Ultramid® A3WG8 BK20560

PA66-GF40 BASF

Glass fibre reinforced and heat aging resistance injection moulding grade for industrial items such as gear wheels, solenoid valve housings, cable attachments, automotive fuel distributors and components for automotive gearshift.

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	20 / *	cm³/10min	ISO 1133
Temperature	275 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.0 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	13000 / 8500	MPa	ISO 527
Stress at Break	220 / 145	MPa	ISO 527
Strain at Break	3 / 5	%	ISO 527
Tensile Creep Modulus, 1000h	* / 4900	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	100 / 110	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	85 / 95	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	13 / 17	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	10 / 11	kJ/m²	ISO 179/1eA

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	260 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	250 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	260 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	23 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	86 / *	E-6/K	ISO 11359-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	4 / 4.7	-	IEC 62631-2-1
Dissipation Factor, 1MHz	170 / 830	E-4	IEC 62631-2-1
Volume Resistivity	3.3E12 / 4.9E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1.8E13	Ohm	IEC 62631-3-2
Electric Strength	40 / 34	kV/mm	IEC 60243-1
Comparative tracking index	- / 425	-	IEC 60112

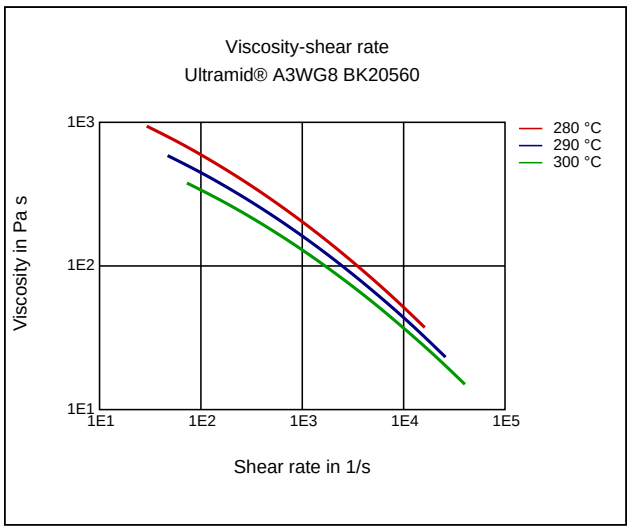
Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	4.7 / *	%	Sim. to ISO 62
Humidity absorption	1.5 / *	%	Sim. to ISO 62
Density	1460 / -	kg/m³	ISO 1183

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	140 / *	cm³/g	ISO 307, 1157, 1628

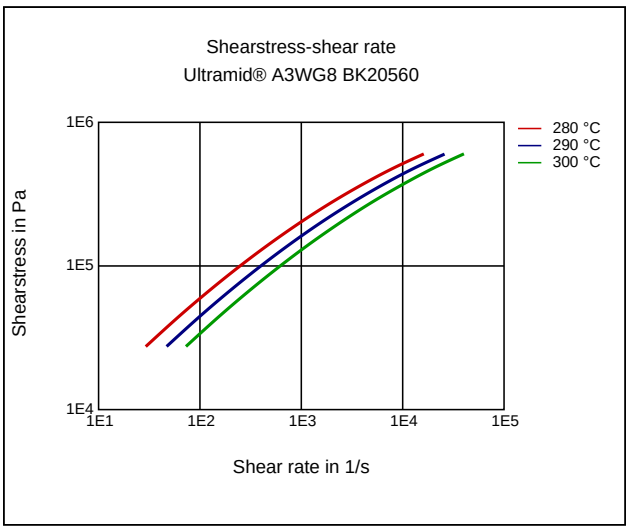
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.15	%	-
Melt temperature	280 - 300	°C	-
Mold temperature	80 - 90	°C	-

