

Ultradur® S 4090 G4X
(PBT+ASA)-GF20

BASF

Low-warpage injection molding grade with 20 % glass fibres for technical parts, for which dimensional stability is very important (e.g. housings, plug-and-socket connectors).

Abbreviated designation according to ISO 1043: PBT-ASA-GF20

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	30	cm³/10min	ISO 1133
Temperature	275	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	0.5	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	6600	MPa	ISO 527
Stress at Break	100	MPa	ISO 527
Strain at Break	2.6	%	ISO 527
Impact Strength (Charpy), +23°C	49	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	5.5	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)	185	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	210	°C	ISO 75-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	1E14	Ohm	IEC 62631-3-2
Electric Strength	39	kV/mm	IEC 60243-1

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	1390	kg/m³	ISO 1183

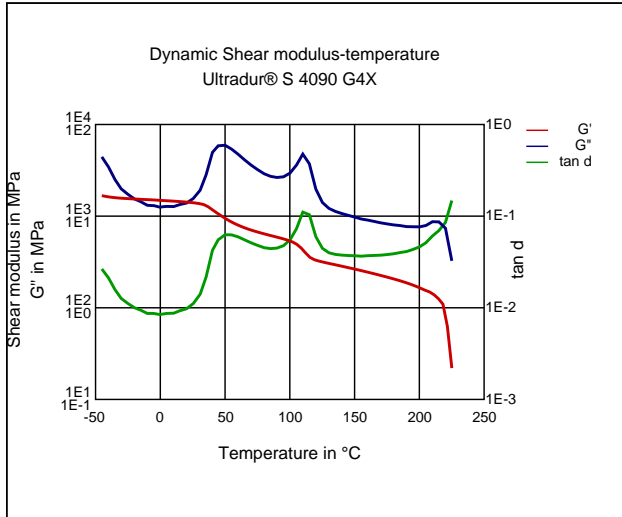
Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	104	cm³/g	ISO 307, 1157, 1628

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	270	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

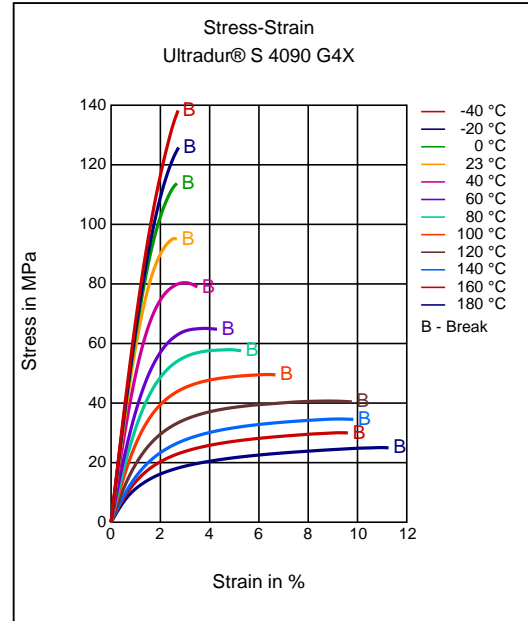
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 120	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.04	%	-
Melt temperature	250 - 275	°C	-
Mold temperature	60 - 100	°C	-

Diagrams

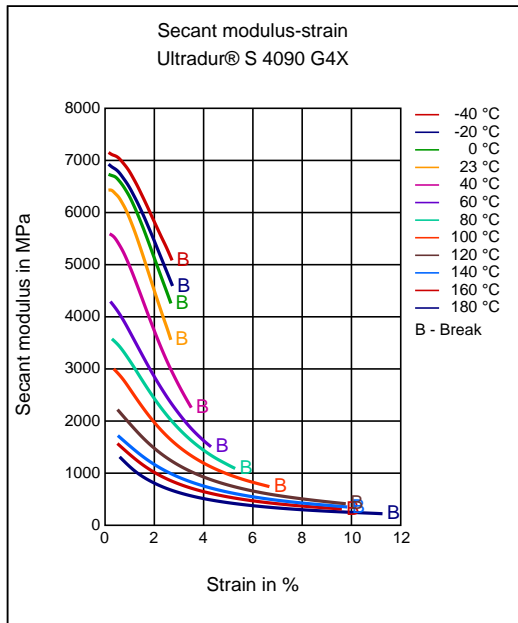
Dynamic Shear modulus-temperature



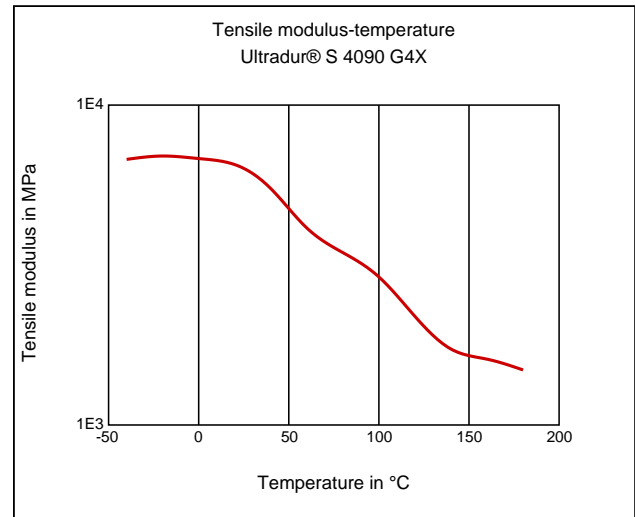
Stress-strain



Secant modulus-strain



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding

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: 270 °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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