

CAMPUS® Datasheet

Ultramid® B3WG7 - PA6-GF35
BASF



Product Texts

Glass fibre reinforced and heat ageing resistance injection moulding grade, used e.g. for automobile manifolds and pedals.

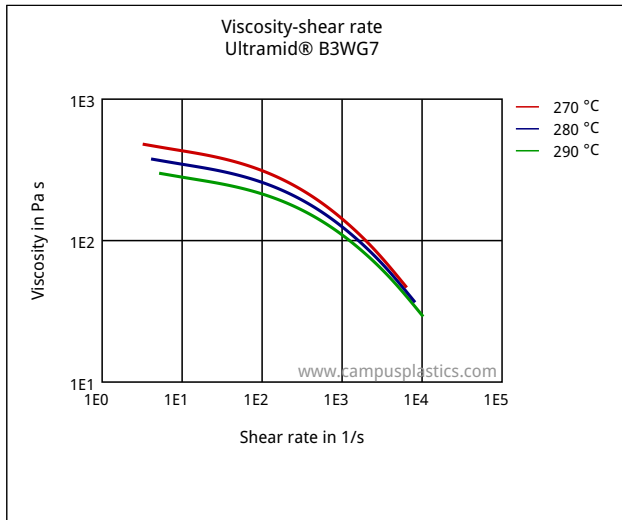
Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	45 / *	cm ³ /10min	ISO 1133
Temperature	275 / *	°C	ISO 1133
Load	5 / *	kg	ISO 1133
Molding shrinkage, parallel	0.2 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8 / *	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile modulus	11000 / 7200	MPa	ISO 527-1/-2
Stress at break	195 / 130	MPa	ISO 527-1/-2
Strain at break	3.5 / 7	%	ISO 527-1/-2
Tensile creep modulus, 1h	* / 3900	MPa	ISO 899-1
Tensile creep modulus, 1000h	* / 4550	MPa	ISO 899-1
Charpy impact strength, +23°C	100 / 105	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	90 / 93	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	14 / 22	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	10 / 11	kJ/m ²	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	215 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	220 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	220 / *	°C	ISO 306
Coeff. of linear therm. expansion, parallel	20 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	102 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested (1.5)	1.5 / *	mm	IEC 60695-11-10
Yellow Card available	Yes / *	-	-
Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested (h)	0.8 / *	mm	IEC 60695-11-10
Yellow Card available	Yes / *	-	-
Oxygen index	22.5 / *	%	ISO 4589-1/-2
Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity, 1MHz	3.9 / 6.2	-	IEC 62631-2-1
Dissipation factor, 100Hz	210 / 1900	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	210 / 1900	E-4	IEC 62631-2-1
Volume resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface resistivity	* / 1E10	Ohm	IEC 62631-3-2
Electric strength	40 / 31	kV/mm	IEC 60243-1
Comparative tracking index	- / 450	-	IEC 60112
Other properties	dry / cond	Unit	Test Standard
Water absorption	6.2 / *	%	Sim. to ISO 62
Humidity absorption	2 / *	%	Sim. to ISO 62
Density	1410 / -	kg/m ³	ISO 1183

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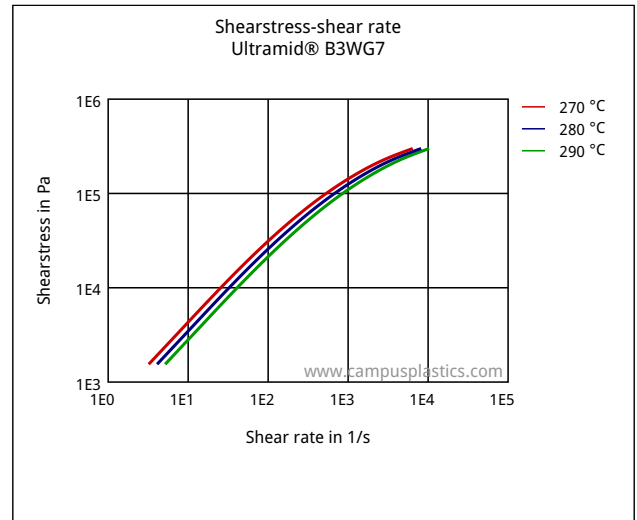
Material specific properties	dry / cond	Unit	Test Standard
Viscosity number	140 / *	cm ³ /g	ISO 307, 1157, 1628
Rheological calculation properties	Value	Unit	Test Standard
Ejection temperature	165	°C	-
Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	280	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

