

Ultramid® Advanced T2300HG6 LS sw23346

PPA-GF30

BASF

Heat stabilized, partially aromatic polyphthalamide for injection molding with strong mechanical properties especially at elevated temperatures and good chemical resistance for highly stressed parts. The product can be characterized as compound with high strength and stiffness. It features a high melting point (310 °C) and good heat resistance.

Markets & applications

Automotive: sensors, e-mobility

E&E: Connectors

Consumer goods

ISO 16396-PA 6T/66,GF30,MH,S12-100

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	5 / *	cm ³ /10min	ISO 1133
Temperature	320 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.5 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.1 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	10400 / 10200	MPa	ISO 527
Stress at Break	190 / 160	MPa	ISO 527
Strain at Break	2.8 / 3	%	ISO 527
Impact Strength (Charpy), +23 °C	90 / 75	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30 °C	65 / 55	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23 °C	8.5 / 8.1	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy), -30 °C	7.5 / 7.1	kJ/m ²	ISO 179/1eA
Flexural Modulus (23 °C)	9300 / 9300	MPa	ISO 178
Flexural strength	270 / 240	MPa	ISO 178

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10 °C/min)	310 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	280 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 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	72 / *	E-6/K	ISO 11359-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	3.6 / 3.8	-	IEC 62631-2-1
Dissipation Factor, 1MHz	105 / 200	E-4	IEC 62631-2-1
Volume Resistivity	>1E13 / >1E13	Ohm*m	IEC 62631-3-1
Comparative tracking index	- / 600	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	4.7 / *	%	Sim. to ISO 62
Humidity absorption	1.4 / *	%	Sim. to ISO 62
Density	1390 / -	kg/m ³	ISO 1183
Bulk density	700	kg/m ³	-

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	130 / *	cm ³ /g	ISO 307, 1157, 1628

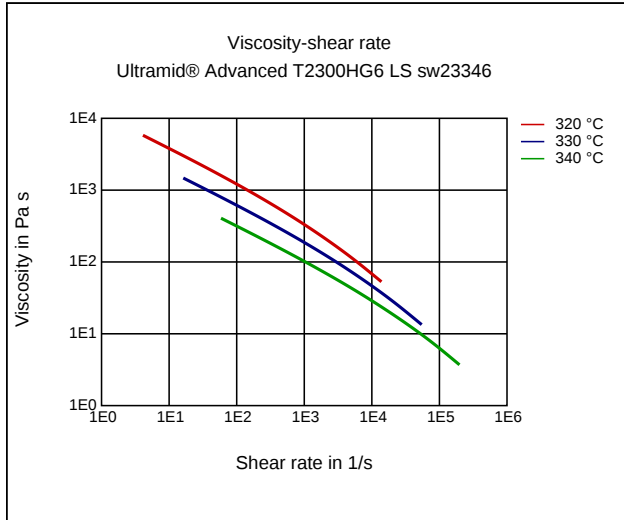
Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	320	°C	ISO 294
Injection Molding, mold temperature	140	°C	ISO 294

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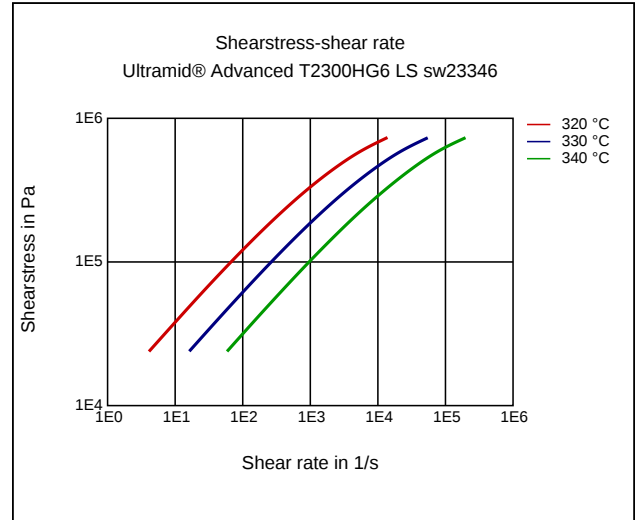
BASF

