

Ultramid® B3WGM24 HP BK23210

PA6-(GF+MD)30

BASF

Glass-fibre and mineral reinforced injection moulding grade with outstanding flowability for industrial articles having medium to high rigidity, used e.g. for automobile engine covers, housings, etc.

Rheological properties	dry / cond	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	90 / *	cm³/10min	ISO 1133
Temperature	275 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.6 / *	%	ISO 294-4, 2577

Mechanical Properties	dry / cond	Unit	Test Standard
ISO Data			
Tensile Modulus	8400 / 4000	MPa	ISO 527
Stress at Break	115 / 55	MPa	ISO 527
Strain at Break	2.7 / 9.8	%	ISO 527
Tensile Creep Modulus, 1000h	* / 2300	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	45 / 50	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	40 / 40	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	8 / 15	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	5.5 / 4	kJ/m²	ISO 179/1eA

Thermal Properties	dry / cond	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	220 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	190 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	215 / *	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	39 / *	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	86 / *	E-6/K	ISO 11359-1/-2

Electrical Properties	dry / cond	Unit	Test Standard
ISO Data			
Relative permittivity, 1MHz	3.9 / 6.2	-	IEC 62631-2-1
Dissipation Factor, 1MHz	200 / 2000	E-4	IEC 62631-2-1
Volume Resistivity	1E13 / 1E10	Ohm*m	IEC 62631-3-1
Surface Resistivity	* / 1E10	Ohm	IEC 62631-3-2
Electric Strength	40 / 31	kV/mm	IEC 60243-1

Other Properties	dry / cond	Unit	Test Standard
ISO Data			
Water Absorption	7.2 / *	%	Sim. to ISO 62
Humidity absorption	2.3 / *	%	Sim. to ISO 62
Density	1370 / -	kg/m³	ISO 1183

Material Specific Properties	dry / cond	Unit	Test Standard
ISO Data			
Viscosity number	123 / *	cm³/g	ISO 307, 1157, 1628

Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1190	kg/m³	-
Thermal Conductivity of Melt	0.24	W/(m K)	-
Spec. heat capacity of melt	2280	J/(kg K)	-
Eff. thermal diffusivity	9E-8	m²/s	-
Ejection temperature	165	°C	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	280	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294

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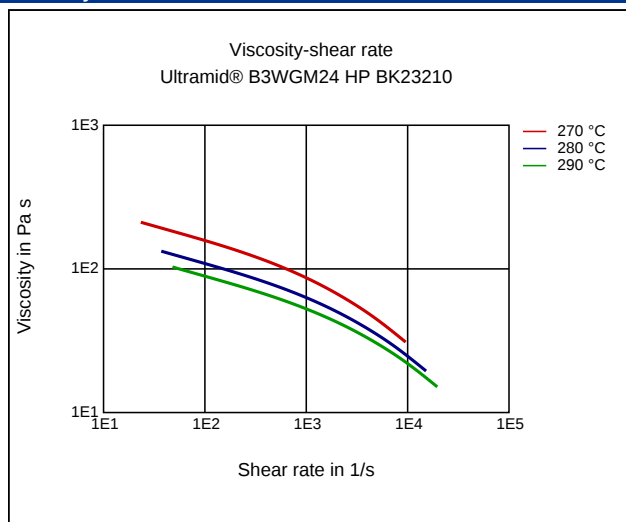
Injection Molding, injection velocity 200 mm/s ISO 294

Processing Recommendation Injection Molding

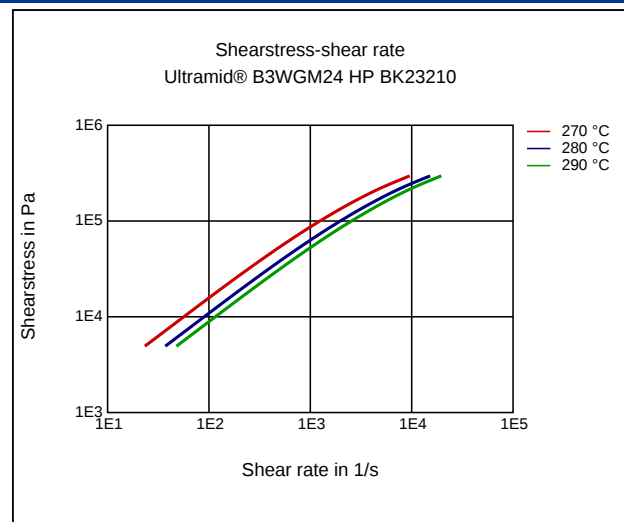
	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.15	%	-
Melt temperature	270 - 290	°C	-
Mold temperature	80 - 90	°C	-

