

Ultramid® A3XZG5
PA66-I-GF25 FR(52)

BASF

An impact-modified, glass fibre reinforced injection moulding grade with improved flame retardance based on red phosphorus; for components requiring high stiffness and enhanced toughness. (eg PV-connectors an PV-junction boxes)

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	3 / *	cm³/10min	ISO 1133
Temperature	300 / *	°C	-
Load	10 / *	kg	-

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	6500 / 4500	MPa	ISO 527
Stress at Break	105 / 70	MPa	ISO 527
Strain at Break	6 / 11	%	ISO 527
Tensile Creep Modulus, 1h	* / 2500	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	* / 2000	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	90 / 100	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	85 / 80	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	25 / 30	kJ/m²	ISO 179/1eA

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)	240 / *	°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	36 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	127 / *	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-2 / *	class	UL 94
Thickness tested	0.8 / *	mm	-
UL recognition	yes / *	-	-
Burning Behav. 5V at Thickness h	5VA / *	class	IEC 60695-11-20
Thickness tested	2.3 / *	mm	-
Yellow Card available	yes / *	-	-
Oxygen index	28 / *	%	ISO 4589-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	3.8 / 4	-	IEC 62631-2-1
Dissipation Factor, 1MHz	200 / 300	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E13	Ohm	IEC 62631-3-2
Electric Strength	33 / 30	kV/mm	IEC 60243-1
Comparative tracking index	575 / 575	-	IEC 60112

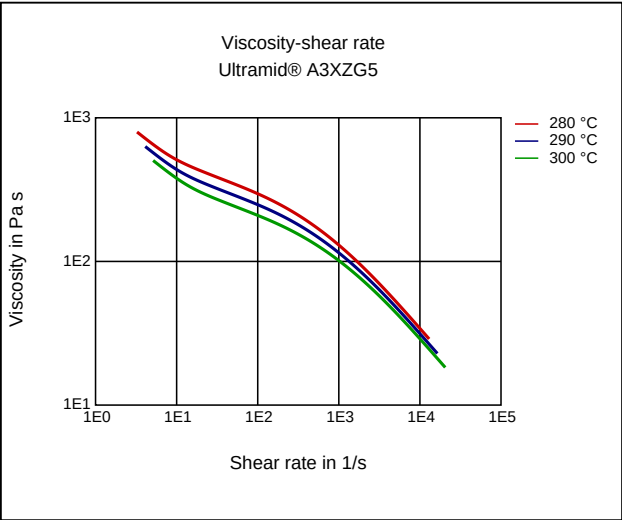
Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	5 / *	%	Sim. to ISO 62
Humidity absorption	1.2 / *	%	Sim. to ISO 62
Density	1320 / -	kg/m³	ISO 1183

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

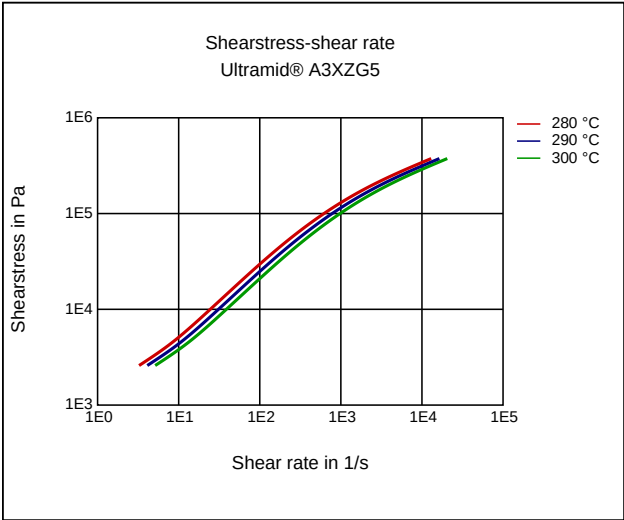
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 100	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.15	%	-
Melt temperature	280 - 300	°C	-
Mold temperature	80 - 90	°C	-

