

Ultramid® B3WG12 HSP BK23228

PA6-GF60

BASF

Glass fibre reinforced and heat ageing resistant injection moulding grade with high flowability and excellent surface quality for structural parts with very high stiffness requirements.

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	22 / *	cm³/10min	ISO 1133
Temperature	275 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	21500 / 14000	MPa	ISO 527
Stress at Break	250 / 170	MPa	ISO 527
Strain at Break	2.5 / 4	%	ISO 527
Impact Strength (Charpy), +23°C	95 / 100	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	90 / 90	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	16 / 20	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	16 / 16	kJ/m²	ISO 179/1eA

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	220 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	210 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	16 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	87 / *	E-6/K	ISO 11359-1/-2

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	4 / *	%	Sim. to ISO 62
Humidity absorption	1 / *	%	Sim. to ISO 62
Density	1720 / -	kg/m³	ISO 1183
Bulk density	700	kg/m³	-

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	105 / *	cm³/g	ISO 307, 1157, 1628

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	300	°C	ISO 294
Injection Molding, mold temperature	100	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

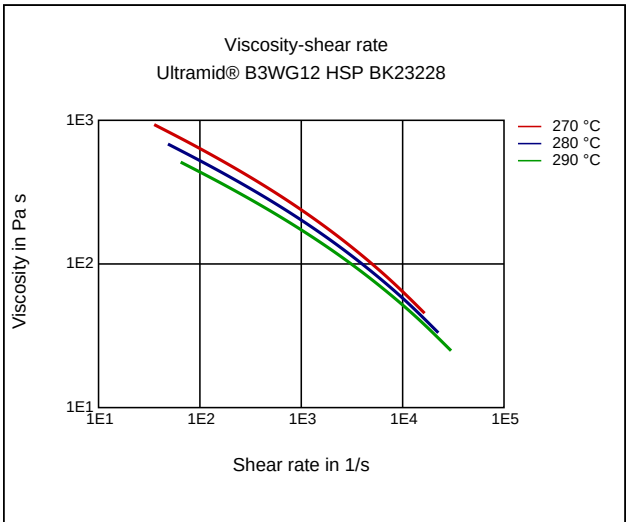
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.15	%	-
Melt temperature	280 - 310	°C	-
Mold temperature	90 - 120	°C	-

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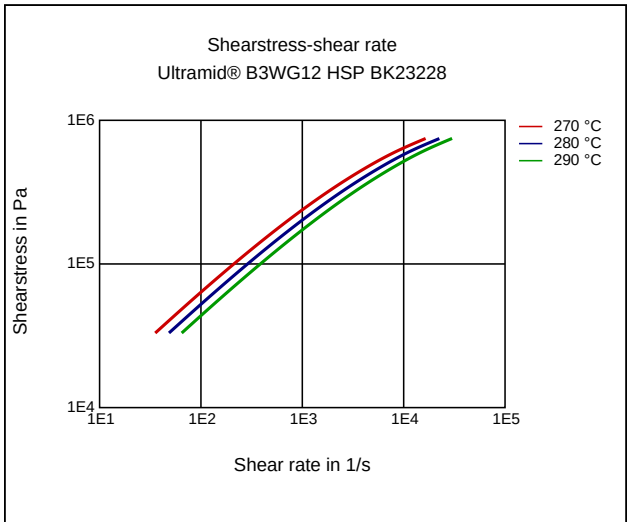
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Diagrams

