Ultradur® B 4450 G5 HR

PBT-GF25 FR(53+30) BASF

Injection-molding grade with 25 % glass fibers, halogen- and antimon-free for parts requiring enhanced fire resistance, especially optimized for good hydrolytical stability and increased tracking resistance

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	10	cm³/10min	ISO 1133
Temperature	275	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	0.5	%	ISO 294-4, 2577
Molding shrinkage, normal	1.3	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	8700	MPa	ISO 527
Stress at Break	120	MPa	ISO 527
Strain at Break	2.6	%	ISO 527
Impact Strength (Charpy), +23°C	50	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	40	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	6	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)	210	°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	29	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	167	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	0.4	mm	-
UL recognition	yes	-	-
Burning Behav. 5V at Thickness h	5VA	class	IEC 60695-11-20
Thickness tested	2.0	mm	-
Yellow Card available	yes	-	-

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	4.1	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.9	-	IEC 62631-2-1
Dissipation Factor, 100Hz	90	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	1E14	Ohm	IEC 62631-3-2
Electric Strength	40	kV/mm	IEC 60243-1
Comparative tracking index	600	-	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	1580	kg/m³	ISO 1183
Bulk density	750	kg/m³	-

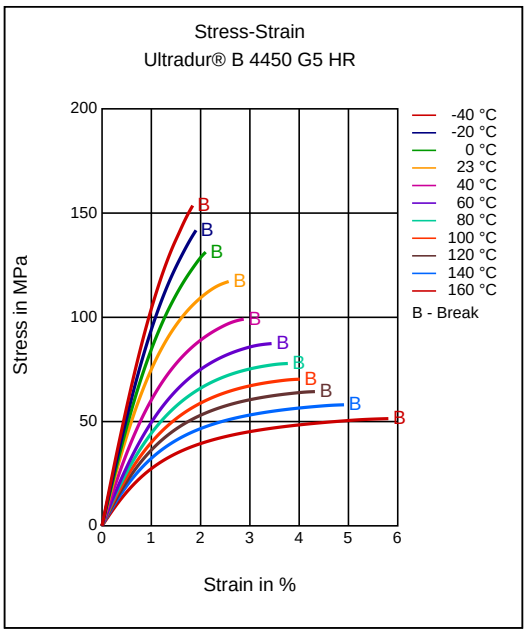
Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	110	cm³/g	ISO 307, 1157, 1628

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

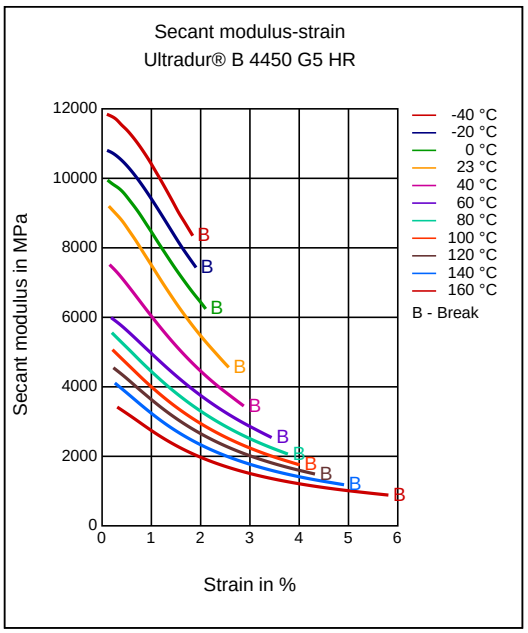
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 120	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.04	%	-
Melt temperature	250 - 270	°C	-
Mold temperature	60 - 100	°C	-

Diagrams

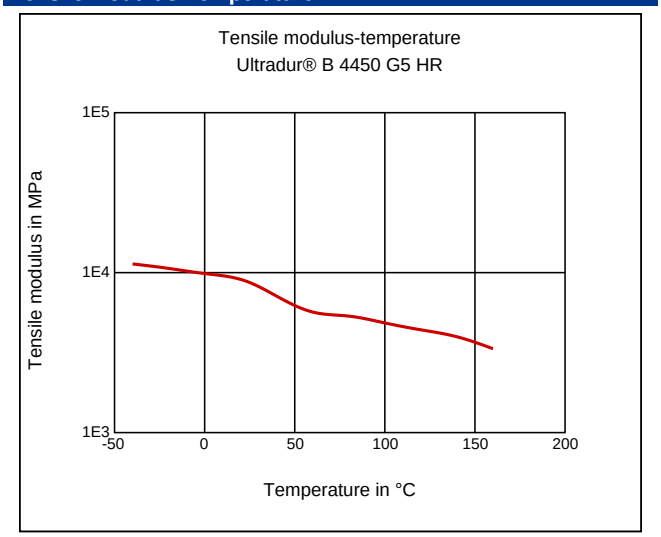
Stress-strain



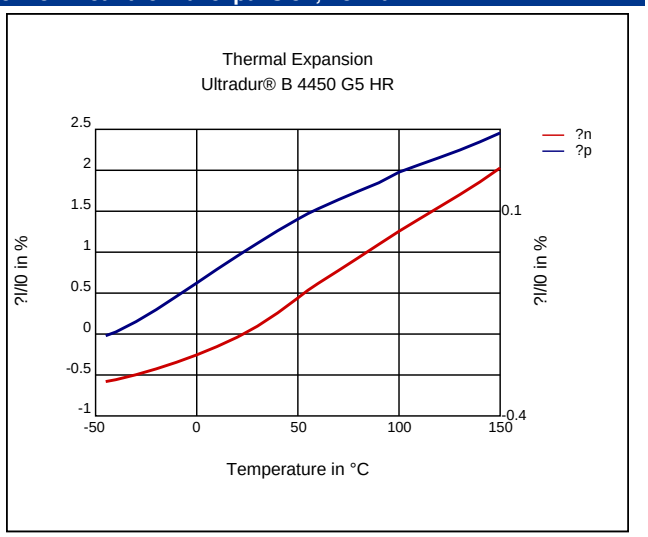
Secant modulus-strain



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



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Characteristics

Processing
Injection Molding

Delivery form
Pellets

Additives
Lubricants

Special Characteristics
Flame retardant, Halogen-free, Light stabilized or stable to light, UV stablized, Heat aging stabilized

Chemical Resistance
Hydrolysis

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 - 270 °C
injection molding, Melt temperature, recommended: 265 °C
injection molding, Mold temperature, range: 60 - 100 °C
injection molding, Mold temperature, recommended: 80 °C
injection molding, Dwell time, thermoplastics: 5 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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