

CAMPUS® Datasheet

Ultramid® B3UG4 - PA6-GF20 FR(30)
BASF



Product Texts

Without halogens and phosphorous flame retardant glass fiber reinforced injection moulding grade with outstanding flowability properties, good electrical properties and low smoke density. The product is resistant to the glow wire test GWFI up to 960 °C. Due to the halide free stabilization the impact on corrosion is minimized and sensitive electronic components are better protected.

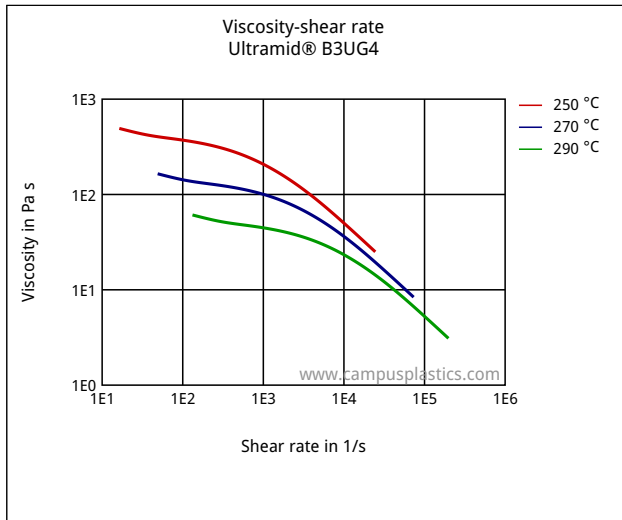
Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	80 / *	cm³/10min	ISO 1133
Temperature	275 / *	°C	ISO 1133
Load	5 / *	kg	ISO 1133
Molding shrinkage, parallel	0.8 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8 / *	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile modulus	6000 / 3000	MPa	ISO 527-1/-2
Stress at break	90 / 50	MPa	ISO 527-1/-2
Strain at break	3 / 20	%	ISO 527-1/-2
Tensile creep modulus, 1000h	* / 1500	MPa	ISO 899-1
Charpy impact strength, +23°C	40 / 110	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	35 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	3 / 9	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	3.4 / -	kJ/m²	ISO 179/1eA
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 10°C/min	220 / *	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.80 MPa	170 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	210 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	41 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	86 / *	E-6/K	ISO 11359-1/-2
Burning behavior at 1.5 mm nominal thickness	V-2 / *	class	IEC 60695-11-10
Thickness tested (1.5)	1.5 / *	mm	IEC 60695-11-10
Yellow Card available	Yes / *	-	-
Burning behavior at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested (h)	0.7 / *	mm	IEC 60695-11-10
Yellow Card available	Yes / *	-	-
Oxygen index	31 / *	%	ISO 4589-1/-2
Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity, 1MHz	3.8 / -	-	IEC 62631-2-1
Dissipation factor, 1MHz	150 / -	E-4	IEC 62631-2-1
Volume resistivity	1E13 / 1E9	Ohm*m	IEC 62631-3-1
Surface resistivity	* / 1E12	Ohm	IEC 62631-3-2
Electric strength	35 / 34	kV/mm	IEC 60243-1
Comparative tracking index	- / 550	-	IEC 60112
Other properties	dry / cond	Unit	Test Standard
Water absorption	6.9 / *	%	Sim. to ISO 62
Humidity absorption	2.2 / *	%	Sim. to ISO 62
Density	1310 / -	kg/m³	ISO 1183

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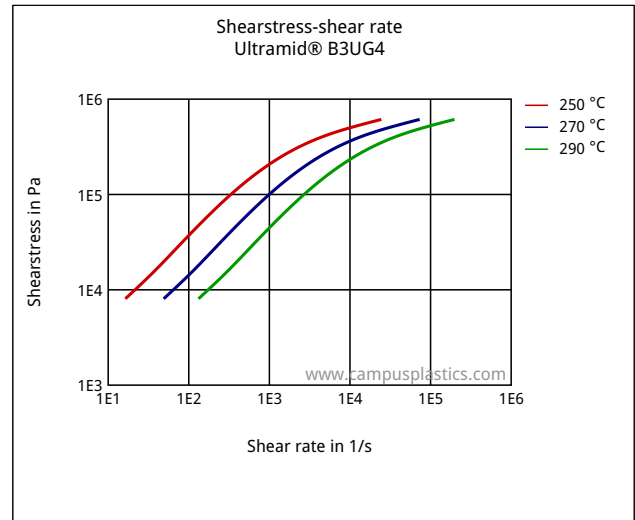
Material specific properties	dry / cond	Unit	Test Standard
Viscosity number	150 / *	cm³/g	ISO 307, 1157, 1628
Rheological calculation properties	Value	Unit	Test Standard
Ejection temperature	160	°C	-
Test specimen production	Value	Unit	Test Standard
Injection molding, melt temperature	270	°C	ISO 294
Injection molding, mold temperature	80	°C	ISO 294
Injection molding, injection velocity	200	mm/s	ISO 294