Diagrams

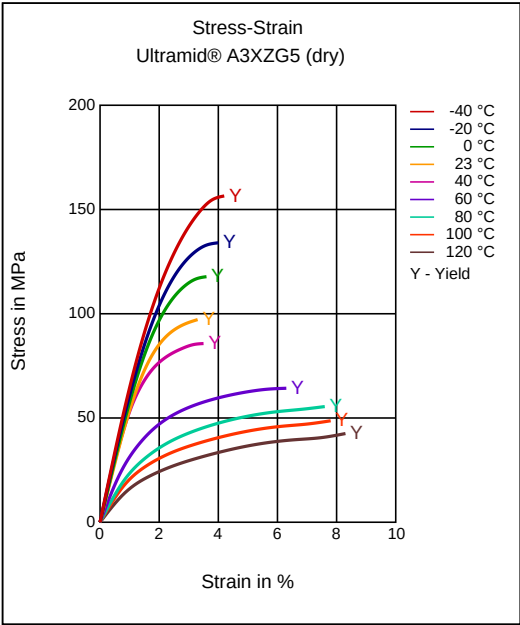
Viscosity-shear rate



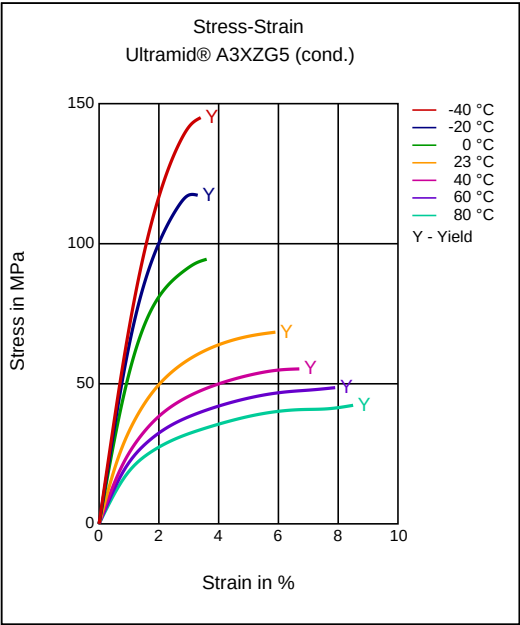
Shearstress-shear rate



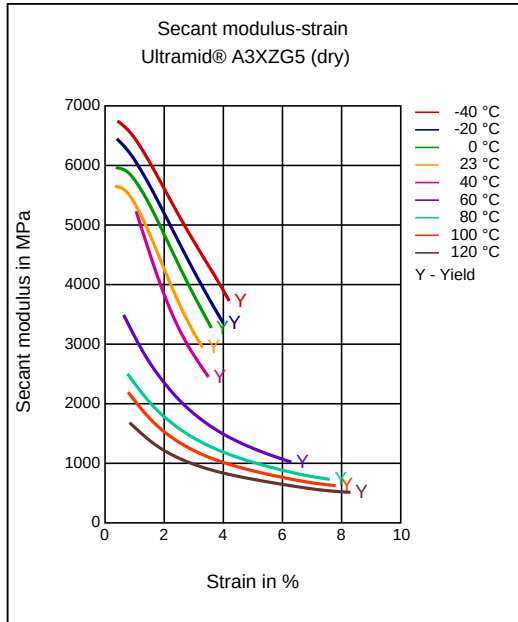
Stress-strain



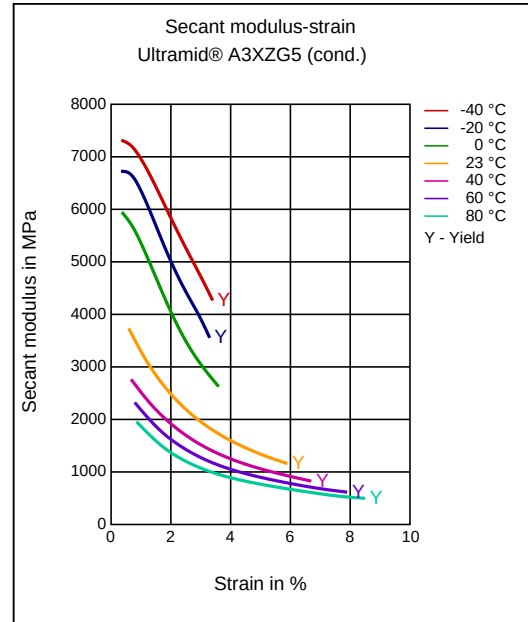
Stress-strain



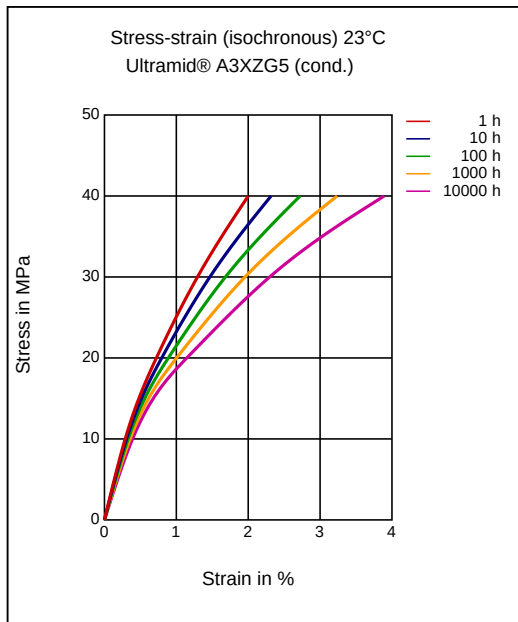
Secant modulus-strain



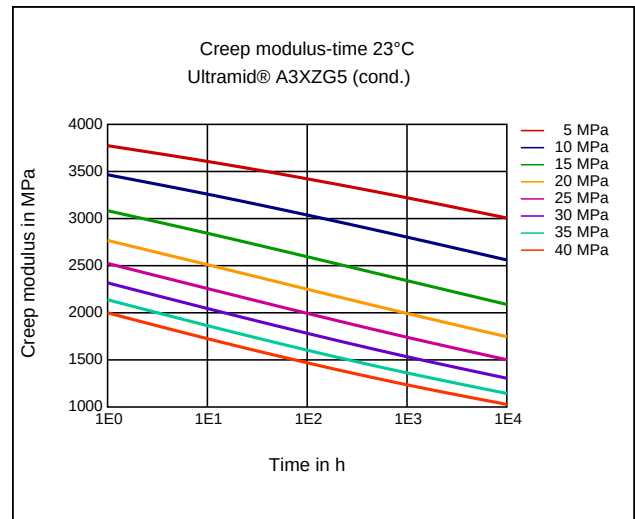
