Celanese
The chemistry inside innovation™

Zytel® EFE7374 BK416

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® EFE7374 is a 40% fibre reinforced, heat stabilised, lubricated, toughened polyamide 6 for injection moulding. It has an improved impact resistance and excellent surface appearance and gloss.

Product information

Resin Identification	PA6-IGF40	ISO 1043
Part Marking Code	>PA6-IGF40<	ISO 11469
ISO designation	ISO 16396-PA6-I,GF40,M1CGH,S10-120	

Rheological properties

	dry/cond.		
Viscosity number	110 / *	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	12000 / 7500	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 / 7.5	%	ISO 527-1/-2
Charpy impact strength, 23°C	110 / 113	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	118 / 105	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	24 / 33	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	17 / 18	kJ/m^2	ISO 179/1eA
Izod notched impact strength, 23°C	24 / 30	kJ/m^2	ISO 180/1A
Izod notched impact strength, -30°C	19.0 / 18.0	kJ/m^2	ISO 180/1A
Poisson's ratio	0.33 / 0.34		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	221 / *	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	212 / *	°C	ISO 75-1/-2

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Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	33	mm/min	ISO 3795 (FMVSS 302)

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.7 / *	%	Sim. to ISO 62
Water absorption, 2mm	5.4 / *	%	Sim. to ISO 62
Density	1410 / -	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	270	°C
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
Max. mould temperature	120	°C
Hold pressure range	50 - 100	MPa
Hold pressure time	3	s/mm

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Special characteristics	Heat stabilised or stable to heat

Automotive

OEM	STANDARD
General Motors	GMW17385P-PA6-GF40

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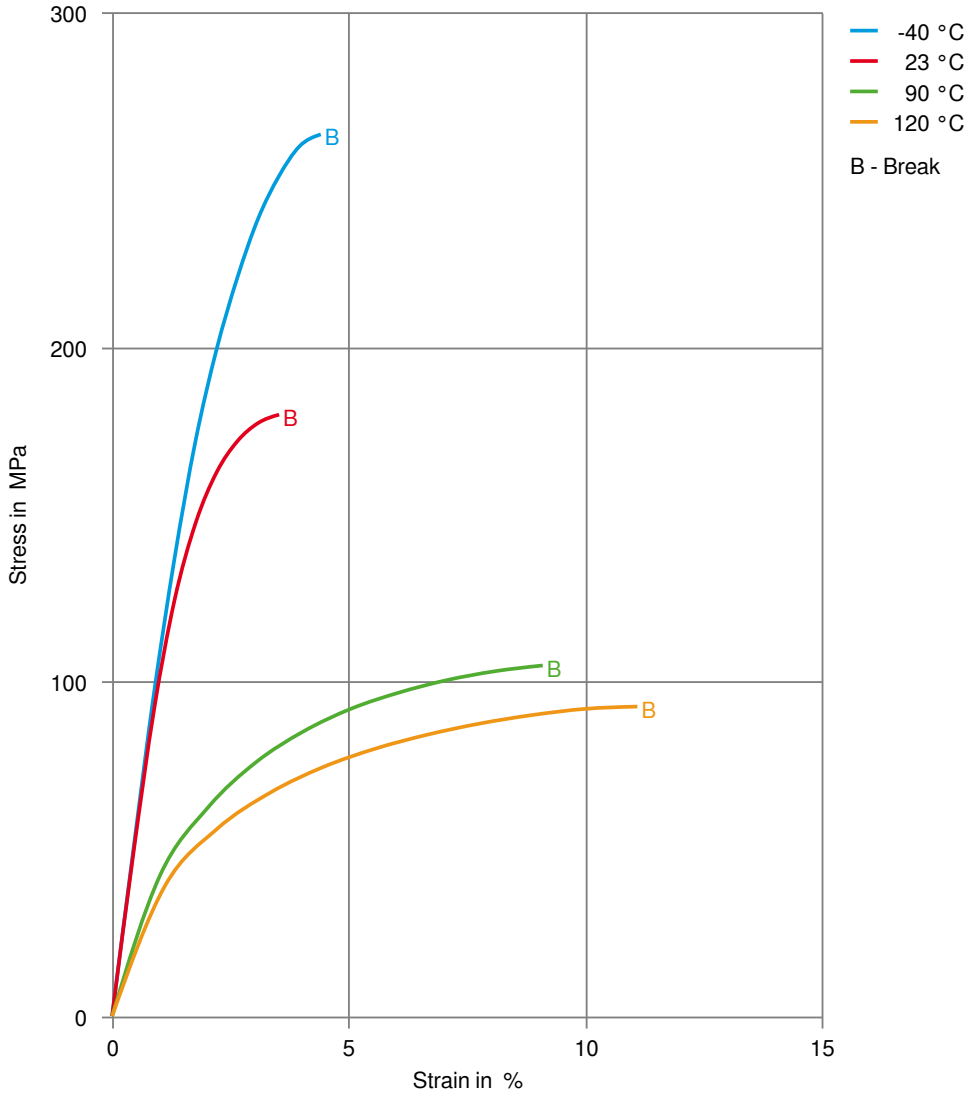
Stress-strain (dry)



