

Ultradur® B 4300 G6

PBT-GF30

BASF

Injection molding grade with 30 % glass fibers. To produce technical parts, e.g. in the automotive or electrical industry. The product with the color designation LS BK15141 is optimized for automotive interior applications.

The products can also be offered as BMBcert™ and/or Ccycled™. Due to the Massbalance approach the product properties do not change.

Abbreviated designation according to ISO 1043: PBT-GF30

Processing/Physical Characteristics	Value	Unit	Test Standard
ASTM Data			
Mold Shrinkage, MD	0.003	mm/mm	ASTM D 955
Density, 73 °F	1530	kg/m³	ASTM D 792

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	11	cm³/10min	ISO 1133
Temperature	250	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Molding shrinkage, normal	1.1	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	9800	MPa	ISO 527
Stress at Break	140	MPa	ISO 527
Strain at Break	3	%	ISO 527
Tensile Creep Modulus, 1000h	7500	MPa	ISO 899-1
Impact Strength (Charpy), +23 °C	74	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30 °C	74	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23 °C	9	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30 °C	8.5	kJ/m²	ISO 179/1eA
ASTM Data			
Tensile Modulus	9653	MPa	ASTM D 638
Tensile Strength at Break	135	MPa	ASTM D 638
Elongation at Break	2.5	%	ASTM D 638
Flexural Modulus	8067	MPa	ASTM D 790

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)	205	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	220	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	25	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	115	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB	class	UL 94
Thickness tested	1.5	mm	-
UL recognition	yes	-	-
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	0.8	mm	-
UL recognition	yes	-	-
Oxygen index	19.5	%	ISO 4589-1/-2
ASTM Data			
DTUL @ 66 psi	220	°C	ASTM D 648
DTUL @ 264 psi	210	°C	ASTM D 648
Melting Temperature	223	°C	ASTM D 3418

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.8	-	IEC 62631-2-1
Dissipation Factor, 100Hz	25	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	170	E-4	IEC 62631-2-1
Surface Resistivity	1E13	Ohm	IEC 62631-3-2

Electric Strength	37	kV/mm	IEC 60243-1
Comparative tracking index	375	-	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	1530	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	105	cm³/g	ISO 307, 1157, 1628

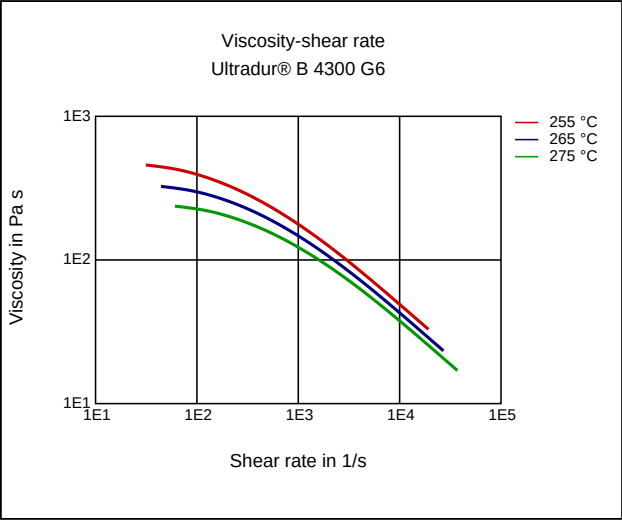
Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1300	kg/m³	-
Thermal Conductivity of Melt	0.22	W/(m K)	-
Spec. heat capacity of melt	1770	J/(kg K)	-
Ejection temperature	180	°C	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	260	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

