Celanese
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Zytel® HTNFR52G45NHF BK337

HIGH PERFORMANCE POLYAMIDE RESIN

Zytel® HTNFR52G45NHF BK337 is a 45% Glass Reinforced, Flame Retardant, High Performance Polyamide with improved flow. It is also a PPA resin and it uses a non-halogenated flame retardant.

Product information

Resin Identification	PA6T/66-GF45FR(40)	ISO 1043
Part Marking Code	>PA6T/66-GF45FR(40)<	ISO 11469
Part Marking Code	>PPA-GF45FR<	SAE J1344
ISO designation	ISO 16396-PA6T/66,GF45 FR(40),M1CF1G,S10-160	

Rheological properties

	dry/cond.		
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	15600 / -	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	170 / -	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.7 / -	%	ISO 527-1/-2
Flexural modulus	15500 / -	MPa	ISO 178
Flexural strength	260 / -	MPa	ISO 178
Charpy impact strength, 23°C	47 / -	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	45 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	8 / -	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	8 / -	kJ/m²	ISO 179/1eA
Poisson's ratio	0.33 / -		

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	310 / *	°C	ISO 11357-1/-3
Melting temperature, first heat	310 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	90 / 45	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	275 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	15 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	17 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, parallel, 55-160°C	15 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	50 / *	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	55 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	95 / *	E-6/K	ISO 11359-1/-2
RTI, electrical, 0.4mm	140	°C	UL 746B
RTI, electrical, 0.75mm	140	°C	UL 746B
RTI, electrical, 1.5mm	140	°C	UL 746B
RTI, electrical, 3.0mm	140	°C	UL 746B
RTI, strength, 0.75mm	125	°C	UL 746B
RTI, strength, 1.5mm	125 / *	°C	UL 746B
RTI, strength, 3.0mm	130	°C	UL 746B

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TGA curve	available		ISO 11359-1/-2

Flammability

	dry/cond.		
Burning Behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.4 / *	mm	IEC 60695-11-10
UL recognition	yes / *		UL 94
Glow Wire Ignition Temperature, 3.0mm	825 / -	°C	IEC 60695-2-13

Electrical properties

	dry/cond.		
Volume resistivity	>1E13 / -	Ohm.m	IEC 62631-3-1
Comparative tracking index	600 / -		IEC 60112

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.2 / *[A]	%	Sim. to ISO 62
Water absorption, 2mm	3 / *[A]	%	Sim. to ISO 62
Density	1610 / -	kg/m³	ISO 1183

[A]: Assessed

Injection

Drying Recommended	yes	
Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	6 - 8	h
Processing Moisture Content	≤0.1	%
Min. melt temperature	320	°C
Max. melt temperature	325	°C
Min. mould temperature	90	°C
Max. mould temperature	130	°C

Characteristics

Processing	Injection Moulding
Additives	Flame retardant, Non-halogenated/Red phosphorous free flame retardant
Special characteristics	Flame retardant, Lead-free soldering resistant

Additional information

Injection molding	For molding machine components, use corrosion resistant and wear resistant steel. For details please contact our representative. Limit the residence time of the resin in the machine. Use proper protective equipment and adequate ventilation.