Diagrams

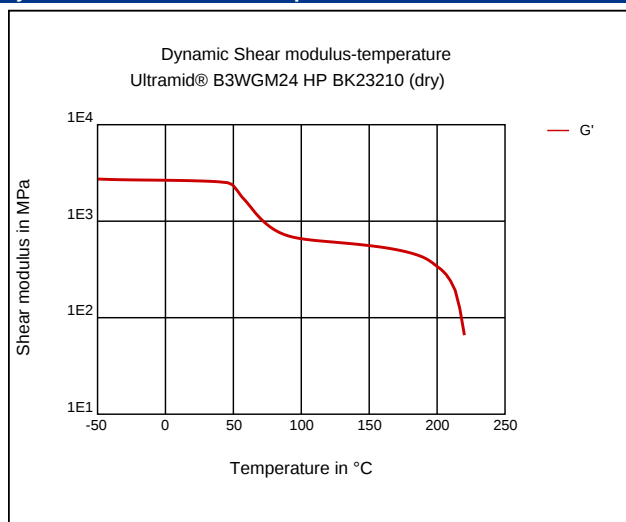
Viscosity-shear rate



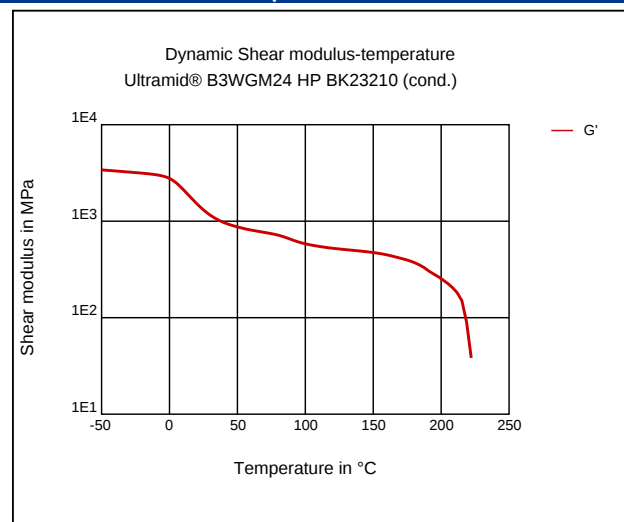
Shearstress-shear rate



Dynamic Shear modulus-temperature



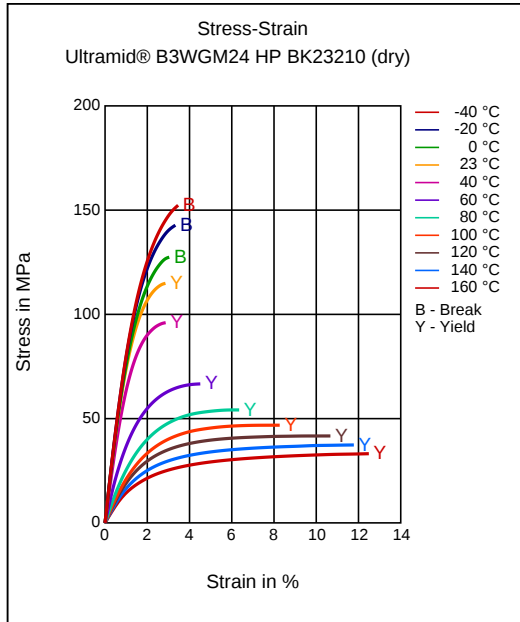
Dynamic Shear modulus-temperature



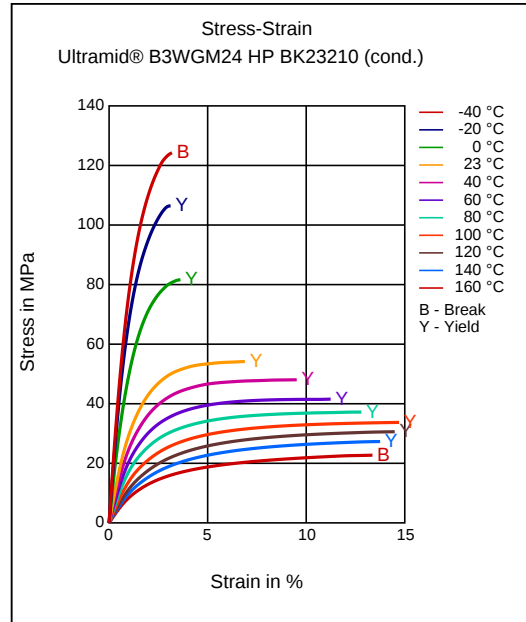
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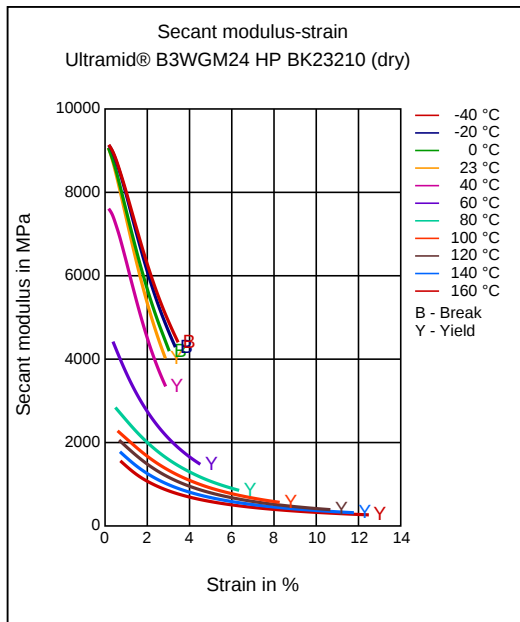
Stress-strain



