



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® 70G30REF BK314LM is a 30% glass reinforced hydrolysis resistant polyamide 66 developed for electrical and electronics applications.

It is well suited for laser marking.

Product information

Resin Identification	PA66-GF30	ISO 1043
Part Marking Code	>PA66-GF30<	ISO 11469
ISO designation	ISO 16396-PA66,GF30,M1CGO2RW,S	14-100

Rheologica	l properties	
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Viscosity number	124 ^[1] /*	cm ³ /g	ISO 307, 1628
Moulding shrinkage, parallel	0.3/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.0/-	%	ISO 294-4, 2577
Melt viscosity, @ 1000 sec-1, 280°C	120/*	Pa.s	ISO 11443
[1]: formic acid 90%			

dry/cond.

dry/cond.

Typical mechanical properties

Tensile modulus	10000/7000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	190/130	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3/5	%	ISO 527-1/-2
Flexural modulus	9000/6000	MPa	ISO 178
Flexural strength	280/-	MPa	ISO 178
Charpy impact strength, 23°C	55/80	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	50/50	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	10/11	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	9/-	kJ/m²	ISO 179/1eA
Poisson's ratio	0.34/0.35		

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Thermal properties	dry/cond.		
Melting temperature, 10°C/min	266/*	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	75/20	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	254/*	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	258/*	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	23/*	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion	22/*	E-6/K	ISO 11359-1/-2
(CLTE), parallel Coeff. of linear therm. expansion, parallel, 55-160°C	16/*	E 6/1/	100 11250 1/2
Coeff. of linear therm. expansion, parallel, 55-160°C Coeff. of linear therm. expansion, normal, -40-23°C	72/*	E-6/K E-6/K	ISO 11359-1/-2 ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE),	84/*	E-6/K	ISO 11359-1/-2
normal	017	2 0/10	100 11000 1/ 2
Coeff. of linear therm. expansion, normal, 55-160°C	146/*	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.25	W/(m K)	ISO 22007-2
Specific heat capacity of melt	2000	J/(kg K)	ISO 22007-4
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
Burning Behav. at thickness h	HB/*	class	IEC 60695-11-10
Thickness tested	0.4/*	mm	IEC 60695-11-10
Oxygen index	23/*	%	ISO 4589-1/-2
Glow Wire Flammability Index, 1.5mm	625/-	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.5mm	650/-	°C	IEC 60695-2-13
FMVSS Class	В		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	26	mm/min	ISO 3795 (FMVSS 302)
Electrical properties	dry/cond.		
Relative permittivity, 1MHz	3.6/-		IEC 62631-2-1
Dissipation factor, 1MHz	180/-	E-4	IEC 62631-2-1
Volume resistivity	>1E13/1E11	Ohm.m	IEC 62631-3-1
Electric strength	37/36	kV/mm	IEC 60243-1
Comparative tracking index	600/-		IEC 60112
Physical/Other properties	dry/cond.		
Humidity absorption, 2mm	1.9/*	%	Sim. to ISO 62
Density	1370/-	kg/m³	ISO 1183
Injection			
Drying Recommended	yes	6	
Drying Temperature	80) °C	
Drying Time, Dehumidified Dryer	2 - 4	↓ h	
Processing Moisture Content		2 %	
Melt Temperature Optimum		o °C	
Min. melt temperature		5 °C	
Max. melt temperature	305	5 °C	
Screw tangential speed		2 m/s	

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Mold Temperature Optimum100 °CMin. mould temperature70 °CMax. mould temperature120 °CHold pressure range50 - 100 MPaHold pressure time3 s/mmEjection temperature227 °C

Characteristics

Processing Injection Moulding

Delivery form Pellets

Additives Release agent, Low halide content

Special characteristics Heat stabilised or stable to heat, Hydrolysis resistant

Automotive

OEM STANDARD ADDITIONAL INFORMATION

Bosch N28 BN02-GF126

Renault-Nissan UB18a, No Spec, Special Part Approval, See

Your CE Account Manager.

Renault-Nissan UB27b, No Spec, Special Part Approval, See

Your CE Account Manager.

Renault-Nissan UB29c, No Spec, Special Part Approval, See

Your CE Account Manager.

