Ultramid® Advanced T1000HG7 LS BK

PA6T/6I-GF35 BASF

Heat stabilized, partially aromatic polyphthalamide for injection molding with strong mechanical properties especially at elevated temperatures and excellent chemical resistance for highly stressed parts. The product can be characterized as compound with high strength and stiffness, very low water absorption and outstanding dimensional stability. It features a high melting point (320 °C) and excellent melt stability.

Markets & applications
Automotive: Fuel system, cooling system, powertrain, thermostat housing, pumps, fuel cell
E&E: Sensors, SMT applications (surface mount technology)
Industry goods: Pumps, compressors
Consumer goods: home appliances, consumer electronics, furniture fittings

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Molding shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	14000 / 14000	MPa	ISO 527
Stress at Break	220 / 210	MPa	ISO 527
Strain at Break	2 / 1.9	%	ISO 527
Impact Strength (Charpy), +23 °C	70 / -	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30 °C	70 / -	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23 °C	8 / -	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30 °C	8 / -	kJ/m²	ISO 179/1eA

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10 °C/min)	320 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	280 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	22 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	52 / *	E-6/K	ISO 11359-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Volume Resistivity	>1E13 / >1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / >1E15	Ohm	IEC 62631-3-2
Electric Strength	37 / -	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112

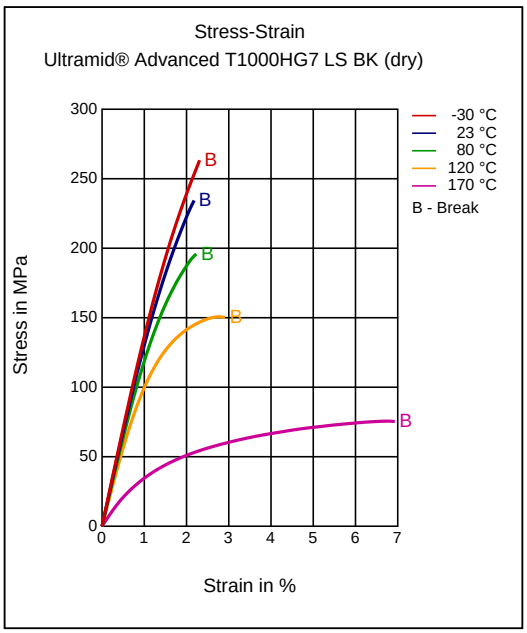
Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	3.8 / *	%	Sim. to ISO 62
Humidity absorption	1.6 / *	%	Sim. to ISO 62
Density	1490 / -	kg/m³	ISO 1183

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	105 / *	cm³/g	ISO 307, 1157, 1628

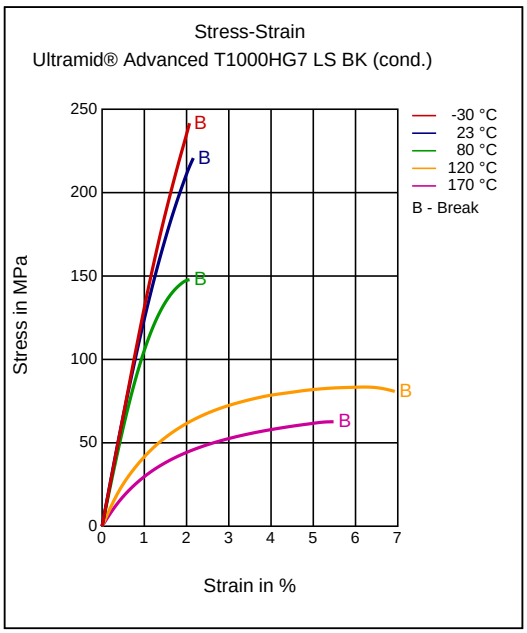
Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	350	°C	ISO 294
Injection Molding, mold temperature	150	°C	ISO 294