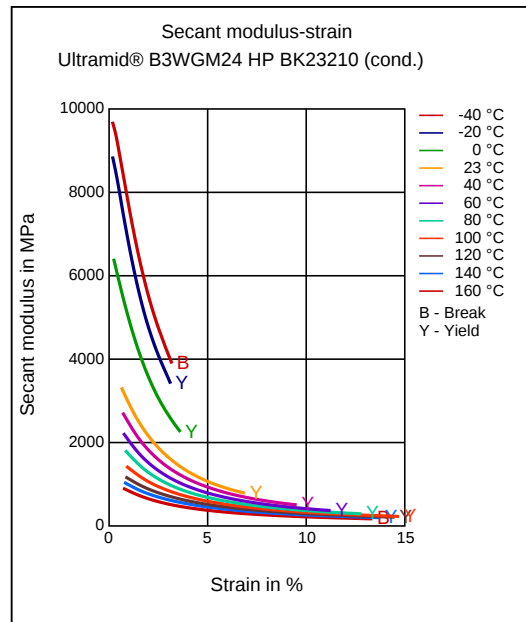
Stress-strain



Secant modulus-strain



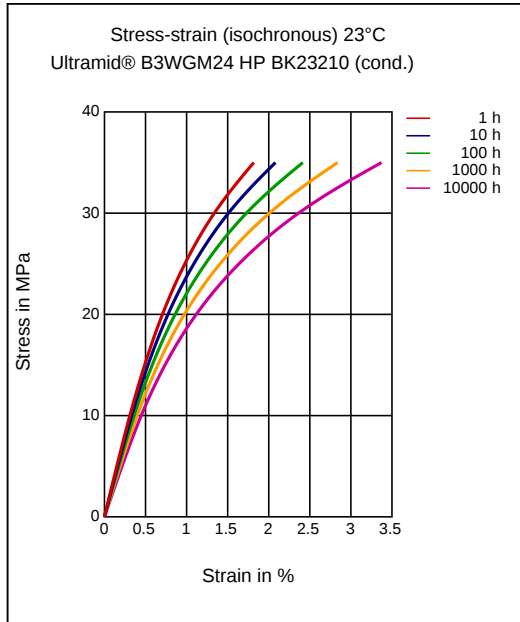
Secant modulus-strain



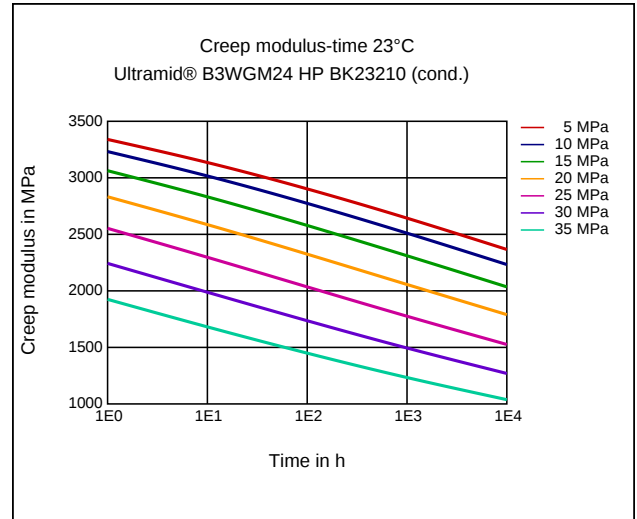
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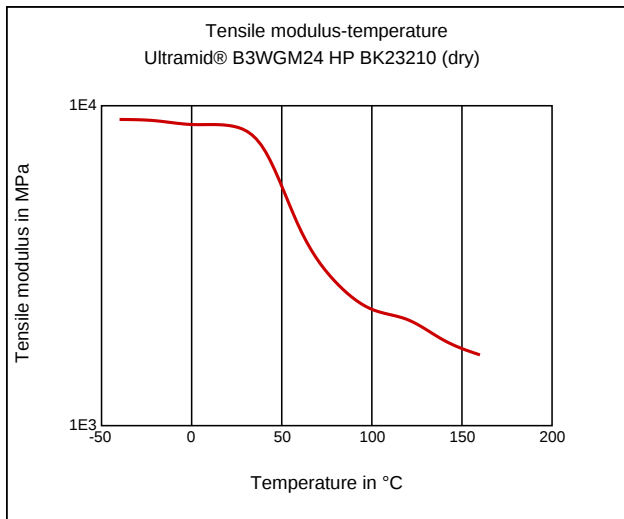
Stress-strain (isochronous) 23°C



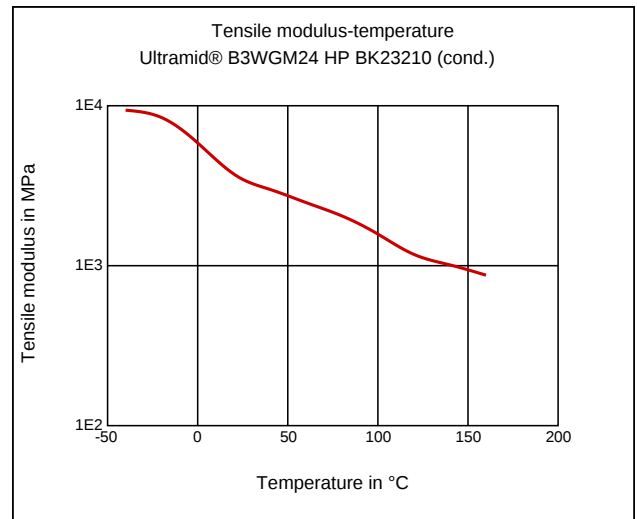
Creep modulus-time 23°C



Tensile Modulus-Temperature



Tensile Modulus-Temperature

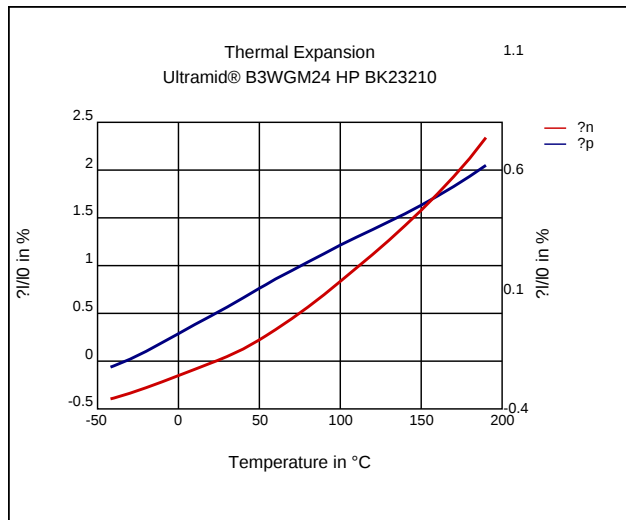


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Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding

Delivery form

Pellets, Black

Additives

Lubricants, Release agent

Special Characteristics

Heat aging stabilized

Applications

Automotive

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: 270 - 290 °C

injection molding, Melt temperature, recommended: 280 °C

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

injection molding, Mold temperature, recommended: 80 °C

injection molding, Dwell time, thermoplastics: 10 min

Chemical Media Resistance

Acids

✓ Acetic Acid (5% by mass) (23°C)