

Ultramid® Endure D3G7 bk20560
PA66-GF35

BASF

Glass fiber reinforced injection moulding grade with high stiffness, very good flowability, and excellent heat ageing resistance up to at least 220 °C for technical articles.

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	38 / *	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	11300 / 7600	MPa	ISO 527
Stress at Break	200 / 130	MPa	ISO 527
Strain at Break	2.9 / 5.1	%	ISO 527
Tensile Creep Modulus, 1000h	* / 4800	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	80 / 90	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	70 / 70	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	10.2 / 13.4	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	10.7 / 13.9	kJ/m²	ISO 179/1eA
Flexural Modulus (23°C)	10600 / 7400	MPa	ISO 178

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
Coeff. of Linear Therm. Expansion, parallel	22 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	92 / *	E-6/K	ISO 11359-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Volume Resistivity	2.8E12 / 3.1E8	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 5E13	Ohm	IEC 62631-3-2
Electric Strength	48 / 29	kV/mm	IEC 60243-1
Comparative tracking index	250 / 225	-	IEC 60112

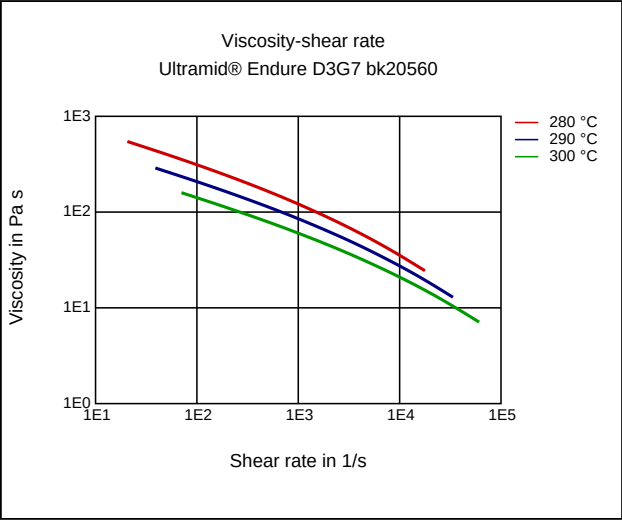
Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	5.8 / *	%	Sim. to ISO 62
Humidity absorption	1.85 / *	%	Sim. to ISO 62
Density	1430 / -	kg/m³	ISO 1183

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	137 / *	cm³/g	ISO 307, 1157, 1628

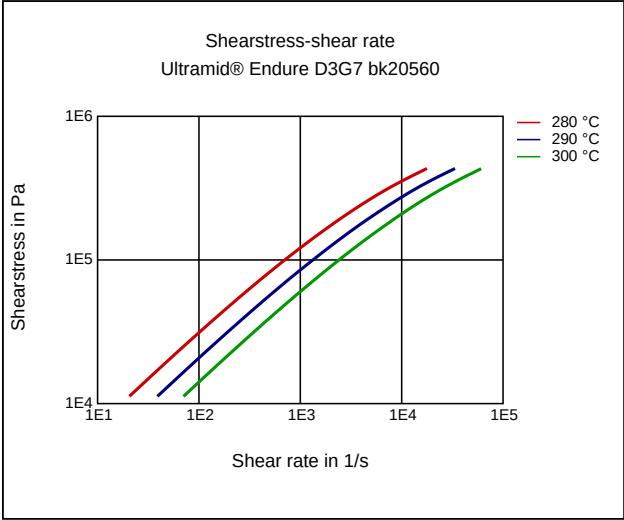
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	4	h	-
Melt temperature	280 - 300	°C	-
Mold temperature	80 - 90	°C	-

