



ISO 1043

ISO 11357-1/-3

ISO 11357-1/-3

ISO 11359-1/-2

ISO 75-1/-2

ISO 75-1/-2

Zytel® PLS95G50DH2 BK261

ZYTEL® PLUS & XT 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® PLS95G50DH2 BK261 is a high flow 50% glass reinforced PA nylon resin using our SHIELD Technology, providing exceptional Heat Resistance & High stiffness for automotive under hood applications like charge air cooler caps.

PA66/6T-GF50

Product information Resin Identification

Thermal properties

Melting temperature, 10°C/min

Glass transition temperature, 10°C/min

Temperature of deflection under load, 1.8 MPa

Temperature of deflection under load, 0.45 MPa

Coeff. of linear therm. expansion, parallel, -40-23°C

Part Marking Code ISO designation	>PA66/6T-GF50< ISO 16396-PA66/6T,GF50,M1CGHR,S12-160		ISO 11469	
Rheological properties	dry/cond.			
Viscosity number	125 ^[1] /*	cm³/g	ISO 307, 1628	
Moulding shrinkage, parallel	0.3/-	%	ISO 294-4, 2577	
Moulding shrinkage, normal	0.6/-	%	ISO 294-4, 2577	
[1]: sulphuric acid 96%			, ,	
Typical mechanical properties	dry/cond.			
Tensile modulus	17000/12000	MPa	ISO 527-1/-2	
Tensile stress at break, 5mm/min	240/170	MPa	ISO 527-1/-2	
Tensile strain at break, 5mm/min	2.6/4	%	ISO 527-1/-2	
Flexural modulus	16000/-	MPa	ISO 178	
Flexural strength	370/-	MPa	ISO 178	
Tensile creep modulus, 1h	*/10000	MPa	ISO 899-1	
Tensile creep modulus, 1000h	*/6500	MPa	ISO 899-1	
Charpy impact strength, 23°C	90/95	kJ/m ²	ISO 179/1eU	
Charpy impact strength, -30°C	80/80	kJ/m ²	ISO 179/1eU	
Charpy notched impact strength, 23°C	15/20	kJ/m ²	ISO 179/1eA	
Charpy notched impact strength, -30°C	16/-	kJ/m ²	ISO 179/1eA	
Poisson's ratio	0.33/0.33			

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dry/cond.

°C

°C

°C

°C

E-6/K

267/*

65/-

254/*

263/*

15/*





ZYTEL® PLUS & XT NYLON RESIN

Coefficient of linear thermal expansion (CLTE), parallel	14/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel, 55-160°C	5/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	56/*	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	67/*	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	120/*	E-6/K	ISO 11359-1/-2
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
FMVSS Class	В		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	43	mm/min	ISO 3795 (FMVSS 302)
Physical/Other properties	dry/cond.		
Humidity absorption, 2mm	1.3/*	%	Sim. to ISO 62
Water absorption, 2mm	4.5/*	%	Sim. to ISO 62
Density	1590/-	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	290	°C
Min. melt temperature	280	°C
Max. melt temperature	300	°C
Screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	95	°C
Min. mould temperature	70	°C
Max. mould temperature	120	°C
Hold pressure range	50 - 100	MPa
Hold pressure time	3	s/mm
Ejection temperature	218	°C

Characteristics

Processing Injection Moulding

Delivery form Pellets

Additives Release agent

Special characteristics Heat stabilised or stable to heat

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ZYTEL® PLUS & XT NYLON RESIN

Automotive

OEM STANDARD ADDITIONAL INFORMATION

General Motors GMW17047P-PA-GF50 Black

Mercedes-Benz DBL5408.55 (PA66+PA6) - GF50

Mercedes-Benz DBL5409.35 PA66 GF50

Stellantis B62 0300 / 61/222E/219M/H115 CPN5139;01378_21_02459

Stellantis - Chrysler MS.50017 / CPN-5139 Black

 VW Group
 VW 50133 PA66-8-A

 VW Group
 VW 50133 PA66-8-A

 Valeo
 PDTNVC15006 RevE
 PA66/6T-GF50 Class 5A

 Valeo
 PDTNVC15006 RevE
 PA66/6T-GF50 Class 6

 Valeo
 PDTNVC15006 RevE
 PA66/6T-GF50 Class 5B

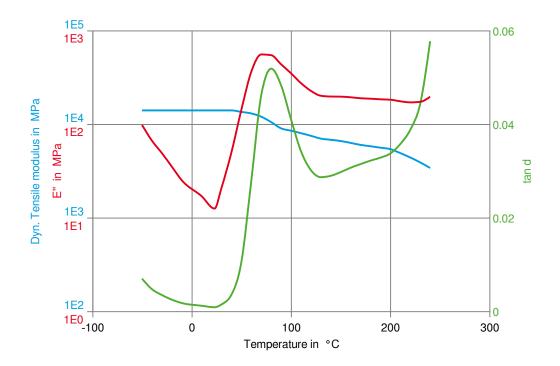
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Zytel® PLS95G50DH2 BK261 ZYTEL® PLUS & XT NYLON RESIN