Diagrams

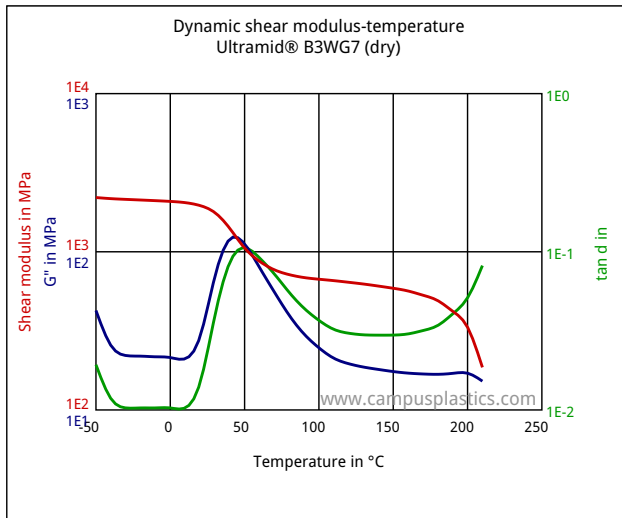
Viscosity-shear rate



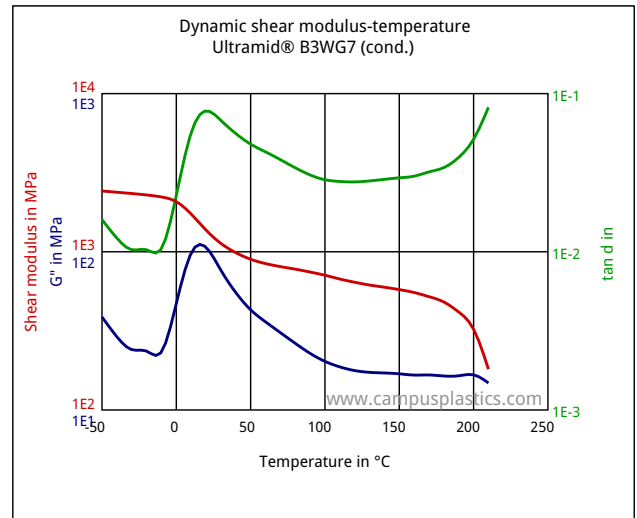
Shearstress-shear rate



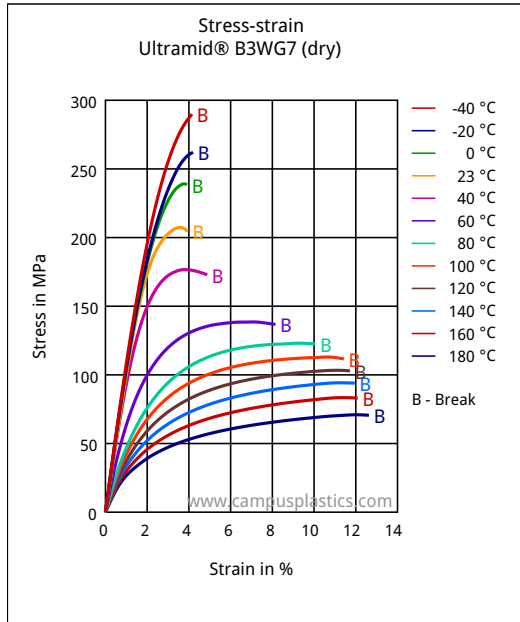
Dynamic shear modulus-temperature



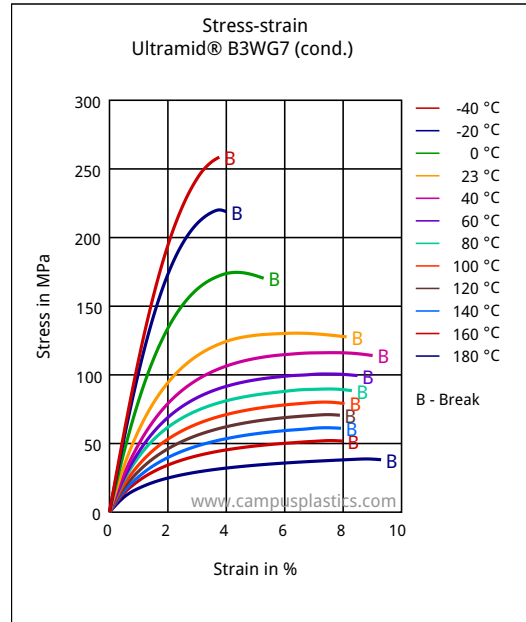
Dynamic shear modulus-temperature



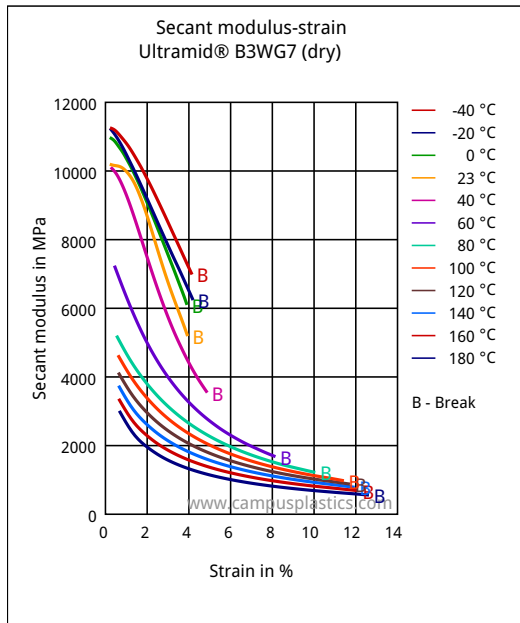
Stress-strain



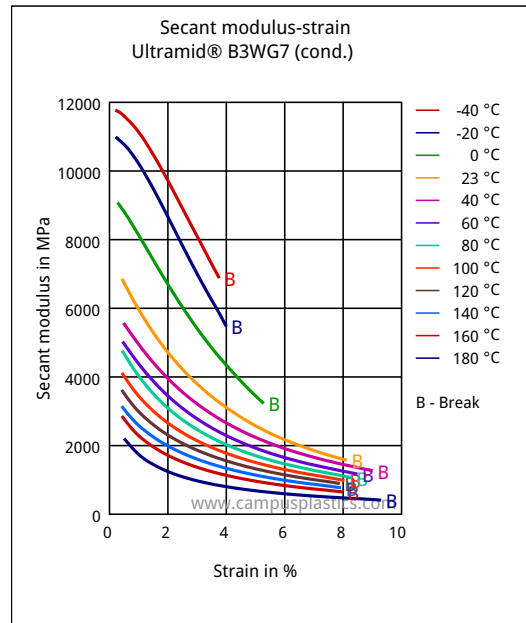
Stress-strain



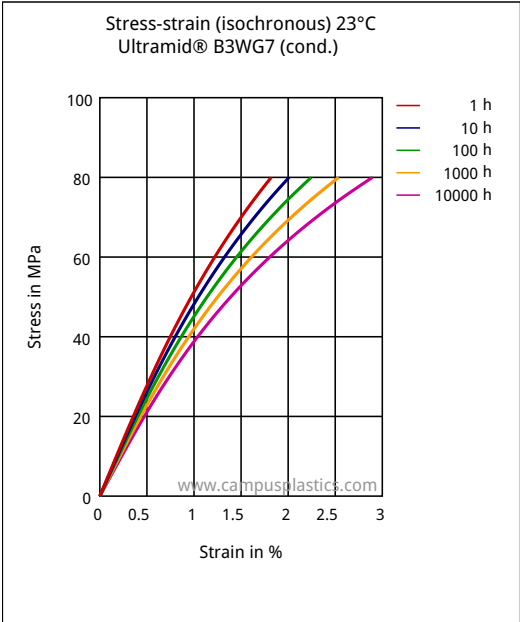
Secant modulus-strain



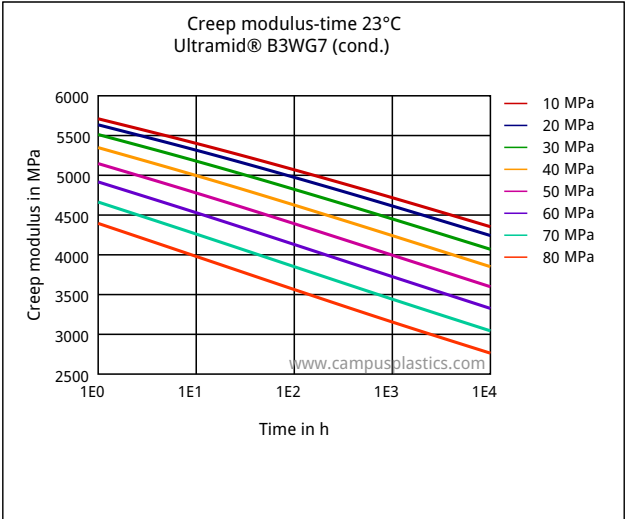
Secant modulus-strain



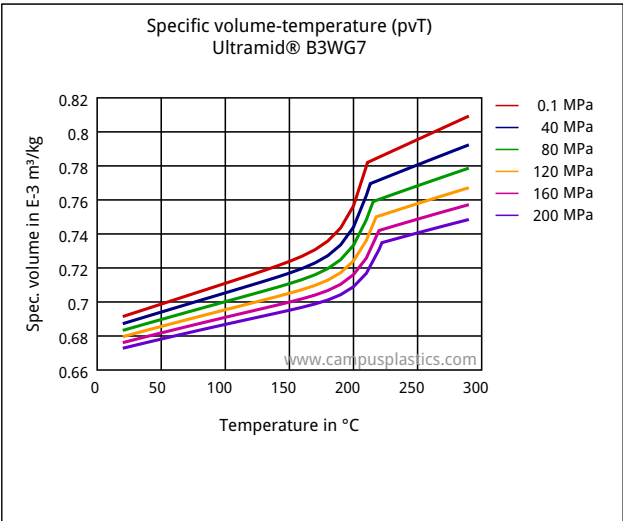
Stress-strain (isochronous) 23°C



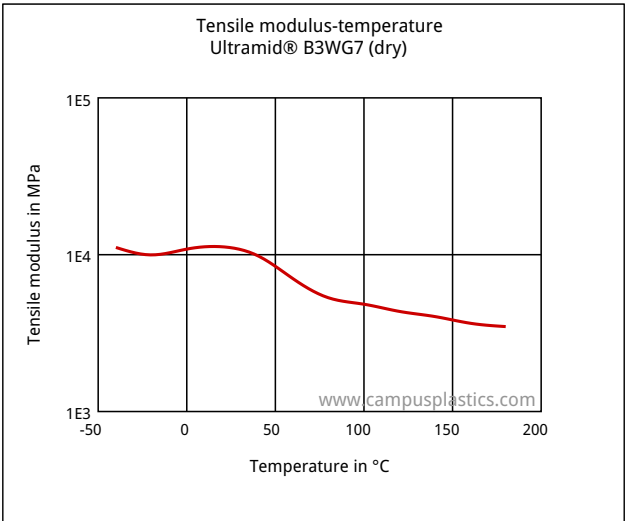
Creep modulus-time 23°C



Specific volume-temperature (pvT)

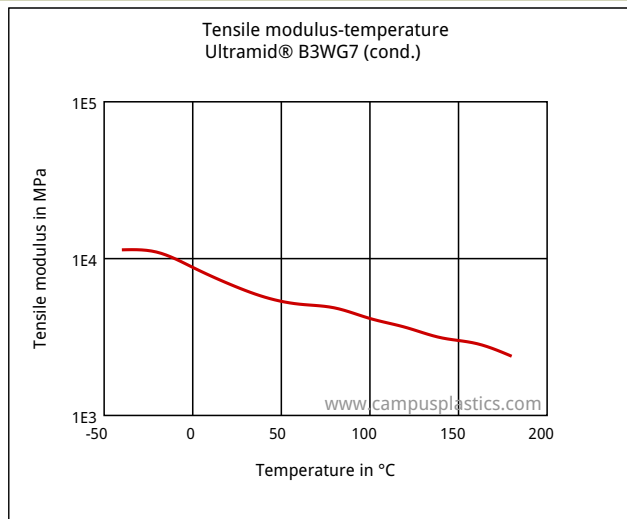


Tensile modulus-temperature



