

Ultramid® A3U42G6
(PA66+PA6)-GF30 FR(40)

BASF

Without halogenes flame retarded glass fiber reinforced injection moulding grade; light colorable; outstanding mechanical and electrical properties.

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	20 / *	cm³/10min	ISO 1133
Temperature	275 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.3 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	10800 / 7400	MPa	ISO 527
Stress at Break	130 / 90	MPa	ISO 527
Strain at Break	3 / 4.5	%	ISO 527
Impact Strength (Charpy), +23°C	60 / 65	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	55 / 60	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	8 / 11	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	7 / 7	kJ/m²	ISO 179/1eA
Flexural Modulus (23°C)	11000 / 7500	MPa	ISO 178

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	260 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	230 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	250 / *	°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	79 / *	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	1.6 / *	mm	-
Yellow Card available	yes / *	-	-
Oxygen index	37 / *	%	ISO 4589-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	3.9 / 4.1	-	IEC 62631-2-1
Dissipation Factor, 1MHz	150 / 290	E-4	IEC 62631-2-1
Volume Resistivity	1E11 / 1E9	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric Strength	38 / 30	kV/mm	IEC 60243-1
Comparative tracking index	- / 600	-	IEC 60112

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	5 / *	%	Sim. to ISO 62
Humidity absorption	1.7 / *	%	Sim. to ISO 62
Density	1440 / -	kg/m³	ISO 1183
Bulk density	700	kg/m³	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	290	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

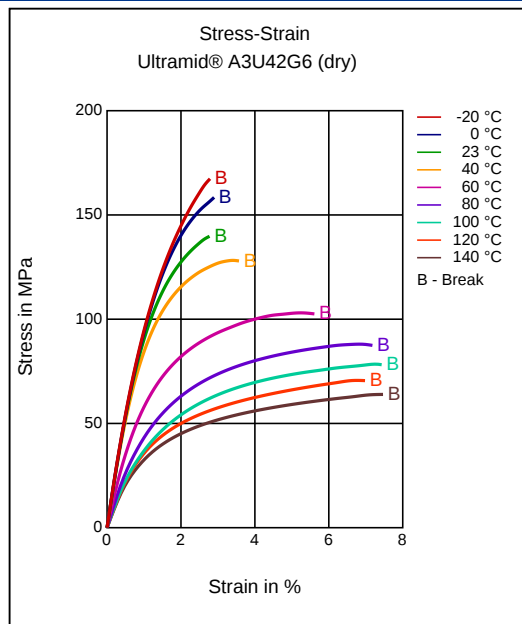
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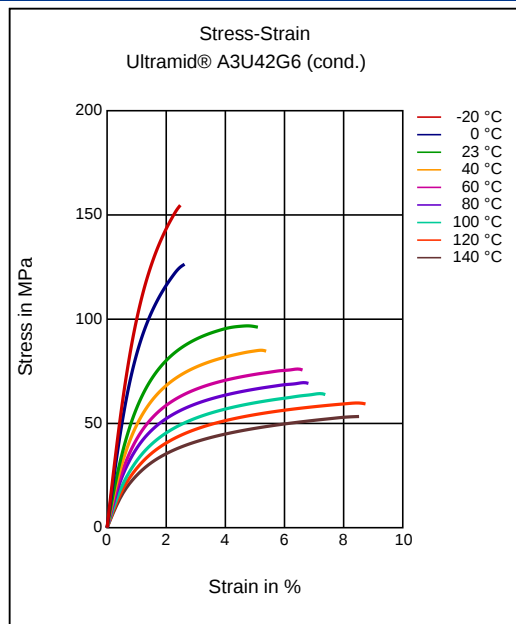
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.15	%	-
Melt temperature	280 - 300	°C	-
Mold temperature	80 - 90	°C	-

