

Zytel® BM74G18HS BK553

NYLON RESIN

Zytel® BM74G18HS BK553 is a 18% Glass Reinforced heat stabilised nylon 66 and nylon 6 comelt resin for blow moulding.

Product information

Resin Identification	PA66+PA6-IGF1 8	ISO 1043
Part Marking Code	>PA66+PA6-IGF18<	ISO 11469
ISO designation	ISO 16396-(PA66+PA6)-I,GF18,BCGH,S14-050	

Rheological properties

	dry/cond.		
Melt mass-flow rate	1.2 / *	g/10min	ISO 1133
Melt mass-flow rate, Temperature	275 / *	°C	
Melt mass-flow rate, Load	10 / *	kg	
Viscosity number	140 / *	cm³/g	ISO 307, 1157, 1628
Moulding shrinkage, parallel	0.7 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.7 / -	%	ISO 294-4, 2577

Typical mechanical properties

	dry/cond.		
Tensile Modulus	5500 / 2800	MPa	ISO 527-1/-2
Yield stress, 50mm/min	100 / 50	MPa	ISO 527-1/-2
Yield strain, 50mm/min	3 / 8	%	ISO 527-1/-2
Charpy impact strength, 23°C	65 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	17 / -	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	6 / -	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -40°C	6 / -	kJ/m²	ISO 179/1eA
Poisson's ratio	0.35 / 0.37		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	260 / *	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	220 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	240 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	43 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	130 / *	E-6/K	ISO 11359-1/-2
TGA curve	available		ISO 11359-1/-2

Flammability

	dry/cond.		
Burning Behav. at 1.5mm nom. thickn.	HB / *[A]	class	UL 94
FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

[A]: Assessed



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Other properties

Humidity absorption, 2mm	dry/cond.	2.2 / *	%	Sim. to ISO 62
Density		1220 / -	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		Internal
Min. melt temperature	285 °C		
Max. melt temperature	305 °C		
Screw tangential speed	≤0.2 m/s		
Mold Temperature Optimum	90 °C		
Min. mould temperature	50 °C		
Max. mould temperature	100 °C		
Hold pressure range	50 - 100 MPa		
Hold pressure time	3 s/mm		
Ejection temperature	210 °C		Internal

Extrusion

Drying Temperature	≤80 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.03 %
Melt Temperature Optimum	285 °C
Melt Temperature Range	275 - 290 °C

Blow Molding

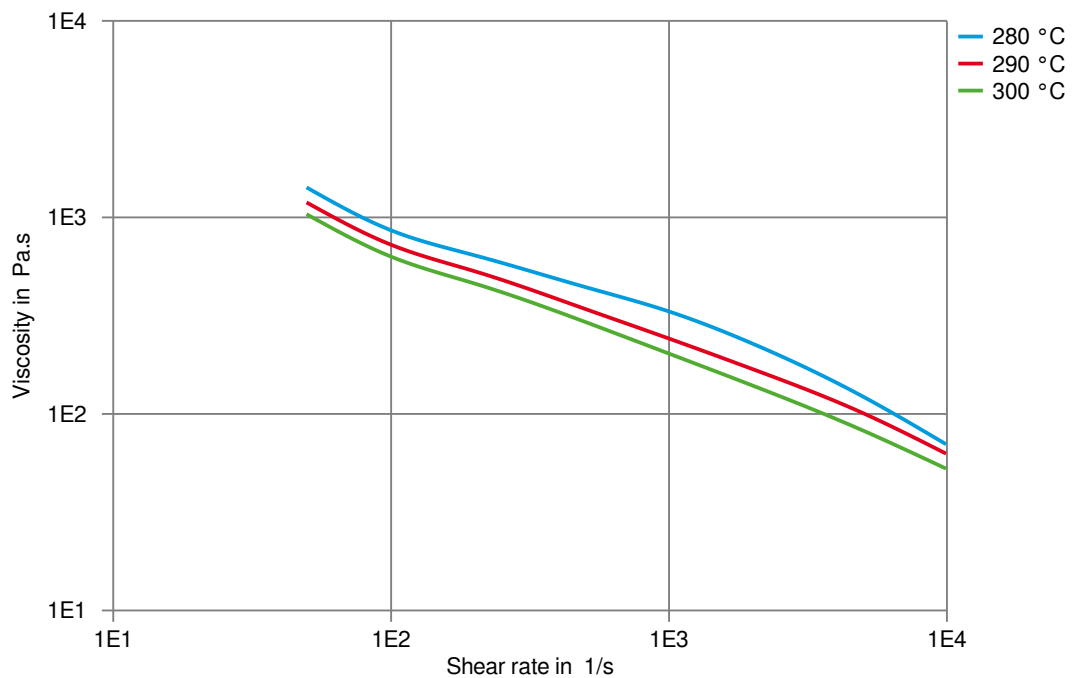
Drying Recommended	yes
Drying Temperature	100 - 115 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.03 %
Melt Temperature Optimum	285 °C
Melt Temperature Range	275 - 295 °C
Swell ratio	1.5
Mold Temperature Optimum	100 °C
Mold Temperature Range	30 - 100 °C