Diagrams

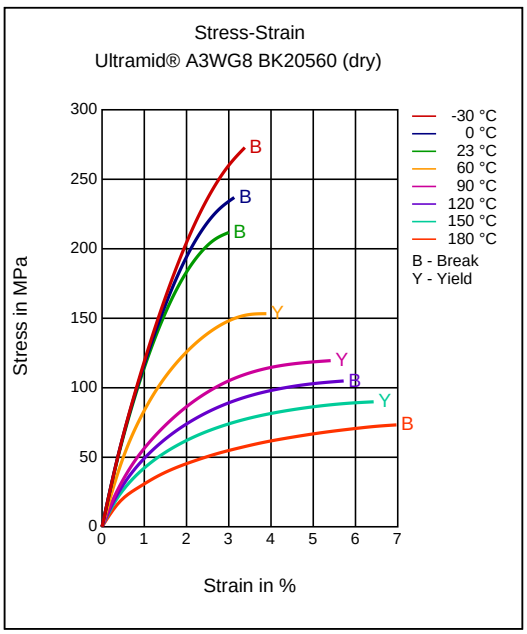
Viscosity-shear rate



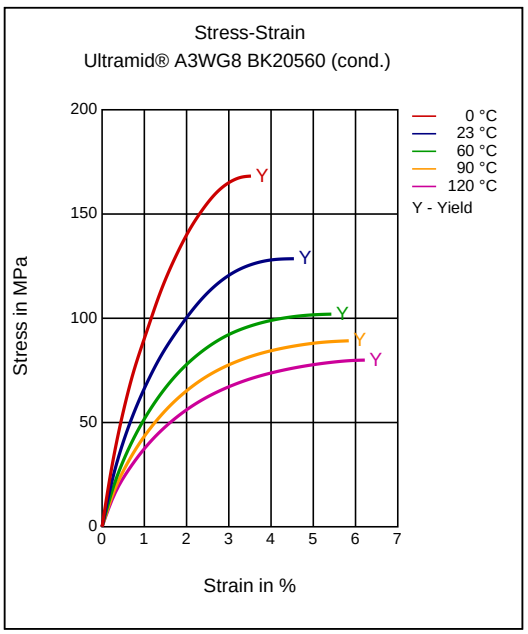
Shearstress-shear rate



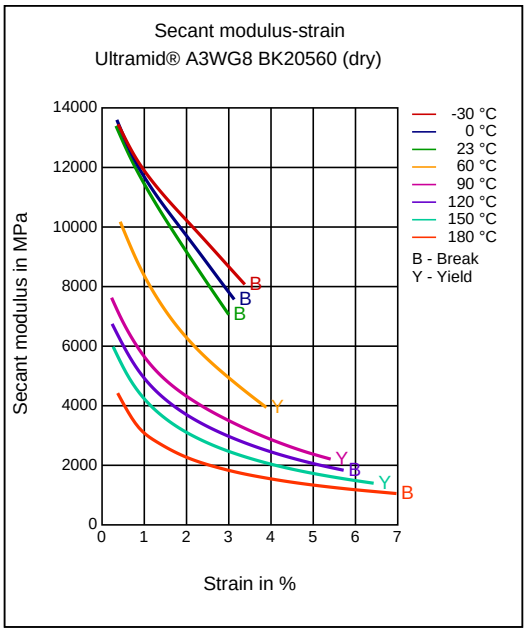
Stress-strain



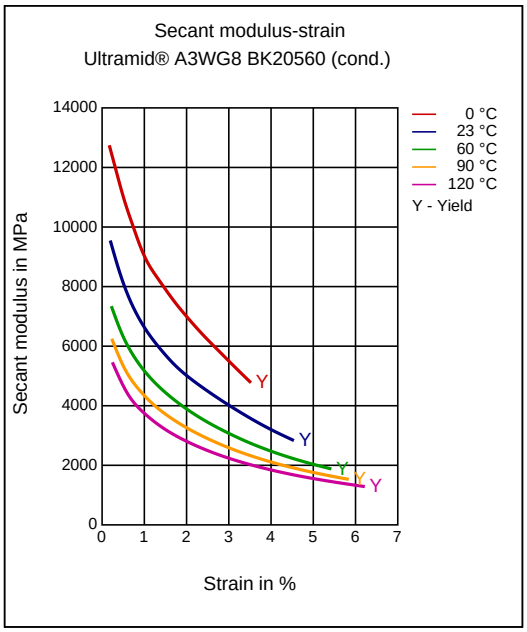
Stress-strain



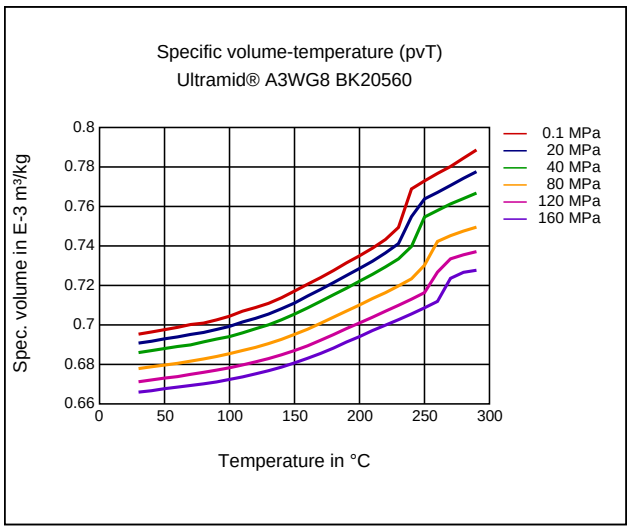
Secant modulus-strain



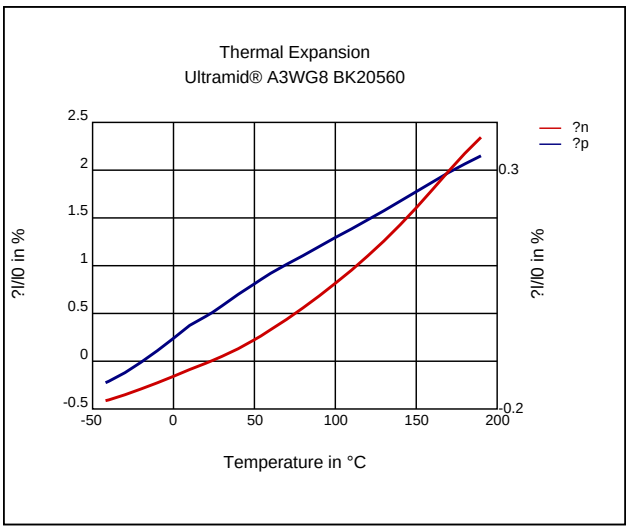
Secant modulus-strain



Specific volume-temperature (pvT)



Coeff. of linear thermal expansion, normal



Characteristics

Processing
Injection Molding

Special Characteristics
Heat aging stabilized

Delivery form
Black

Applications
Automotive

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 - 300 °C
injection molding, Melt temperature, recommended: 290 °C
injection molding, Mold temperature, range: 80 - 90 °C
injection molding, Mold temperature, recommended: 80 °C
injection molding, Dwell time, thermoplastics: 10 min

Chemical Media Resistance

Acids

✔ Acetic Acid (5% by mass) (23°C)

Disclaimer

Liability Exclusion
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