

Zytel® 70K20HSL BK284

NYLON RESIN

Zytel® 70K20HSL BK284 is a 20% Kevlar® Fiber Reinforced, Heat Stabilized, Polyamide 66

Product information

Resin Identification	PA66-RF20	ISO 1043
Part Marking Code	>PA66-RF20<	ISO 11469
ISO designation	ISO 16396-PA66,AF20,M1CGHR,S14-050	

Rheological properties

	dry/cond.		
Moulding shrinkage, parallel	0.9 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.4 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile modulus	5300 / 3500	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	110 / 85	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	5 / 7.2	%	ISO 527-1/-2
Charpy impact strength, 23°C	50 / 65	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	6 / 9	kJ/m ²	ISO 179/1eA
Poisson's ratio	0.35 / 0.37		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	263 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	80 / 20	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	222 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	255 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	240 / *	°C	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	47 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	75 / *	E-6/K	ISO 11359-1/-2

Flammability

	dry/cond.		
Glow Wire Flammability Index, 1.0mm	750 / -	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0mm	750 / -	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0mm	960 / -	°C	IEC 60695-2-12
Glow Wire Ignition Temperature, 1.0mm	750 / -	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 2.0mm	750 / -	°C	IEC 60695-2-13
Glow Wire Ignition Temperature, 3.0mm	750 / -	°C	IEC 60695-2-13
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Electrical properties

	dry/cond.		
Dissipation factor, 100Hz	140 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	140 / -	E-4	IEC 62631-2-1
Volume resistivity	1E9 / -	Ohm.m	IEC 62631-3-1
Surface resistivity	*/>1E15	Ohm	IEC 62631-3-2
Electric strength	23 / -	kV/mm	IEC 60243-1

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Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	2.7 / *	%	Sim. to ISO 62
Water absorption, 2mm	6.8 / *	%	Sim. to ISO 62
Density	1190 / -	kg/m ³	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	295 °C
Min. melt temperature	285 °C
Max. melt temperature	305 °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
Back pressure	As low as possible MPa
Ejection temperature	210 °C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent, Glass fibre
Special characteristics	Heat stabilised or stable to heat, Low wear / Low friction

