

Ultramid® Advanced T2340G6

PPA-GF30 FR(40)

BASF

Polyphthalamide, light colorable, with a high melting point, halogen-free flame-retardant, low water absorption, good mechanical and dielectrical properties at elevated temperatures, soldering bath resistant.

As stated in our Letter of Equivalence, products manufactured according to mass balance approach with allocated resources based on biomass (BMBCertTM) and/or pyrolysis oil (CCycledTM) feature the same properties as the corresponding product based on fossil resources. Colors available (e.g. Orange RAL 2003).

Markets & applications

Automotive: Automotive electrics & electronics (E&E), sensors, fuel cell, e-mobility

E&E: Connectors, SMT (surface mount technology) applications, energy distribution

Consumer goods: Home appliances, consumer electronics

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	50 / *	cm³/10min	ISO 1133
Temperature	325 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.1 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	10500 / 10500	MPa	ISO 527
Stress at Break	150 / 130	MPa	ISO 527
Strain at Break	2.5 / 2.5	%	ISO 527
Impact Strength (Charpy), +23°C	60 / 55	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	55 / 50	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	7 / 7	kJ/m²	ISO 179/1eA

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)	275 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	20 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	70 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	V-0 / *	class	UL 94
Thickness tested	1.6 / *	mm	-
UL recognition	yes / *	-	-
Burning Behav. at thickness h	V-0 / *	class	UL 94
Thickness tested	0.4 / *	mm	-
UL recognition	yes / *	-	-
Burning Behav. 5V at Thickness h	5VA / *	class	IEC 60695-11-20
Thickness tested	1.5 / *	mm	-
Yellow Card available	yes / *	-	-

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	3.8 / 3.9	-	IEC 62631-2-1
Dissipation Factor, 1MHz	120 / 220	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E15	Ohm	IEC 62631-3-2
Electric Strength	37 / 36	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	4.4 / *	%	Sim. to ISO 62
Humidity absorption	1.35 / *	%	Sim. to ISO 62
Density	1440 / -	kg/m³	ISO 1183

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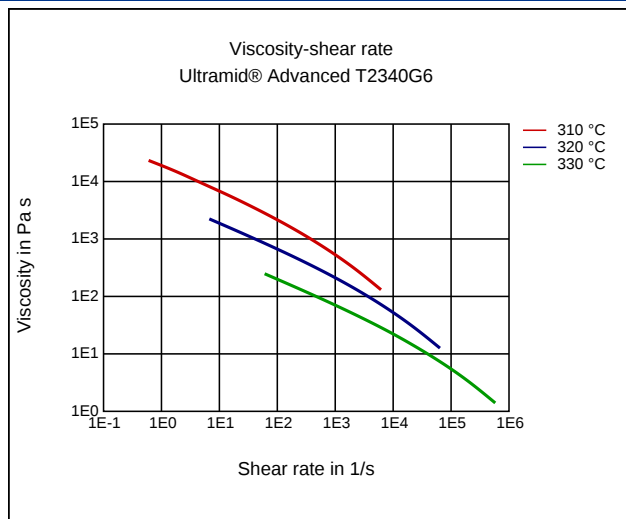
Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	120 / *	cm³/g	ISO 307, 1157, 1628

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

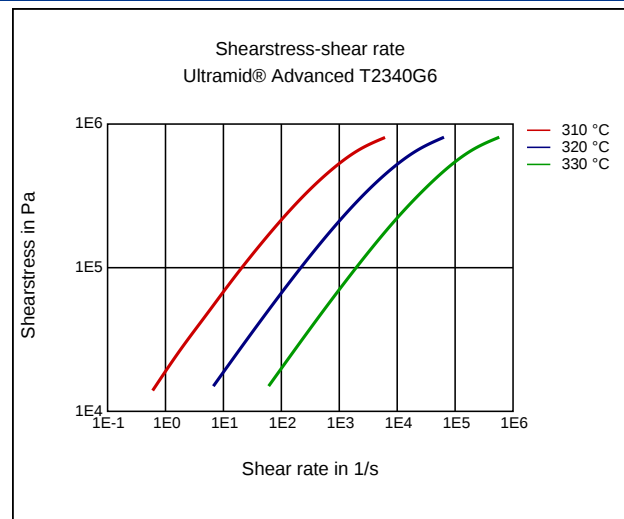
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	120	°C	-
Pre-drying - Time	8	h	-
Processing humidity	≤0.05	%	-
Melt temperature	310 - 330	°C	-
Mold temperature	140 - 160	°C	-