Stellantis B62 0300 / 61/223E-217M/C1 01378_19_02647

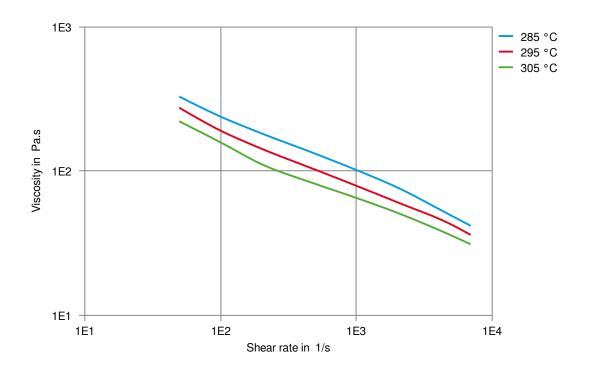
VW Group VW 50133 PA66-6-A

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Viscosity-shear rate

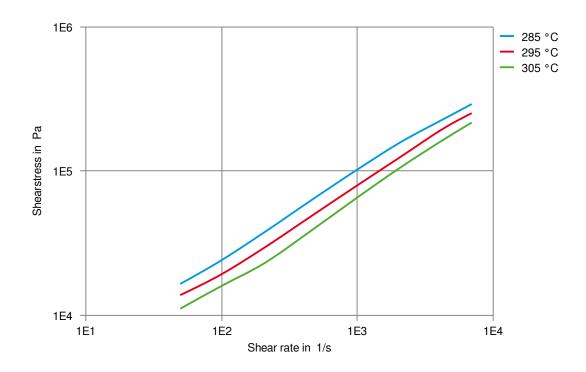


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Shearstress-shear rate

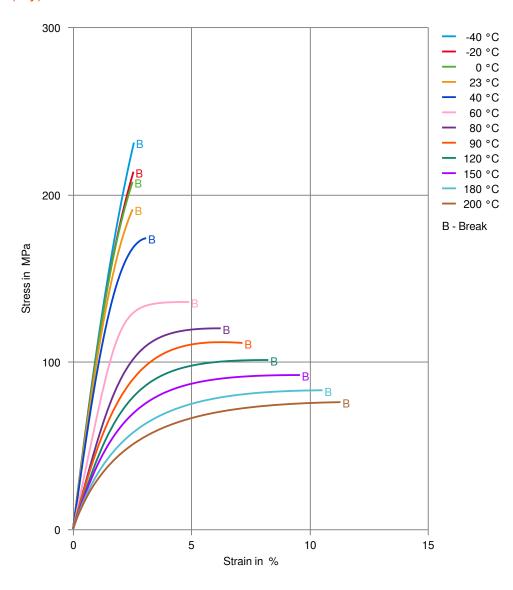


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Stress-strain (dry)

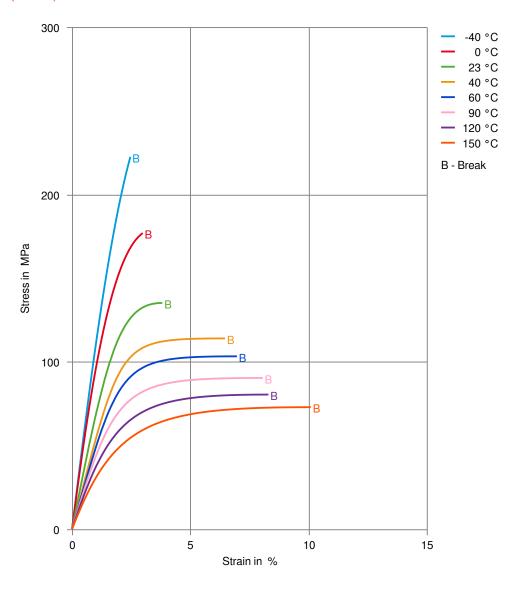


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Stress-strain (cond.)