Secant modulus-strain



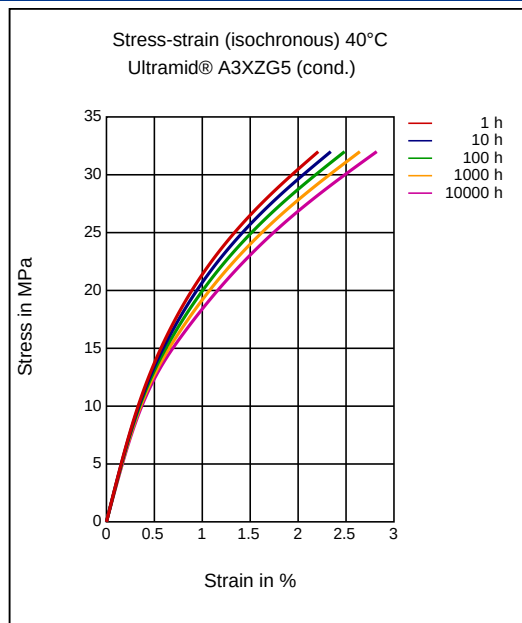
Stress-strain (isochronous) 23 °C



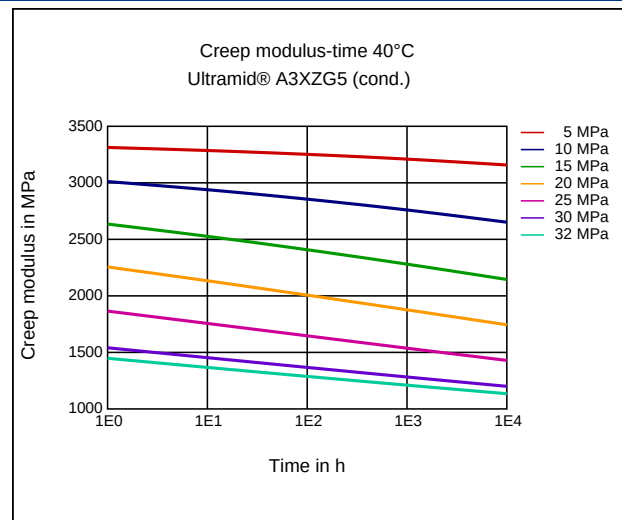
Creep modulus-time 23 °C



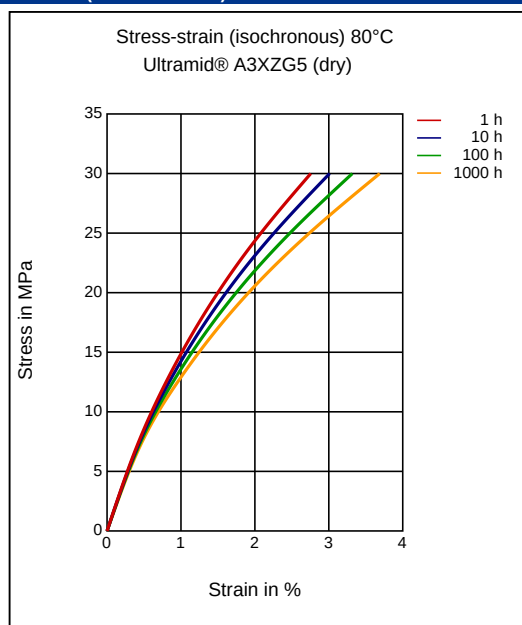
Stress-strain (isochronous) 40 °C



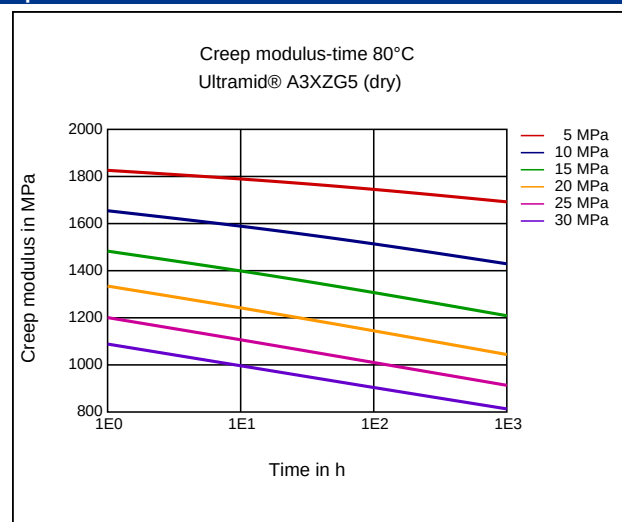
Creep modulus-time 40 °C



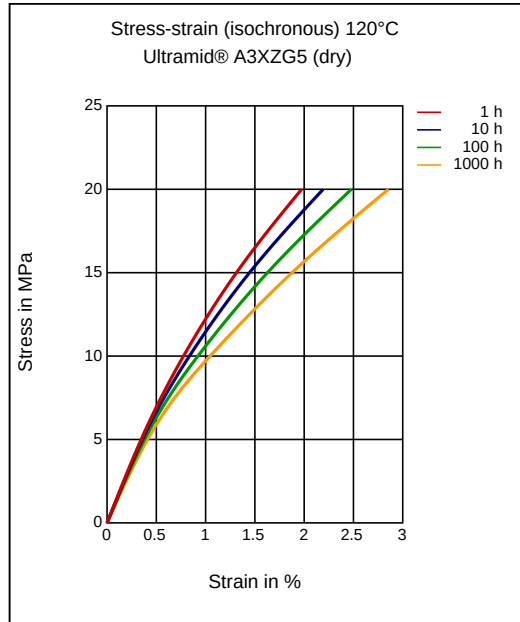