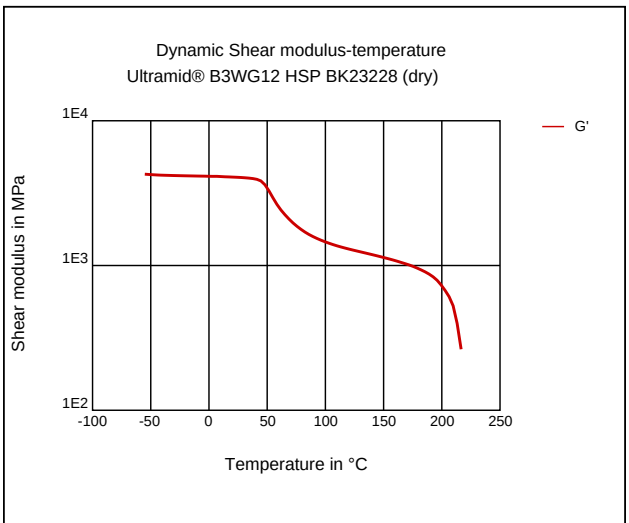
Viscosity-shear rate



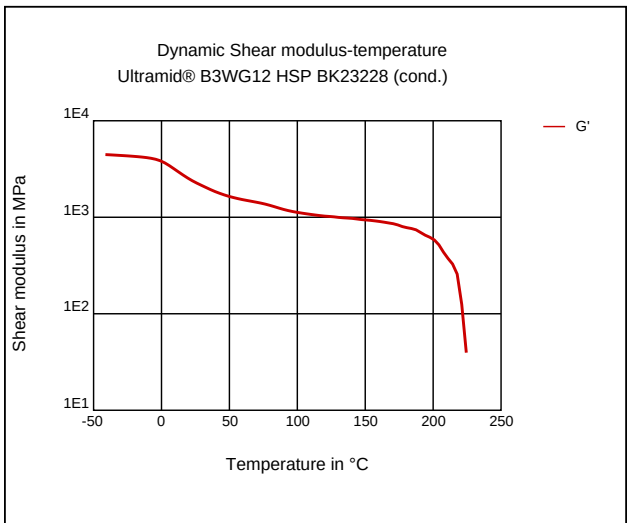
Shearstress-shear rate



Dynamic Shear modulus-temperature



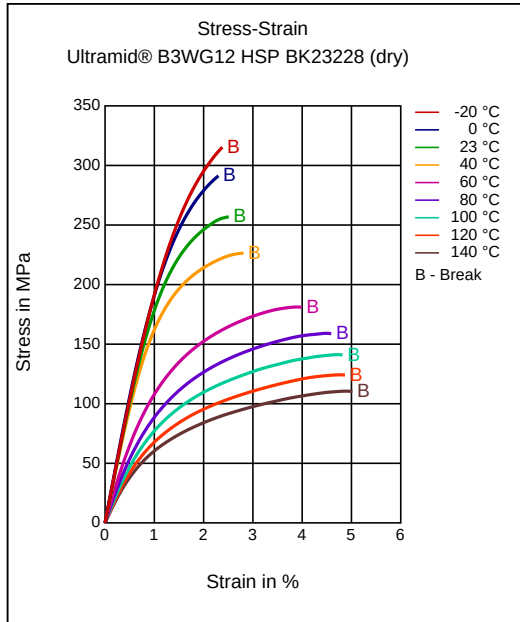
Dynamic Shear modulus-temperature



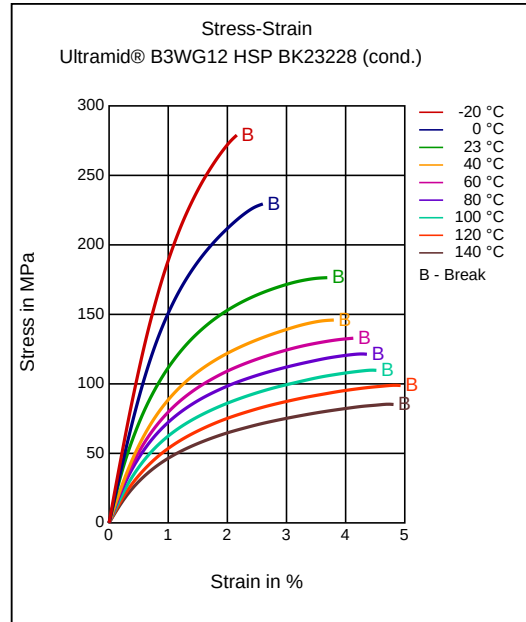
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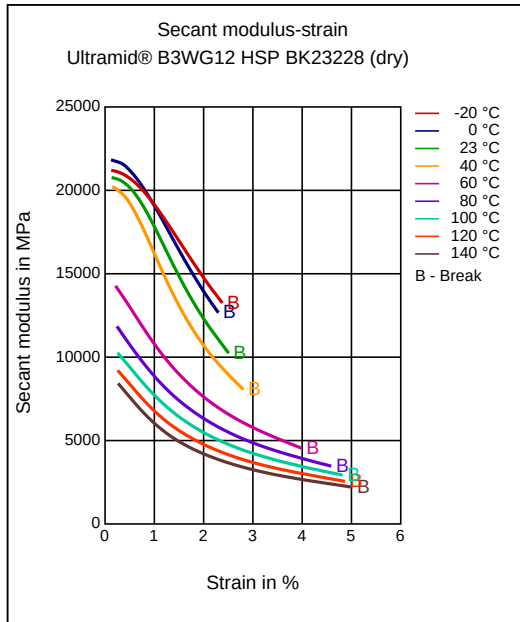
Stress-strain



