

Ultradur® B 4300 GM42

PBT-(GF+MF)30

BASF

Injection molding grade, containing a glass fiber and mineral reinforcement, for parts with good surface finish and stiffness, as well as low warpage tendency (e.g.housings).

Abbreviated designation according to ISO 1043: PBT-GF20 M10

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	17	cm³/10min	ISO 1133
Temperature	250	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	0.5	%	ISO 294-4, 2577
Molding shrinkage, normal	1.2	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	7900	MPa	ISO 527
Stress at Break	105	MPa	ISO 527
Strain at Break	2.7	%	ISO 527
Tensile Creep Modulus, 1000h	4500	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	45	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	43	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	4.5	kJ/m²	ISO 179/1eA

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Melting Temperature (10°C/min)	223	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	195	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	220	°C	ISO 75-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB	class	UL 94
Thickness tested	1.5	mm	-
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	0.8	mm	-
Oxygen index	21	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.8	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.8	-	IEC 62631-2-1
Dissipation Factor, 100Hz	12	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	150	E-4	IEC 62631-2-1
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	1E13	Ohm	IEC 62631-3-2
Comparative tracking index	300	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.4	%	Sim. to ISO 62
Humidity absorption	0.2	%	Sim. to ISO 62
Density	1550	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	101	cm³/g	ISO 307, 1157, 1628

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	250	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

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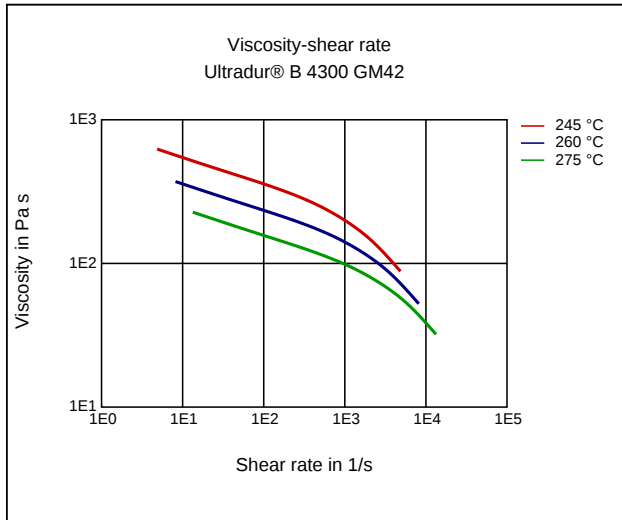
BASF

Processing Recommendation Injection Molding

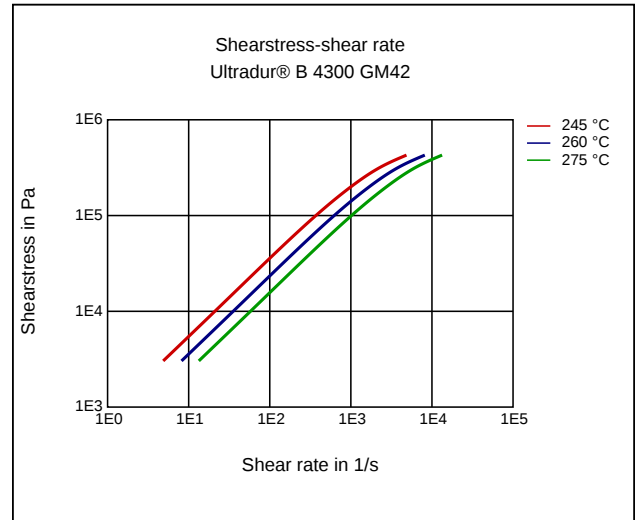
	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 120	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.04	%	-
Melt temperature	250 - 275	°C	-
Mold temperature	60 - 90	°C	-