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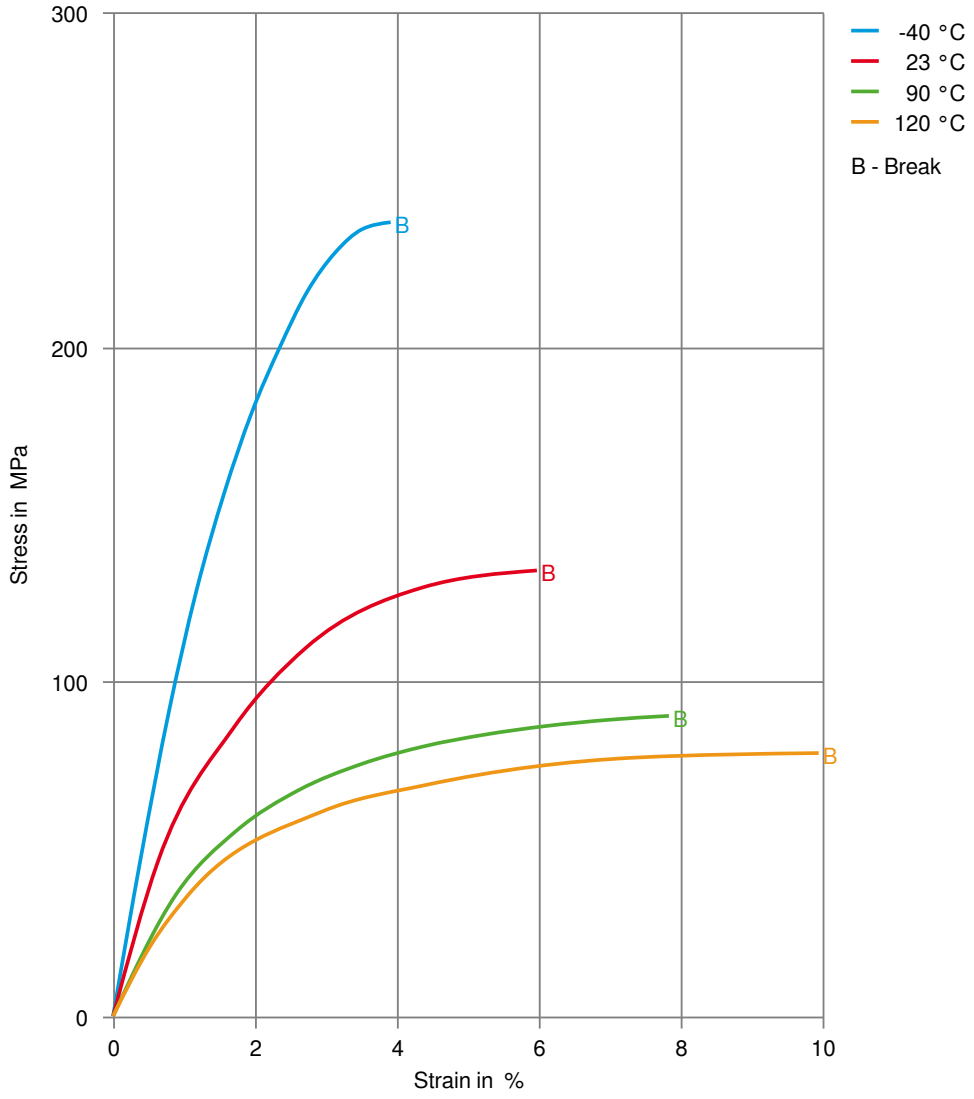
NYLON RESIN

Stress-strain (cond.)