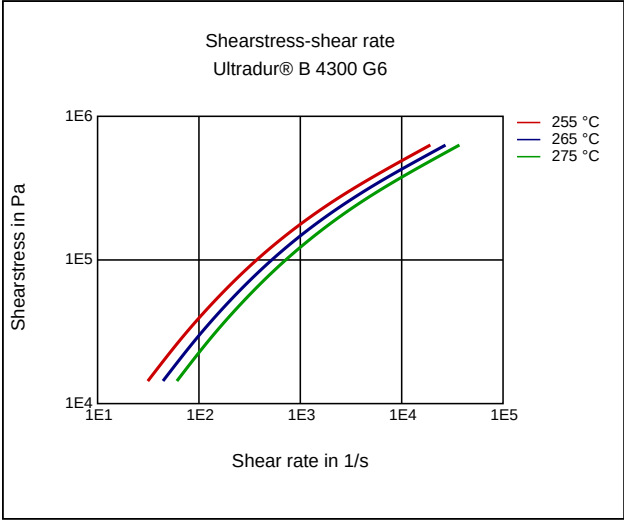
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 120	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.04	%	-
Melt temperature	250 - 275	°C	-
Mold temperature	60 - 100	°C	-

Diagrams

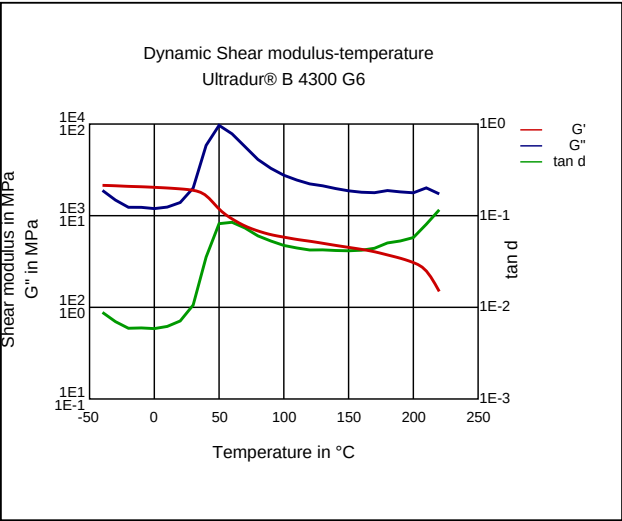
Viscosity-shear rate



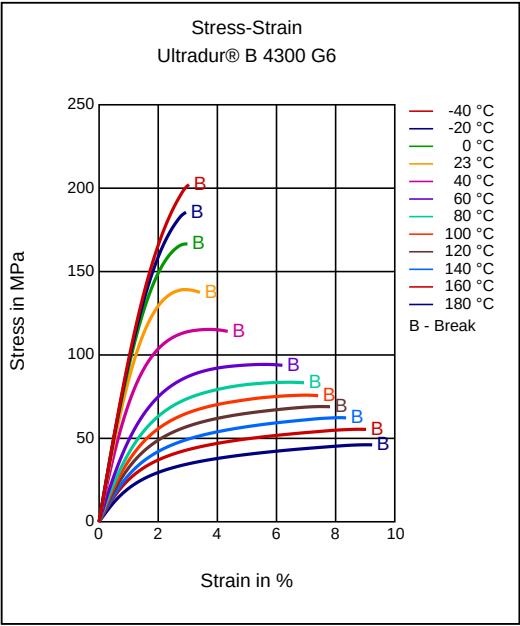
Shearstress-shear rate



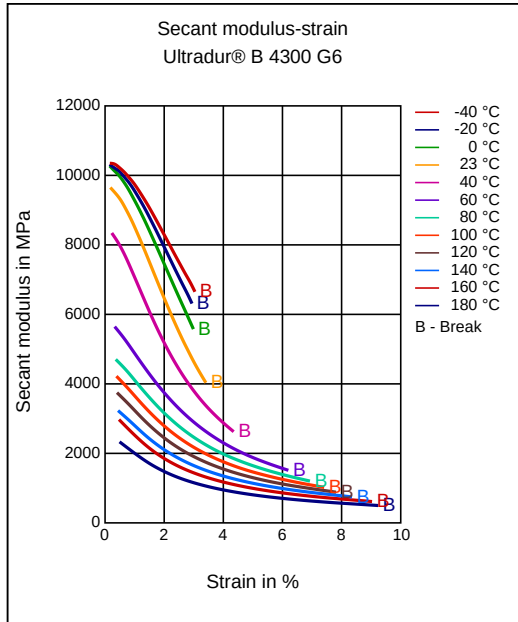