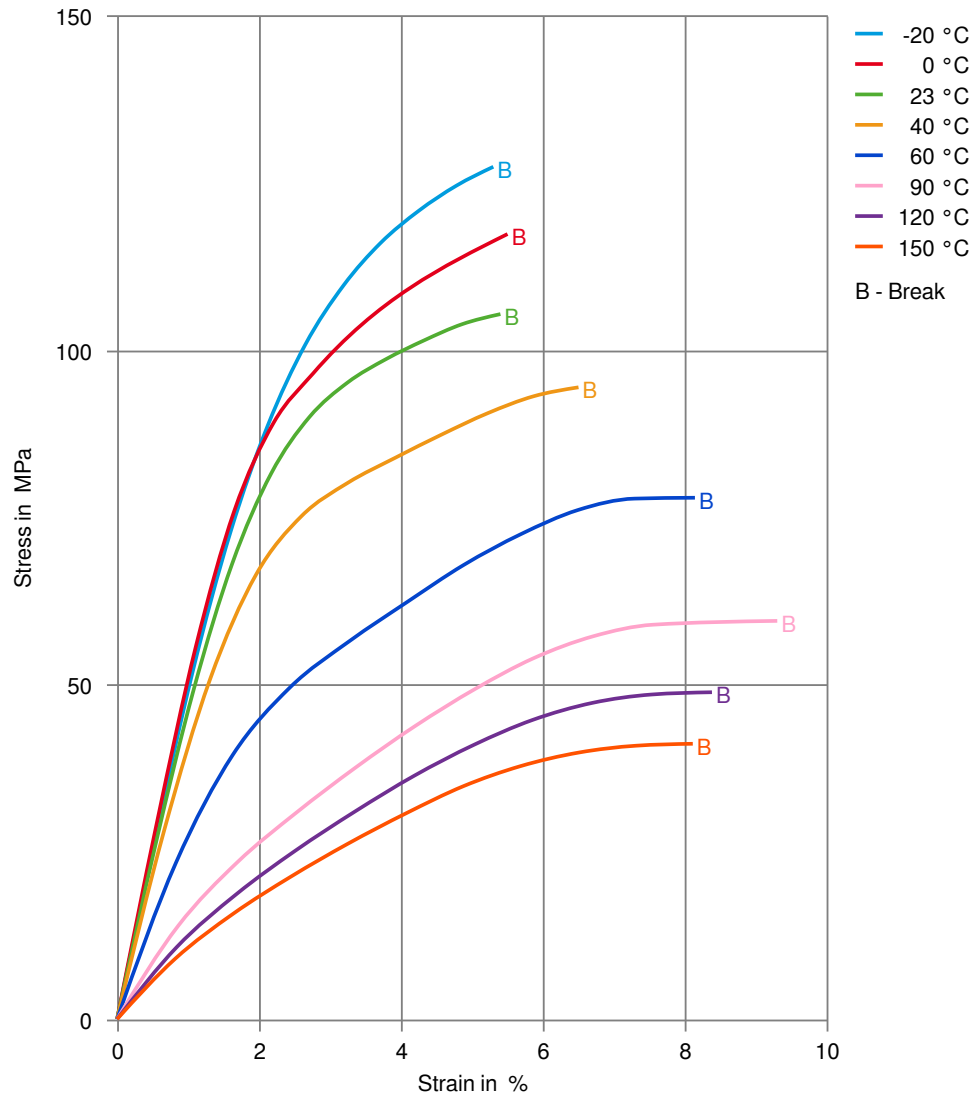
Automotive

OEM	STANDARD
Mercedes-Benz	DBL5403 PA66 GF20

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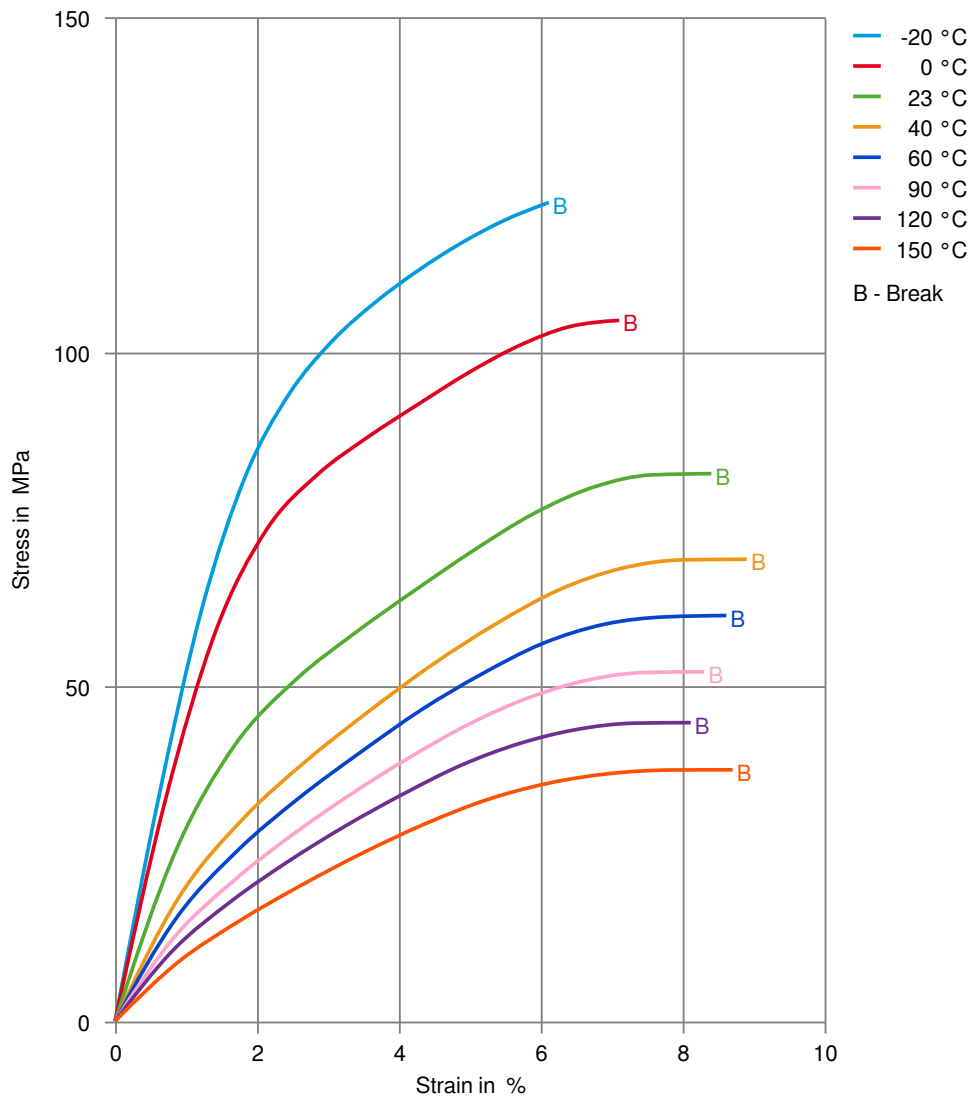
Stress-strain (dry)