Dynamic Tensile modulus-temperature (dry)



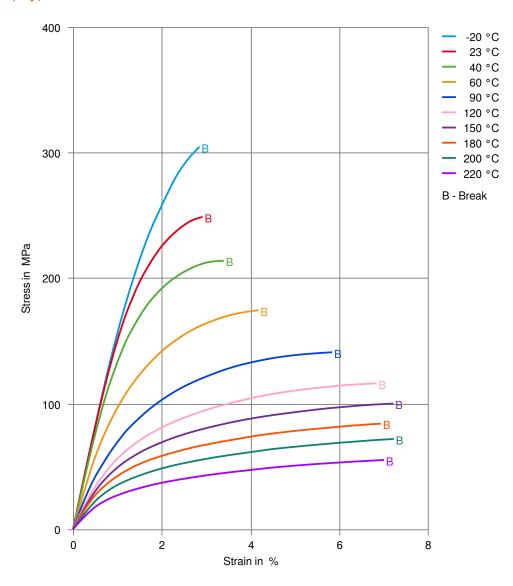
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ZYTEL® PLUS & XT NYLON RESIN

Stress-strain (dry)



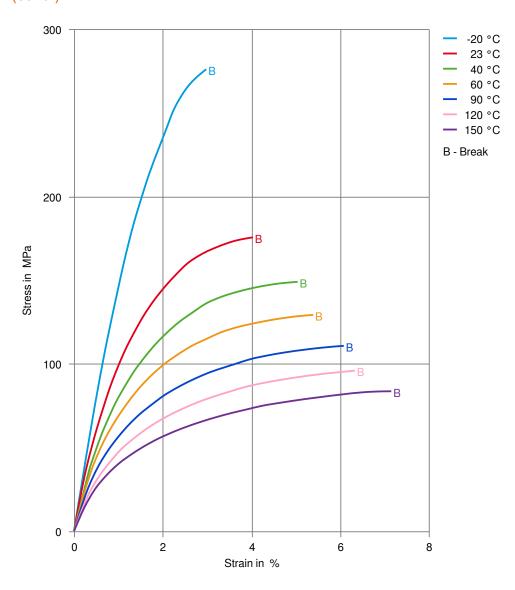
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ZYTEL® PLUS & XT NYLON RESIN

Stress-strain (cond.)



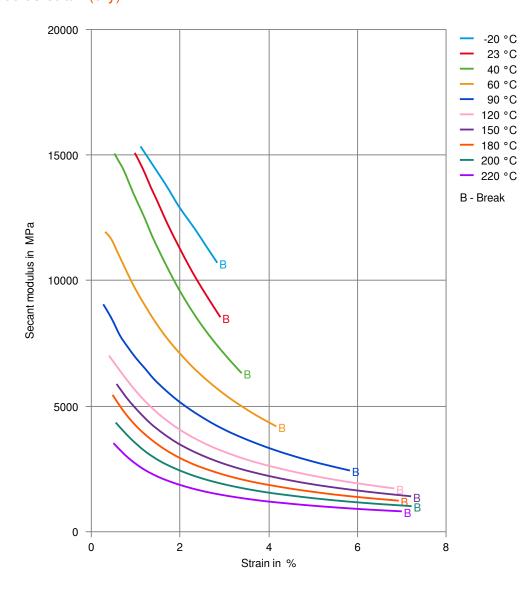
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ZYTEL® PLUS & XT NYLON RESIN

Secant modulus-strain (dry)



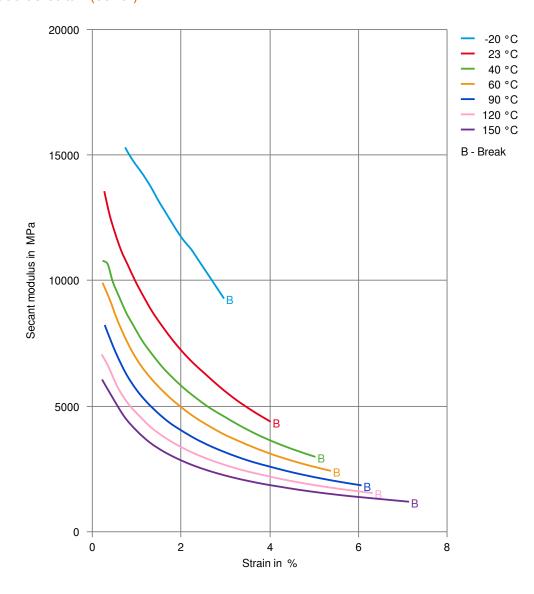
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ZYTEL® PLUS & XT NYLON RESIN

Secant modulus-strain (cond.)



