



ISO 1043

ISO 11469

ISO 180/1A

ISO 180/1A

ISO 180/1U

ISO 2039-1

Zytel® PLS95G35DH1 NC010

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® PLS95G35DH1 NC010 is a high flow, 35% glass fibre reinforced, SHIELD protected polyamide resin for injection moulding. It provides excellent surface appearance, excellent welding, excellent fatigue retention and exceptional resistance to hot air and hot oil.

PA66/6T-GF35

>PA66/6T-GF35<

Product information

Resin Identification

Part Marking Code

ISO designation	ISO 16396-PA66/6T,GF35,M1GHNR,S12-110		
Rheological properties	dry/cond.		
Viscosity number	125/*	cm³/g	ISO 307, 1628
Moulding shrinkage, parallel	0.1/-	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.6/-	%	ISO 294-4, 2577
Typical mechanical properties	dry/cond.		
Tensile modulus	11000/8000	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	205/148	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3.1/5.4	%	ISO 527-1/-2
Flexural modulus	9800/-	MPa	ISO 178
Flexural strength	320/-	MPa	ISO 178
Charpy impact strength, 23°C	75/90	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	70/70 ^[DS]	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	12/14	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	11/- ^[DS]	kJ/m²	ISO 179/1eA

12/13

10.0/-

65/-

285/-

0.34/0.34

kJ/m²

kJ/m²

 kJ/m^2

MPa

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Izod notched impact strength, 23°C

Izod notched impact strength, -40°C

Ball indentation hardness, H 961/30

Izod impact strength, 23°C

[DS]: Derived from similar grade

Poisson's ratio





ZYTEL® PLUS & XT NYLON RESIN

Thermal properties	dry/cond.		
Melting temperature, 10 °C/min	269/*	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	80/40	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	245/*	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	266/*	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	21/* ^[DS]	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel, 55-160°C	12/* ^[DS]	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	64/* ^[DS]	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	140/* ^[DS]	E-6/K	ISO 11359-1/-2
[DS]: Derived from similar grade			
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	25	mm/min	ISO 3795 (FMVSS 302)
Electrical properties	dry/cond.		
Comparative tracking index	600/-		IEC 60112
Physical/Other properties	dry/cond.		
Humidity absorption, 2mm	1.8/*	%	Sim. to ISO 62
Water absorption, 2mm	6/*	% %	Sim. to ISO 62
Water absorption, Immersion 24h	1.1/*	%	Sim. to ISO 62
Density	1430/-	kg/m³	ISO 1183
20,		a,	.50 1100
Injection			

Drying Recommended	yes	
Drying Temperature	80	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	285	°C
Min. melt temperature	280	°C
Max. melt temperature	290	°C
Screw tangential speed	≤0.2	m/s
Mold Temperature Optimum	100	°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	210	°C

Characteristics

Processing Injection Moulding

Delivery form Pellets

Additives Release agent

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ZYTEL® PLUS & XT NYLON RESIN

Special characteristics Heat stabilised or stable to heat

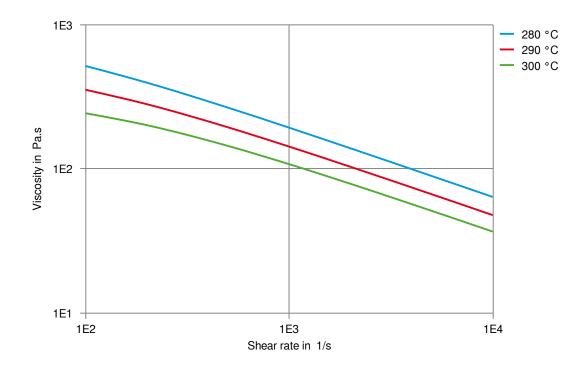
Automotive

OEM STANDARD ADDITIONAL INFORMATION

General Motors GMW17961P-PA-GF35-T3 Natural

VW Group VW 50133 PA66-7-A

Viscosity-shear rate (measured on Zytel® PLS95G35DH1 BK549)