Diagrams

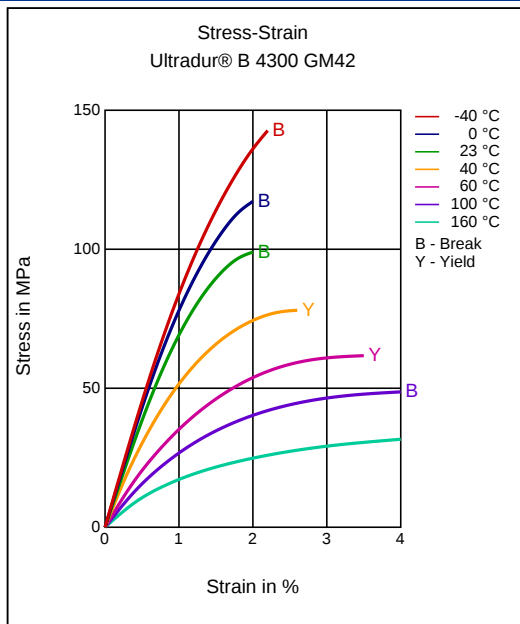
Viscosity-shear rate



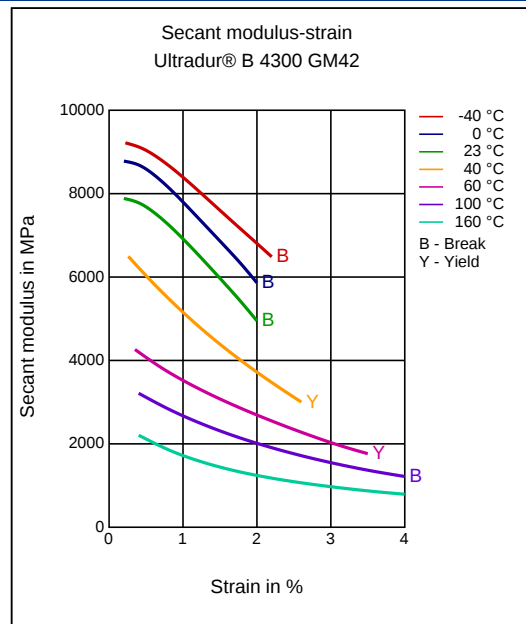
Shearstress-shear rate



Stress-strain



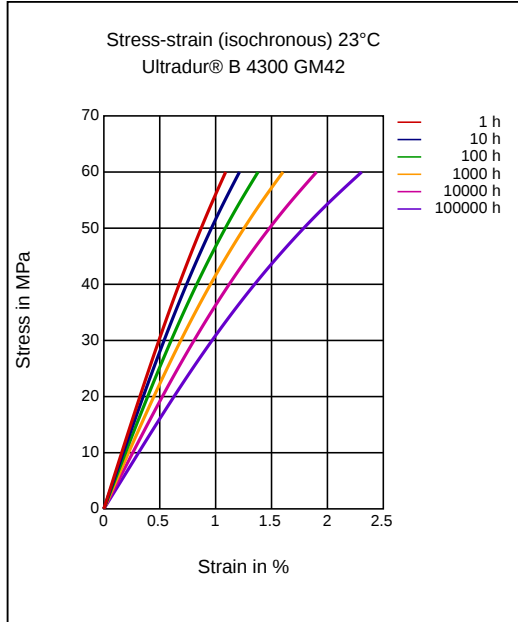
Secant modulus-strain



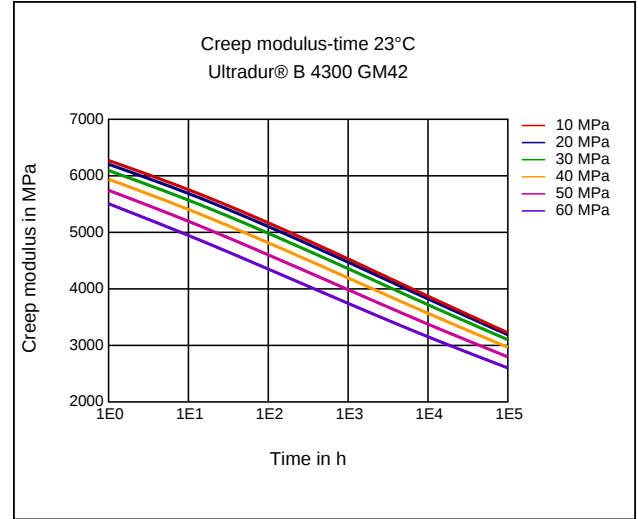
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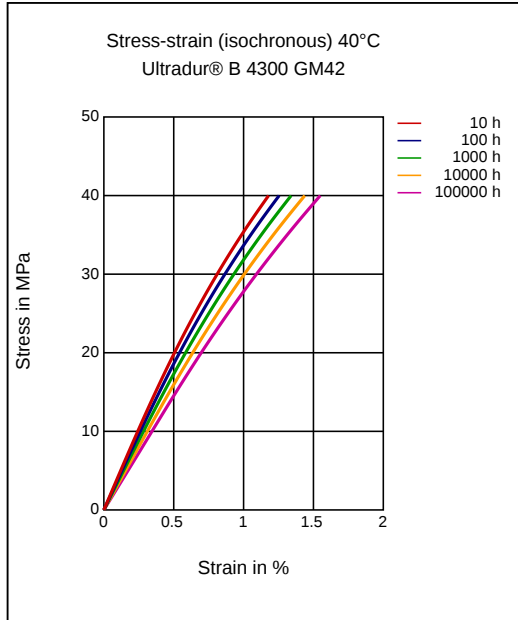
Stress-strain (isochronous) 23°C



