BASF
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ALBIS

Ultramid® T KR 4355 G10

PPA-GF50 BASF

Glass fibre reinforced partially aromatic polyamide for injection moulding. High toughness, stiffness and strength, low water absorption, high melting point (285 °C).

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	0.2 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	18000 / -	MPa	ISO 527
Stress at Break	260 / -	MPa	ISO 527
Strain at Break	2.8 / -	%	ISO 527
Impact Strength (Charpy), +23°C	100 / -	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	14 / -	kJ/m²	ISO 179/1eA

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	285 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	245 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	18 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	55 / *	E-6/K	ISO 11359-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	4.7 / 4.8	-	IEC 62631-2-1
Dissipation Factor, 1MHz	200 / 300	E-4	IEC 62631-2-1
Volume Resistivity	>1E13 / >1E13	Ohm*m	IEC 62631-3-1
Electric Strength	33 / 31	kV/mm	IEC 60243-1

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	4 / *	%	Sim. to ISO 62
Humidity absorption	0.6 / *	%	Sim. to ISO 62

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	130 / *	cm³/g	ISO 307, 1157, 1628

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	320	°C	ISO 294
Injection Molding, mold temperature	100	°C	ISO 294

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	110	°C	-
Pre-drying - Time	8	h	-
Processing humidity	≤0.15	%	-
Melt temperature	310 - 330	°C	-
Mold temperature	80 - 120	°C	-

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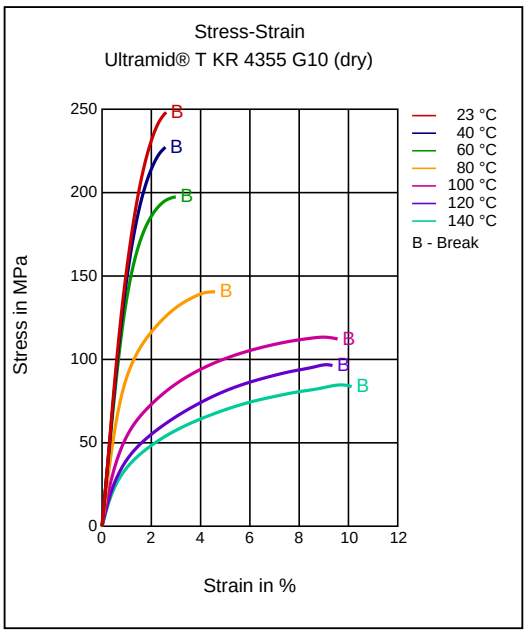
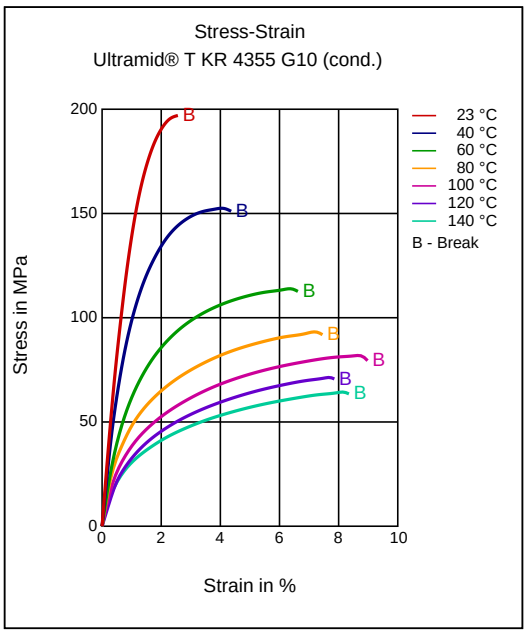
Diagrams