Diagrams

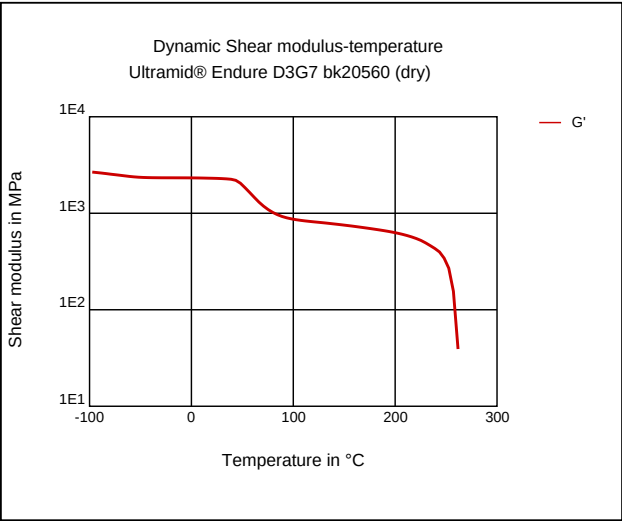
Viscosity-shear rate



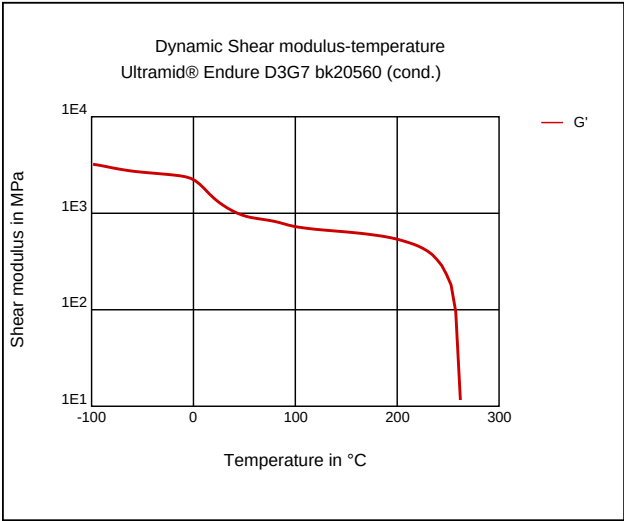
Shearstress-shear rate



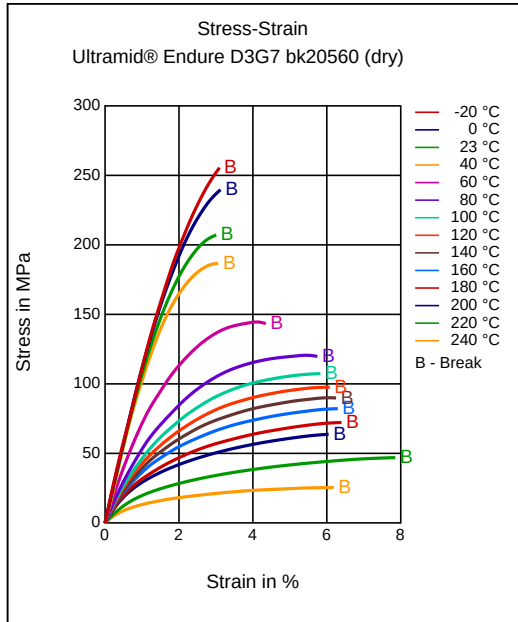
Dynamic Shear modulus-temperature



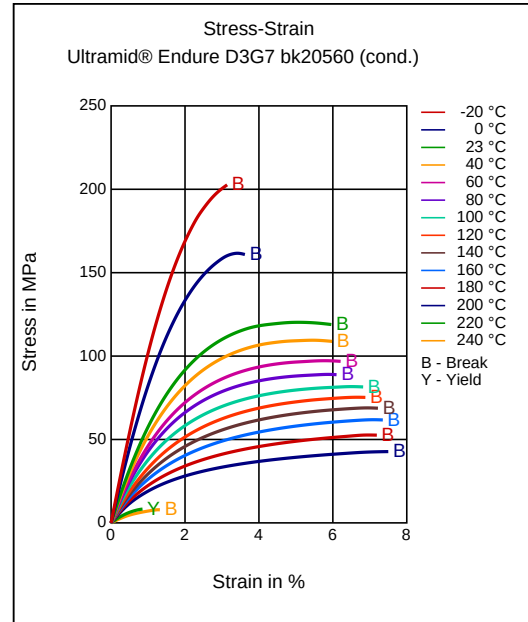
Dynamic Shear modulus-temperature



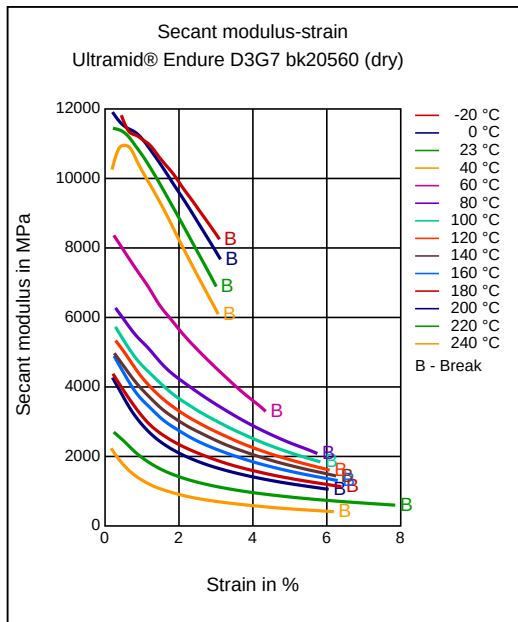
Stress-strain



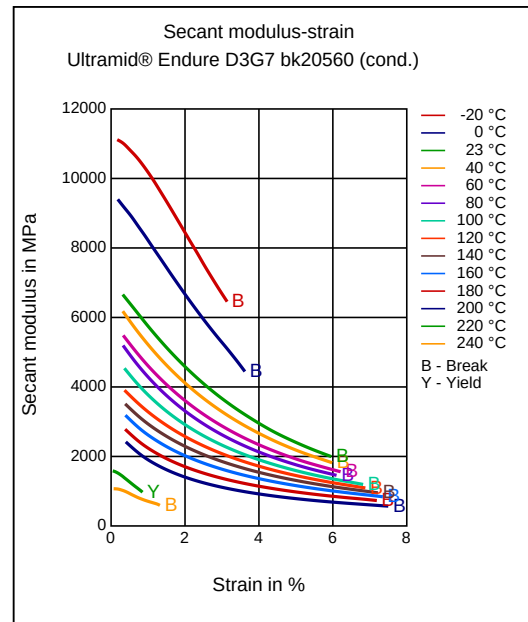
Stress-strain