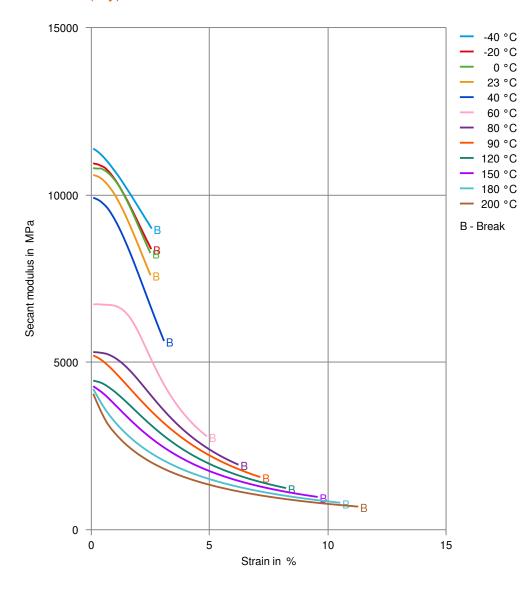


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Secant modulus-strain (dry)

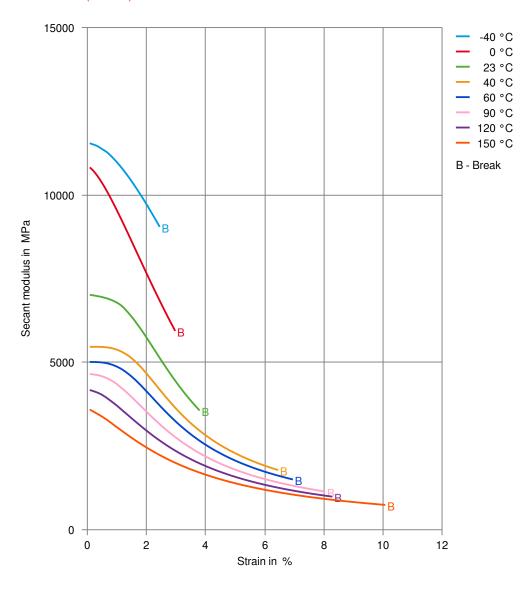


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Secant modulus-strain (cond.)

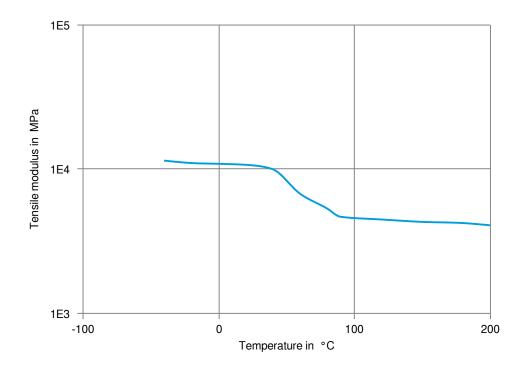


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Tensile modulus-temperature (dry)

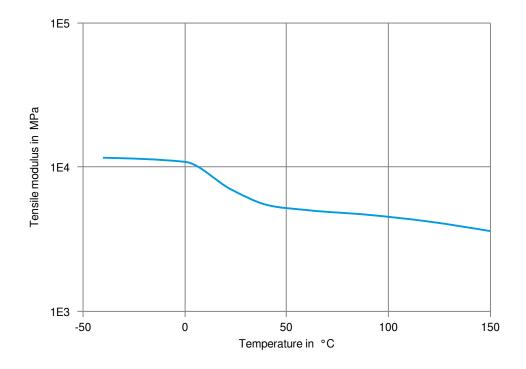


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Tensile modulus-temperature (cond.)



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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
- ✓ Hydraulic oil Pentosin CHF 202, 125°C

Standard Fuels

- ✓ ISO 1817 Liquid 1 E5, 60°C
- ✓ ISO 1817 Liquid 2 M15E4, 60°C
- ✓ ISO 1817 Liquid 3 M3E7, 60°C
- ✓ 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
- X Diesel EN 590, 100°C

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Salt solutions

- ✓ Sodium Chloride solution (10% by mass), 23°C
- X Sodium Hypochlorite solution (10% by mass), 23°C
- ✓ 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
- ✓ DOT No. 4 Brake fluid, 120°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
- ✓ Water, 90°C
- > Phenol solution (5% by mass), 23°C
- ✓ 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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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 cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, 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 e

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