

CAMPUS® Datasheet

Ultramid® T KR 4355 G7 - PA6T/6-GF35
BASF



Product Texts

Glass fibre reinforced partially aromatic polyamide for injection moulding. High toughness, stiffness and strength, low water absorption, high melting point (295 °C).

Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.0 / *	%	ISO 294-4, 2577
Mechanical properties	dry / cond	Unit	Test Standard
Tensile modulus	12000 / 12000	MPa	ISO 527-1/-2
Stress at break	210 / -	MPa	ISO 527-1/-2
Strain at break	3 / -	%	ISO 527-1/-2
Tensile creep modulus, 1000h	* / 8700	MPa	ISO 899-1
Charpy impact strength, +23°C	100 / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	14.5 / -	kJ/m²	ISO 179/1eA
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 10°C/min	295 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	105 / *	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	245 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	290 / *	°C	ISO 306
Coeff. of linear therm. expansion, parallel	15 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	65 / *	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)	1.6 / *	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	24 / *	%	ISO 4589-1/-2
Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity, 1MHz	4.2 / 4.4	-	IEC 62631-2-1
Dissipation factor, 1MHz	200 / 300	E-4	IEC 62631-2-1
Volume resistivity	1E13 / 1E12	Ohm*m	IEC 62631-3-1
Surface resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric strength	33 / 31	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112
Other properties	dry / cond	Unit	Test Standard
Water absorption	4.8 / *	%	Sim. to ISO 62
Humidity absorption	1 / *	%	Sim. to ISO 62
Density	1430 / -	kg/m³	ISO 1183
Material specific properties	dry / cond	Unit	Test Standard
Viscosity number	130 / *	cm³/g	ISO 307, 1157, 1628
Rheological calculation properties	Value	Unit	Test Standard
Ejection temperature	230	°C	-

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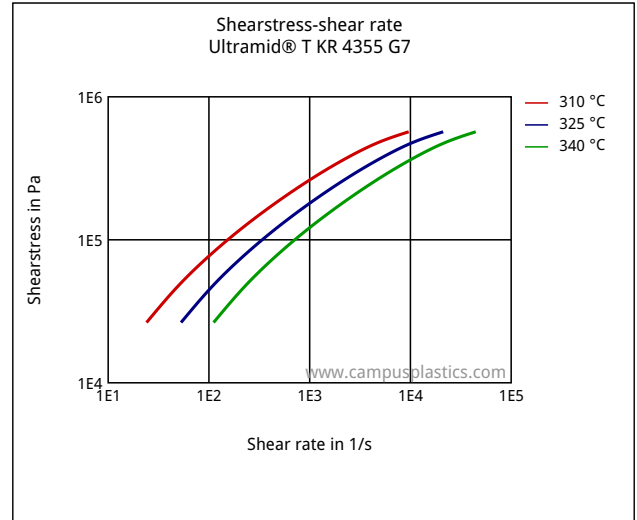
Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	320	°C	ISO 294
Injection Molding, mold temperature	100	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