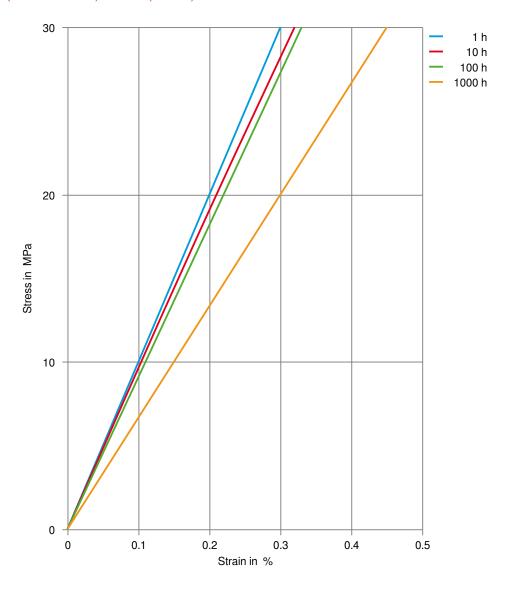
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ZYTEL® PLUS & XT NYLON RESIN

Stress-strain (isochronous) 23°C (cond.)



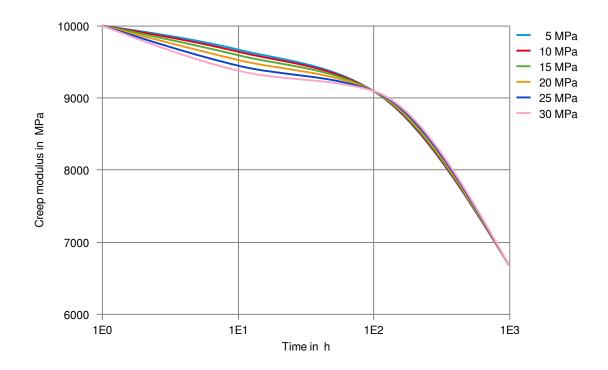
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ZYTEL® PLUS & XT NYLON RESIN

Creep modulus-time 23°C (cond.)



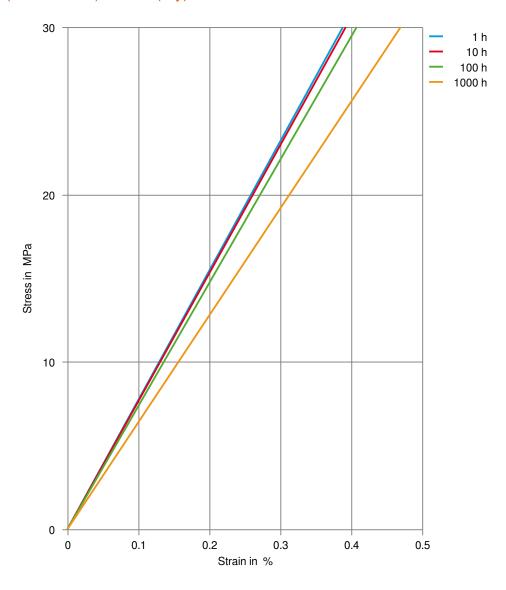
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ZYTEL® PLUS & XT NYLON RESIN

Stress-strain (isochronous) 100°C (dry)

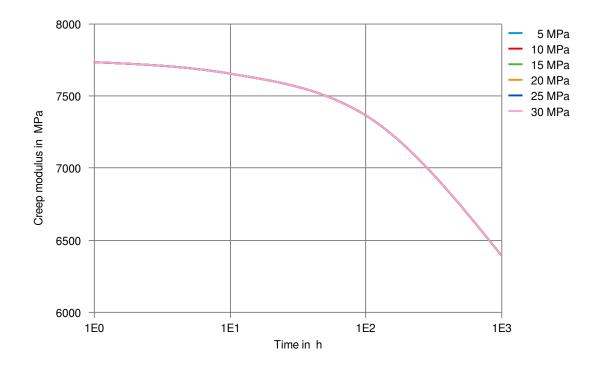


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Creep modulus-time 100°C (dry)