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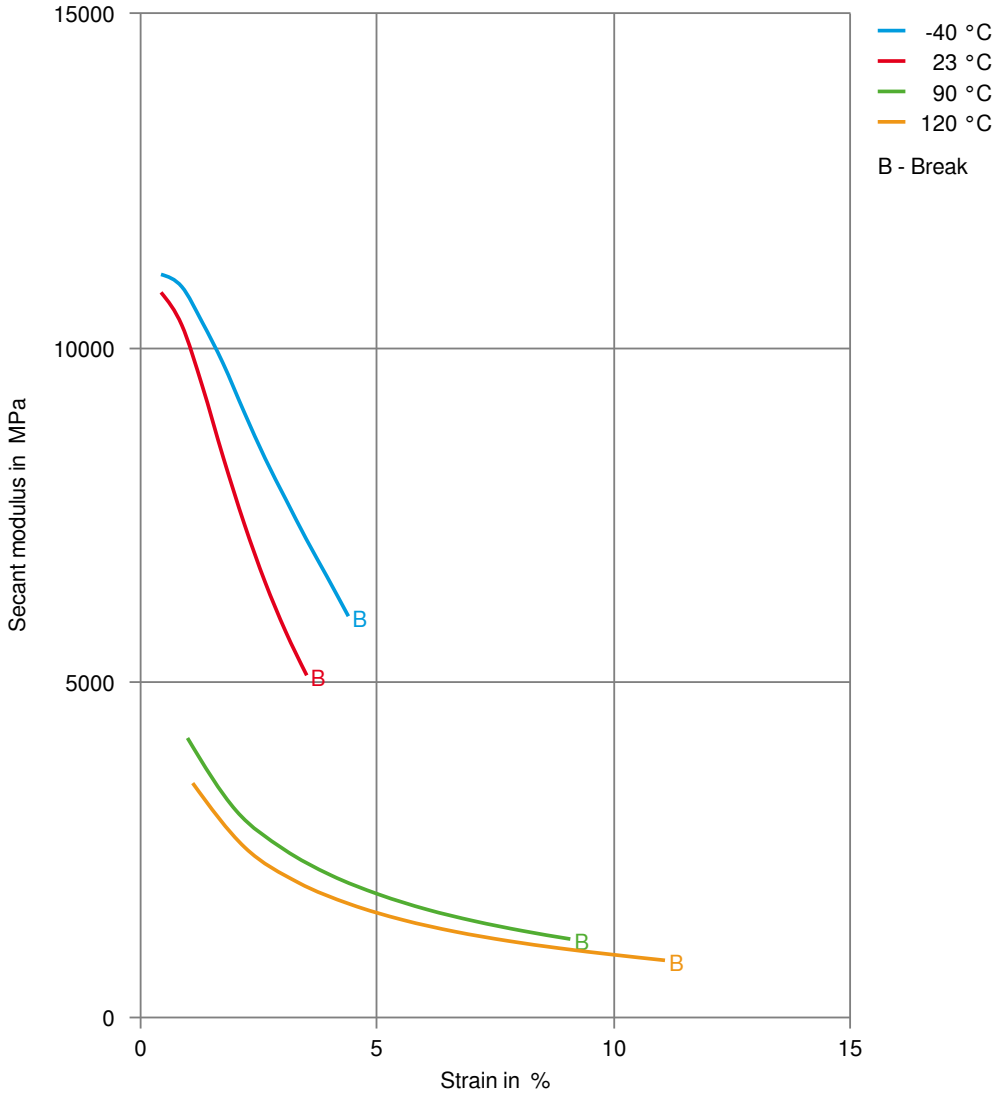
NYLON RESIN

