

Ultramid® T6340G6
PA66/6T-GF30 FR(40)

BASF

Partially aromatic polyamide, halogen-free flame-retardant, with good mechanical and dielectric properties in presence of humidity and at elevated temperatures. It is easily colorable and allows easy processing with low tool corrosion.

Markets & applications

Automotive: high-voltage connectors, e-mobility

E&E: Connectors, MCBs

Consumer goods

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	40 / *	cm ³ /10min	ISO 1133
Temperature	300 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.5 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	11000 / 9100	MPa	ISO 527
Stress at Break	145 / 110	MPa	ISO 527
Strain at Break	2.5 / 3.3	%	ISO 527
Impact Strength (Charpy), +23°C	65 / 62	kJ/m ²	ISO 179/1eU
Impact Strength (Charpy), -30°C	50 / -	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	10 / 10	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	9 / -	kJ/m ²	ISO 179/1eA
Flexural Modulus (23°C)	9000 / 8000	MPa	ISO 178
Flexural strength	230 / 185	MPa	ISO 178

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	280 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	257 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	275 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	19 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	65 / *	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thicken.	V-0 / *	class	UL 94
Thickness tested	1.6 / *	mm	-
Burning Behav. at thickness h	V-0 / *	class	UL 94
Thickness tested	0.4 / *	mm	-
Burning Behav. 5V at Thickness h	5VA / *	class	IEC 60695-11-20
Thickness tested	1.0 / *	mm	-
Oxygen index	45 / *	%	ISO 4589-1/-2
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (1)	0.8	mm	-
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (2)	1	mm	-
Glow Wire (GWFI, Flammability Index)	960	°C	IEC 60695-2-12
GWFI - thickness tested (3)	3	mm	-
Glow Wire Ignition Temperature	800	°C	IEC 60695-2-13
GWIT - thickness tested (1)	0.8	mm	-
Glow Wire Ignition Temperature	800	°C	IEC 60695-2-13
GWIT - thickness tested (2)	1	mm	-
Glow Wire Ignition Temperature	800	°C	IEC 60695-2-13
GWIT - thickness tested (3)	3	mm	-

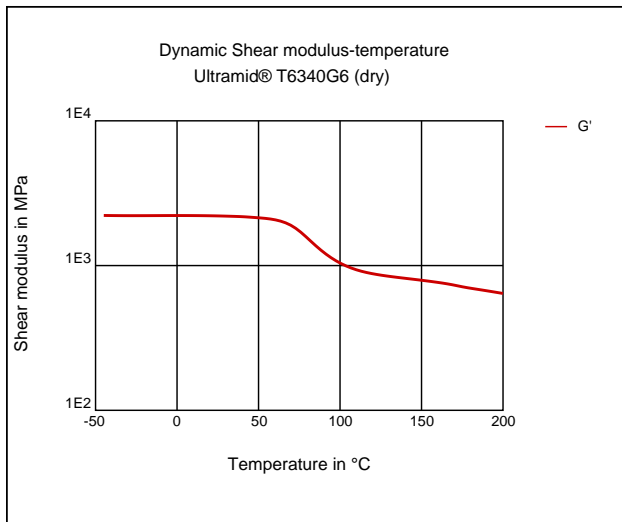
Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Volume Resistivity	1E13 / 1E12	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / >1E15	Ohm	IEC 62631-3-2
Electric Strength	40 / 36	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112
Electric Strength	24 / -	kV/mm	-
Comparative tracking index	600 / -	-	-

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	4.3 / *	%	Sim. to ISO 62
Humidity absorption	1.3 / *	%	Sim. to ISO 62
Density	1410 / -	kg/m ³	ISO 1183
Bulk density	700	kg/m ³	-

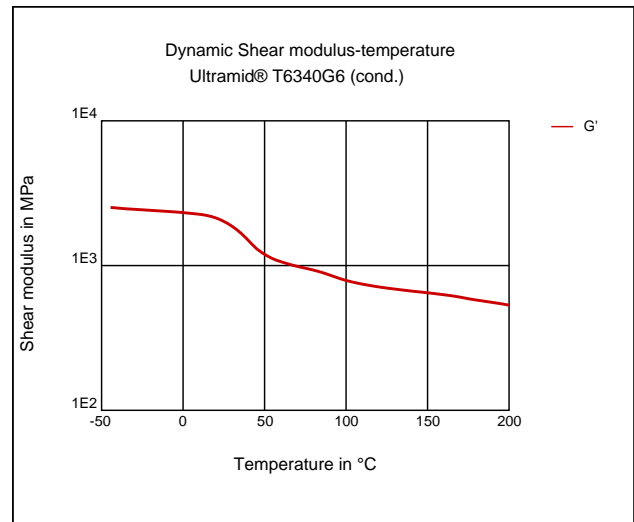
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 100	°C	-
Pre-drying - Time	4 - 8	h	-
Melt temperature	285 - 320	°C	-
Mold temperature	90 - 110	°C	-