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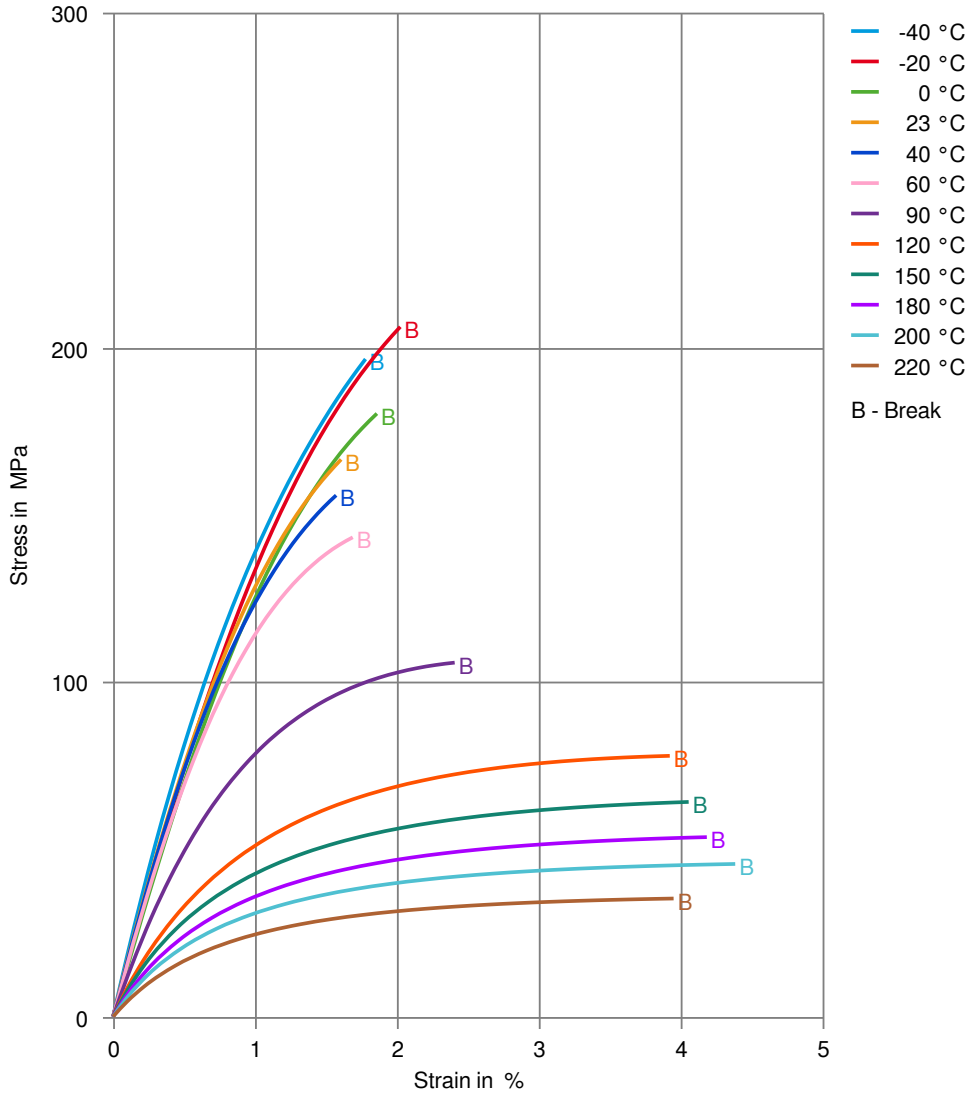
Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Stellantis	B62 0300 / 61/U4/225E/217M/C2B/C4	01378_20_04250

Stress-strain (dry)



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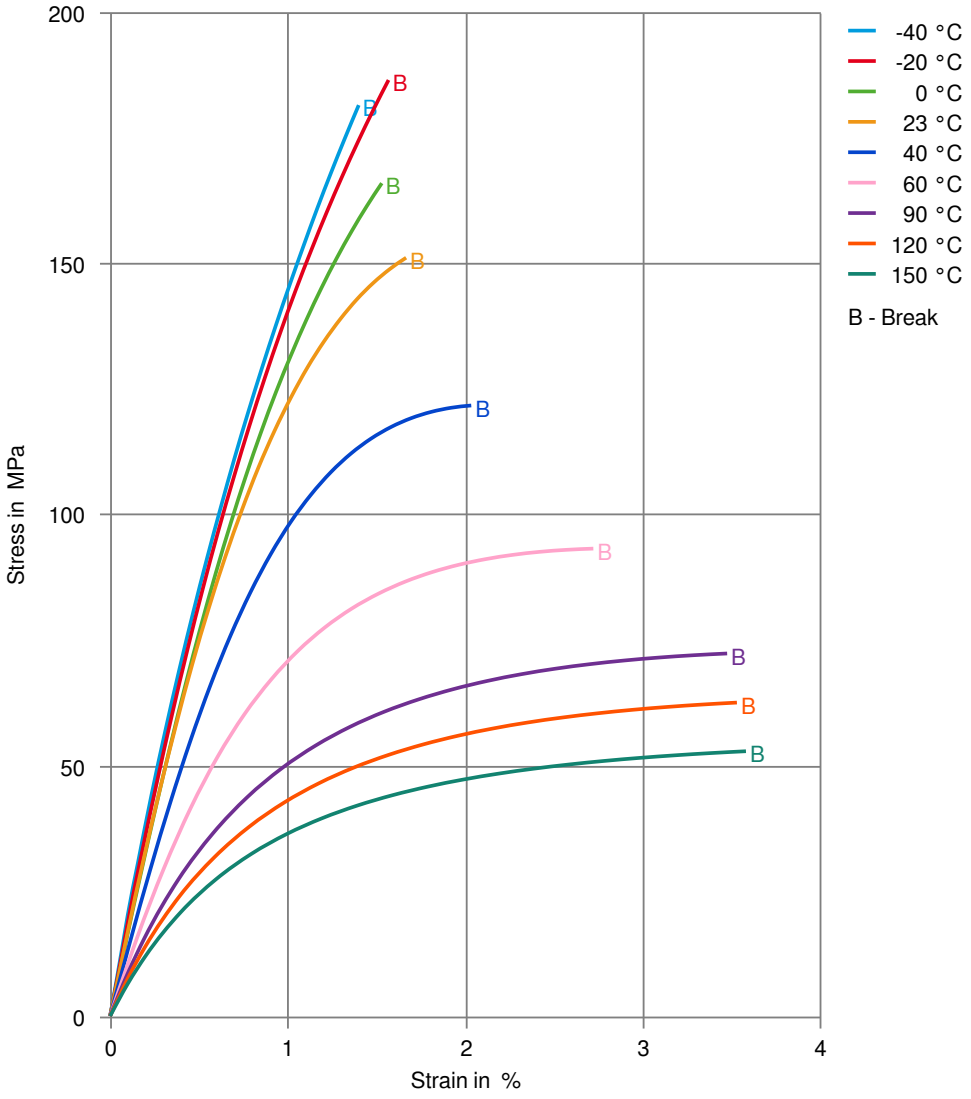
Stress-strain (cond.)