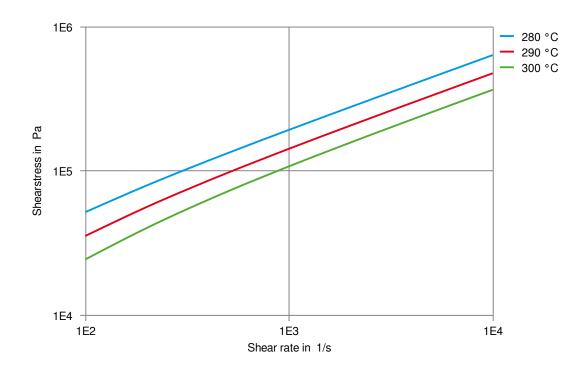
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ZYTEL® PLUS & XT NYLON RESIN

Shearstress-shear rate (measured on Zytel® PLS95G35DH1 BK549)



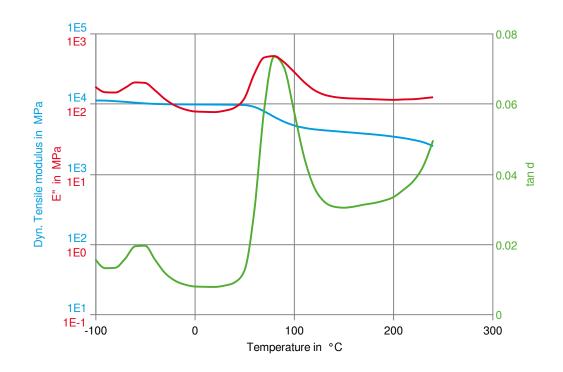
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Zytel® PLS95G35DH1 NC010 ZYTEL® PLUS & XT NYLON RESIN

Dynamic Tensile modulus-temperature (dry)



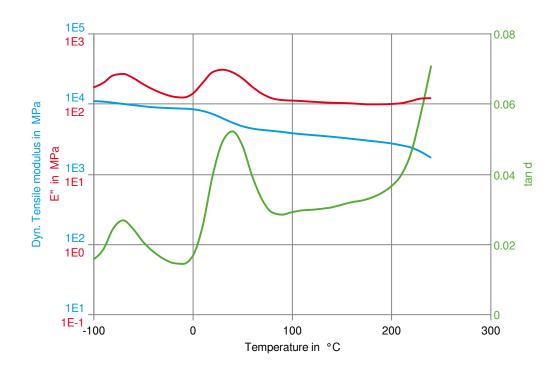
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Dynamic Tensile modulus-temperature (cond.)



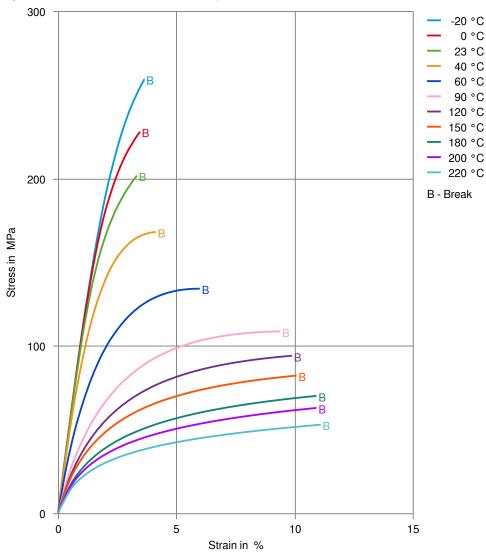
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ZYTEL® PLUS & XT NYLON RESIN

Stress-strain (dry) (measured on Zytel® PLS95G35DH1 BK549)



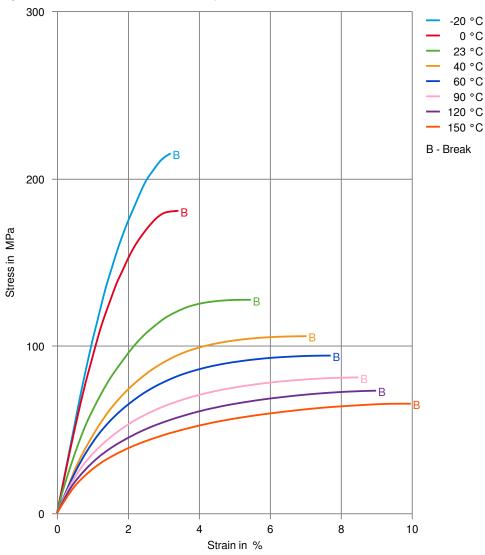
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ZYTEL® PLUS & XT NYLON RESIN

