

Ultramid® A3WG7 HP BK20560
PA66-GF35

BASF

Glass fibre reinforced and heat aging resistance injection moulding grade for industrial items.

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	55 / *	cm³/10min	ISO 1133
Temperature	275 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	11200 / 7500	MPa	ISO 527
Stress at Break	200 / 130	MPa	ISO 527
Strain at Break	2.9 / 4.2	%	ISO 527
Tensile Creep Modulus, 1000h	* / 5600	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	80 / 88	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	65 / 60	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	11 / 13	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	9.7 / 9	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)	240 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	260 / *	°C	ISO 75-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	3.9 / 4.6	-	IEC 62631-2-1
Dissipation Factor, 1MHz	163 / 780	E-4	IEC 62631-2-1
Volume Resistivity	3.7E12 / 8.2E8	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1.2E14	Ohm	IEC 62631-3-2
Electric Strength	44 / 39	kV/mm	IEC 60243-1
Comparative tracking index	- / 425	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	5.7 / *	%	Sim. to ISO 62
Humidity absorption	1.4 / *	%	Sim. to ISO 62
Density	1420 / -	kg/m³	ISO 1183

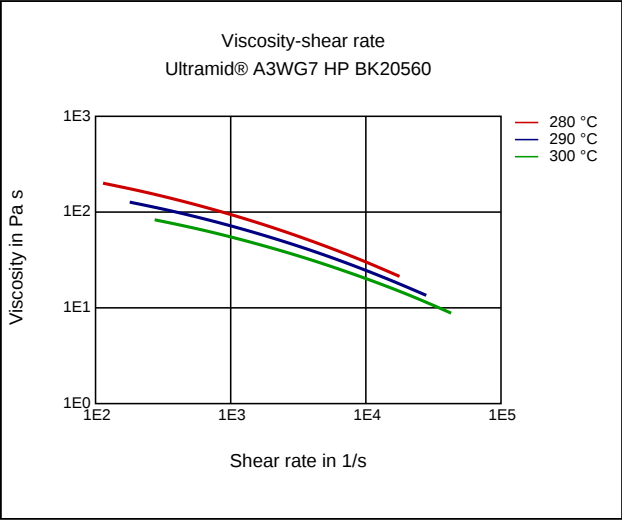
Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	120 / *	cm³/g	ISO 307, 1157, 1628

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	290	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

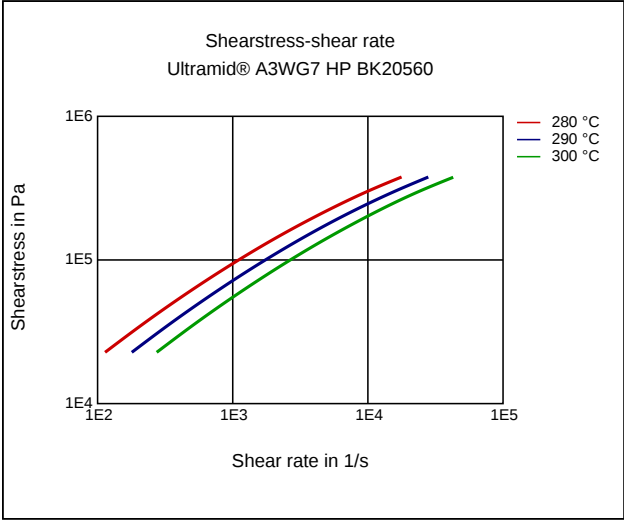
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.15	%	-
Melt temperature	280 - 300	°C	-
Mold temperature	80 - 90	°C	-

