➤ Phenol solution (5% by mass), 23°C
- X Coolant Glysantin G48, 1:1 in water, 125°C

Symbols used:

possibly resistant

Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

★ not recommended - see explanation

Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

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