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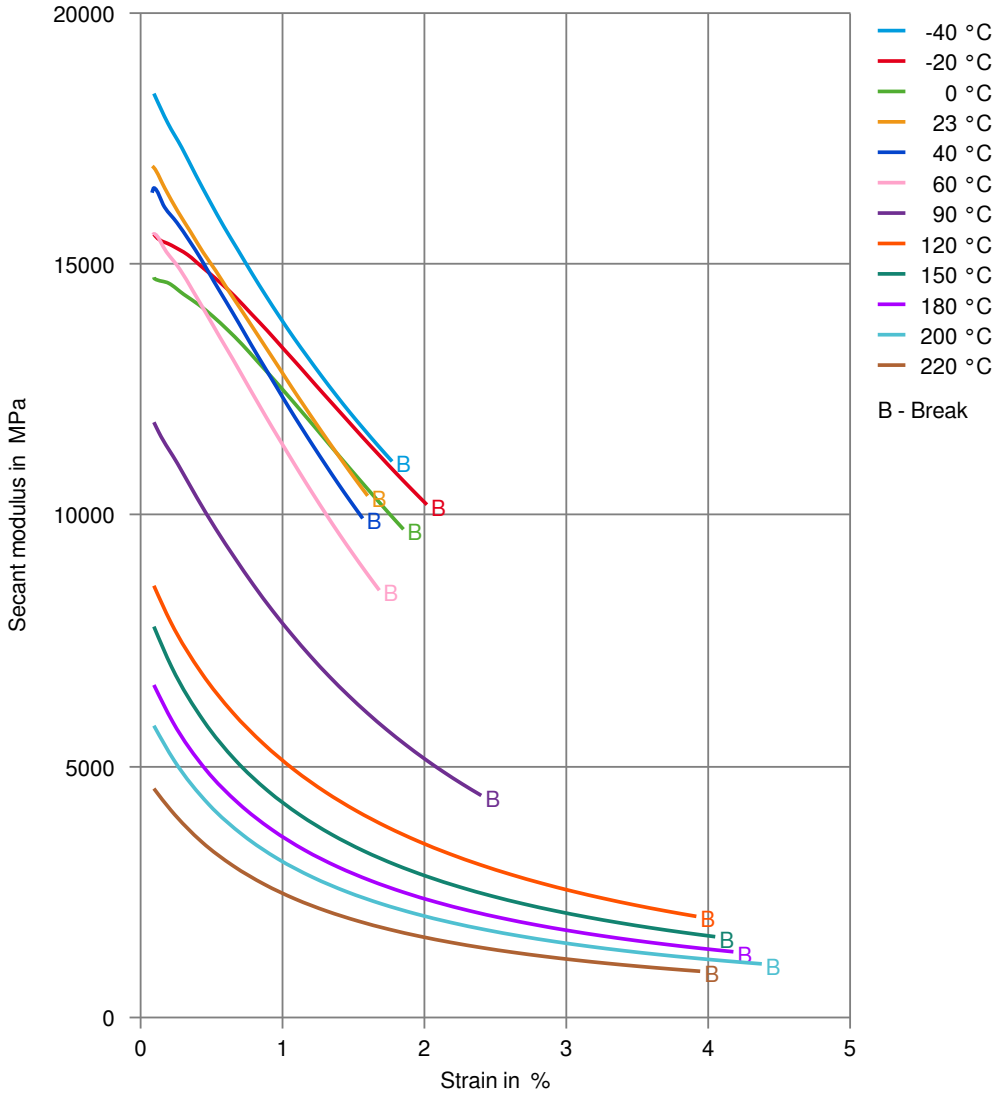
Secant modulus-strain (dry)



