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 / *	cm³/10min	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/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	50 / -	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	10 / 10	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	9 / -	kJ/m²	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. Thickn.	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	-

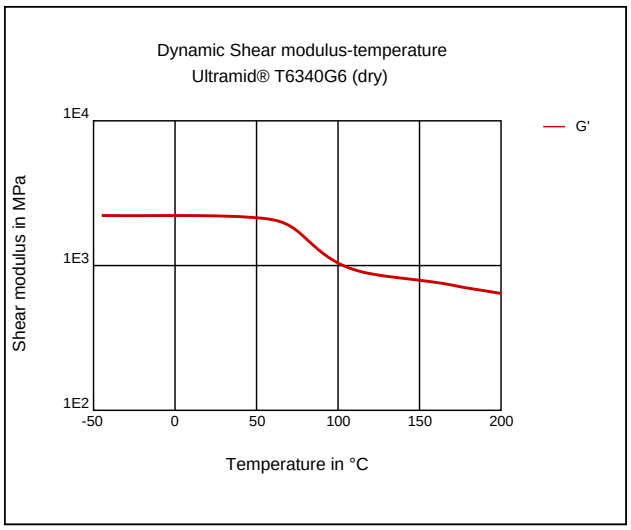
Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Volume Resistivity	1E13 / 1E12	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / >1E15	Ohm	IEC 62631-3-2
Electric Strength	40 / 36	kV/mm	IEC 60243-1
Comparative tracking index	600 / -	-	IEC 60112
Electric Strength	24 / -	kV/mm	
Comparative tracking 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/m³	ISO 1183
Bulk density	700	kg/m³	-

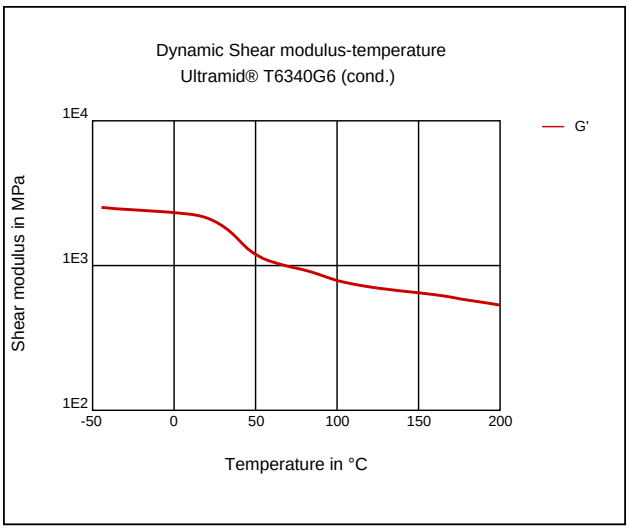
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 100	°C	-
Pre-drying - Time	4 - 8	h	-
Melt temperature	285 - 320	°C	-
Mold temperature	90 - 110	°C	-

Diagrams

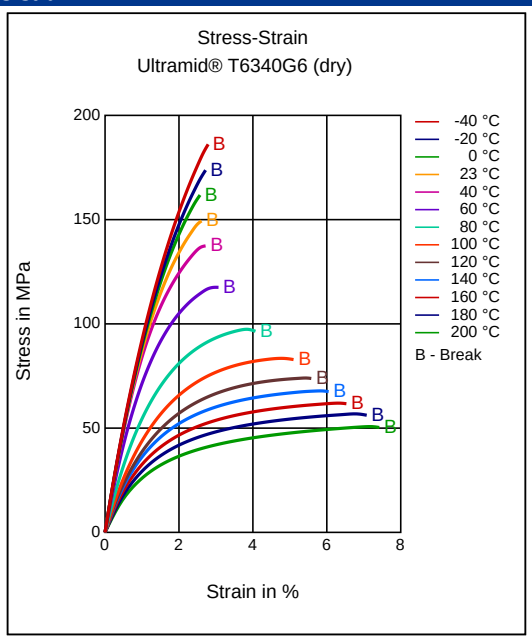
Dynamic Shear modulus-temperature



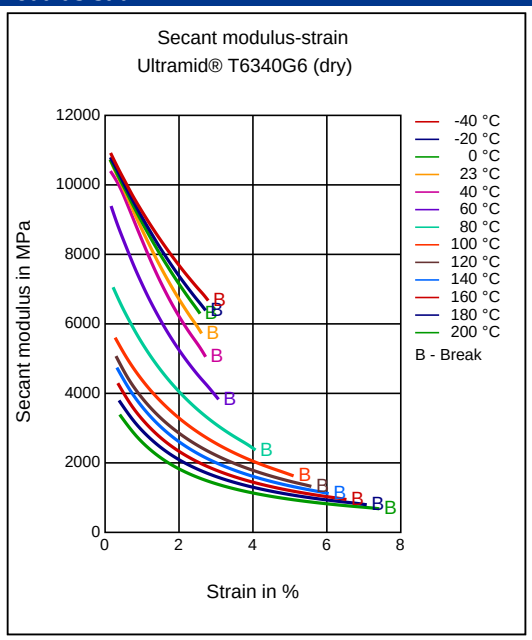
Dynamic Shear modulus-temperature



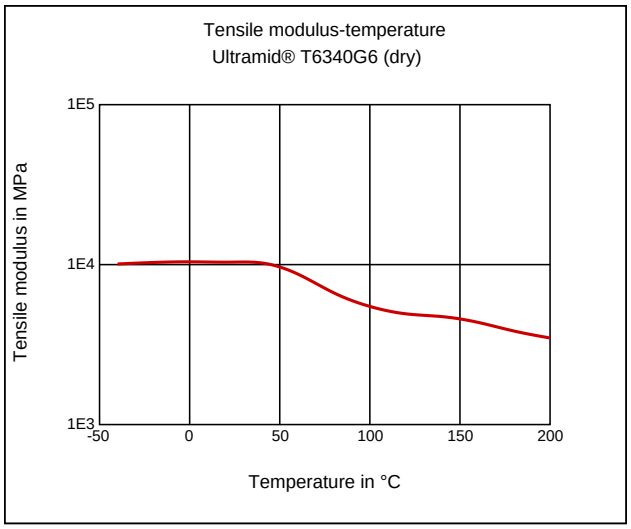
Stress-strain



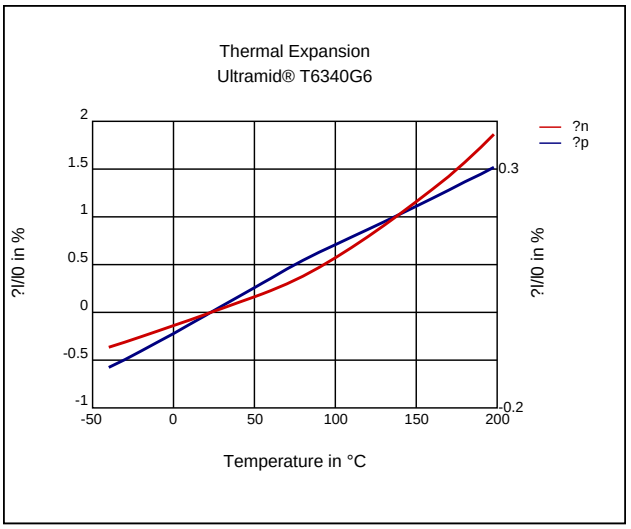
Secant modulus-strain



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant, Halogen-free

Delivery form
Pellets

Applications
Automotive, Electrical and Electronical

Additives
Flame retarding agent

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

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