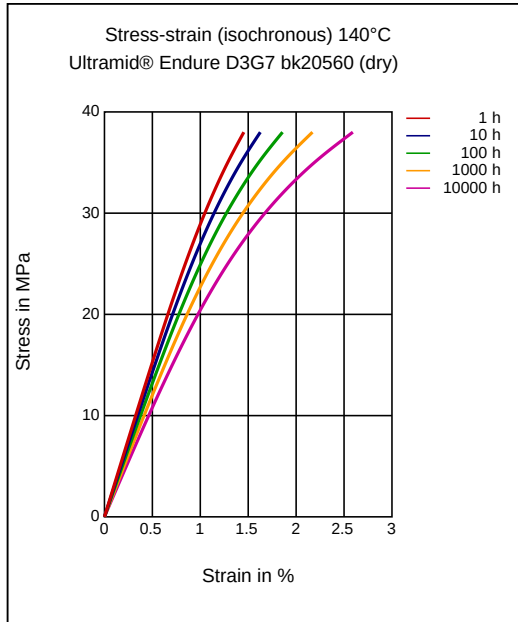
Secant modulus-strain



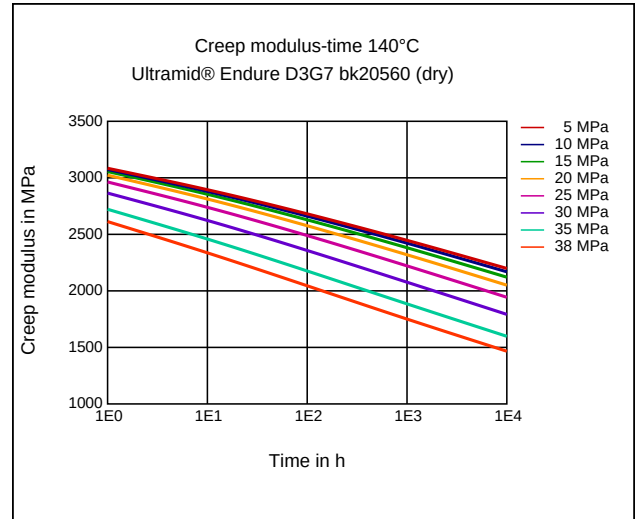
Secant modulus-strain



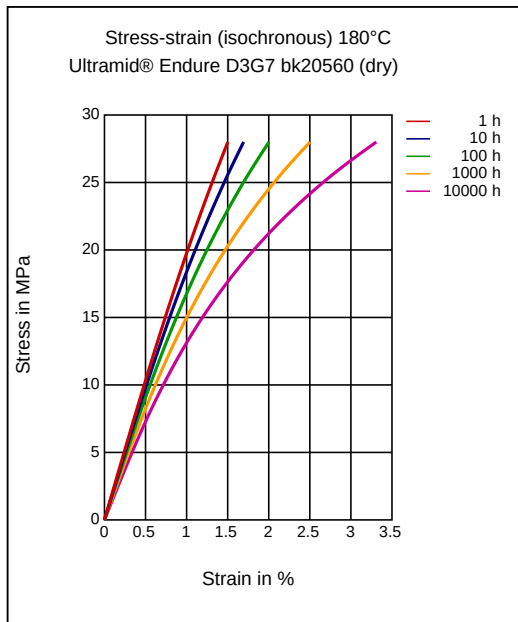
Stress-strain (isochronous) 140 °C



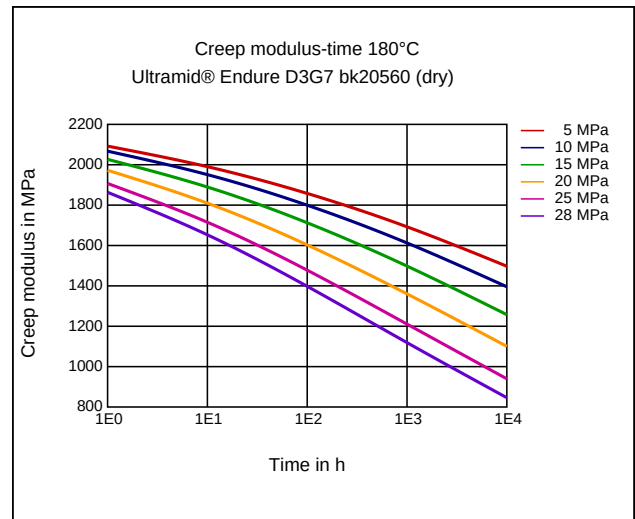
Creep modulus-time 140 °C



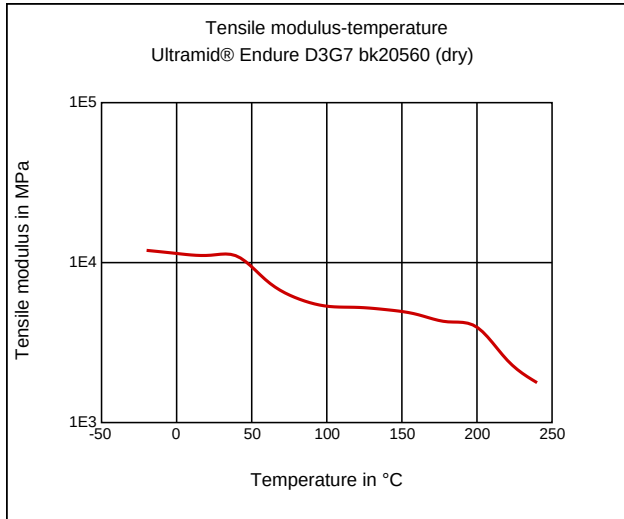
Stress-strain (isochronous) 180 °C



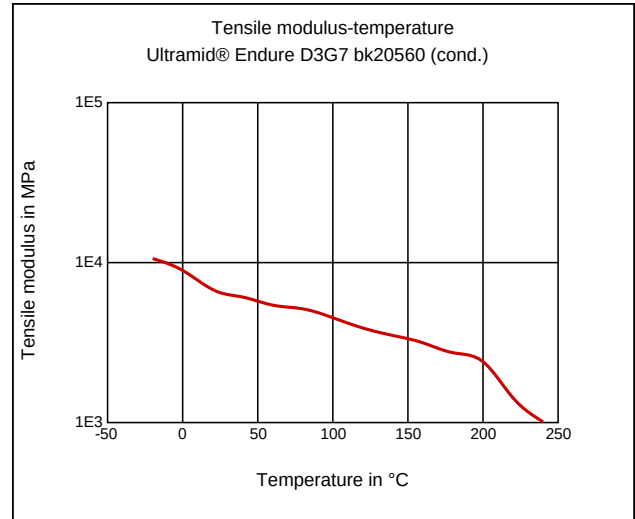
Creep modulus-time 180 °C