Diagrams

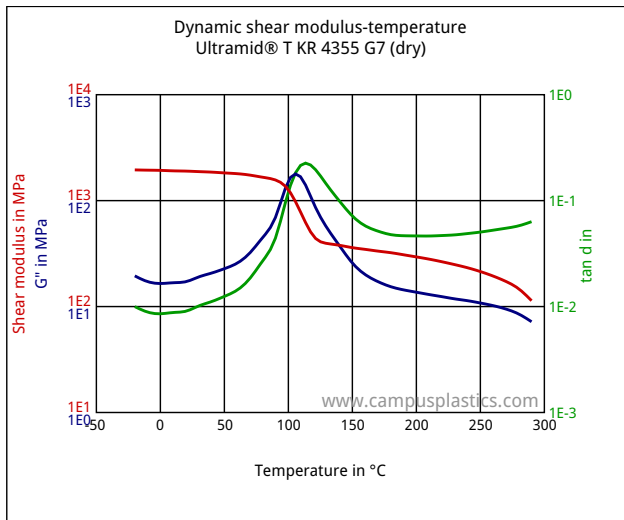
Viscosity-shear rate



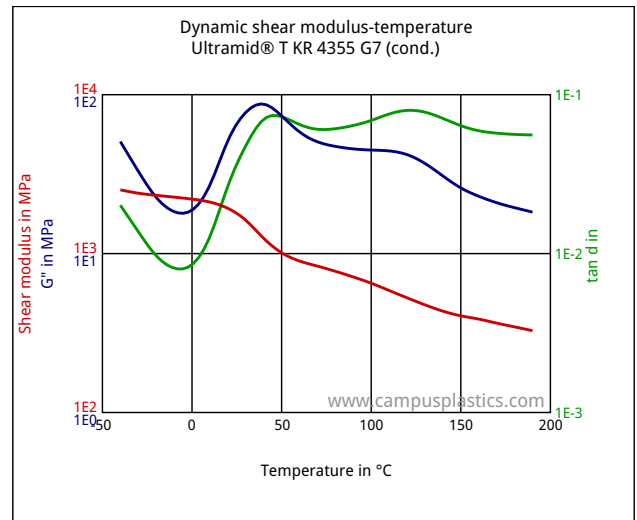
Shearstress-shear rate



Dynamic shear modulus-temperature

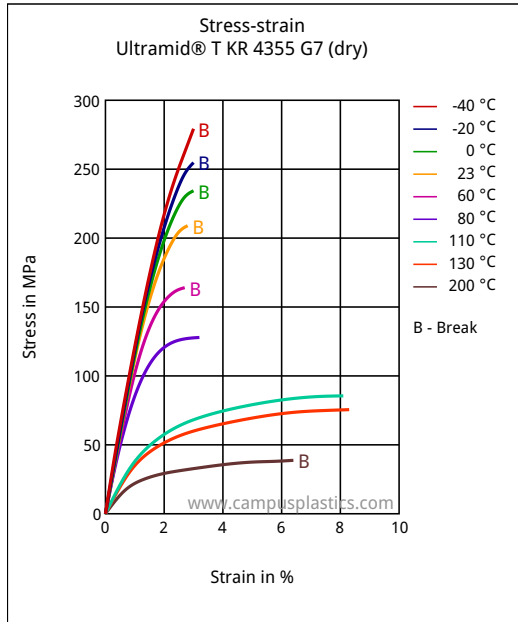


Dynamic shear modulus-temperature

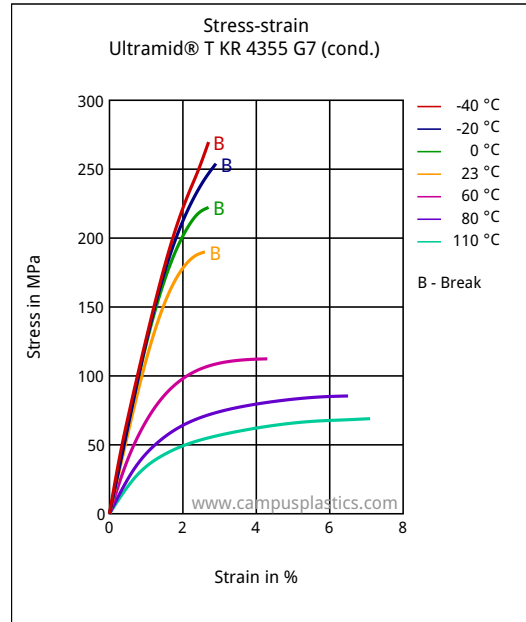


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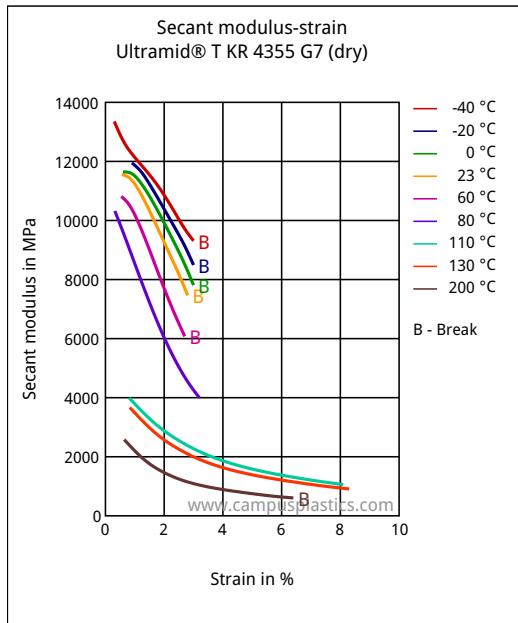
Stress-strain