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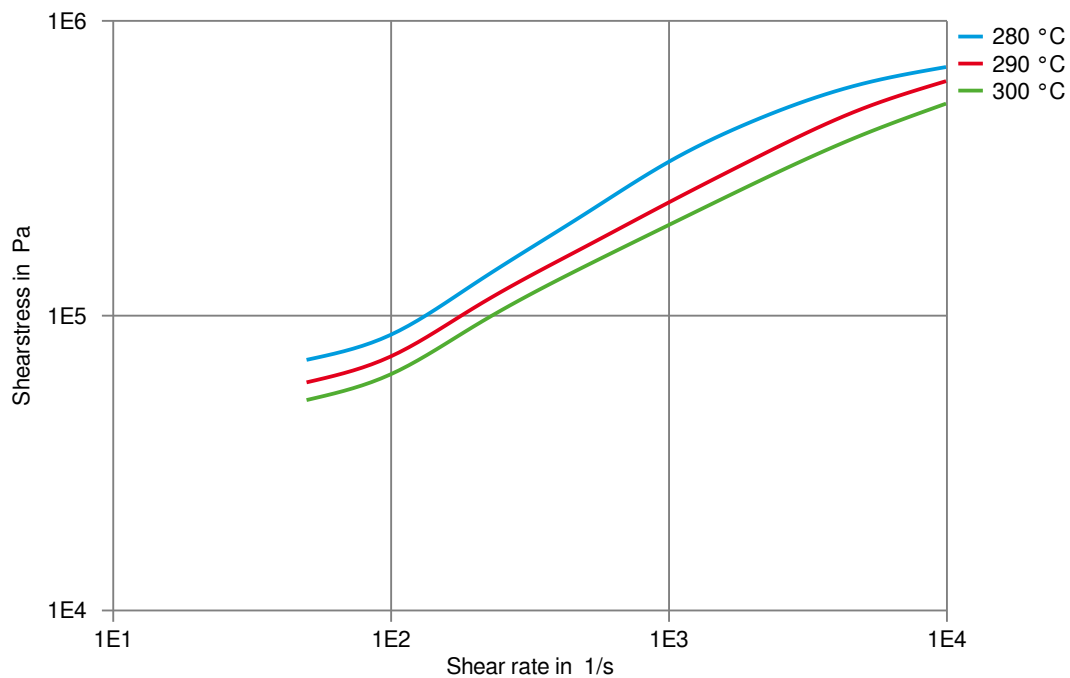
Viscosity-shear rate