Diagrams

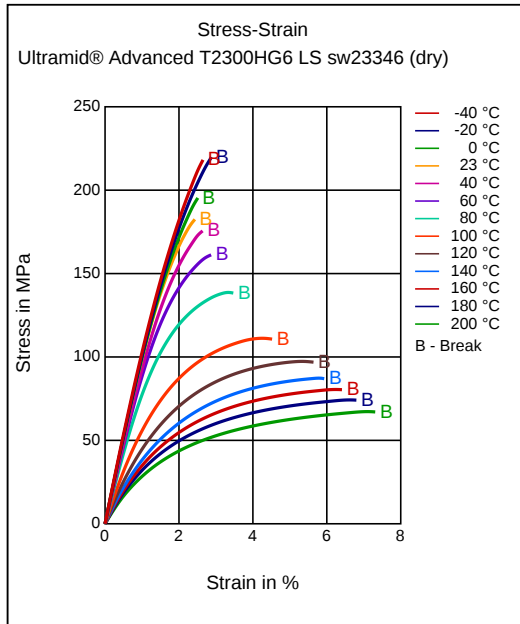
Viscosity-shear rate



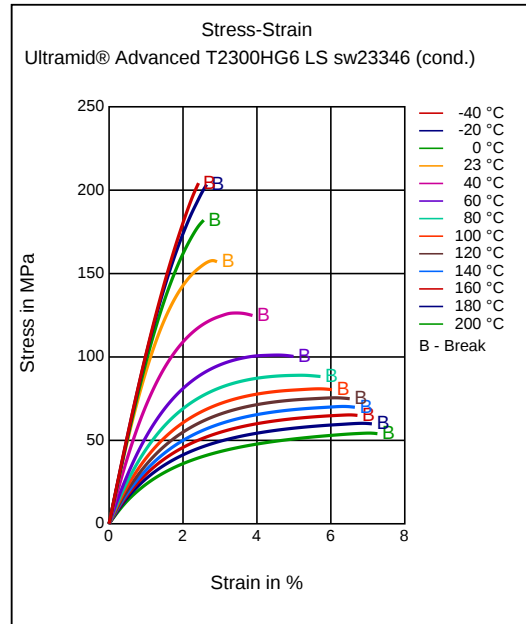
Shearstress-shear rate



Stress-strain



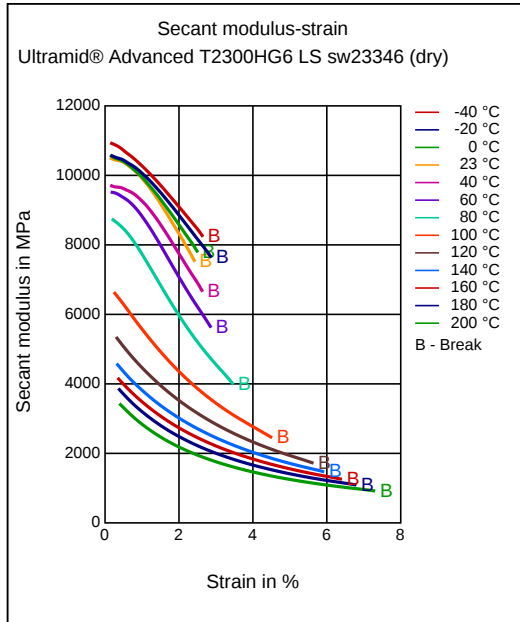
Stress-strain



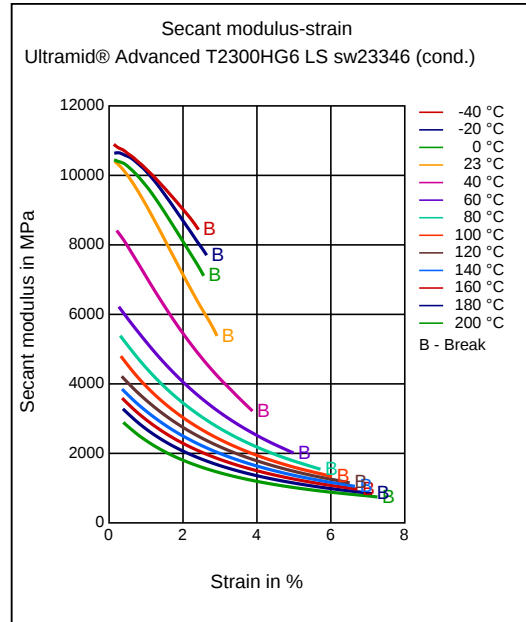
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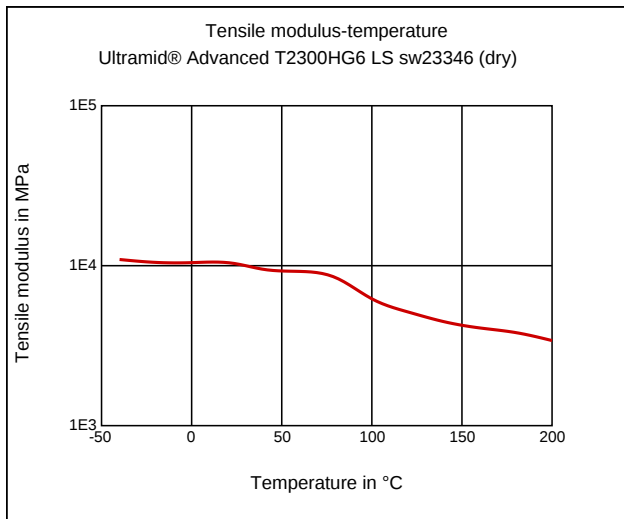
Secant modulus-strain



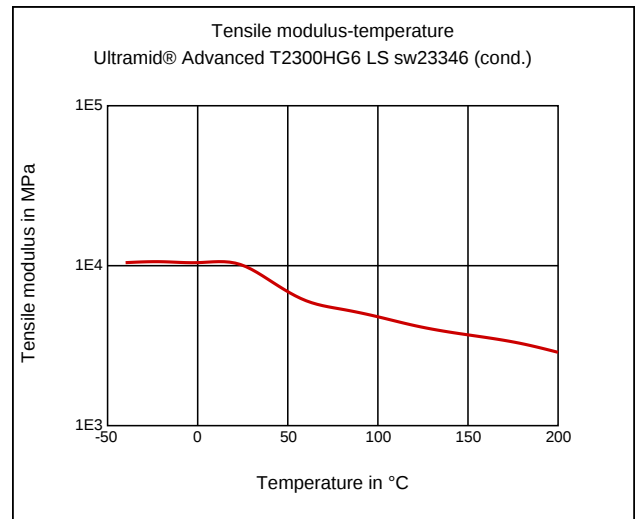
Secant modulus-strain



Tensile Modulus-Temperature



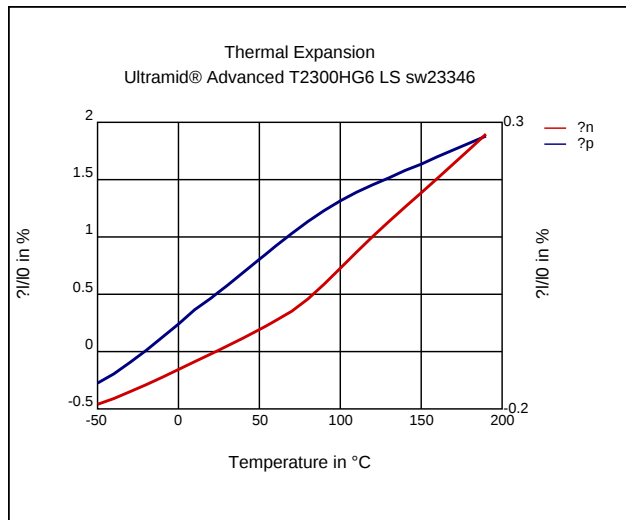
Tensile Modulus-Temperature



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Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding, Other Extrusion

Delivery form

Pellets, Black

Additives

Lubricants

Special Characteristics

Heat aging stabilized

Chemical Resistance

General Chemical Resistance

Applications

Automotive, Electrical and Electronical

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: 120 - 160 °C

injection molding, Mold temperature, recommended: 140 °C

injection molding, Dwell time, thermoplastics: 5 min