



NYLON RESIN

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® 73G15HSL BK363 is a 15% glass fiber reinforced, heat stabilised, black polyamide 6 resin for injection moulding.

Product information

Froduct information			
Resin Identification	PA6-GF15		ISO 1043
Part Marking Code	>PA6-GF15<		ISO 11469
ISO designation	ISO 16396-PA6,GF15,M1CGHL1R,S14-060		
Discolation and a second second			
Rheological properties	dry/cond.		
Viscosity number	145/*	cm ³ /g	ISO 307, 1628
Moulding shrinkage, parallel	0.3/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.8/-	%	ISO 294-4, 2577
Typical mechanical properties	dry/cond.		
Tensile modulus	6500/4000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	130/80	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.3/10	%	ISO 527-1/-2
Flexural modulus	5600/3100	MPa	ISO 178
Flexural strength	190/90	MPa	ISO 178
Charpy impact strength, 23°C	40/70	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	40/40	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	6/7	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	5/7	kJ/m²	ISO 179/1eA
Izod impact strength, 23°C	6/7	kJ/m²	ISO 180/1U
Ball indentation hardness, H 961/30	210/123	MPa	ISO 2039-1
Poisson's ratio	0.35/0.36		
Thermal properties	dry/cond.		
Melting temperature, 10 °C/min	221/*	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	55/15	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	204/*	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	220/*	°C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h 50N	215/*	°C	ISO 306
Coeff. of linear therm. expansion, parallel, -40-23°C	35/*	E-6/K	ISO 11359-1/-2

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Coefficient of linear thermal expansion	16/*	E-6/K	ISO 11359-1/-2
(CLTE), parallel Coeff. of linear therm. expansion, parallel, 55-160°C	15/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	78/*	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE),	90/*	E-6/K	ISO 11359-1/-2
normal			
Coeff. of linear therm. expansion, normal, 55-160°C	100/*	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.2	W/(m K)	ISO 22007-2
RTI, electrical, 1.5mm	65	°C	UL 746B
RTI, impact, 1.5mm	65	°C	UL 746B
RTI, strength, 1.5mm	65/*	°C	UL 746B
Flammability	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB/*	class	IEC 60695-11-10
Thickness tested	1.5/*	mm	IEC 60695-11-10
UL recognition	yes/*		UL 94
Oxygen index	21/*	%	ISO 4589-1/-2
Glow Wire Flammability Index, 1.0mm	725/-	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0mm	725/-	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	725/-	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.0mm	725/-	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 2.0mm	725/-	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	725/-	°C	IEC 60695-2-13
FMVSS Class	В	, .	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	21	mm/min	ISO 3795 (FMVSS 302)
Electrical properties	dry/cond.		
Electric strength	21.5/-	kV/mm	IEC 60243-1
Physical/Other properties	dn/oord		
	dry/cond.	0.4	0' . 100 00
Humidity absorption, 2mm	2.5/*	%	Sim. to ISO 62
Water absorption, 2mm	7.6/*	% !ca/m³	Sim. to ISO 62
Density	1250/-	kg/m³	ISO 1183
VDA Properties	dry/cond.		
Weather stability delta E	1.9		DIN 53236
Weather stability grey scale	4		ISO 105-A02
Emission of organic compounds	8.5	μgC/g	VDA 277
Odour	4	class	VDA 270
Fogging, G-value (condensate)	0/*	mg	ISO 6452
Injection			
Drying Recommended	ye	es	
Drying Temperature		30 °C	
Drying Time, Dehumidified Dryer		4 h	
Processing Moisture Content		.2 %	
Melt Temperature Optimum	27	70 °C	

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Min. melt temperature 260 °C Max. melt temperature 280 °C Screw tangential speed ≤0.2 m/s Mold Temperature Optimum 100 °C Min. mould temperature 70 °C 120 °C Max. mould temperature Hold pressure range 50 - 100 MPa Hold pressure time 3 s/mm

Characteristics

Processing Injection Moulding

Delivery form Pellets

Additives Release agent

Special characteristics Heat stabilised or stable to heat

VW 50134 PA6-3-A

Automotive

VW Group

OEM STANDARD

BMW GS93016-PA6-GF15

General Motors GMW3029P-PA6-GF15H

 Hyundai
 MS941-03 Type D-2

 Mercedes-Benz
 DBL5408.24 PA6 GF15

 Mercedes-Benz
 DBL5410.00 PA6 GF15

 VW Group
 VW 50125 PA6-004

ADDITIONAL INFORMATION

(Heat Aging Resistant)

