

Ultramid® Advanced N3WG6 UN PPA-GF30

BASF

Partially aromatic, glassfiber reinforced polyphthalamide for injection molding with strong mechanical properties especially at elevated temperatures, good long-term thermal stability and outstanding chemical resistance for highly stressed parts. The product can be characterized as compound with high toughness, stiffness, extremely low water absorption and outstanding dimensional stability. It features high flowability and allows filling of complex parts with thin wall thickness. The product is easily processable with excellent melt stability.

Markets & applications

Automotive: Fuel system, cooling system, powertrain, Auto E&E, sensors, fuel cell

E&E: Connectors

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	10000 / -	MPa	ISO 527
Stress at Break	190 / -	MPa	ISO 527
Strain at Break	2.5 / -	%	ISO 527

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	300 / *	°C	ISO 11357-1/-3
Glass Transition Temperature (10°C/min)	120 / *	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	270 / *	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	280 / *	°C	ISO 306
Burning Behav. at thickness h	HB / *	class	UL 94
Thickness tested	0.8 / *	mm	-

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	2 / *	%	Sim. to ISO 62
Humidity absorption	0.9 / *	%	Sim. to ISO 62
Density	1370 / -	kg/m³	ISO 1183
Bulk density	700	kg/m³	-

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	100 / *	cm³/g	ISO 307, 1157, 1628

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	330	°C	ISO 294
Injection Molding, mold temperature	140	°C	ISO 294

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	120	°C	-
Pre-drying - Time	8	h	-
Processing humidity	≤0.05	%	-
Melt temperature	320 - 340	°C	-
Mold temperature	100 - 160	°C	-

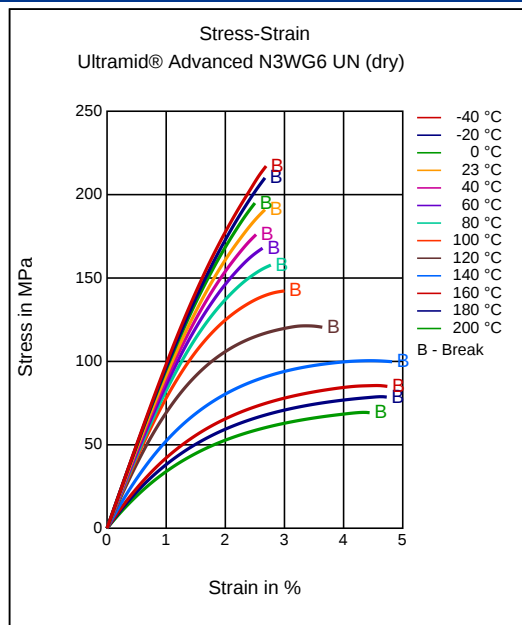
Processing Recommendation Extrusion	Value	Unit	Test Standard
Melt temperature	320 - 340	°C	-

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PPA-GF30

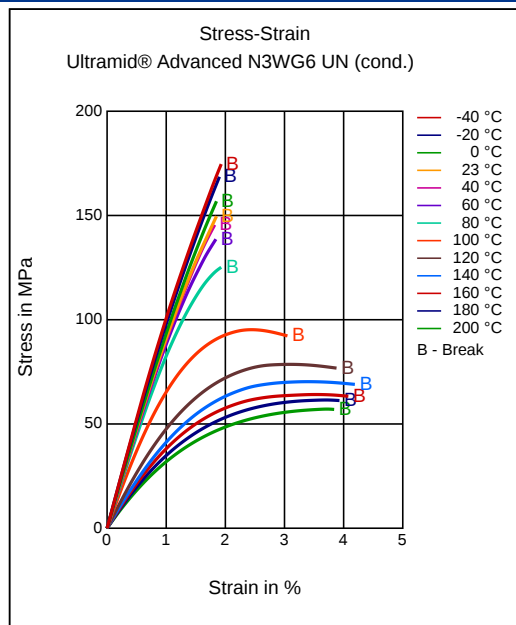
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Diagrams