Diagrams

Viscosity-shear rate



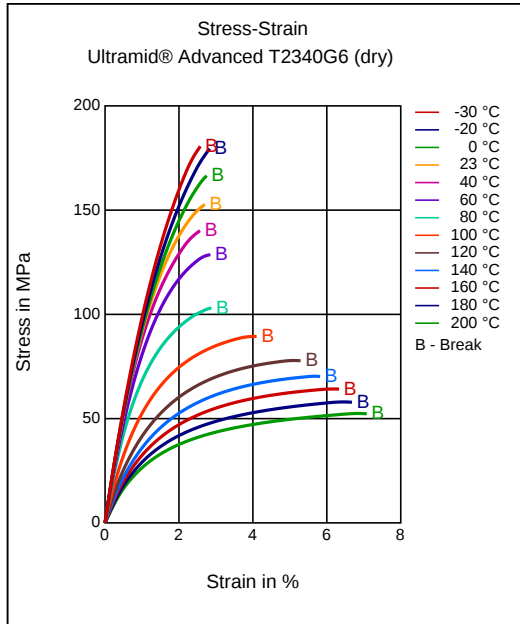
Shearstress-shear rate



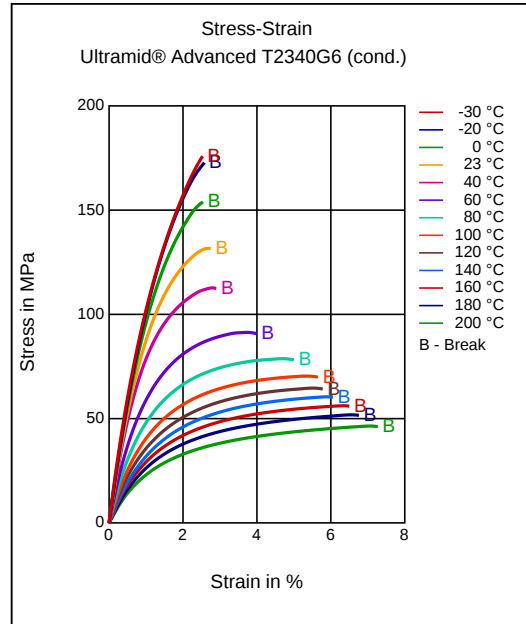
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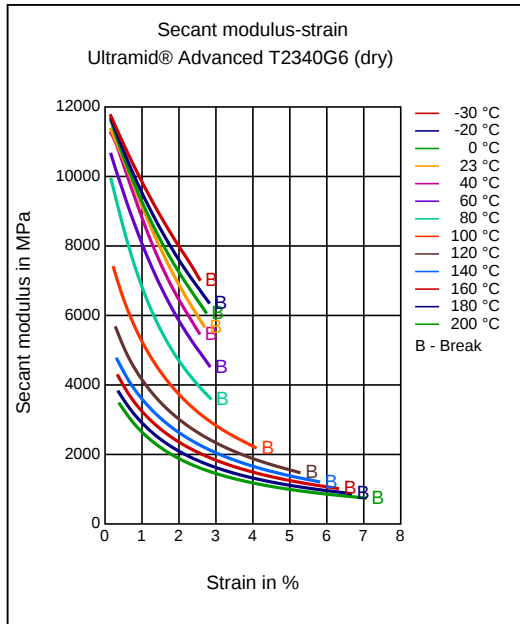
Stress-strain