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Tensile modulus-temperature



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Lubricants, 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: 270 - 290 °C

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)
- 😊 Citric Acid solution (10% by mass) (23°C)
- 😊 Lactic Acid (10% by mass) (23°C)
- 🚫 Hydrochloric Acid (36% by mass) (23°C)
- 🚫 Nitric Acid (40% by mass) (23°C)
- 🚫 Sulfuric Acid (38% by mass) (23°C)
- 🚫 Sulfuric Acid (5% by mass) (23°C)
- 🚫 Chromic Acid solution (40% by mass) (23°C)

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Bases

- ☹ Sodium Hydroxide solution (35% by mass) (23°C)
- 😊 Sodium Hydroxide solution (1% by mass) (23°C)

Alcohols

- 😊 Isopropyl alcohol (23°C)
- 😊 Methanol (23°C)
- 😊 Ethanol (23°C)

Hydrocarbons

- 😊 n-Hexane (23°C)
- 😊 Toluene (23°C)
- 😊 iso-Octane (23°C)

Ketones

- 😊 Acetone (23°C)

Ethers

- 😊 Diethyl ether (23°C)

Mineral oils

- 😊 SAE 10W40 multigrade motor oil (23°C)
- 😊 SAE 10W40 multigrade motor oil (130°C)

Standard Fuels

- 😊 Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- ☹ Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)

Salt solutions

- 😊 Sodium Chloride solution (10% by mass) (23°C)
- ☹ Sodium Hypochlorite solution (10% by mass) (23°C)
- ☹ Zinc Chloride solution (50% by mass) (23°C)

Other

- 😊 Ethyl Acetate (23°C)
- ☹ Hydrogen peroxide (23°C)
- ☹ DOT No. 4 Brake fluid (130°C)
- ☹ Ethylene Glycol (50% by mass) in water (108°C)
- 😊 Water (23°C)

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