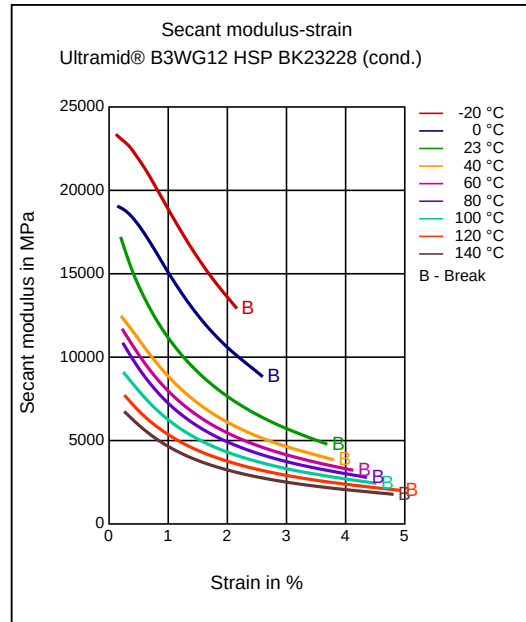
Stress-strain



Secant modulus-strain



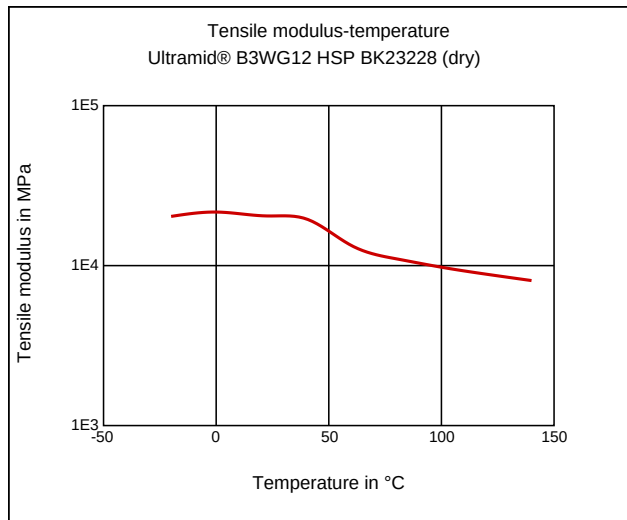
Secant modulus-strain



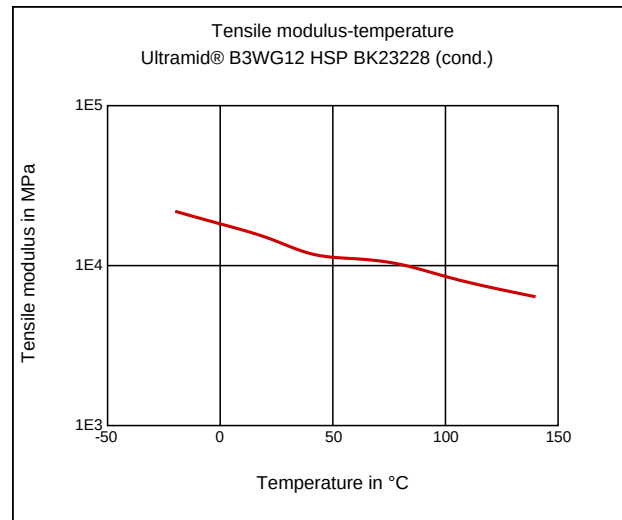
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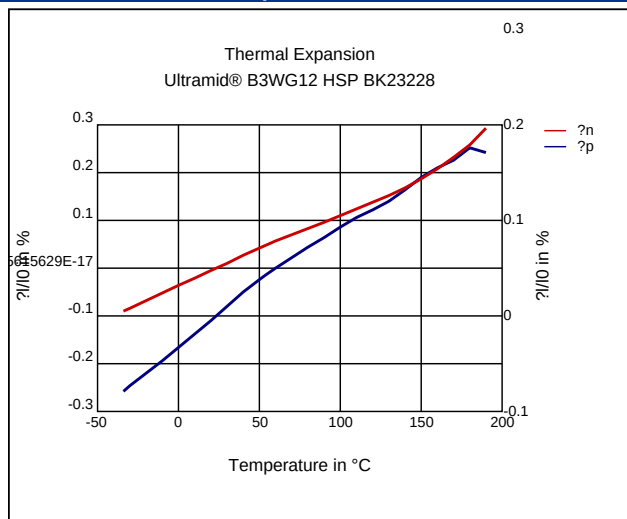
Tensile Modulus-Temperature



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding

Delivery form

Pellets, Black

Additives

Lubricants, Release agent

Special Characteristics

Heat aging stabilized

Injection Molding

PREPROCESSING

Pre/Post-processing, max. allowed water content: .15 %

Pre/Post-processing, Pre-drying, Temperature: 80 °C

Pre/Post-processing, Pre-drying, Time: 4 h

PROCESSING

injection molding, Melt temperature, range: 280 - 310 °C

injection molding, Melt temperature, recommended: 290 °C

injection molding, Mold temperature, range: 90 - 120 °C

injection molding, Mold temperature, recommended: 100 °C

injection molding, Dwell time, thermoplastics: 10 min