Diagrams

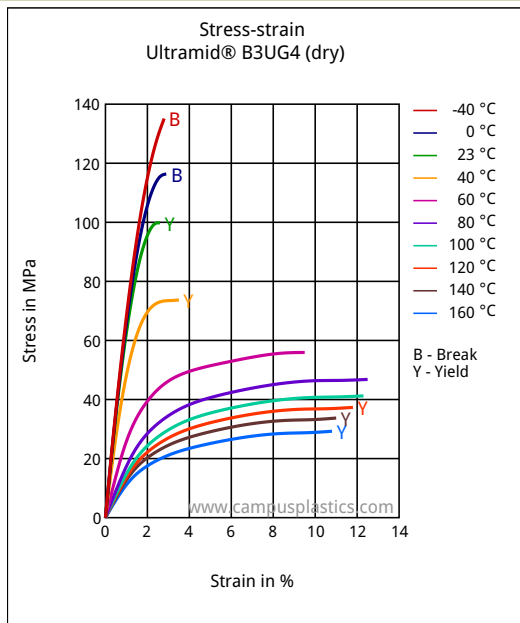
Viscosity-shear rate



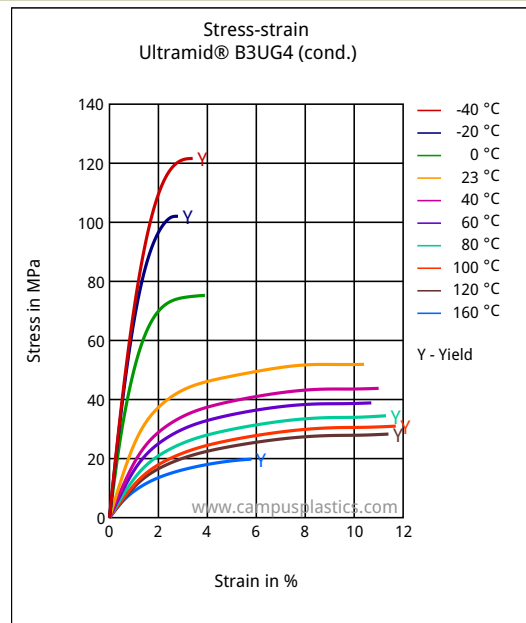
Shearstress-shear rate



Stress-strain

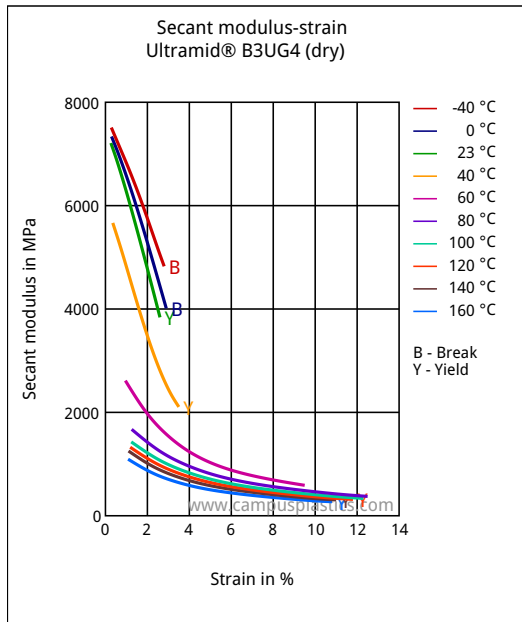


Stress-strain

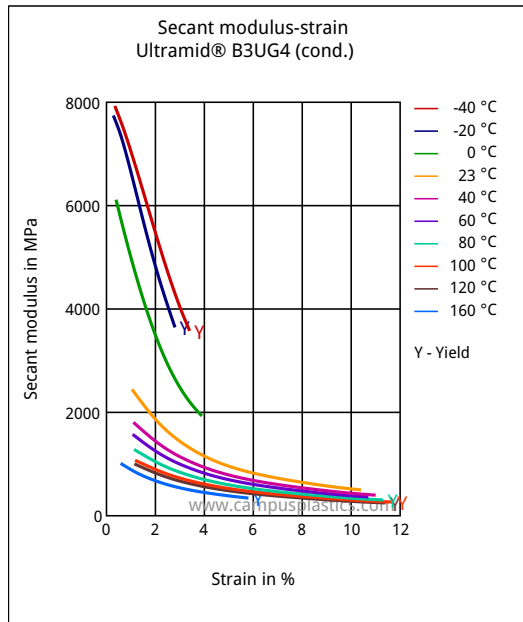


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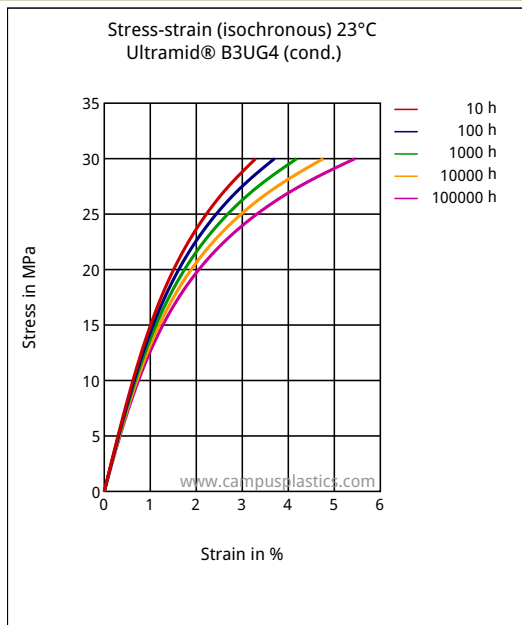
Secant modulus-strain