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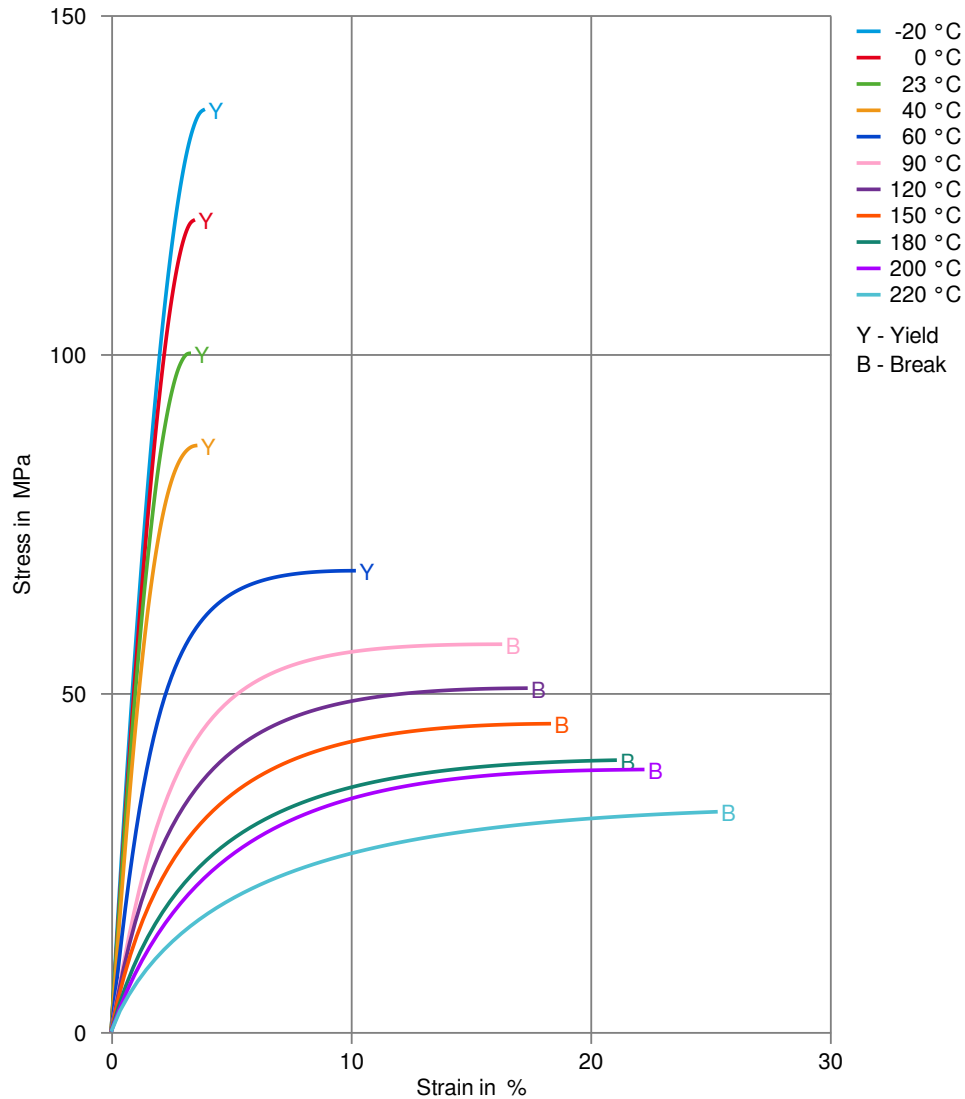
Shearstress-shear rate



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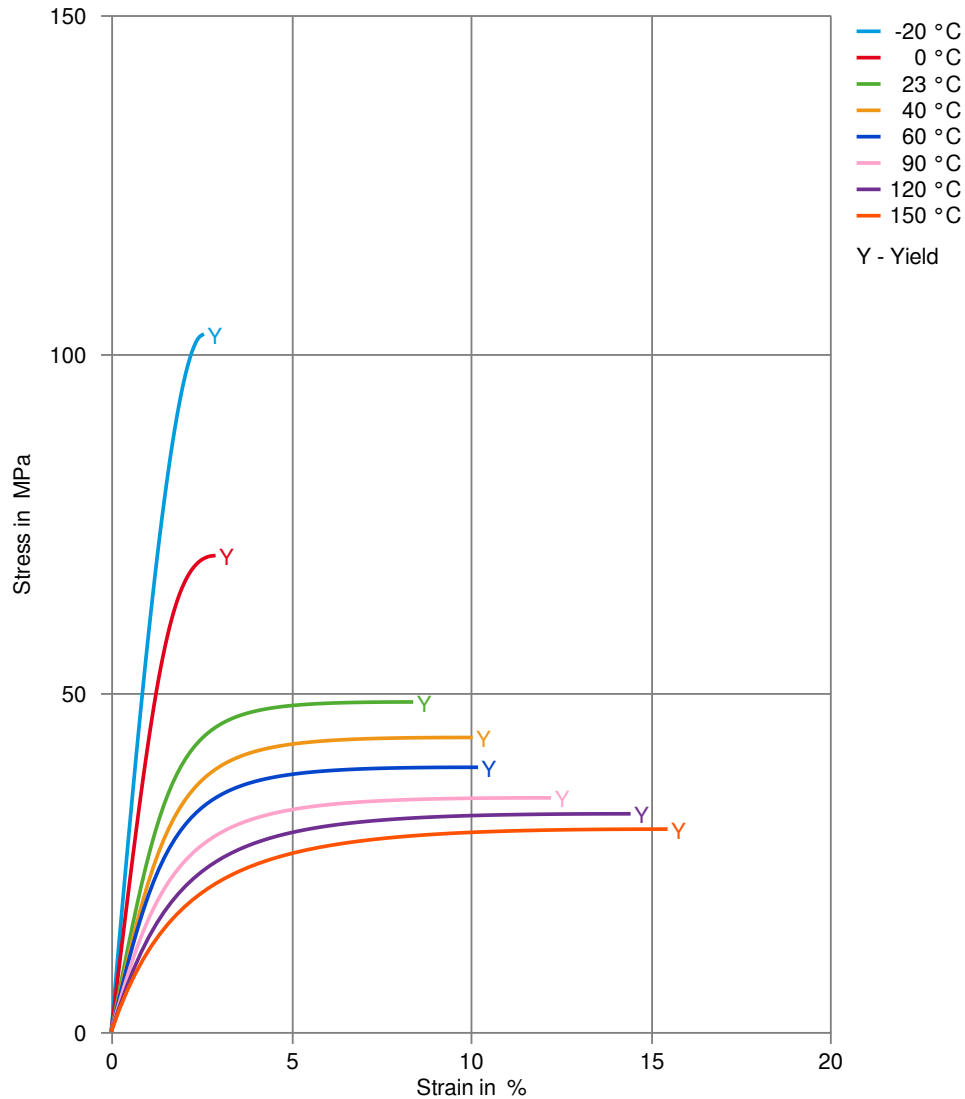
Stress-strain (dry)