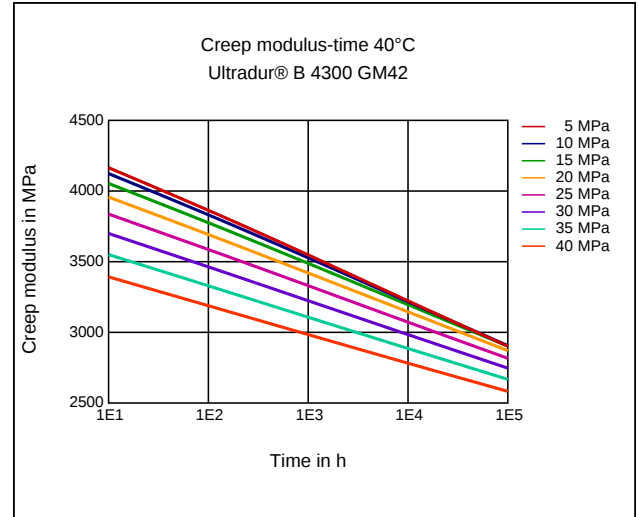
Creep modulus-time 23°C



Stress-strain (isochronous) 40°C



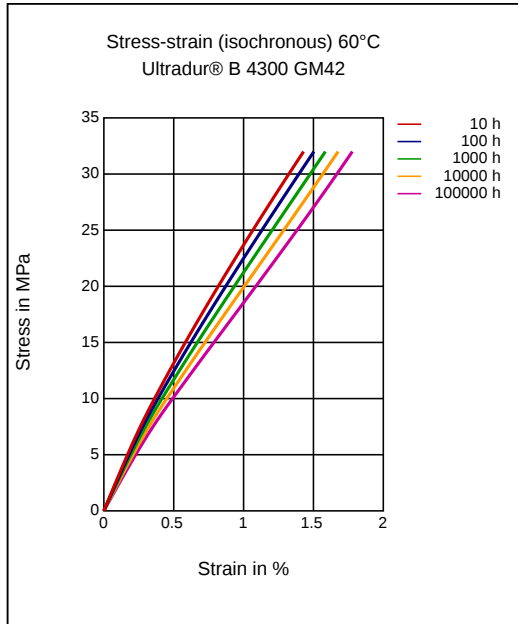
Creep modulus-time 40°C



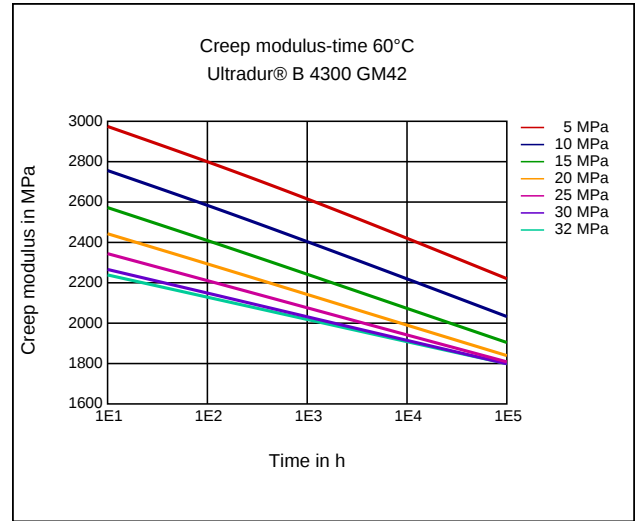
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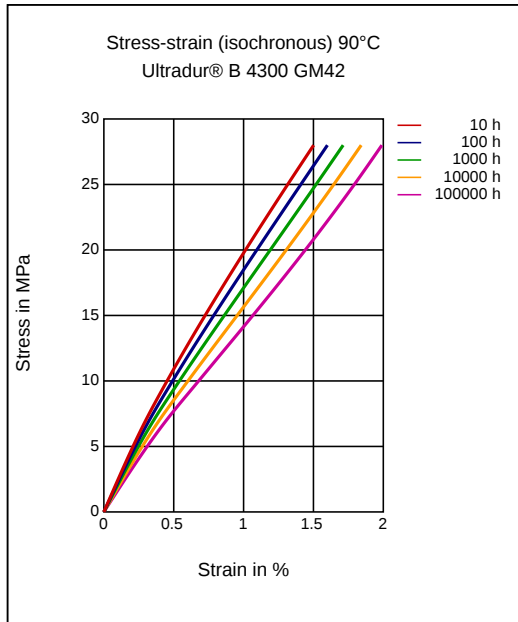
Stress-strain (isochronous) 60°C