Diagrams

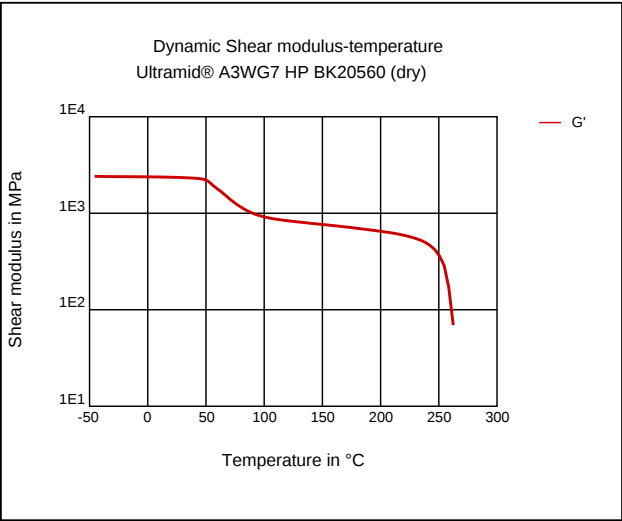
Viscosity-shear rate



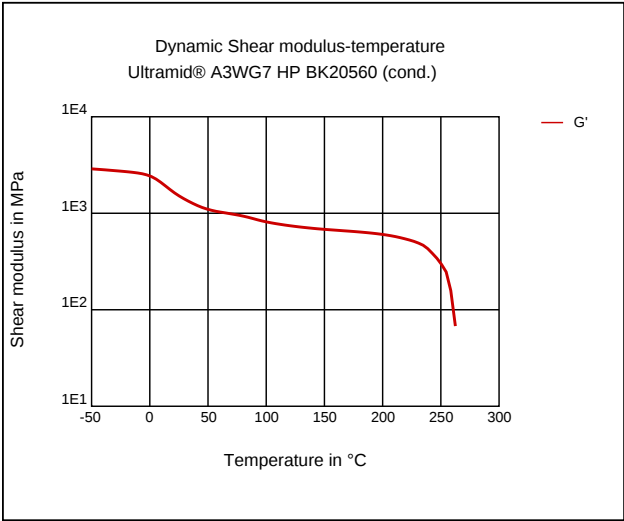
Shearstress-shear rate



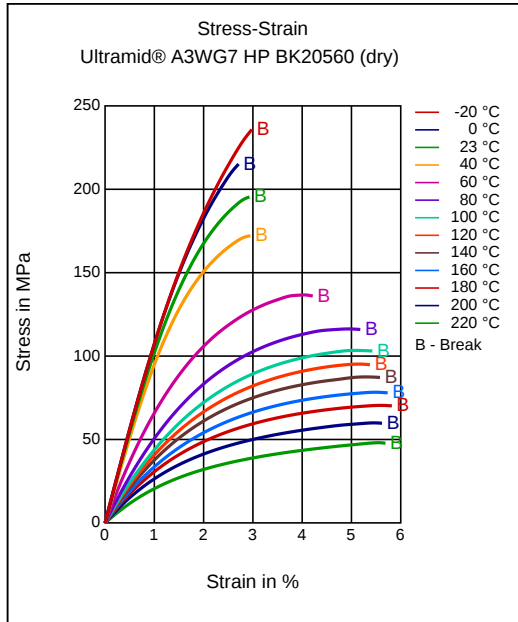
Dynamic Shear modulus-temperature



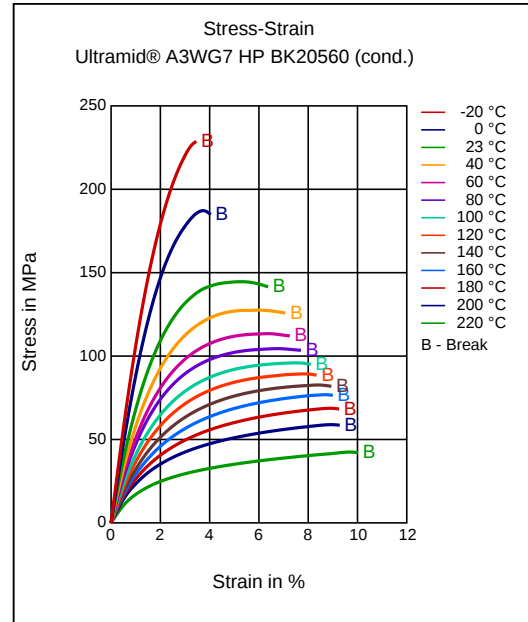
Dynamic Shear modulus-temperature



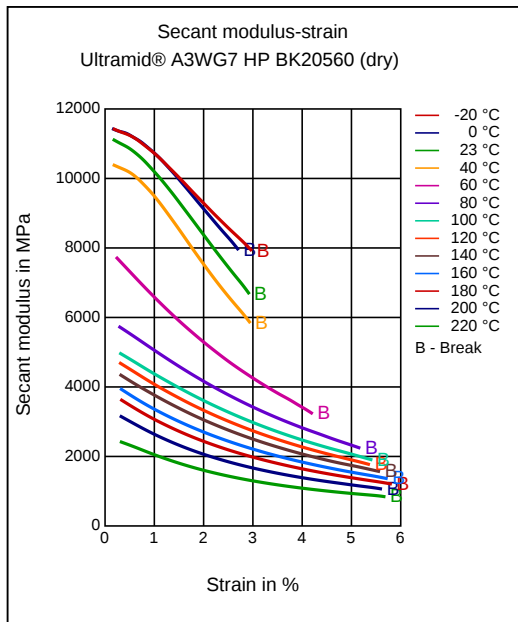
Stress-strain



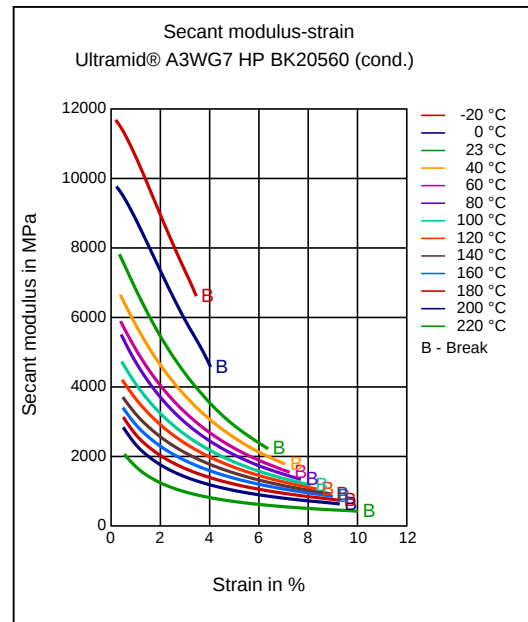
Stress-strain



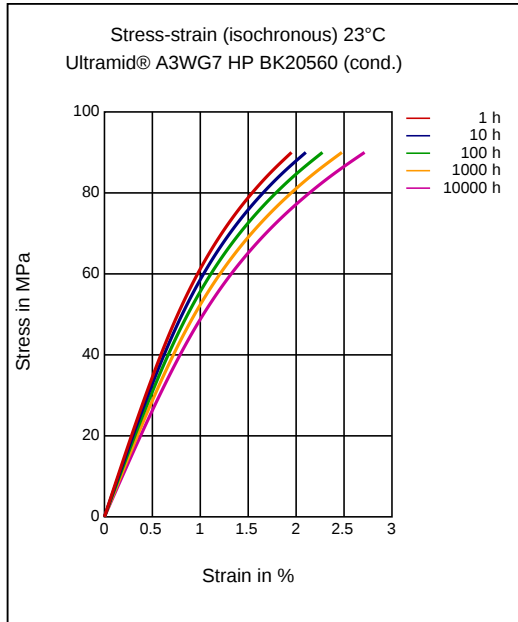
Secant modulus-strain



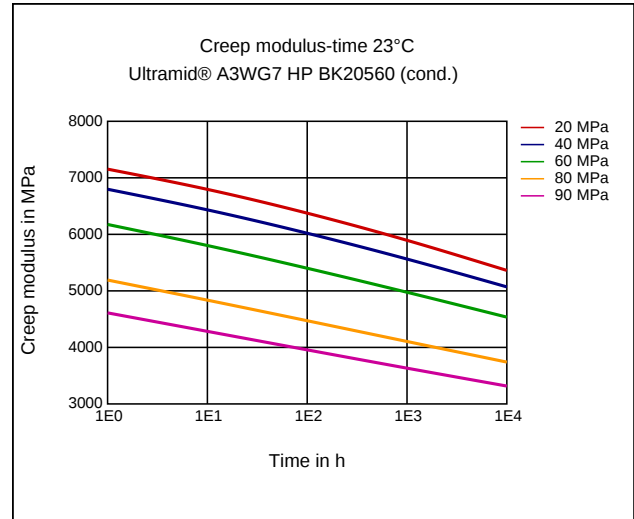