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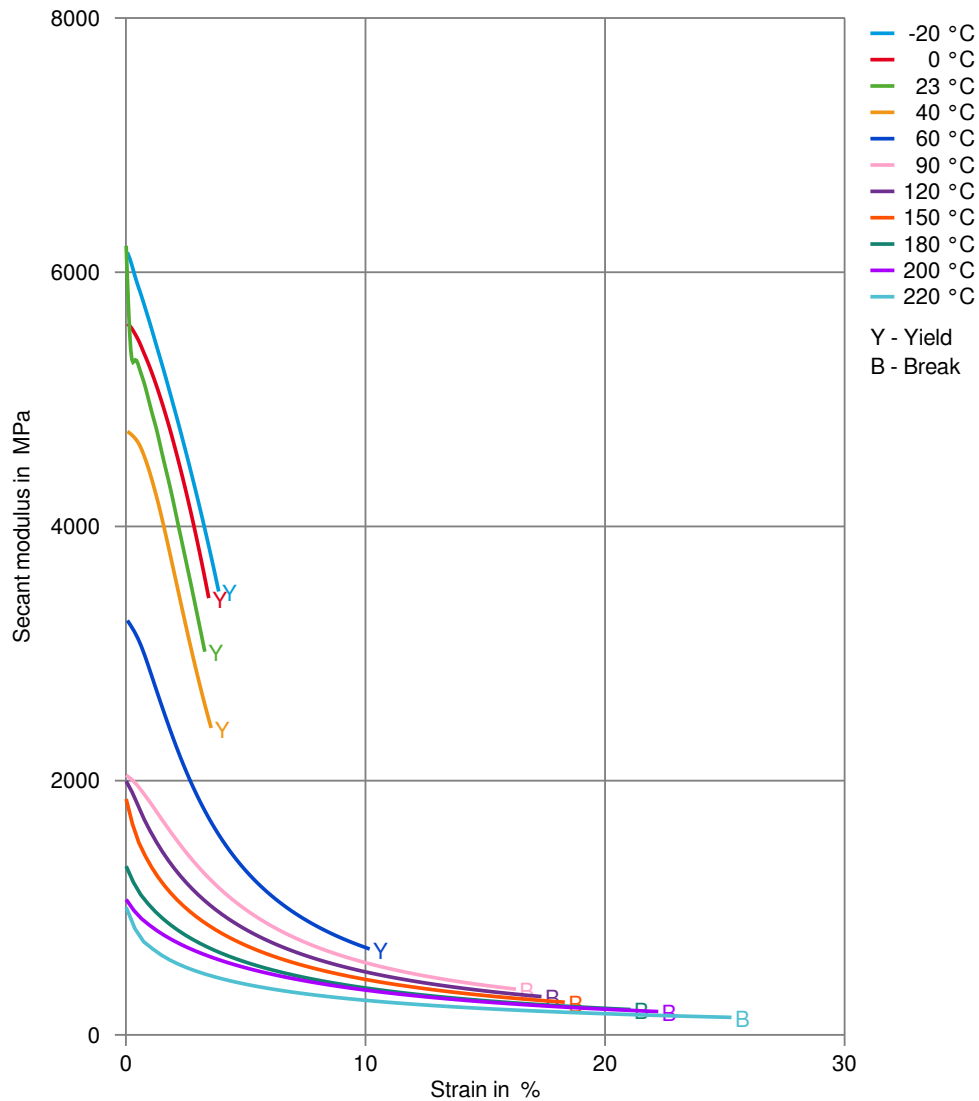
Stress-strain (cond.)



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Secant modulus-strain (dry)



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Secant modulus-strain (cond.)