Secant modulus-strain (dry)



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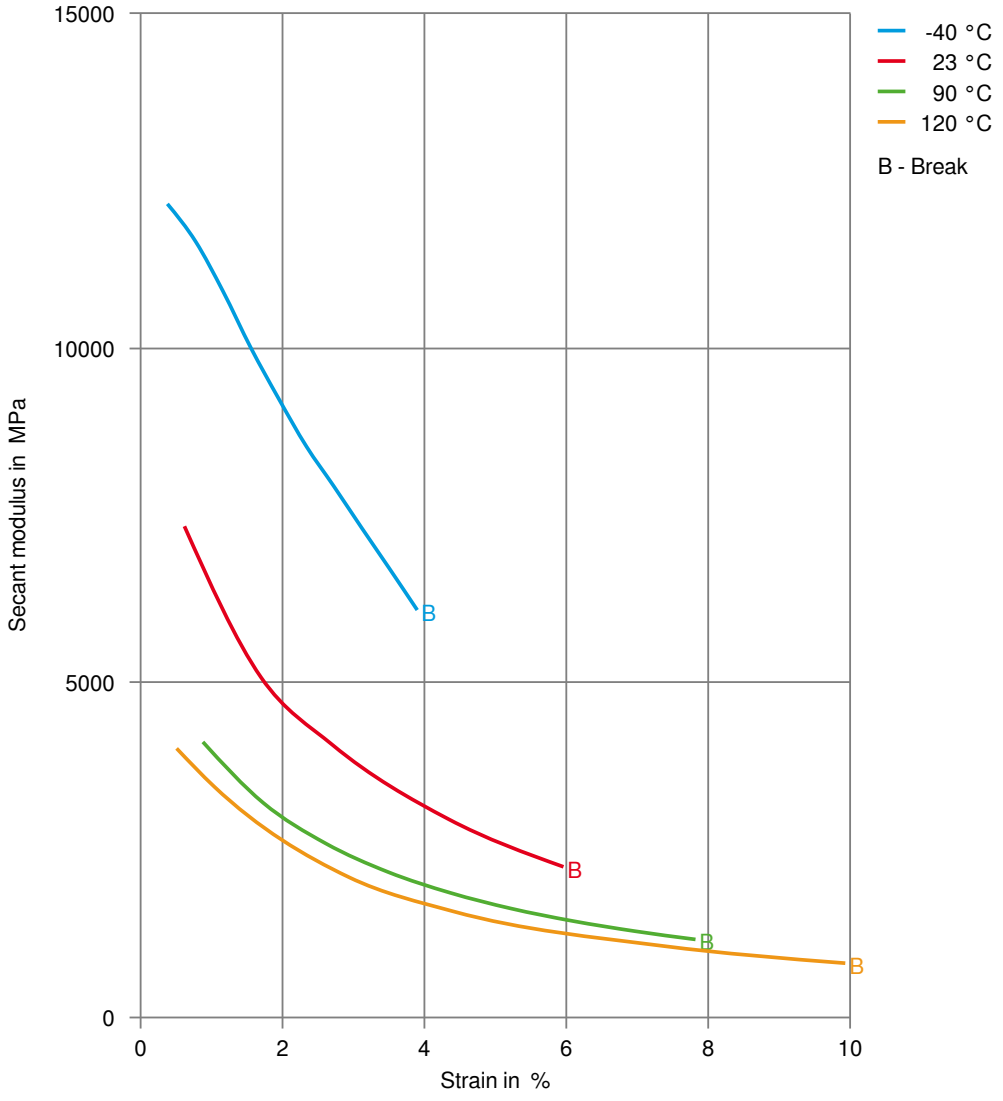
Secant modulus-strain (cond.)



