

Ultramid® B3GK24

PA6-(GF+GB)30

BASF

A combined glass-fibre and glass-bead reinforced injection moulding grade for industrial articles having very high dimensional stability, used e.g. for automobile ashtrays and housings for electronics.

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	50 / *	cm³/10min	ISO 1133
Temperature	275 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.6 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	6000 / 3000	MPa	ISO 527
Stress at Break	110 / 60	MPa	ISO 527
Strain at Break	3.5 / 15	%	ISO 527
Tensile Creep Modulus, 1000h	* / 2000	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	40 / 90	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	39 / -	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	5 / 11	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	5 / -	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)	200 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	215 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	48 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	79 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB / *	class	UL 94
Thickness tested	1.6 / *	mm	-
UL recognition	yes / *	-	-
Burning Behav. at thickness h	HB / *	class	UL 94
Thickness tested	0.8 / *	mm	-
UL recognition	yes / *	-	-

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	3.9 / 4.6	-	IEC 62631-2-1
Dissipation Factor, 1MHz	200 / 700	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E10	Ohm	IEC 62631-3-2
Comparative tracking index	- / 425	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	6.6 / *	%	Sim. to ISO 62
Humidity absorption	2.1 / *	%	Sim. to ISO 62
Density	1340 / -	kg/m³	ISO 1183

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

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1180	kg/m³	-
Thermal Conductivity of Melt	0.21	W/(m K)	-
Spec. heat capacity of melt	2210	J/(kg K)	-
Eff. thermal diffusivity	8.3E-8	m²/s	-
Ejection temperature	170	°C	-

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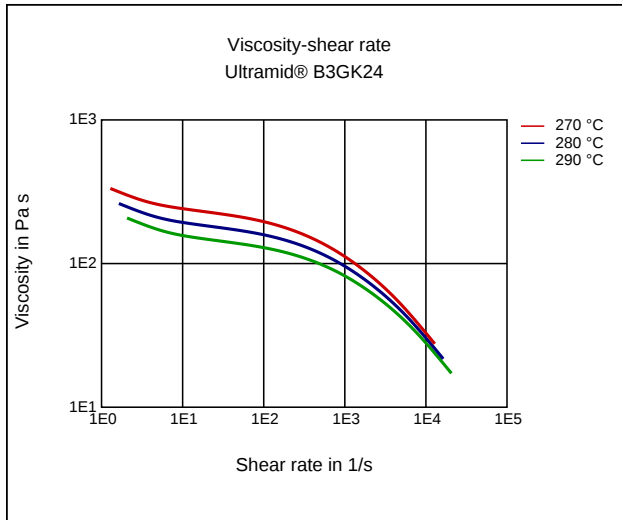
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Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	280	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

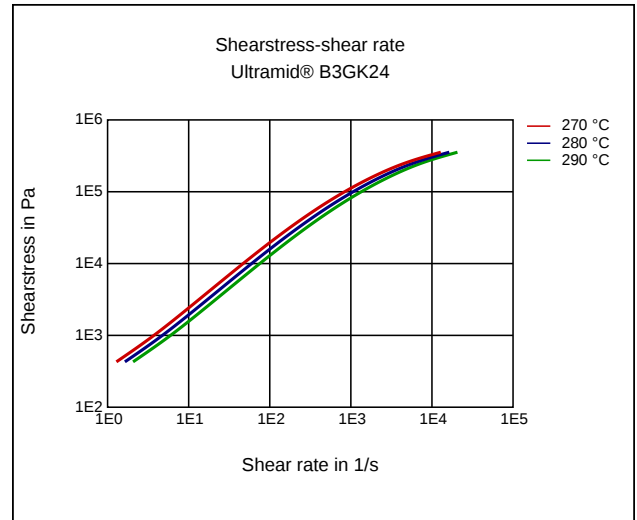
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.15	%	-
Melt temperature	270 - 290	°C	-
Mold temperature	80 - 90	°C	-