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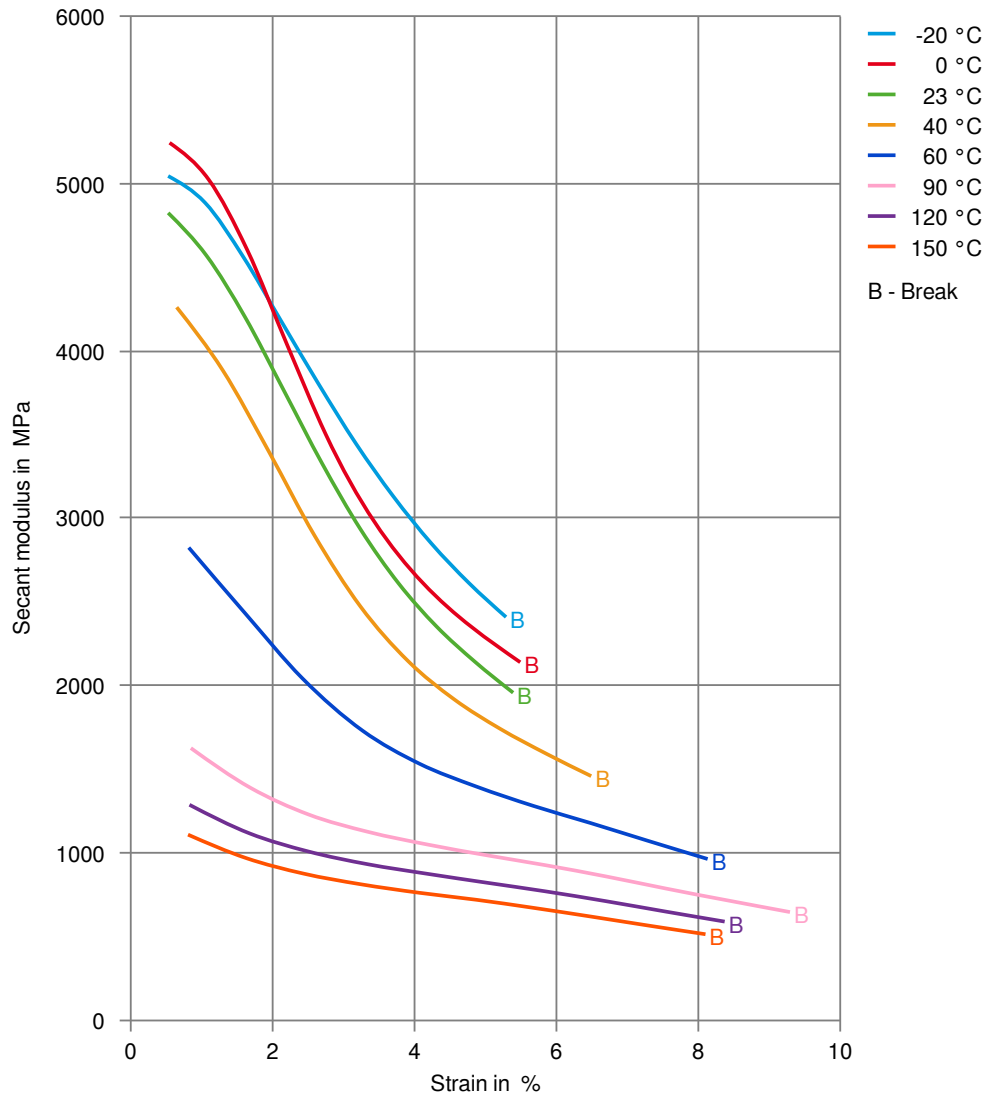
Stress-strain (cond.)