Stress-strain (cond.) (measured on Zytel® PLS95G35DH1 BK549)



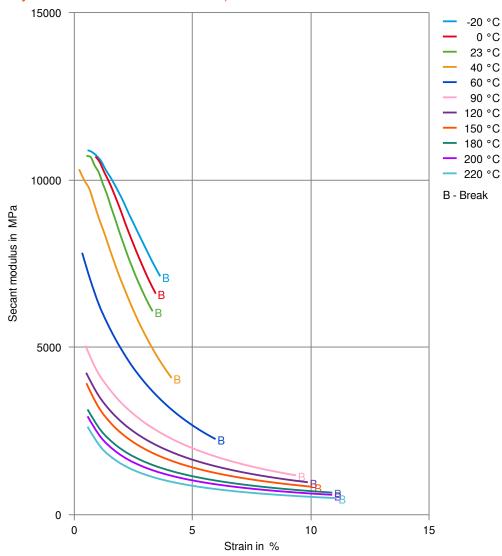
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ZYTEL® PLUS & XT NYLON RESIN

Secant modulus-strain (dry) (measured on Zytel® PLS95G35DH1 BK549)



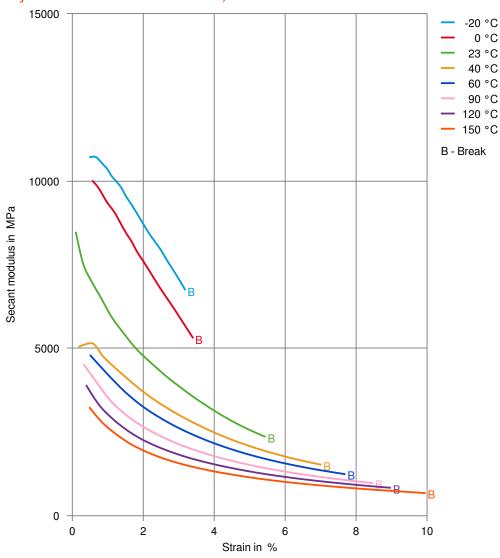
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ZYTEL® PLUS & XT NYLON RESIN

Secant modulus-strain (cond.) (measured on Zytel® PLS95G35DH1 BK549)



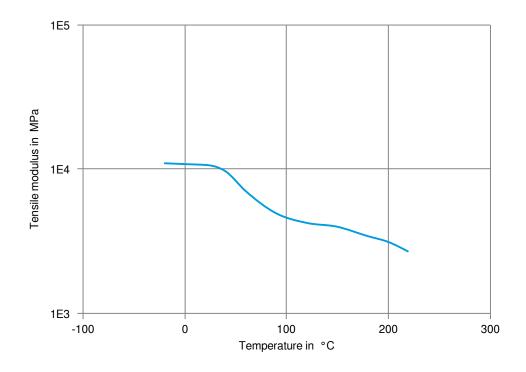
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ZYTEL® PLUS & XT NYLON RESIN

Tensile modulus-temperature (dry) (measured on Zytel® PLS95G35DH1 BK549)



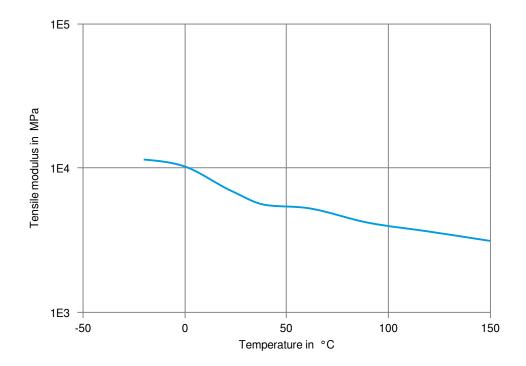
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Tensile modulus-temperature (cond.) (measured on Zytel® PLS95G35DH1 BK549)



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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

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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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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