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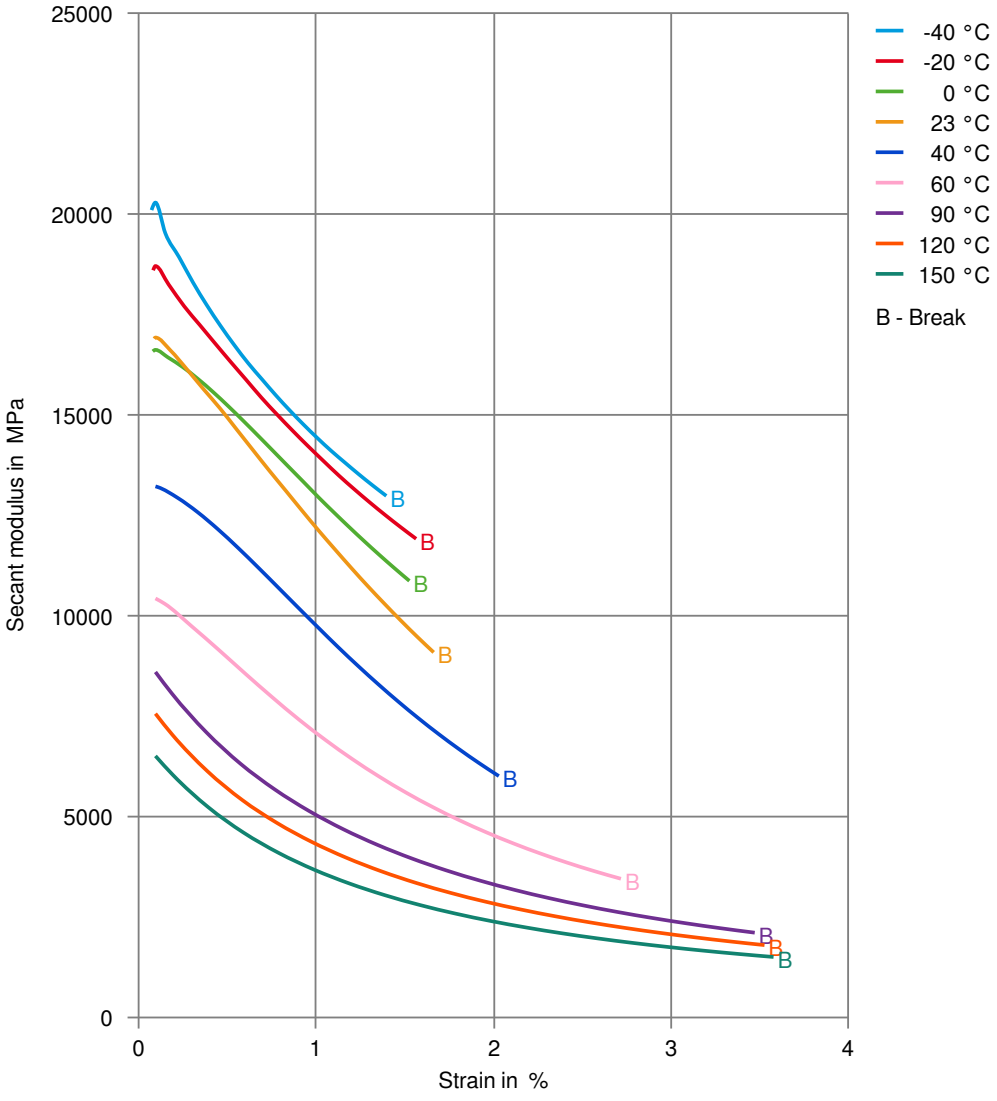
Secant modulus-strain (cond.)