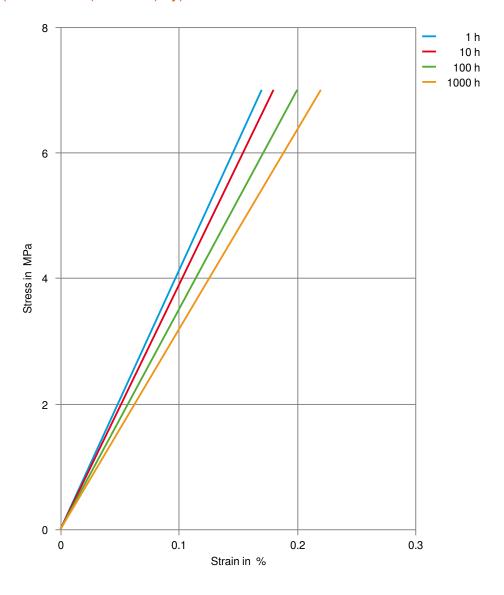
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ZYTEL® PLUS & XT NYLON RESIN

Stress-strain (isochronous) 200°C (dry)



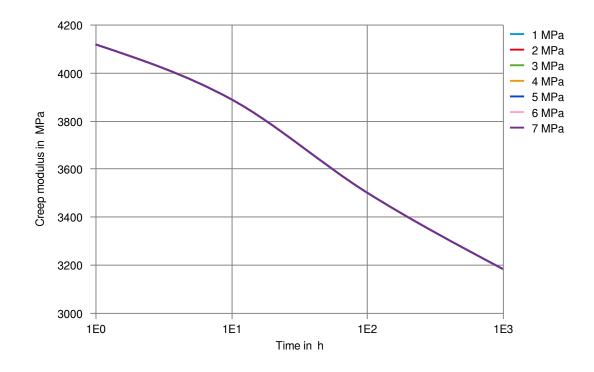
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ZYTEL® PLUS & XT NYLON RESIN

Creep modulus-time 200°C (dry)

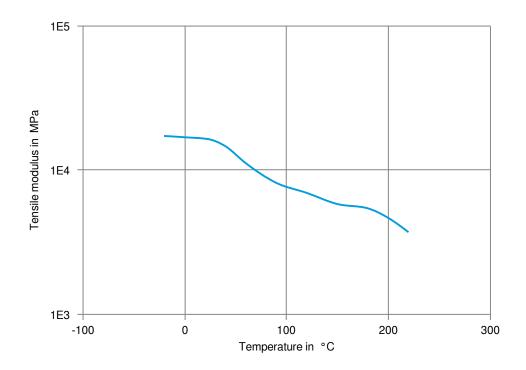


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Tensile modulus-temperature (dry)



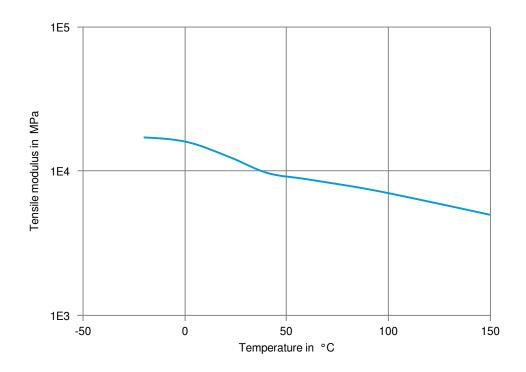
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Tensile modulus-temperature (cond.)



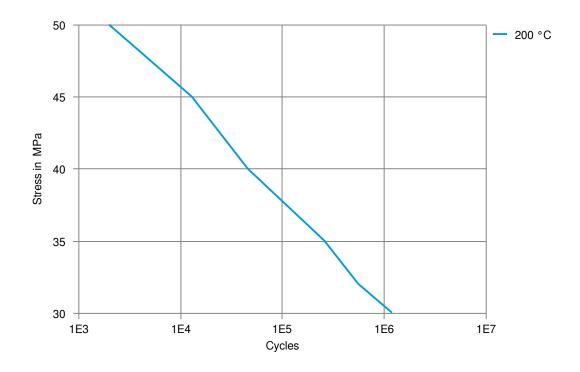
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ZYTEL® PLUS & XT NYLON RESIN

Tensile Fatigue, 10Hz, R=0.1 @ 2mm (dry)



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ZYTEL® PLUS & XT NYLON RESIN

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

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
- ✓ Motor oil OS206 304 Ref.Eng.Oil, ISP, 135°C
- ✓ Automatic hypoid-gear oil Shell Donax TX, 135°C
- ✓ Hydraulic oil Pentosin CHF 202, 125°C

Other

- ✓ Ethylene Glycol (50% by mass) in water, 108°C
- X Water, 90°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).

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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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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