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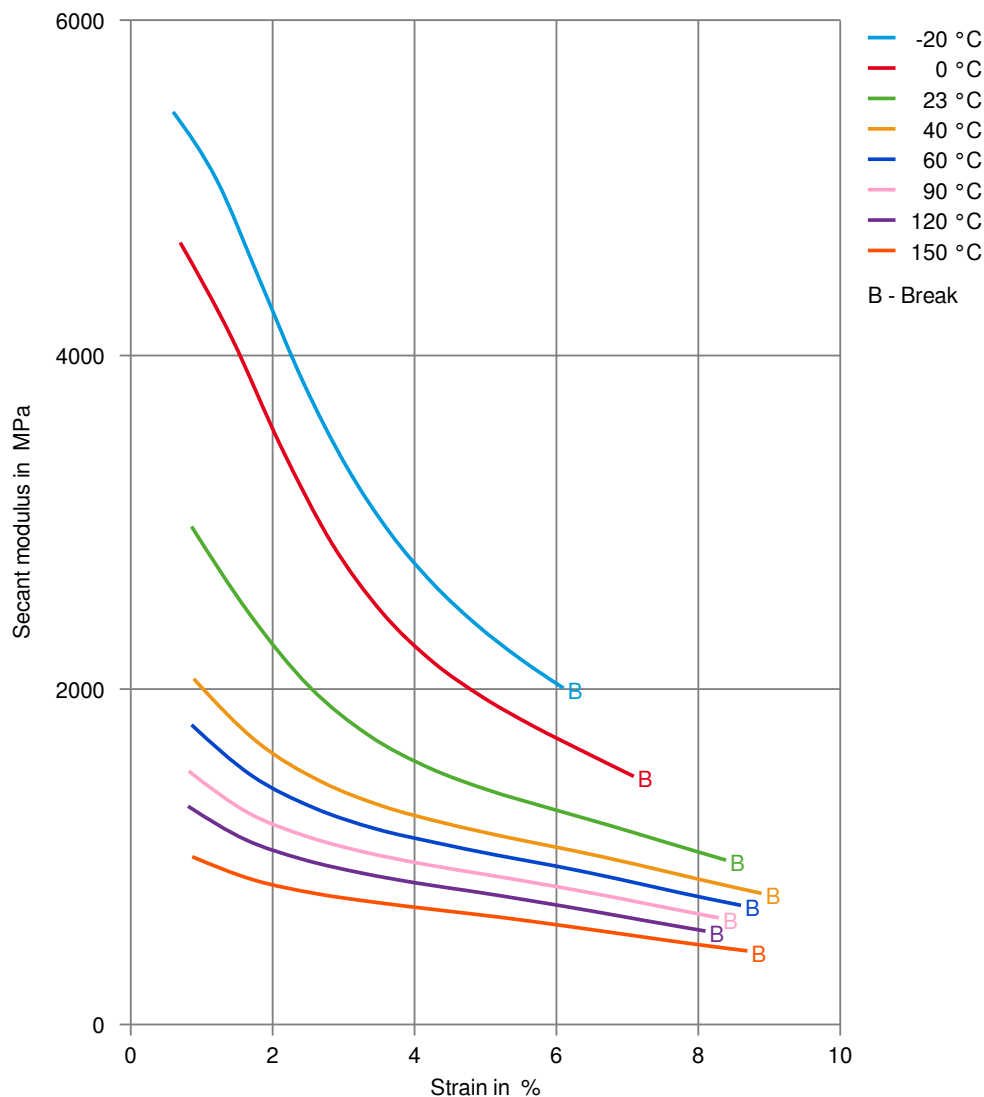
Secant modulus-strain (dry)



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Secant modulus-strain (cond.)



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