Dynamic Shear modulus-temperature



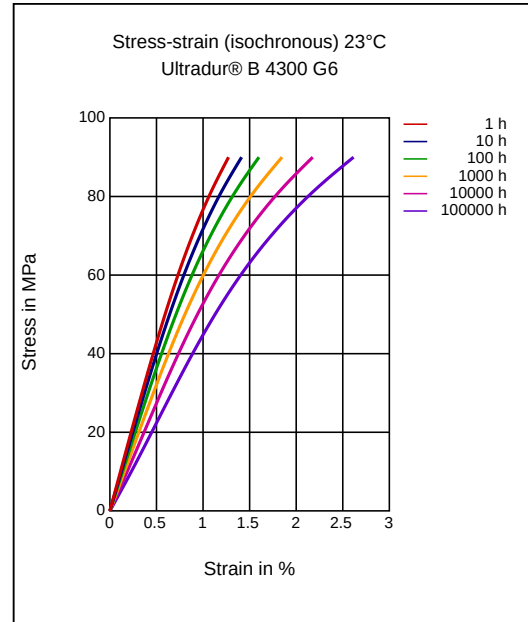
Stress-strain



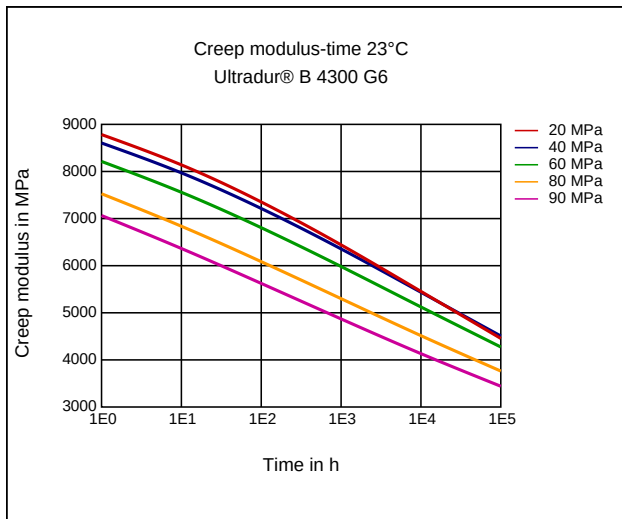
Secant modulus-strain



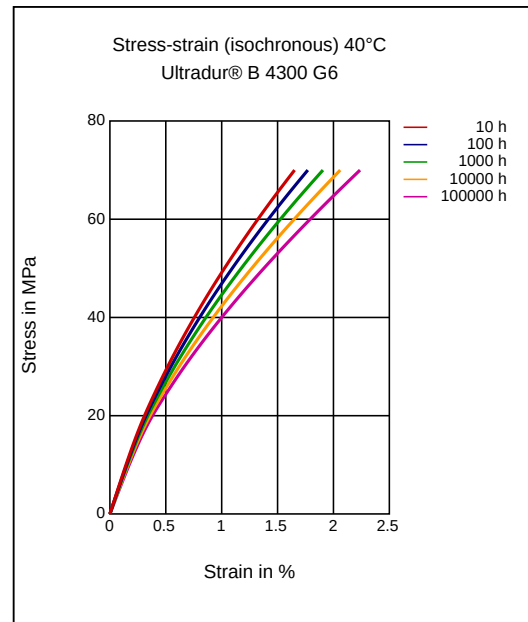
Stress-strain (isochronous) 23 °C



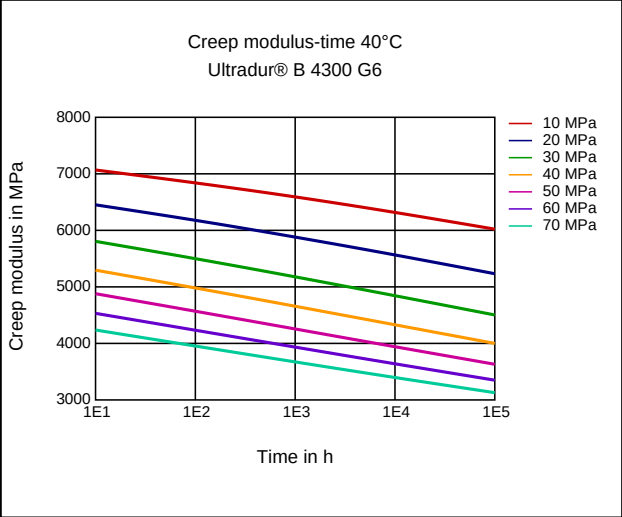
Creep modulus-time 23 °C



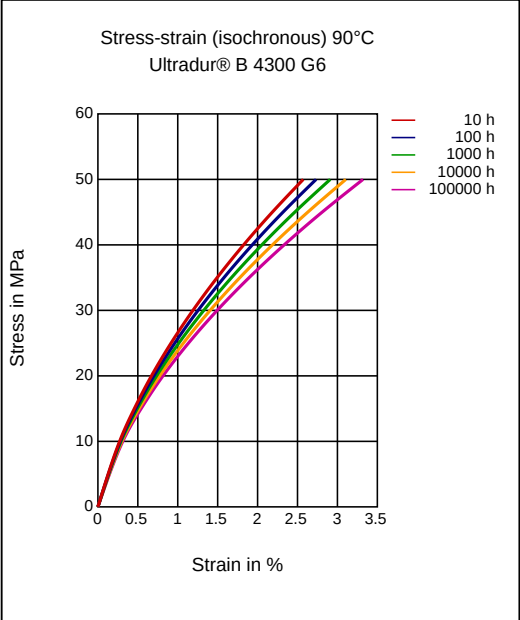