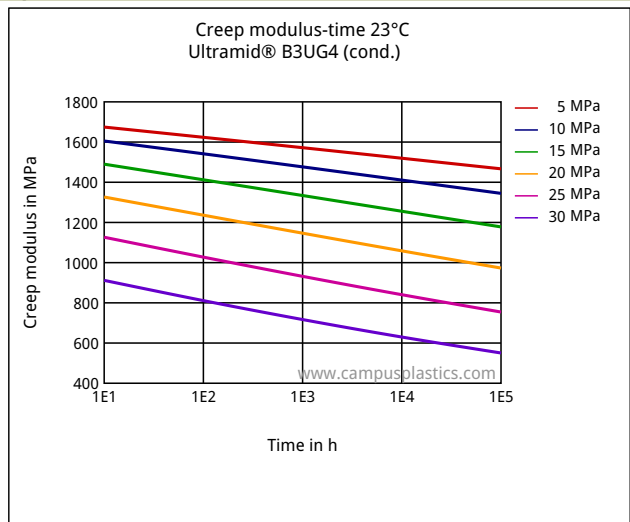
Secant modulus-strain



Stress-strain (isochronous) 23°C

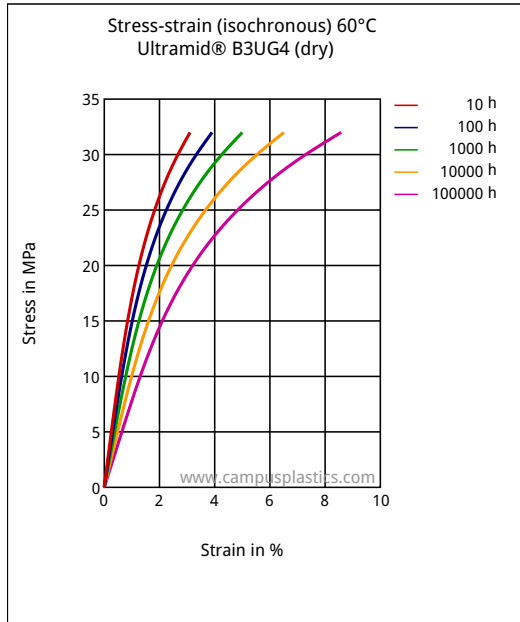


Creep modulus-time 23°C

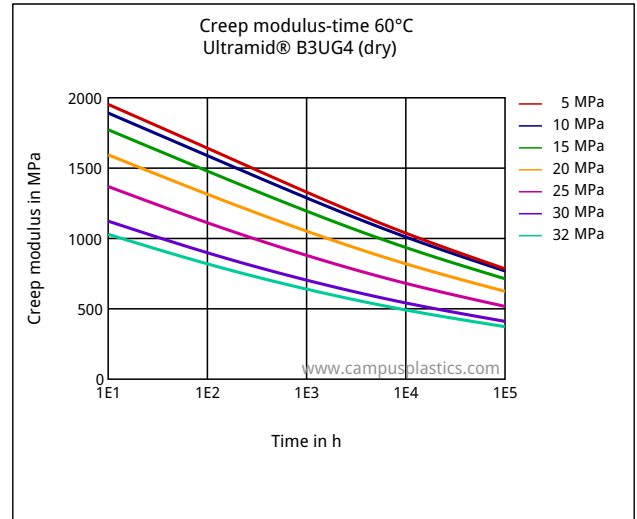


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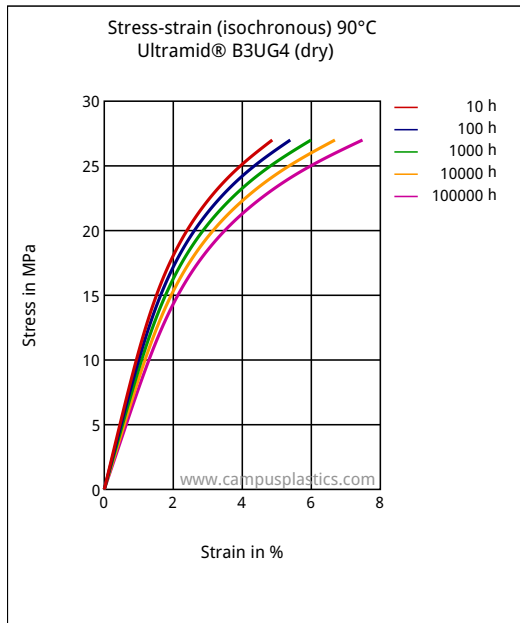
Stress-strain (isochronous) 60°C