Diagrams

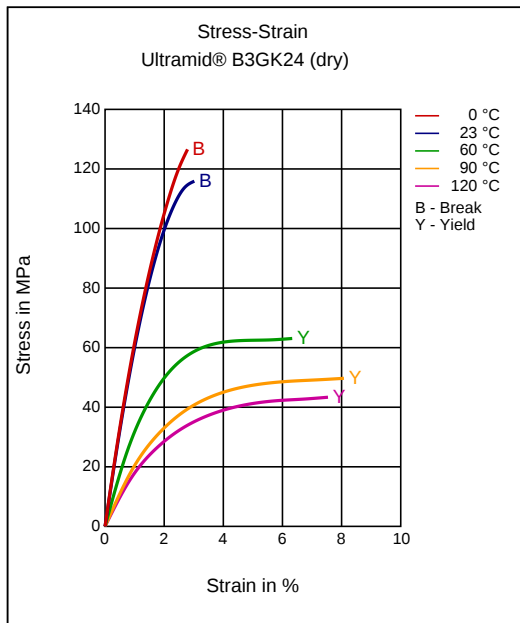
Viscosity-shear rate



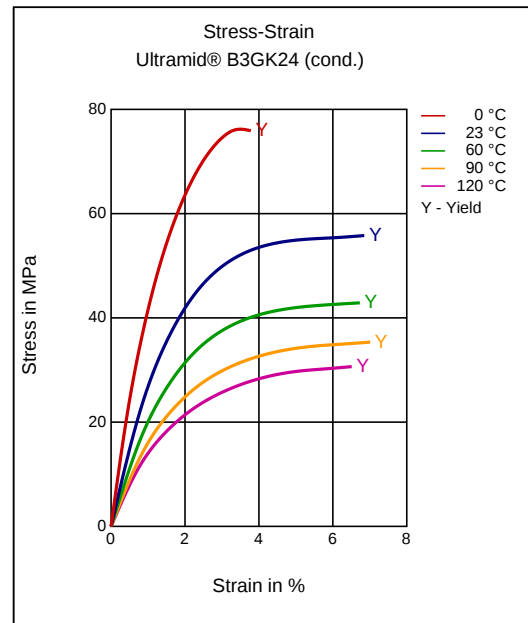
Shearstress-shear rate



Stress-strain



Stress-strain

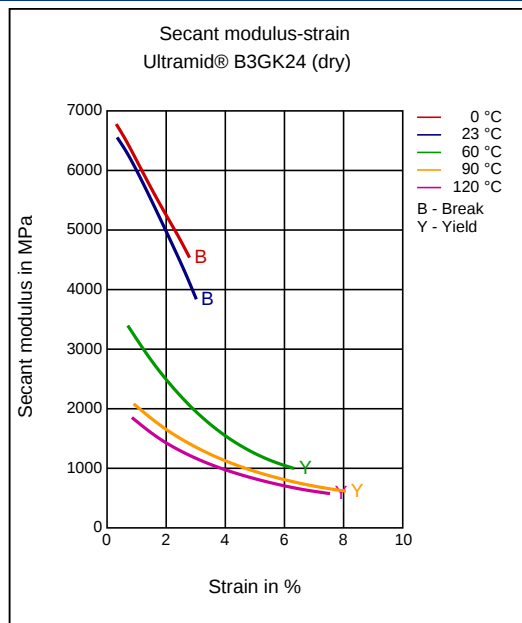


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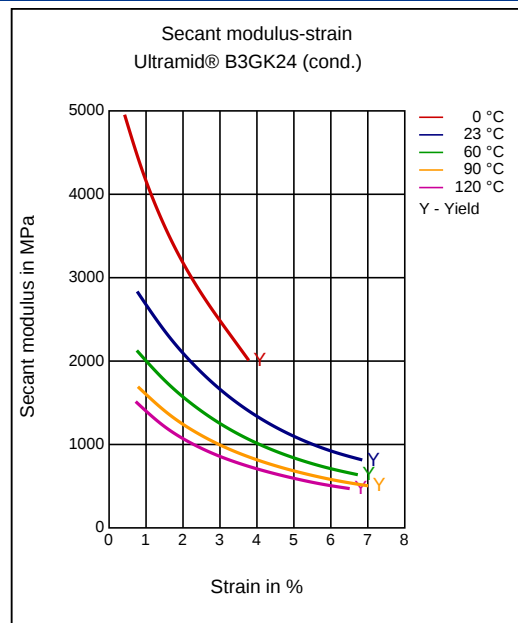
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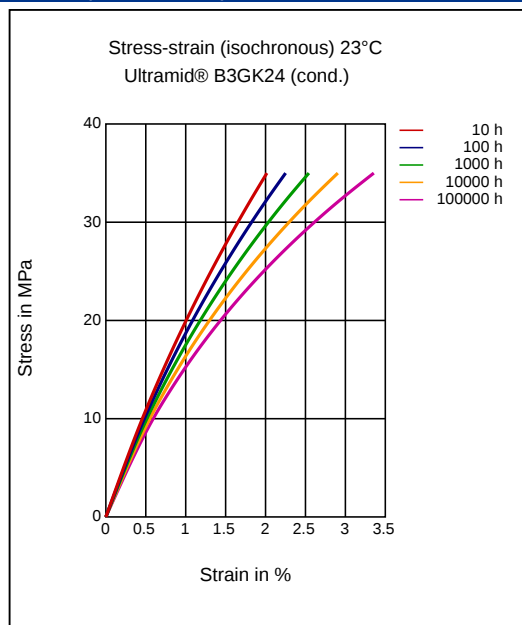
Secant modulus-strain