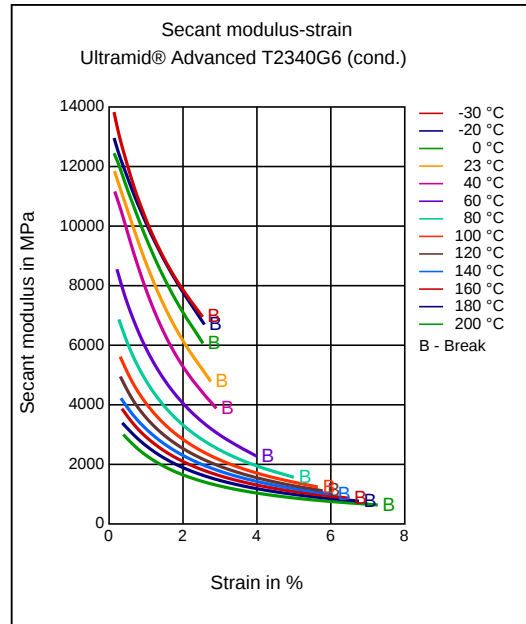
Stress-strain



Secant modulus-strain



Secant modulus-strain

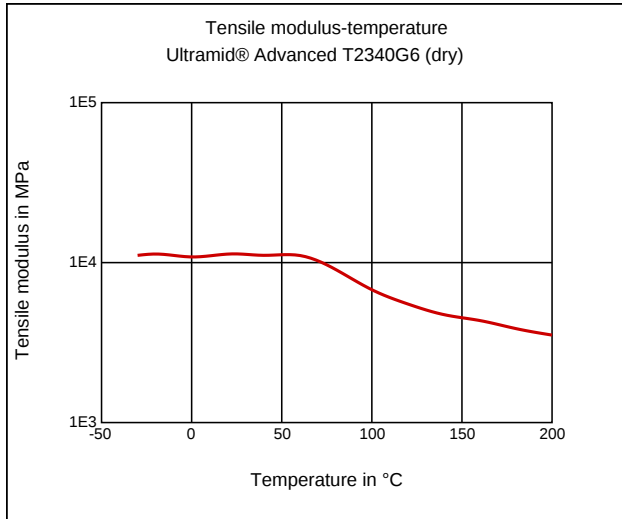


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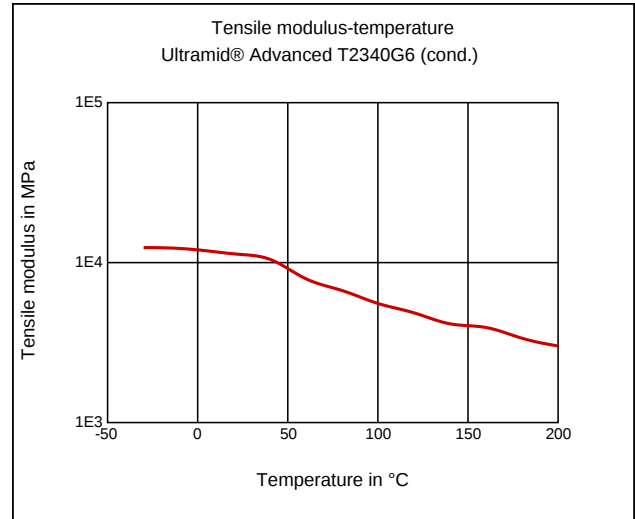
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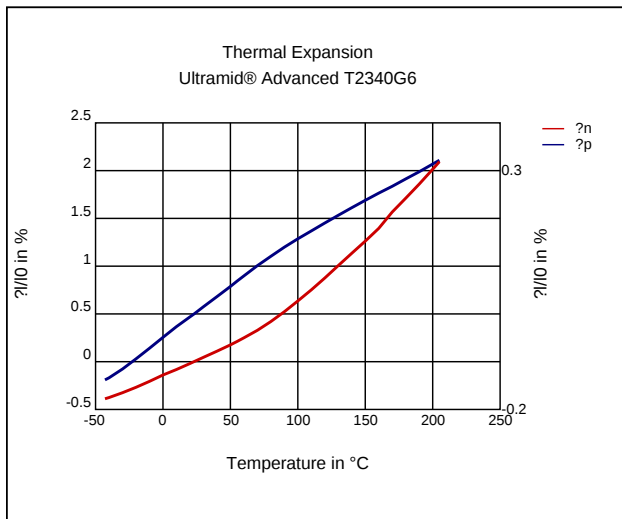
Tensile Modulus-Temperature



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding

Special Characteristics

Flame retardant, Halogen-free

Features

Thermal Stability

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: 310 - 330 °C

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injection molding, Melt temperature, recommended: 320 °C
injection molding, Mold temperature, range: 140 - 160 °C
injection molding, Mold temperature, recommended: 140 °C
injection molding, Dwell time, thermoplastics: 5 min