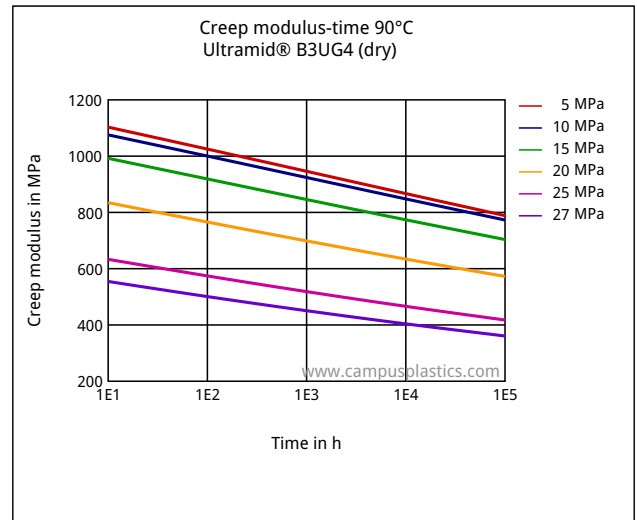
Creep modulus-time 60°C



Stress-strain (isochronous) 90°C

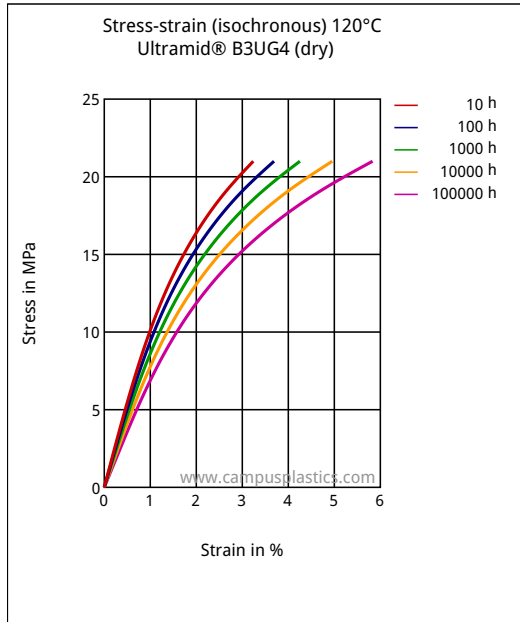


Creep modulus-time 90°C

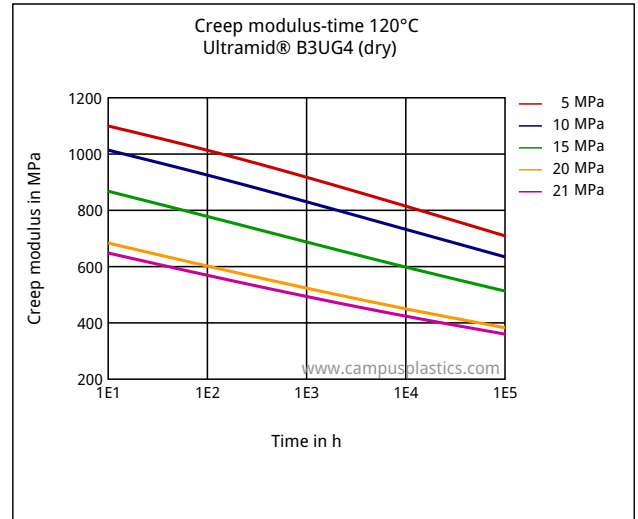


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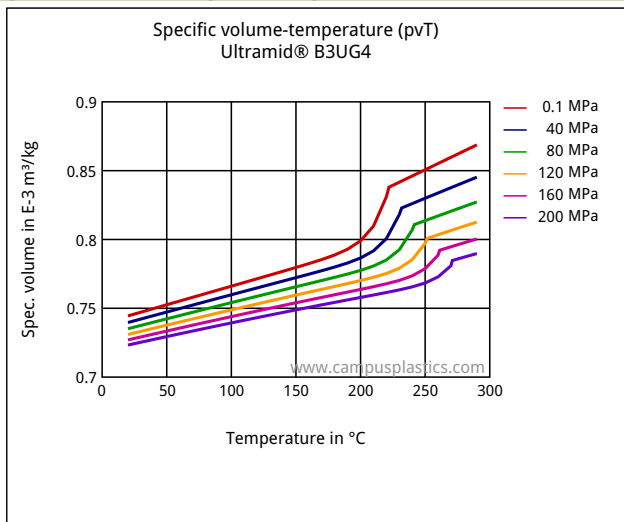
Stress-strain (isochronous) 120°C



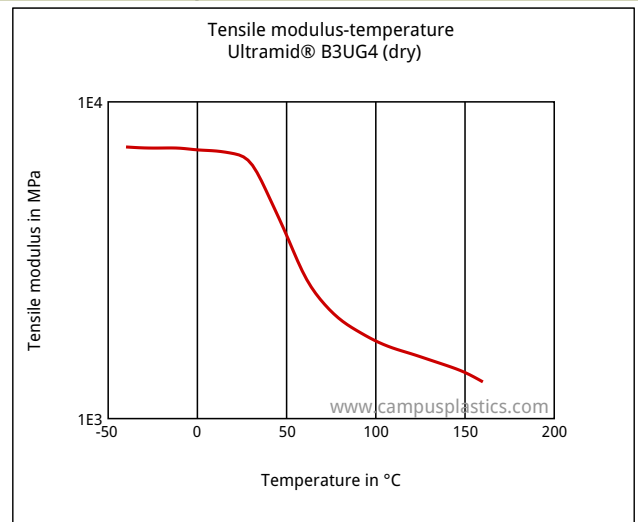
Creep modulus-time 120°C



Specific volume-temperature (pvT)

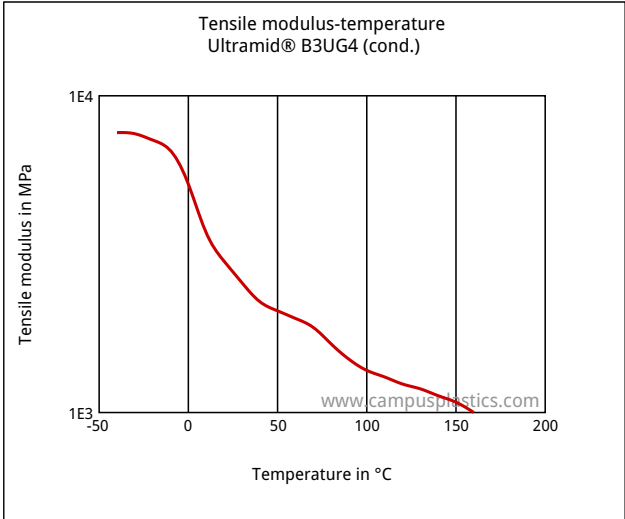


Tensile modulus-temperature



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Tensile modulus-temperature



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Release agent

Special Characteristics

Heat stabilized or stable to heat

Regional Availability

Europe

Other text information

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: 250 - 275 °C

injection molding, Melt temperature, recommended: 270 °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)

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