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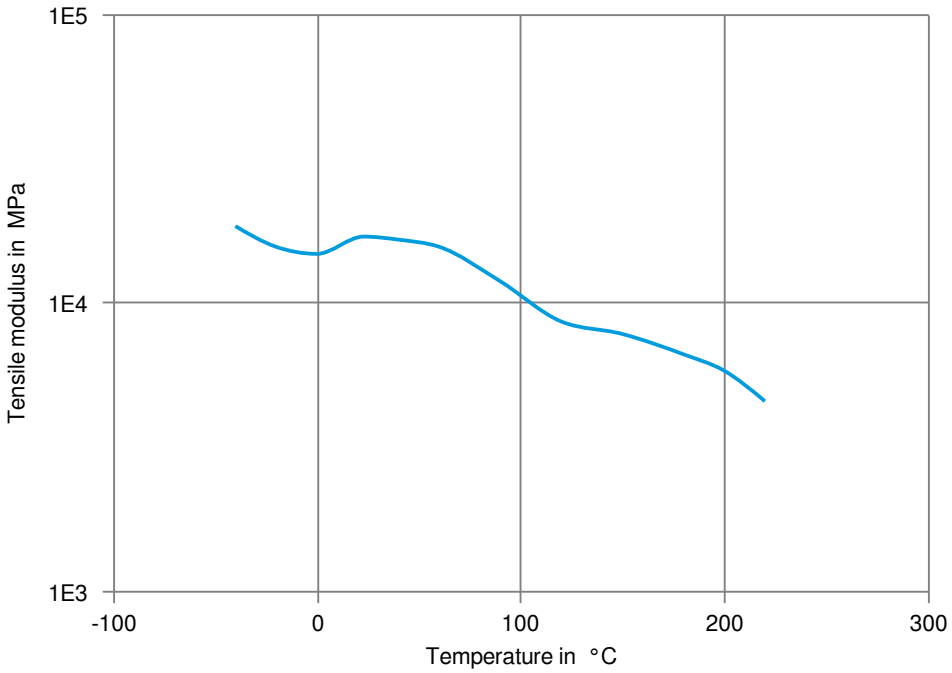
Tensile modulus-temperature (dry)



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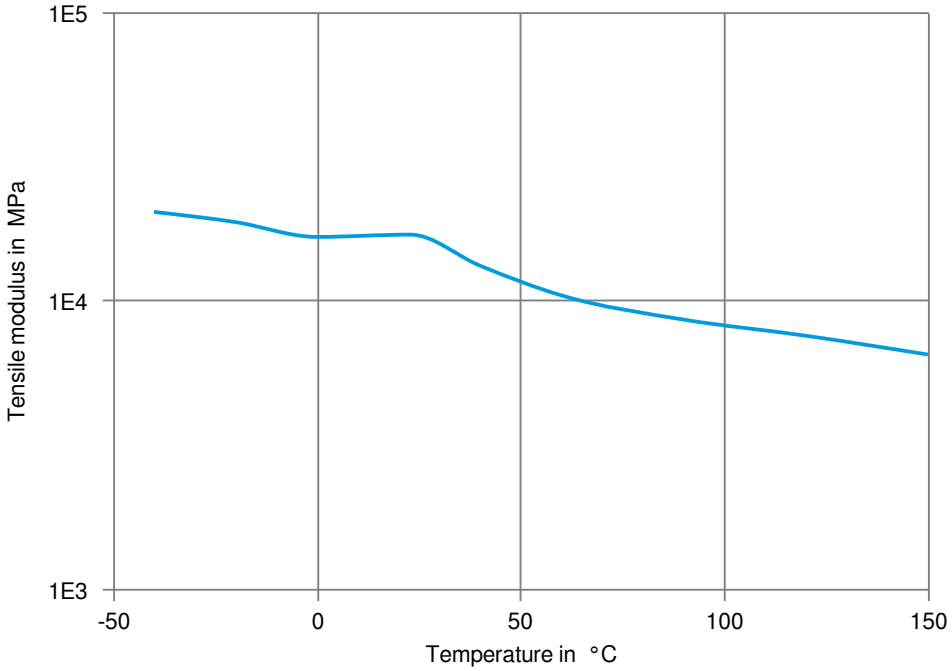
Tensile modulus-temperature (cond.)



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