Diagrams

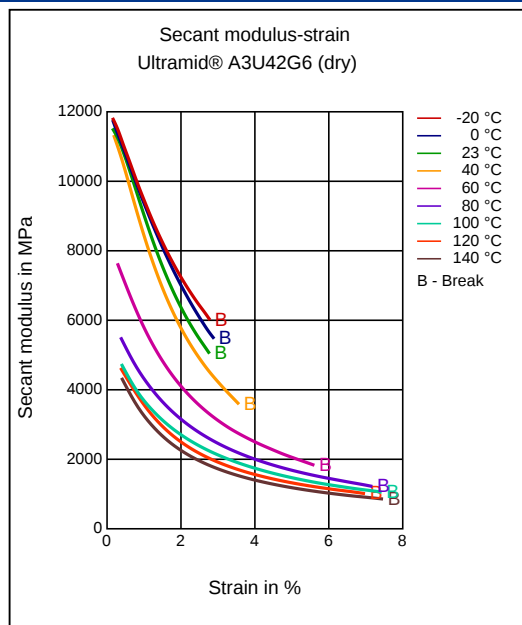
Stress-strain



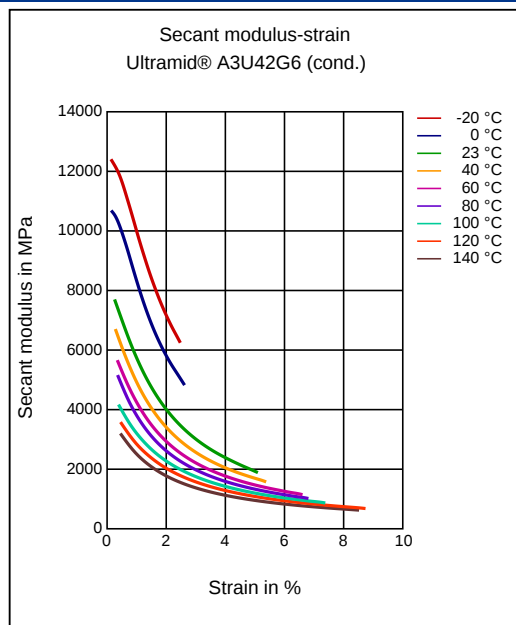
Stress-strain



Secant modulus-strain



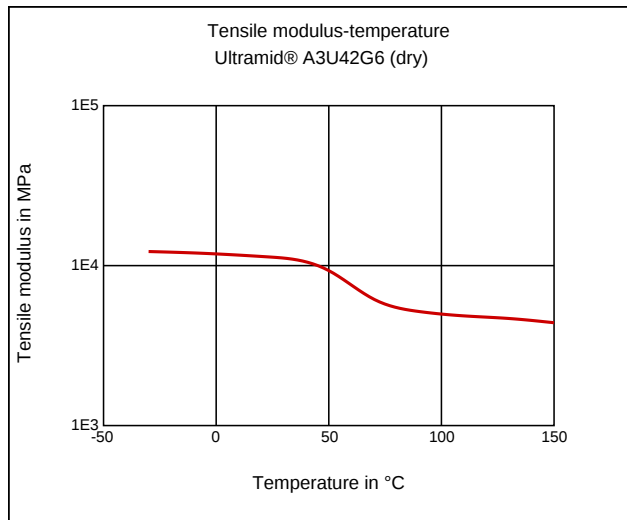
Secant modulus-strain



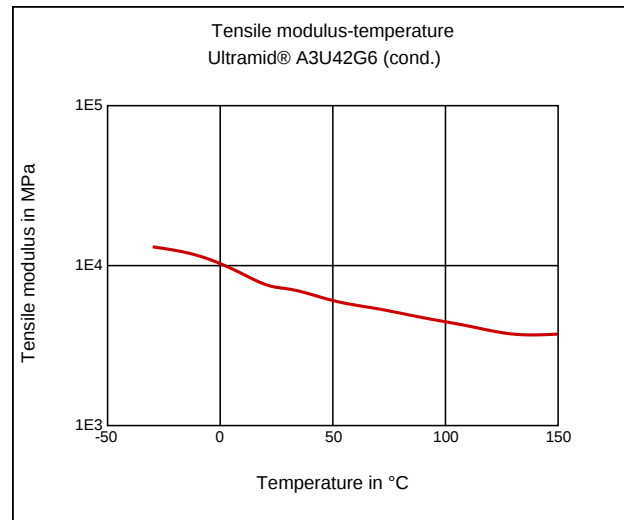
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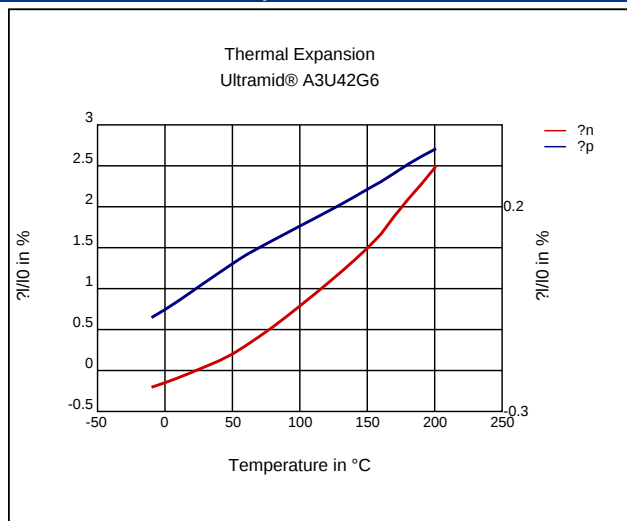
Tensile Modulus-Temperature



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding

Additives

Release agent

Delivery form

Pellets

Special Characteristics

Flame retardant, Halogen-free

Injection Molding

PREPROCESSING

Pre/Post-processing, max. allowed water content: .15 %

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

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

PROCESSING

injection molding, Melt temperature, range: 280 - 300 °C

injection molding, Melt temperature, recommended: 290 °C

injection molding, Mold temperature, range: 80 - 90 °C

injection molding, Mold temperature, recommended: 80 °C

injection molding, Dwell time, thermoplastics: 10 min