Ultramid® Advanced T1000HG10 UN

PA6T/6I-GF50 BASF

Heat stabilized, partially aromatic polyphthalamide for injection molding with strong mechanical properties especially at elevated temperatures and excellent chemical resistance for highly stressed parts. The product can be characterized as compound with high strength and stiffness, very low water absorption and outstanding dimensional stability. It features a high melting point (320 °C) and excellent melt stability.

Markets & applications
Automotive: Fuel system, cooling system, powertrain, metal replacement
Industry goods: Pumps, compressors
Consumer goods: Home appliances, consumer electronics, furniture fittings

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
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	19000 / 19000	MPa	ISO 527
Stress at Break	280 / 260	MPa	ISO 527
Strain at Break	2.2 / 2	%	ISO 527
Impact Strength (Charpy), +23 °C	90 / -	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30 °C	80 / -	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23 °C	12 / -	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30 °C	12 / -	kJ/m²	ISO 179/1eA

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10 °C/min)	320 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	280 / *	°C	ISO 75-1/-2
Burning Behav. at thickness h	HB / *	class	UL 94
Thickness tested	0.8 / *	mm	-
ASTM Data			
UL 94 Flame rating	HB	-	UL 94
Thickness tested	0.8	mm	-

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Surface Resistivity	* / >1E15	Ohm	IEC 62631-3-2
Electric Strength	44 / -	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Density	1650 / -	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	350	°C	ISO 294
Injection Molding, mold temperature	150	°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	345 - 360	°C	-
Mold temperature	140 - 160	°C	-

Processing Recommendation Extrusion	Value	Unit	Test Standard
Melt temperature	345 - 360	°C	-

Characteristics

Processing
Injection Molding, Other Extrusion

Features
Melt Strength

Delivery form
Pellets, Natural Color

Chemical Resistance
General Chemical Resistance

Special Characteristics
Heat aging stabilized

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: 345 - 355 °C
injection molding, Melt temperature, recommended: 350 °C
injection molding, Mold temperature, range: 150 - 190 °C
injection molding, Mold temperature, recommended: 150 °C
injection molding, Dwell time, thermoplastics: 5 min

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