Stress-strain (isochronous) 80 °C



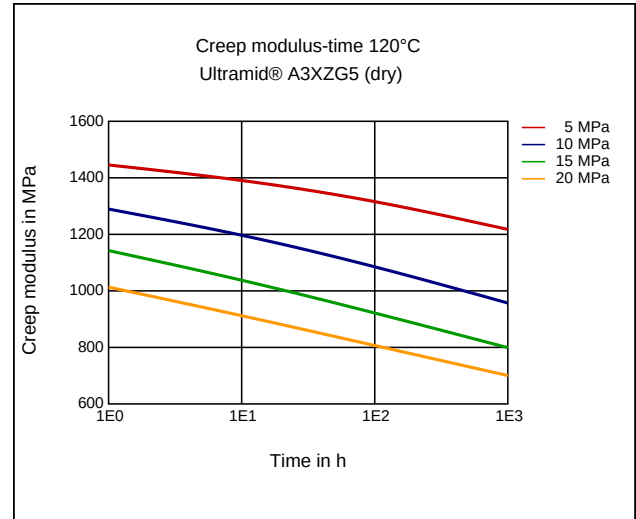
Creep modulus-time 80 °C



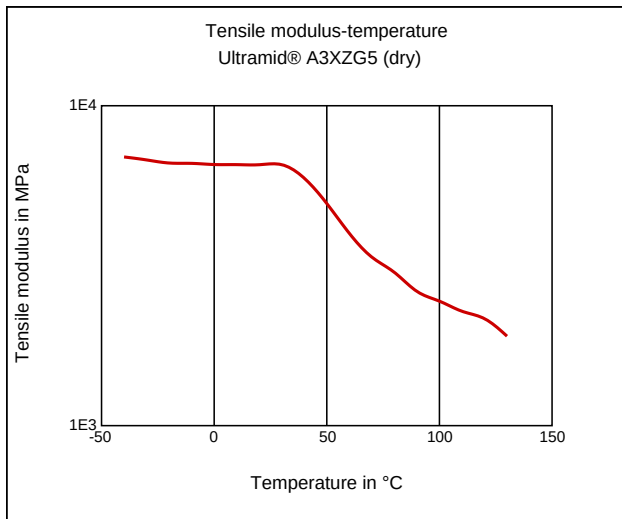
Stress-strain (isochronous) 120 °C



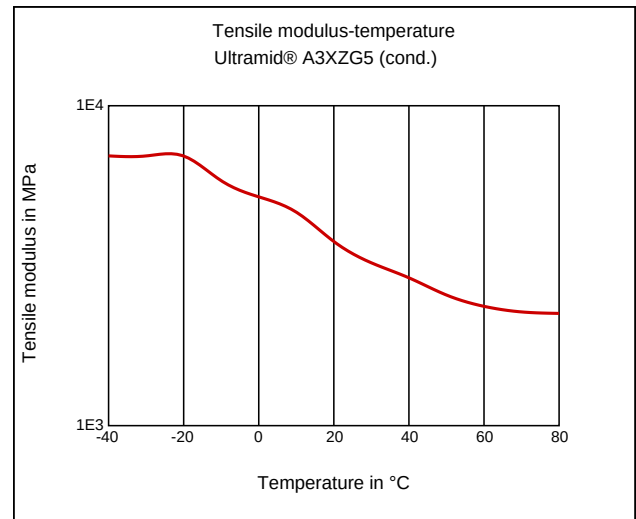
Creep modulus-time 120 °C



Tensile Modulus-Temperature



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Release agent

Special Characteristics

Flame retardant, Halogen-free, Impact modified, Heat aging stabilized

Injection Molding

PREPROCESSING

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

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

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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