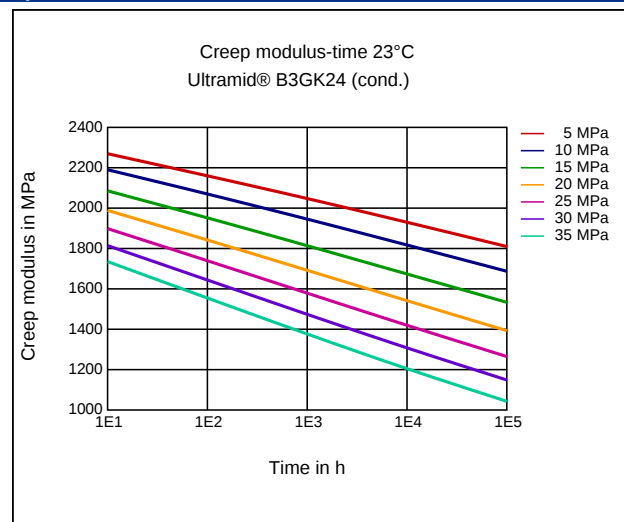
Secant modulus-strain



Stress-strain (isochronous) 23 °C



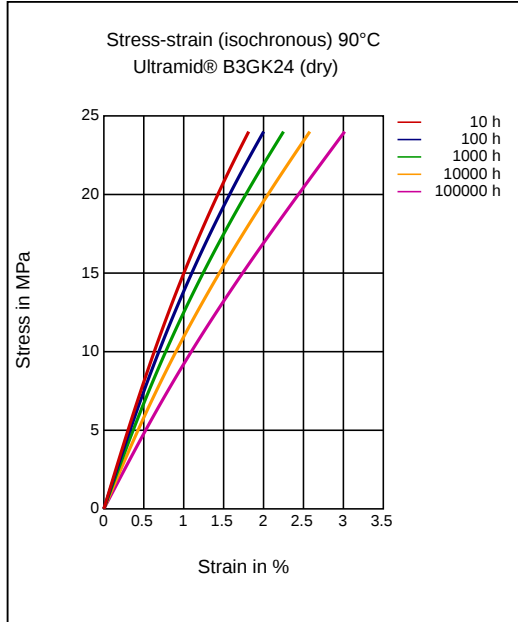
Creep modulus-time 23 °C



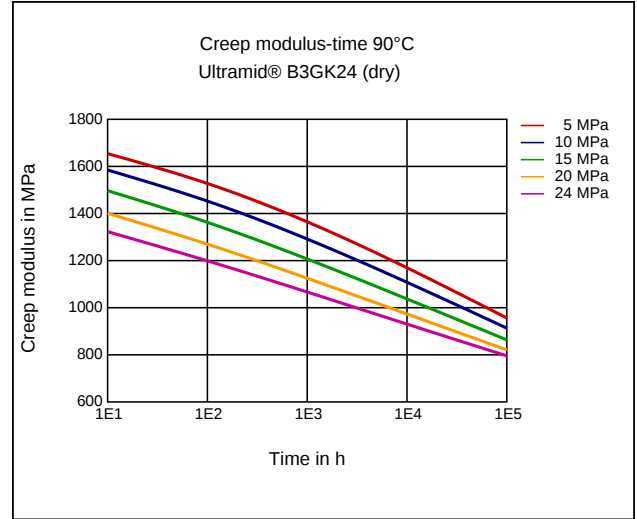
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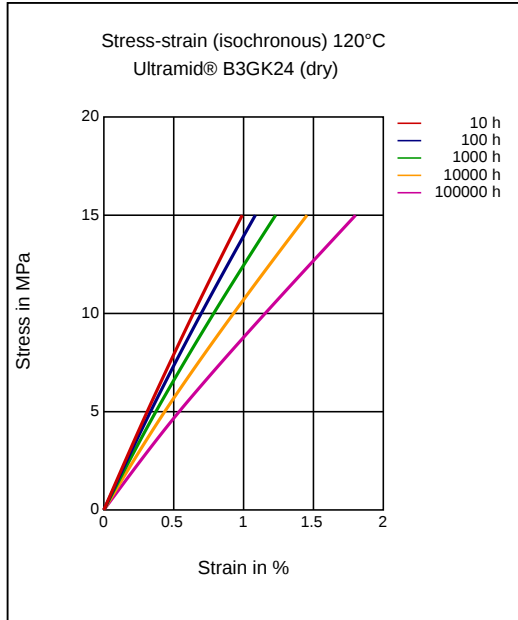
Stress-strain (isochronous) 90°C