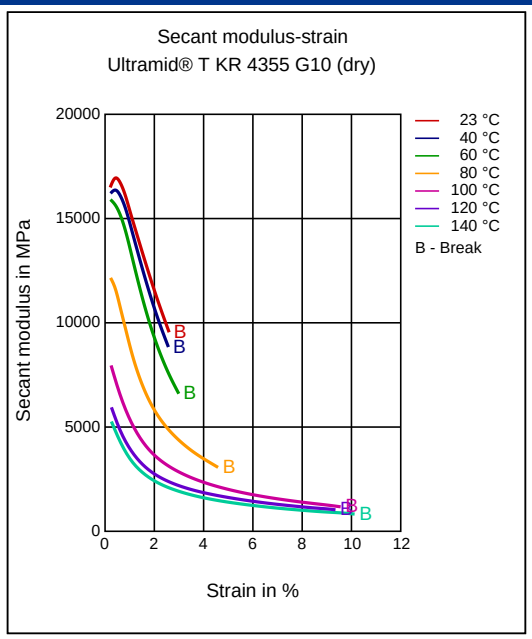
Stress-strain



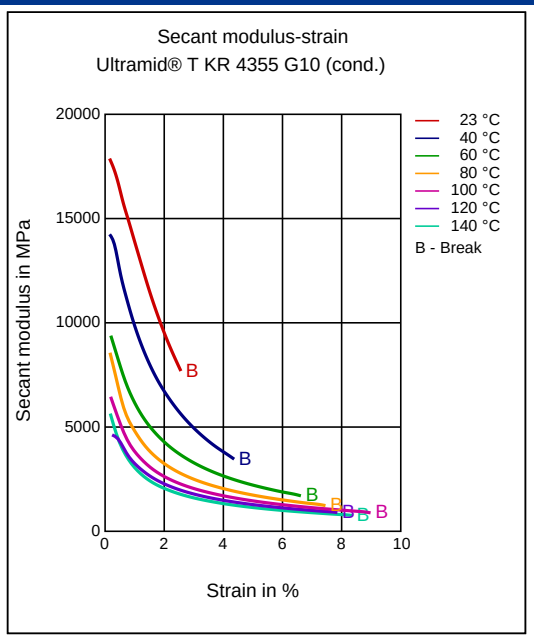
Stress-strain



Secant modulus-strain



Secant modulus-strain



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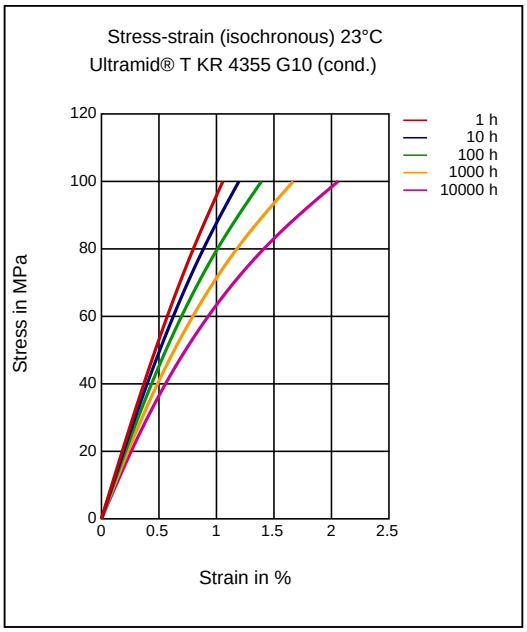
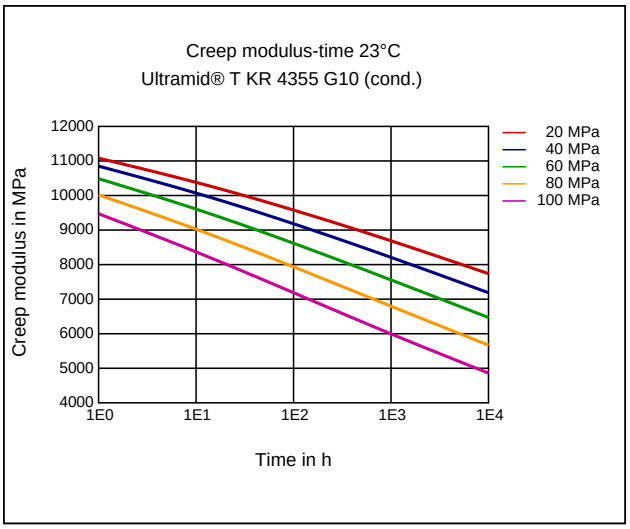
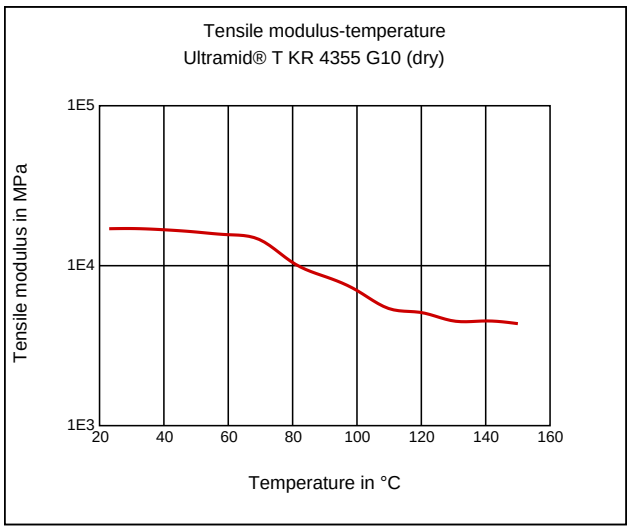
Stress-strain (isochronous) 23 °C



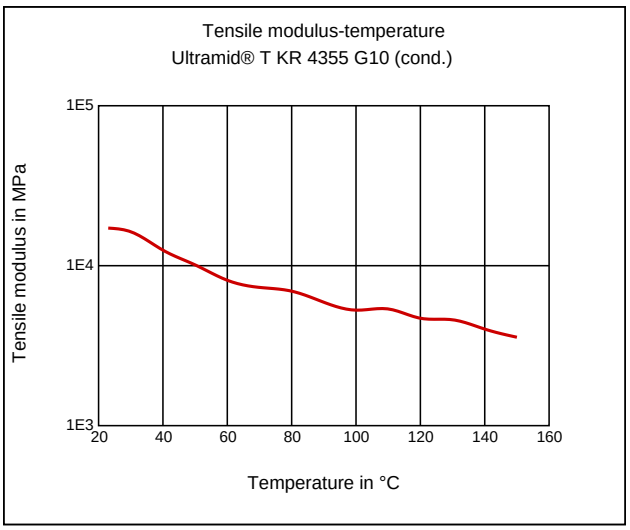
Creep modulus-time 23 °C



Tensile Modulus-Temperature



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding

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