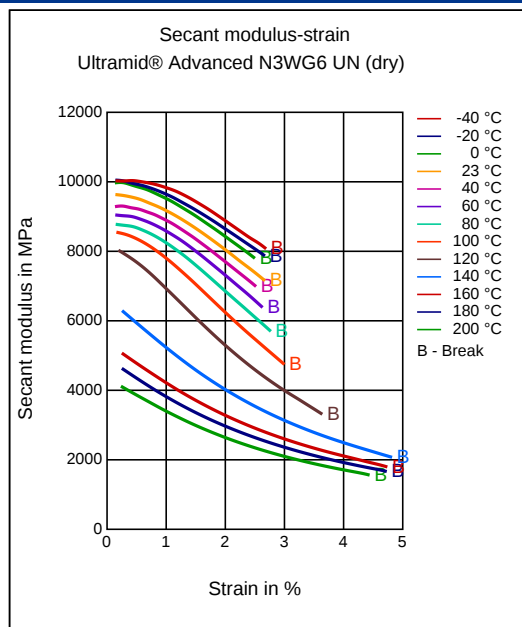
Stress-strain



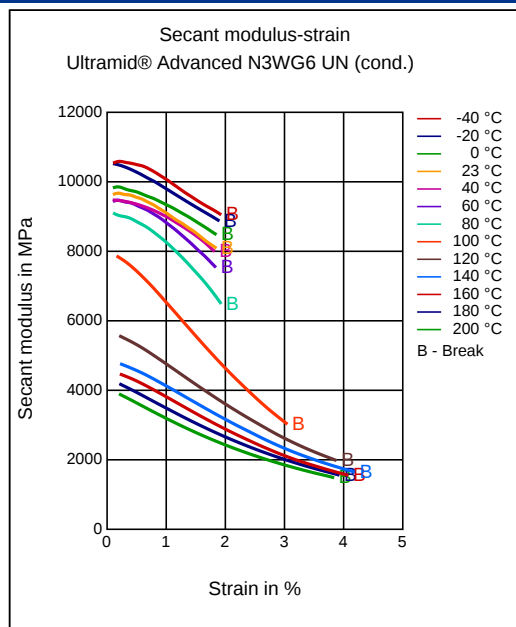
Stress-strain



Secant modulus-strain



Secant modulus-strain

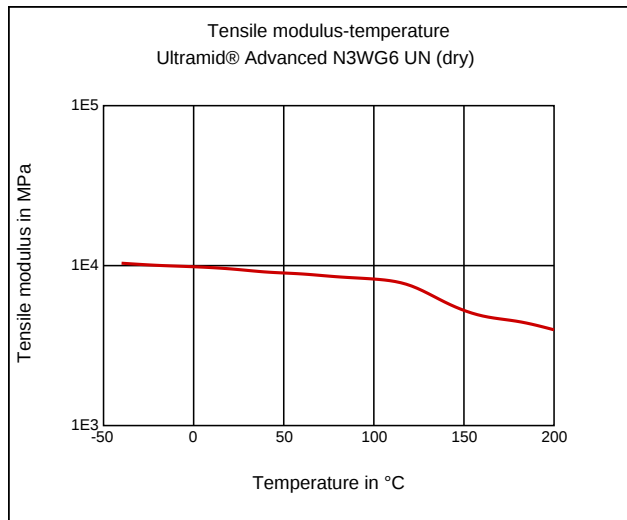


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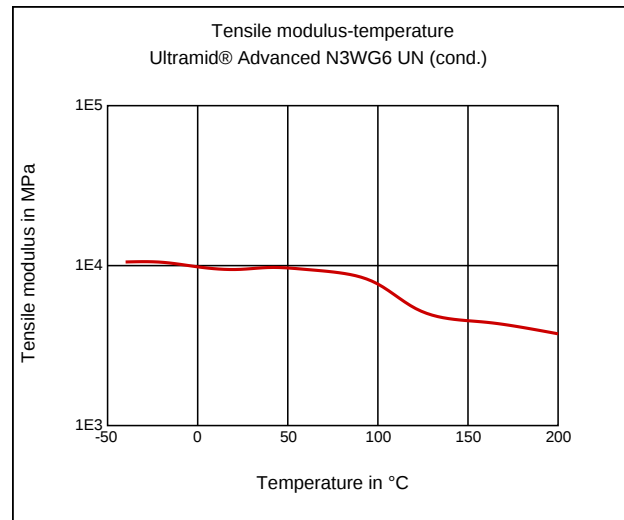
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Tensile Modulus-Temperature



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding, Other Extrusion

Delivery form

Pellets, Natural Color

Special Characteristics

Heat aging stabilized

Features

Thermal Stability

Chemical Resistance

General Chemical Resistance

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: 320 - 340 °C

injection molding, Melt temperature, recommended: 330 °C

injection molding, Mold temperature, range: 125 - 170 °C

injection molding, Mold temperature, recommended: 140 °C

injection molding, Dwell time, thermoplastics: 5 min