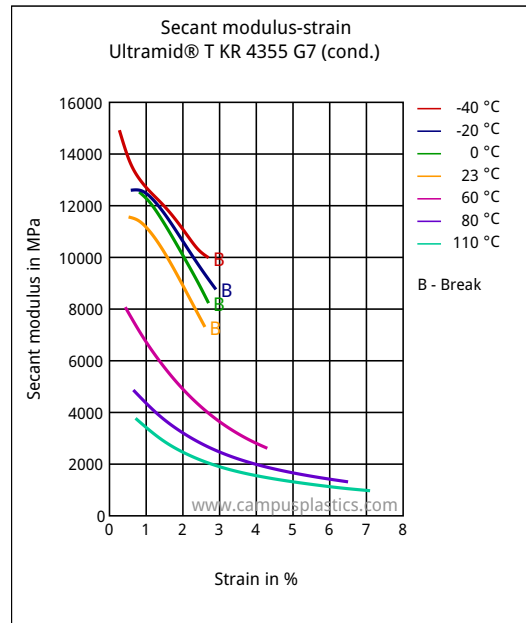
Stress-strain



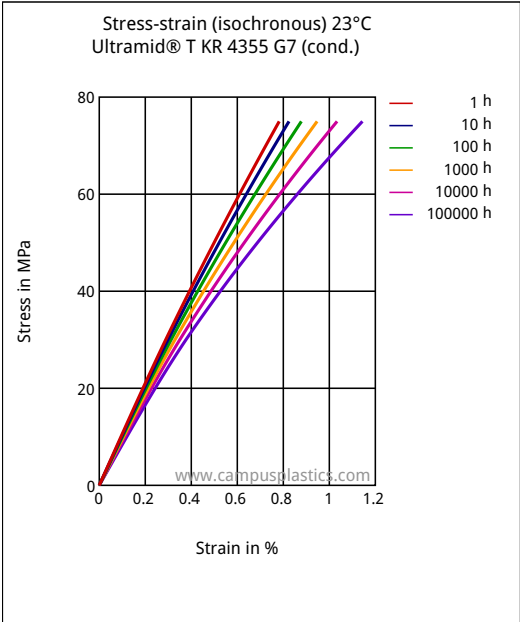
Secant modulus-strain



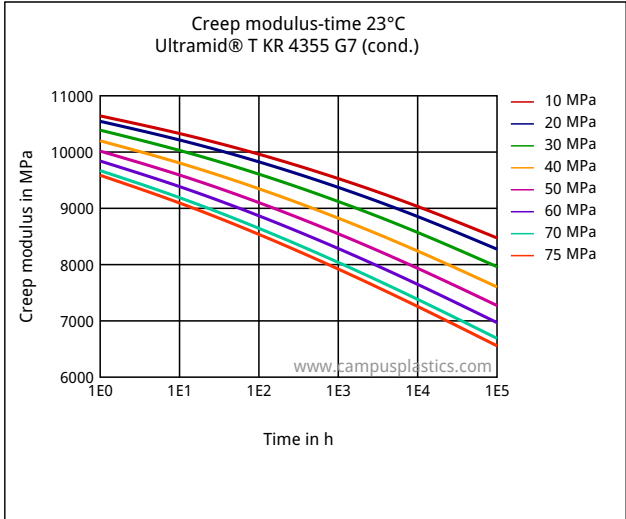
Secant modulus-strain



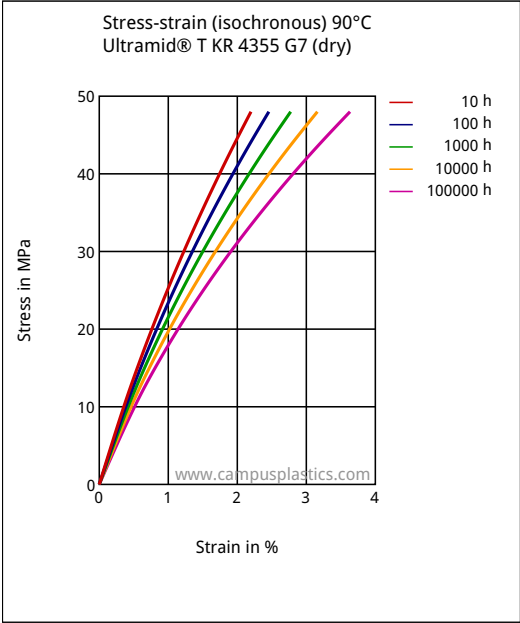
Stress-strain (isochronous) 23°C



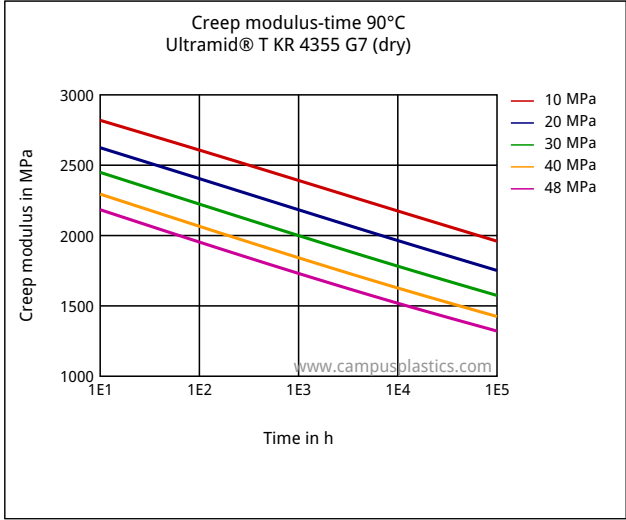
Creep modulus-time 23°C



Stress-strain (isochronous) 90°C

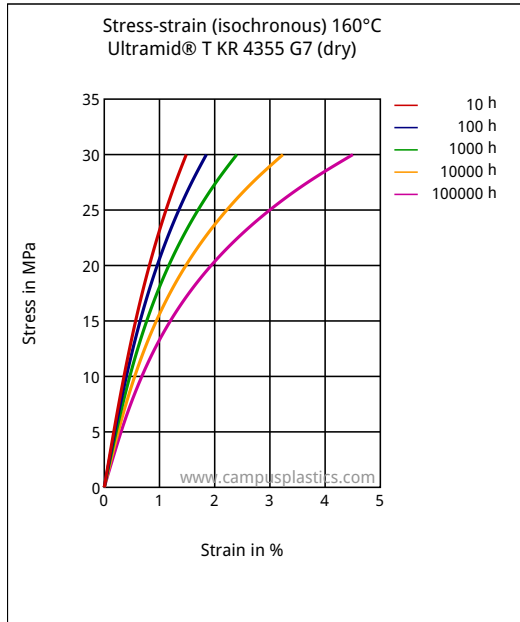


Creep modulus-time 90°C

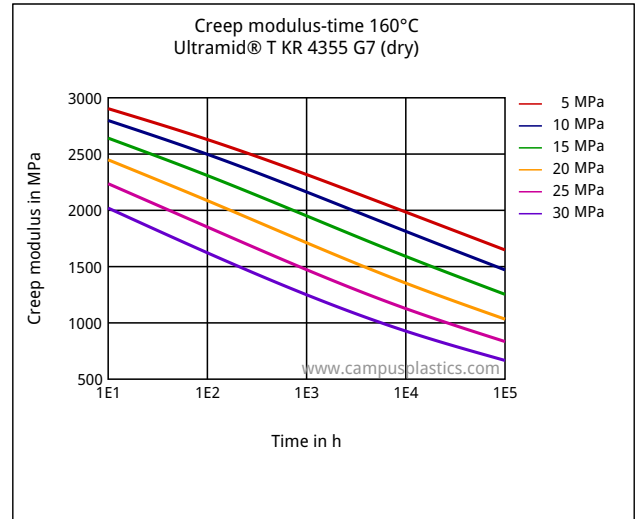