Diagrams

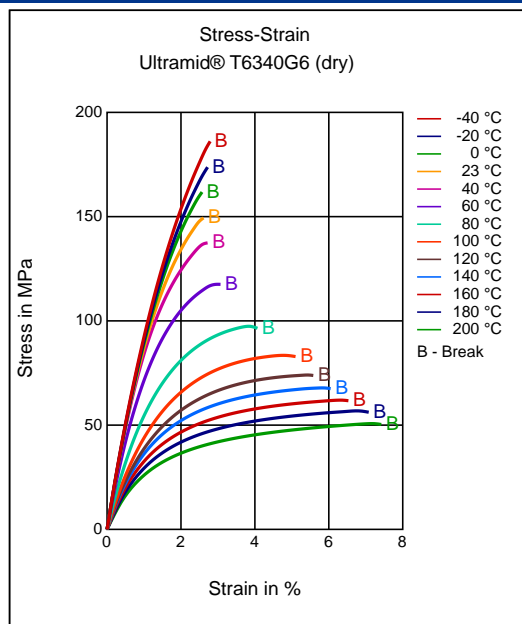
Dynamic Shear modulus-temperature



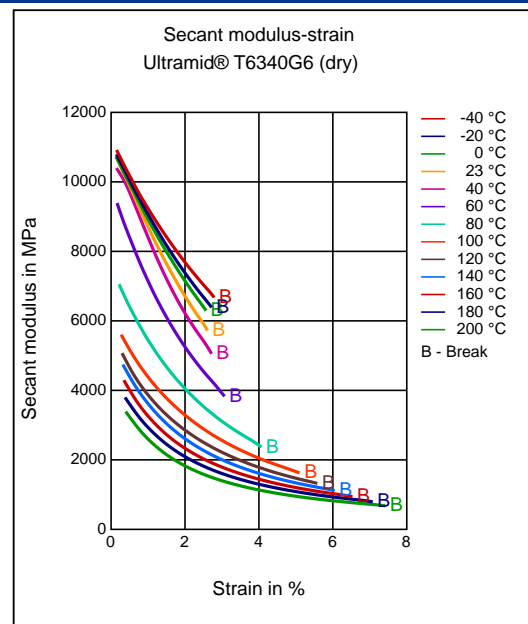
Dynamic Shear modulus-temperature



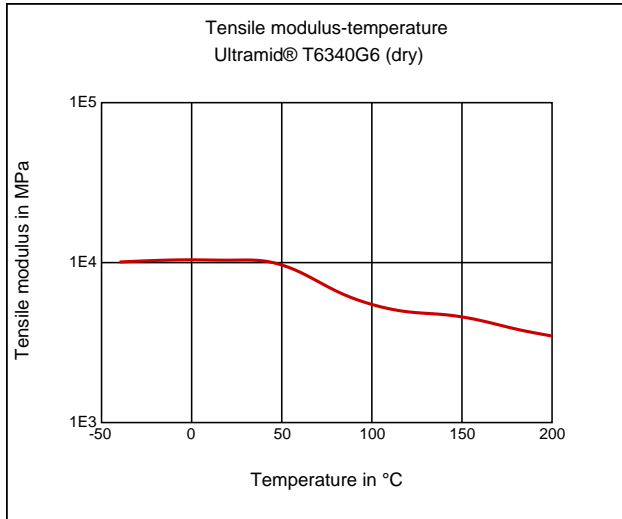
Stress-strain



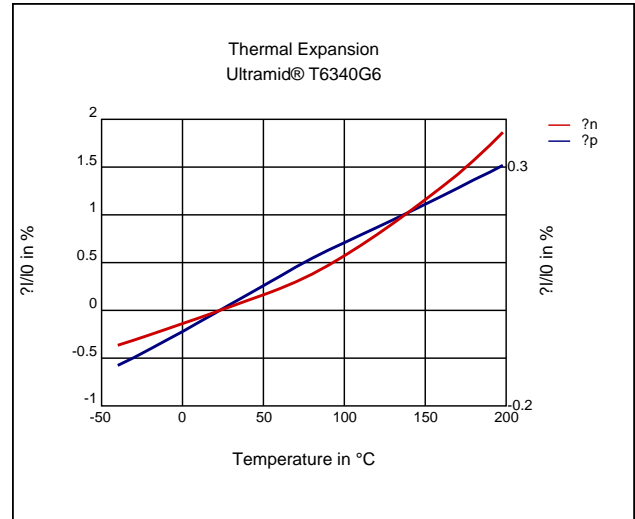
Secant modulus-strain



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Flame retarding agent

Special Characteristics

Flame retardant, Halogen-free

Applications

Automotive, Electrical and Electronical

Injection Molding

PREPROCESSING

Pre/Post-processing, Pre-drying, Temperature: 80 - 100 °C

Pre/Post-processing, Pre-drying, Time: 4 - 8 h

PROCESSING

injection molding, Melt temperature, range: 285 - 320 °C

injection molding, Melt temperature, recommended: 300 °C

injection molding, Mold temperature, range: 90 - 110 °C

injection molding, Mold temperature, recommended: 100 °C

Disclaimer

Liability Exclusion

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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