Stress-strain (isochronous) 40 °C



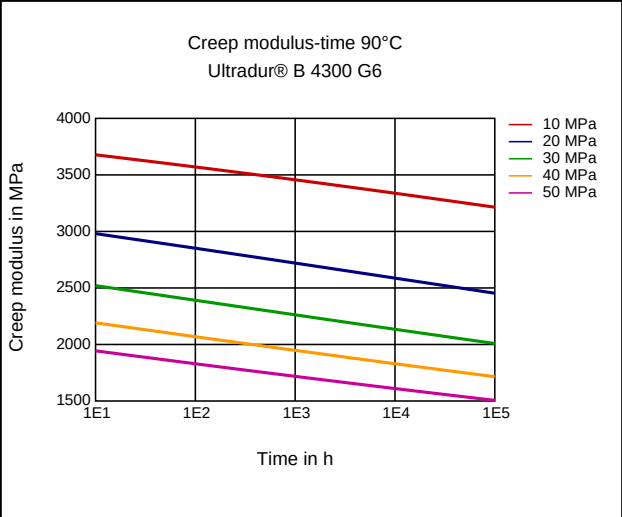
Creep modulus-time 40 °C



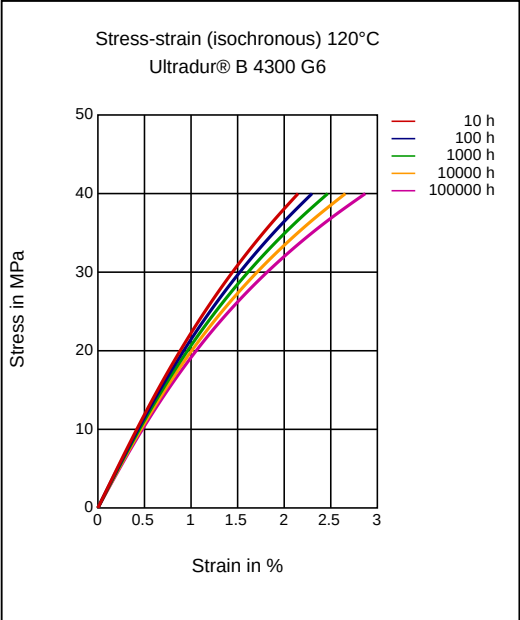
Stress-strain (isochronous) 90 °C



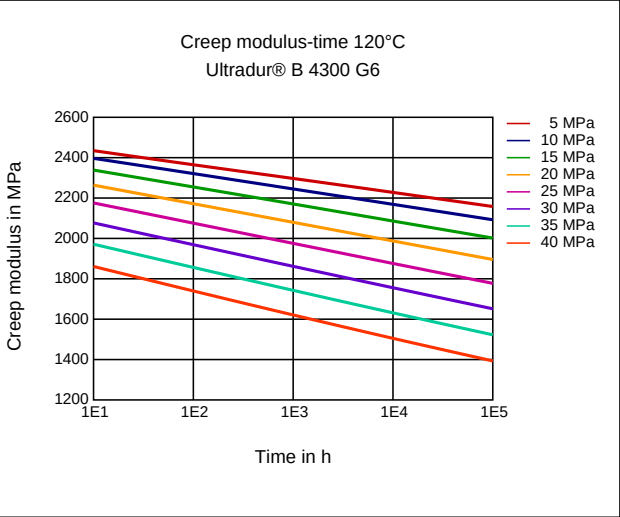
Creep modulus-time 90 °C



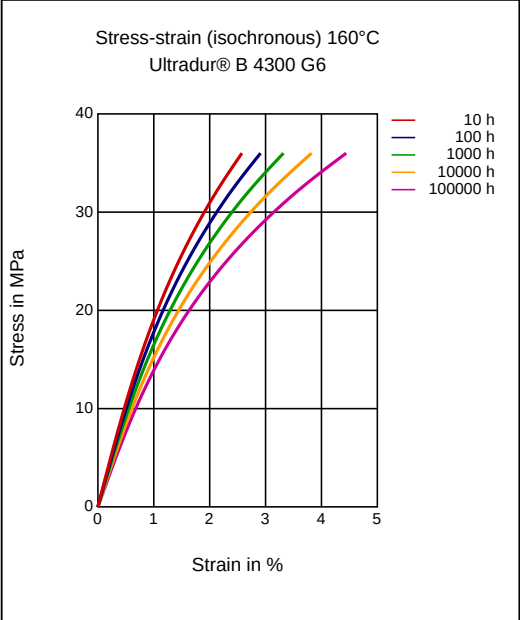
Stress-strain (isochronous) 120 °C



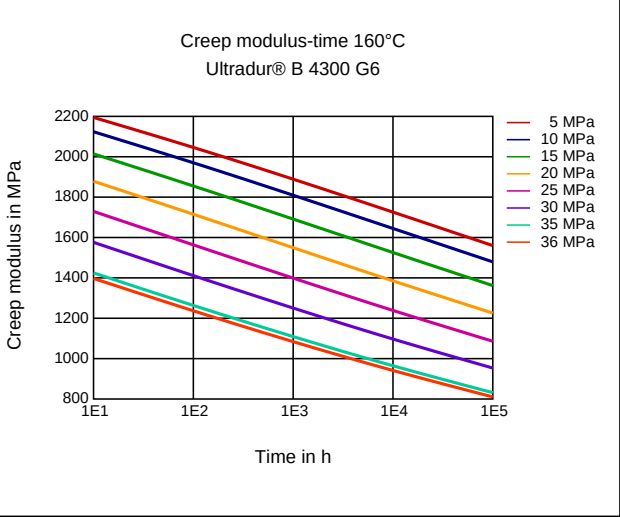
Creep modulus-time 120 °C