Diagrams

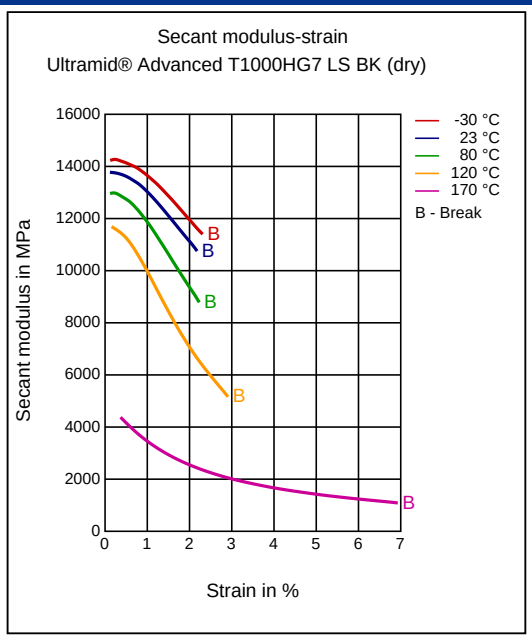
Stress-strain



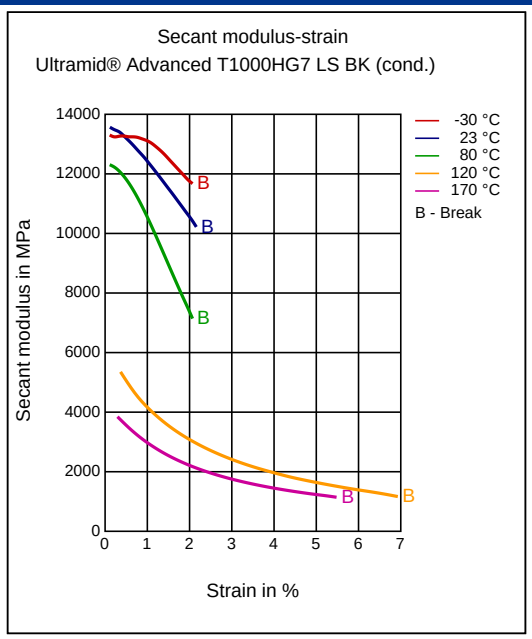
Stress-strain



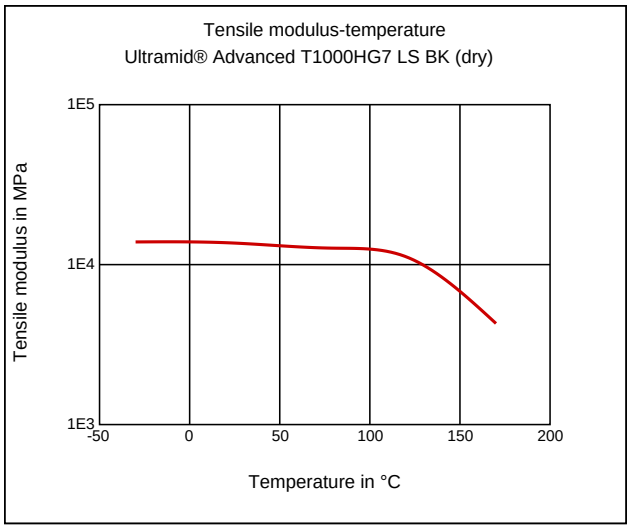
Secant modulus-strain



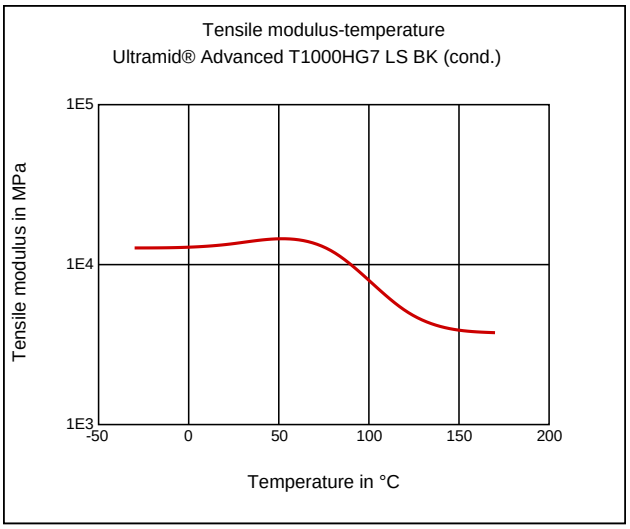
Secant modulus-strain



Tensile Modulus-Temperature



Tensile Modulus-Temperature



Characteristics

Processing
Injection Molding

Features
Melt Strength

Delivery form
Pellets, Black

Chemical Resistance
General Chemical Resistance

Special Characteristics
Heat aging stabilized

Injection Molding

PREPROCESSING
Pre/Post-processing, max. allowed water content: .05 %
Pre/Post-processing, Pre-drying, Temperature: 120 °C
Pre/Post-processing, Pre-drying, Time: 8 h

PROCESSING
injection molding, Melt temperature, range: 335 - 355 °C
injection molding, Melt temperature, recommended: 350 °C
injection molding, Mold temperature, range: 140 - 170 °C
injection molding, Mold temperature, recommended: 150 °C
injection molding, Dwell time, thermoplastics: 5 min

Disclaimer

- any bodily implant application for greater than 30 days
- any critical component in any medical device that supports or sustains human life.

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