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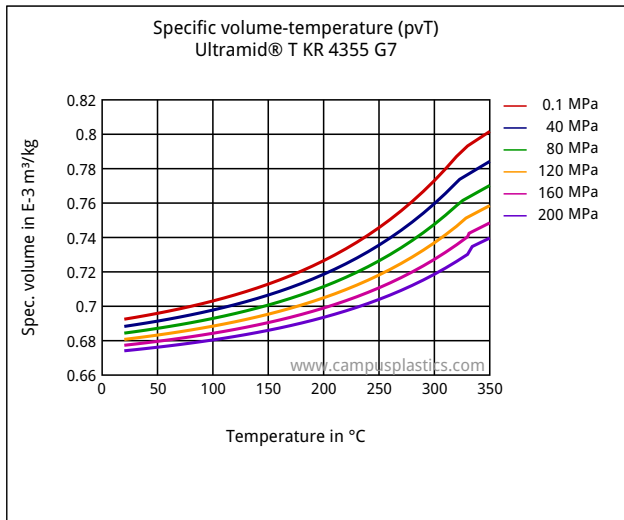
Stress-strain (isochronous) 160°C



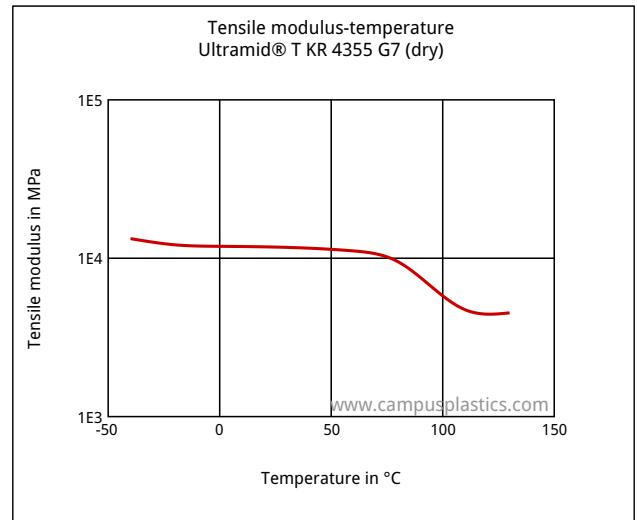
Creep modulus-time 160°C



Specific volume-temperature (pvT)



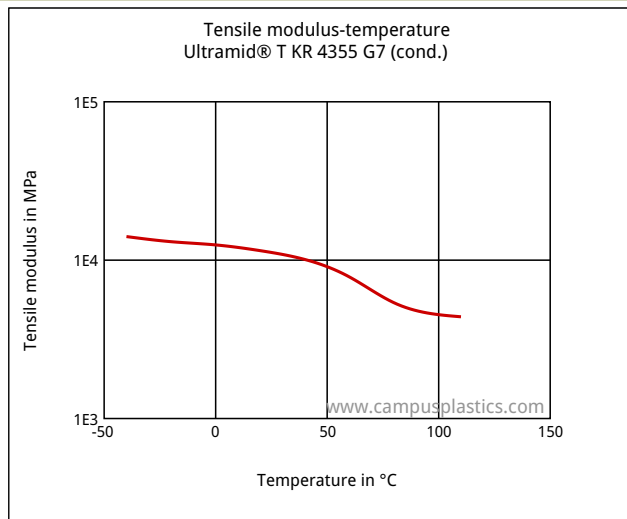
Tensile modulus-temperature



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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

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Other text information

Injection molding

PREPROCESSING

Pre/Post-processing, max. allowed water content: .15 %

Pre/Post-processing, Pre-drying, Temperature: 110 °C

Pre/Post-processing, Pre-drying, Time: 8 h

PROCESSING

injection molding, Melt temperature, range: 310 - 330 °C

injection molding, Melt temperature, recommended: 320 °C

injection molding, Mold temperature, range: 80 - 120 °C

injection molding, Mold temperature, recommended: 100 °C

injection molding, Dwell time, thermoplastics: 5 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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