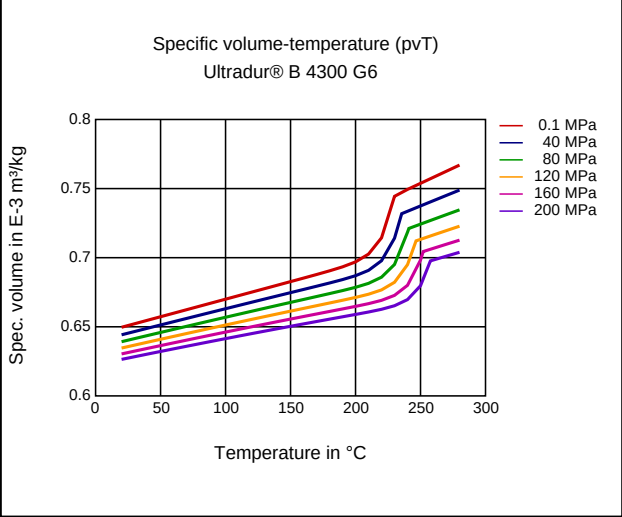
Stress-strain (isochronous) 160 °C



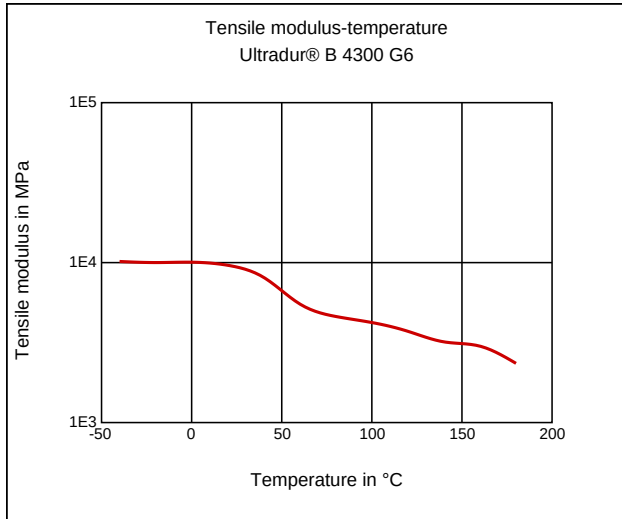
Creep modulus-time 160 °C



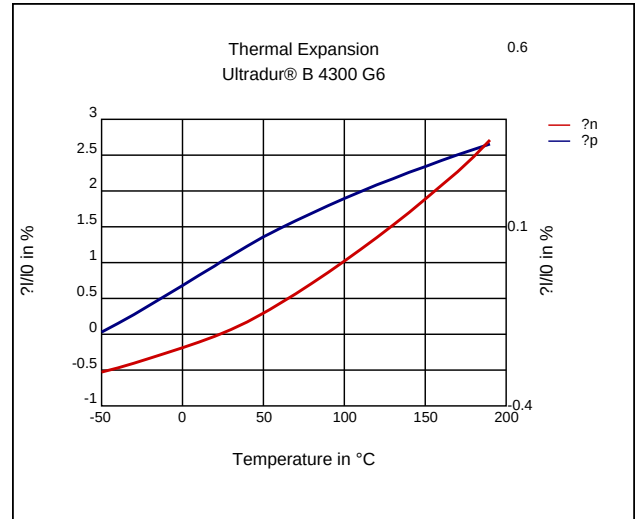
Specific volume-temperature (pvT)



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding

Delivery form

Pellets, Natural Color

Additives

Lubricants

Special Characteristics

Light stabilized or stable to light, UV stabilized, 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: 260 °C
injection molding, Mold temperature, range: 60 - 100 °C
injection molding, Mold temperature, recommended: 80 °C

Chemical Media Resistance

Acids

✓ Acetic Acid (5% by mass) (23 °C)

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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