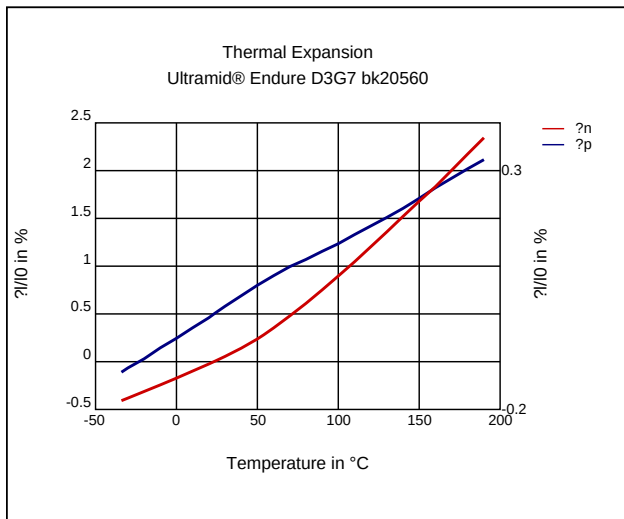
Tensile Modulus-Temperature



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding

Delivery form

Pellets, Black

Special Characteristics

Heat aging stabilized

Injection Molding

PREPROCESSING

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: 5 min

Disclaimer

Liability Exclusion

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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