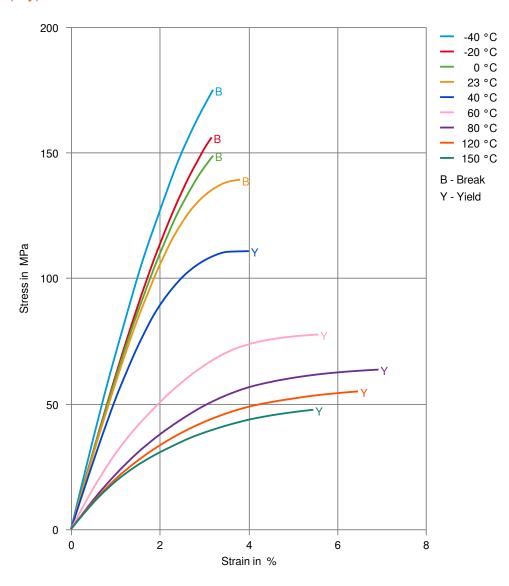
Black

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Stress-strain (dry)

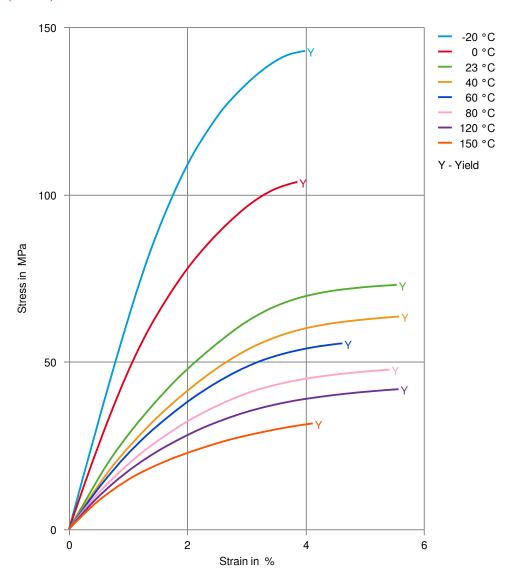


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Stress-strain (cond.)

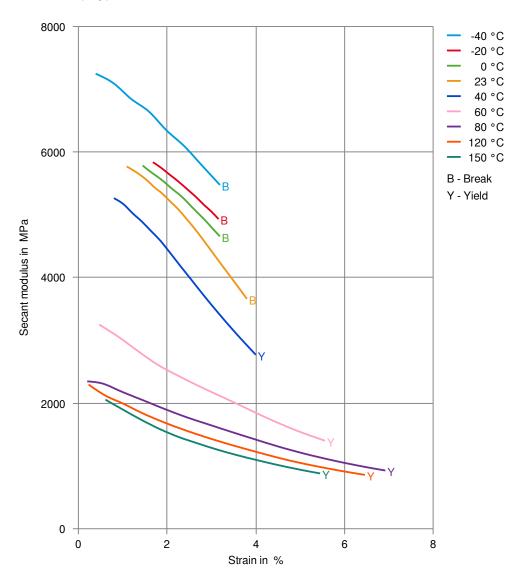


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Secant modulus-strain (dry)

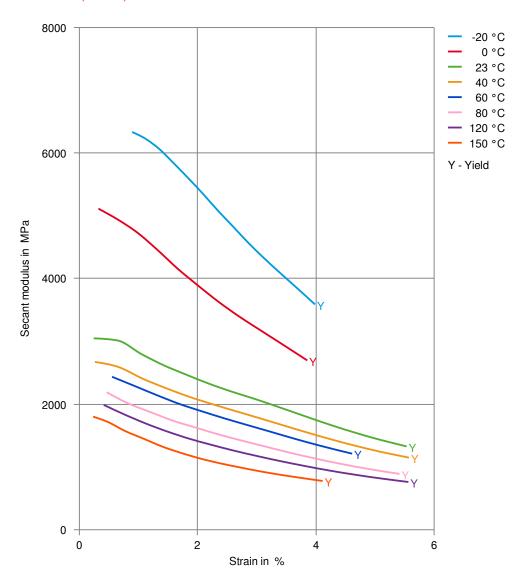


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Secant modulus-strain (cond.)



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(+) 18816996168 Ponciplastics.com



Zytel® 73G15HSL BK363

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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
- X Hydrochloric Acid (36% by mass), 23°C
- X Nitric Acid (40% by mass), 23°C
- X Sulfuric Acid (38% by mass), 23°C
- X Sulfuric Acid (5% by mass), 23°C
- X Chromic Acid solution (40% by mass), 23°C

Bases

- X 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
- X 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
- ➤ Diesel fuel (pref. ISO 1817 Liquid F), 90°C
- ➤ 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
- X Hydrogen peroxide, 23°C
- ✓ DOT No. 4 Brake fluid, 130°C
- ➤ 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

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).

x 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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Revised: 2025-04-30 Source: Celanese Materials Database

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users

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