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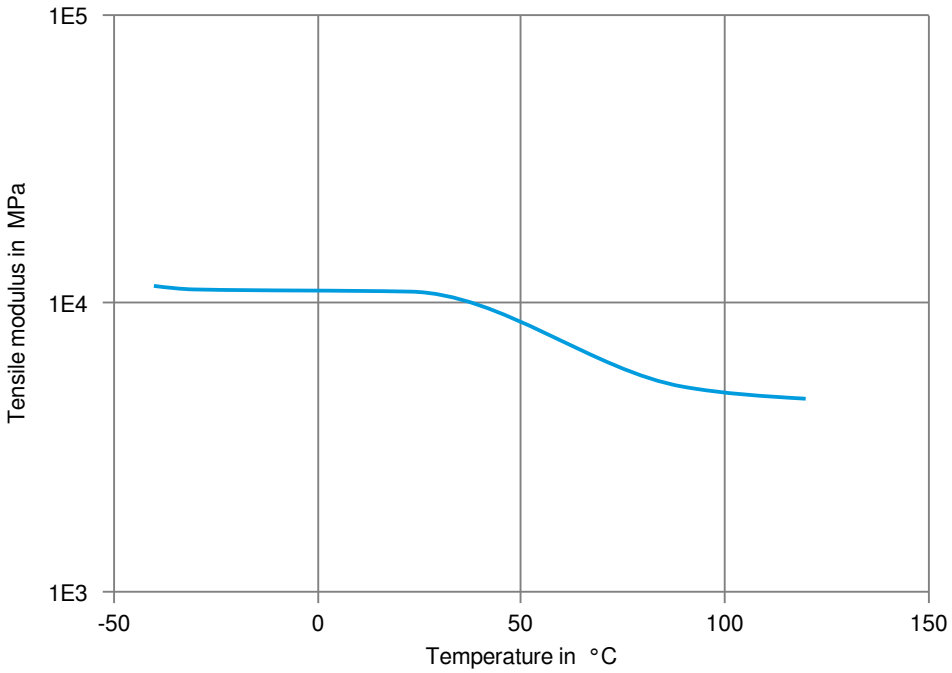
NYLON RESIN

Tensile modulus-temperature (dry)



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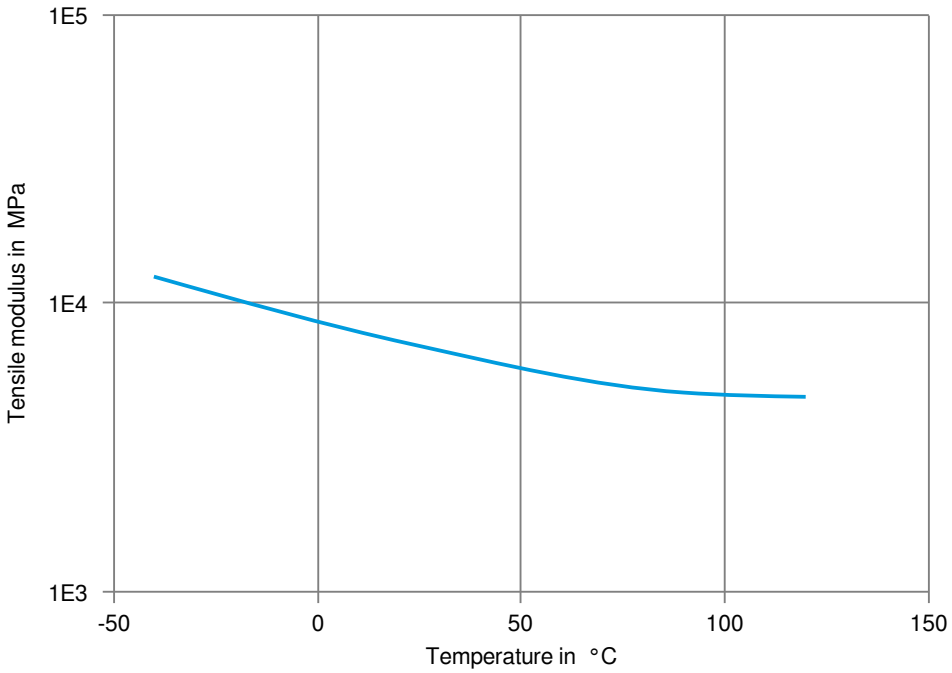
Tensile modulus-temperature (cond.)



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Chemical Media Resistance

Salt solutions

✗ Zinc Chloride solution (50% 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).

Revised: 2025-05-01 Source: Celanese Materials Database