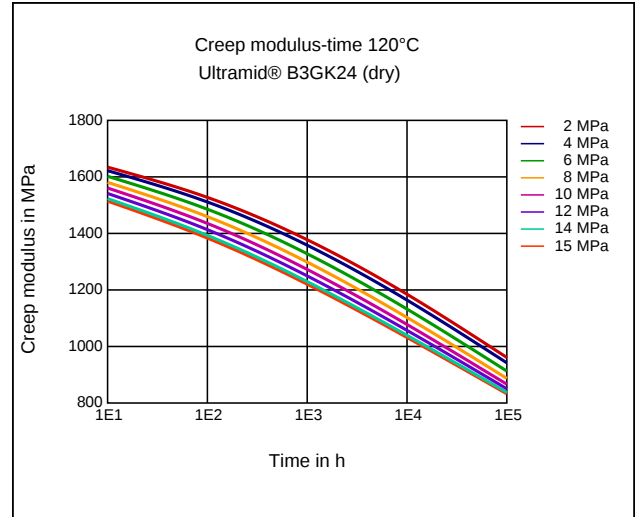
Creep modulus-time 90°C



Stress-strain (isochronous) 120°C



Creep modulus-time 120°C

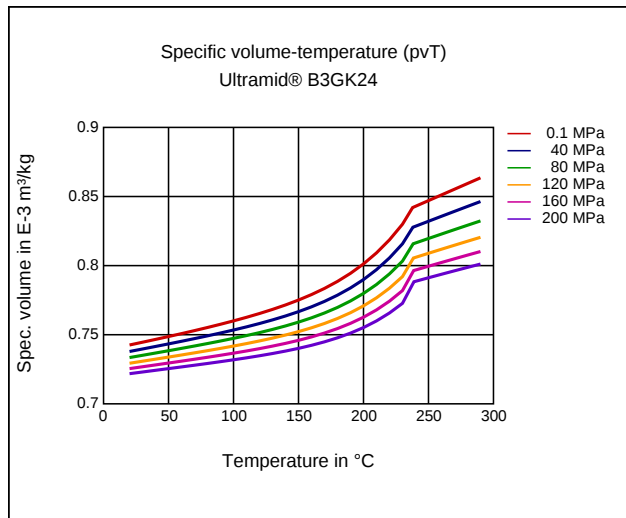


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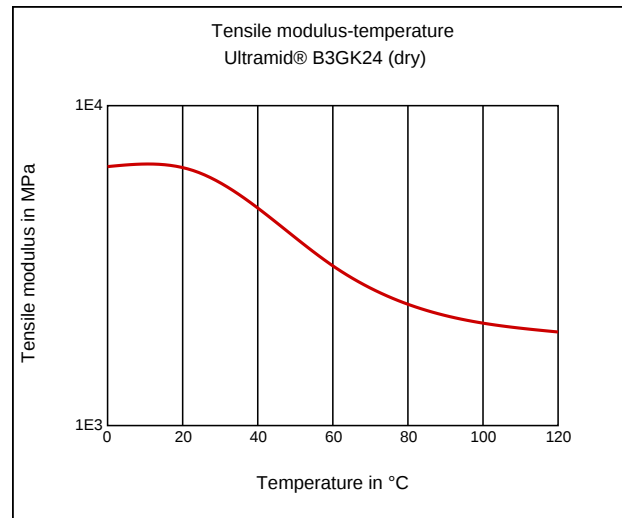
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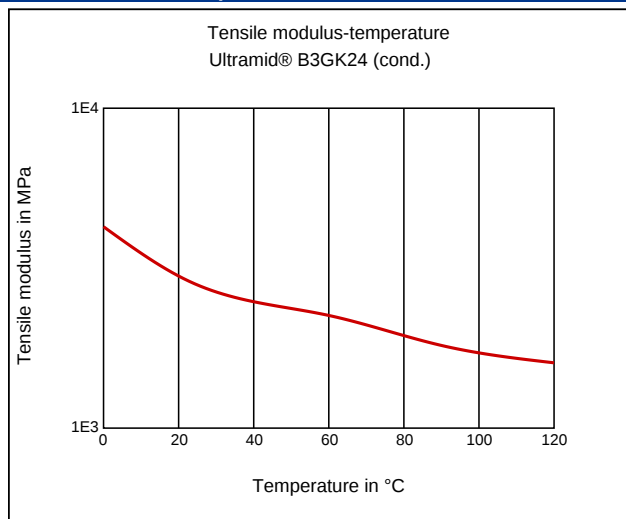
Specific volume-temperature (pvT)



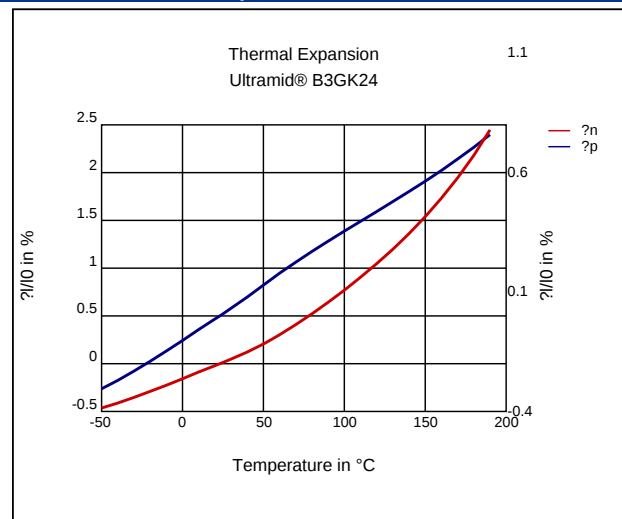
Tensile Modulus-Temperature



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Lubricants, Release agent

Special Characteristics

Heat aging stabilized

Applications

Automotive, Electrical and Electronical

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: 270 - 290 °C

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injection molding, Melt temperature, recommended: 280 °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)