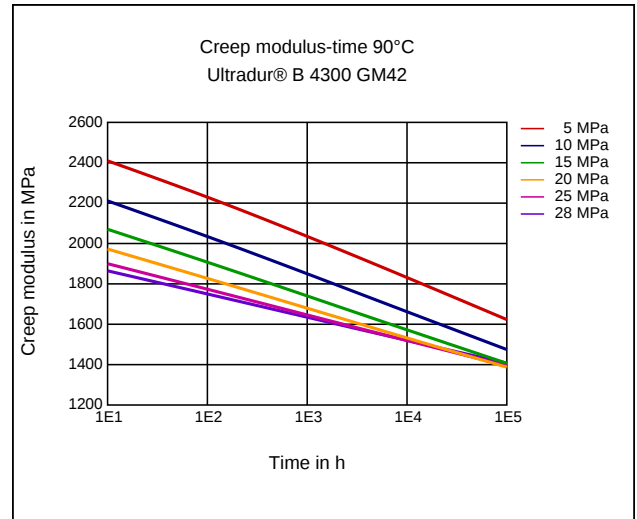
Creep modulus-time 60°C



Stress-strain (isochronous) 90°C



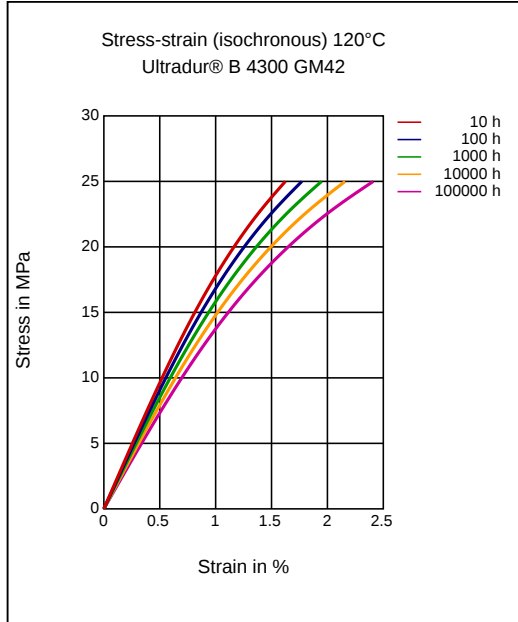
Creep modulus-time 90°C



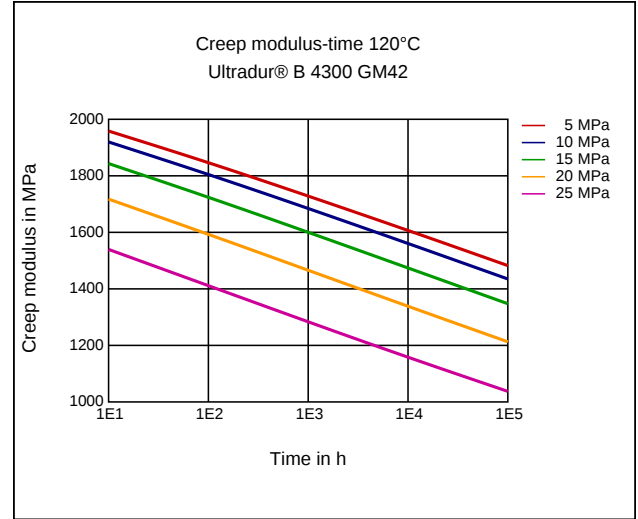
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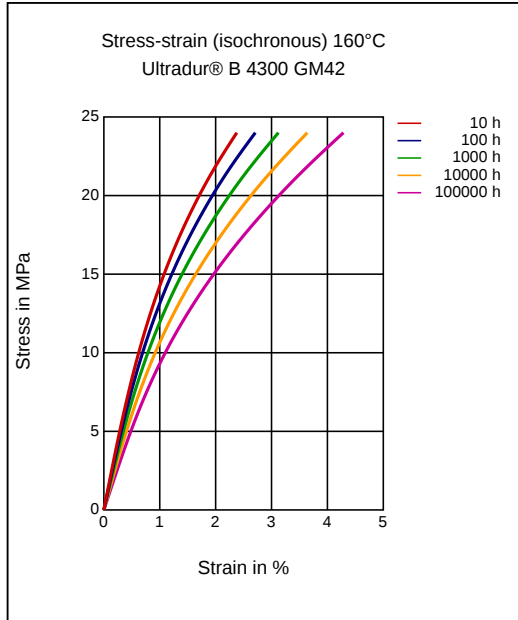
Stress-strain (isochronous) 120°C



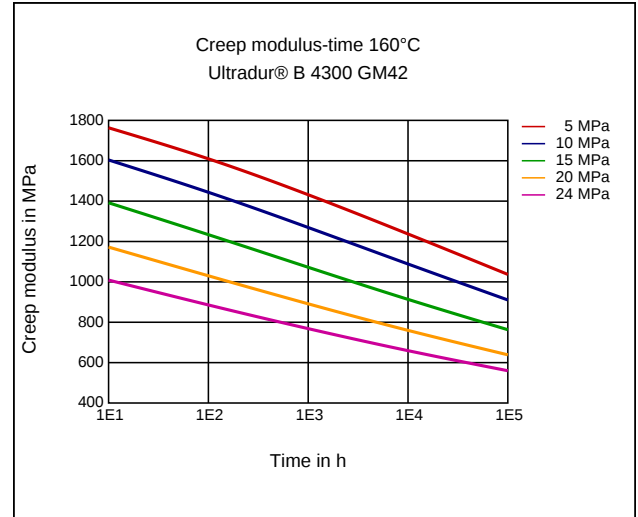
Creep modulus-time 120°C



Stress-strain (isochronous) 160°C



Creep modulus-time 160°C

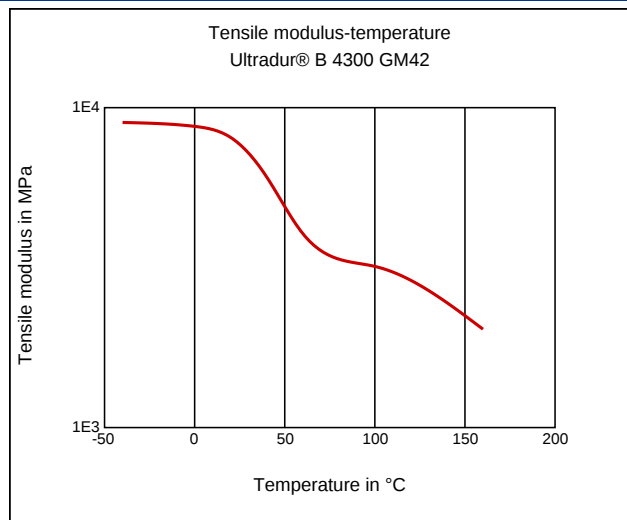


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Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding

Additives

Lubricants

Delivery form

Pellets

Special Characteristics

Light stabilized or stable to light, UV stablized, Heat aging stabilized

Injection Molding

PREPROCESSING

Pre/Post-processing, max. allowed water content: .04 %

Pre/Post-processing, Pre-drying, Temperature: 80 - 120 °C

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

PROCESSING

injection molding, Melt temperature, range: 250 - 275 °C

injection molding, Melt temperature, recommended: 250 °C

injection molding, Mold temperature, range: 60 - 90 °C

injection molding, Mold temperature, recommended: 80 °C

Chemical Media Resistance

Acids

- ✓ Acetic Acid (5% by mass) (23°C)