Secant modulus-strain



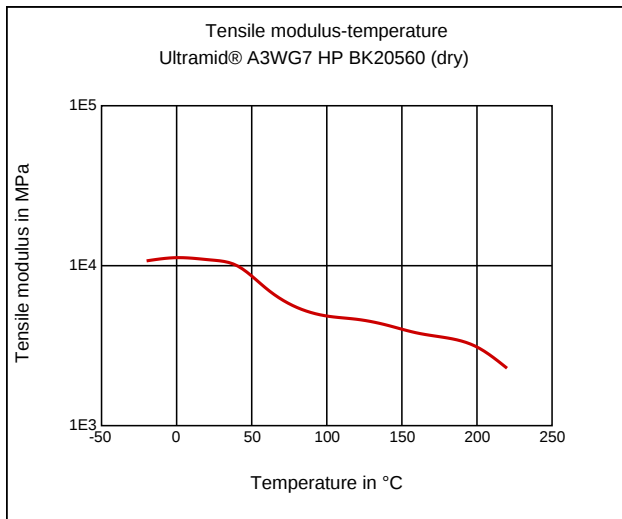
Stress-strain (isochronous) 23 °C



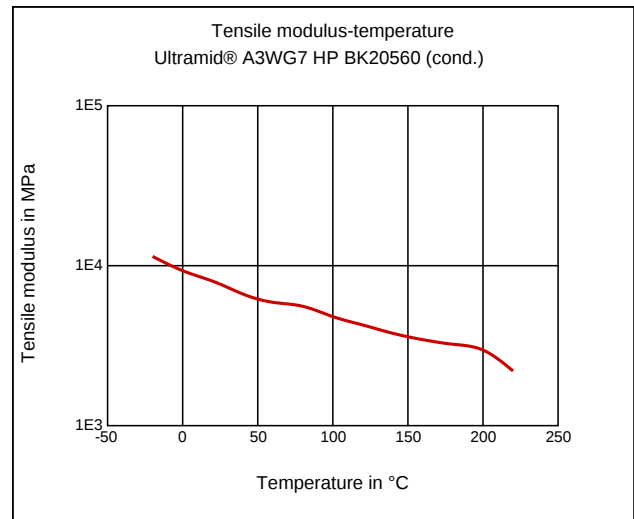
Creep modulus-time 23 °C



Tensile Modulus-Temperature



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding

Delivery form

Pellets, Black

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 - 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

Disclaimer

Liability Exclusion

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