

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

Ultradur® B 4450 G5 HR

PBT-GF25 FR(53+30)

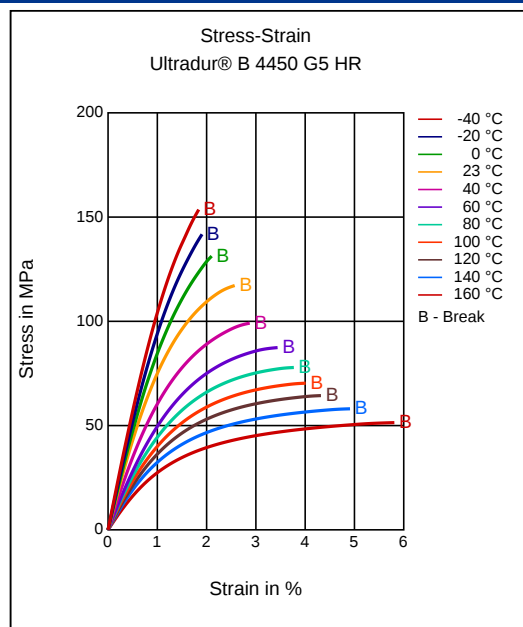
BASF

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

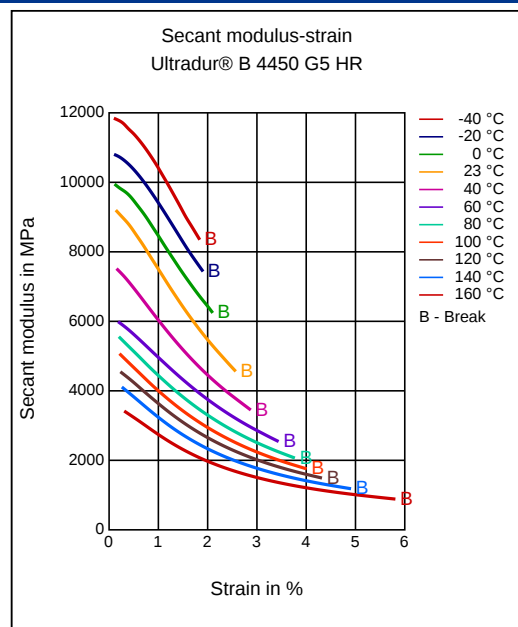
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 120	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.04	%	-
Melt temperature	250 - 270	°C	-
Mold temperature	60 - 100	°C	-

Diagrams

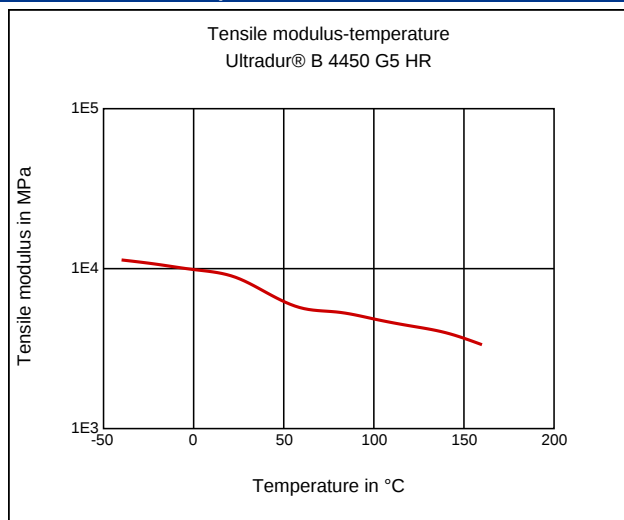
Stress-strain



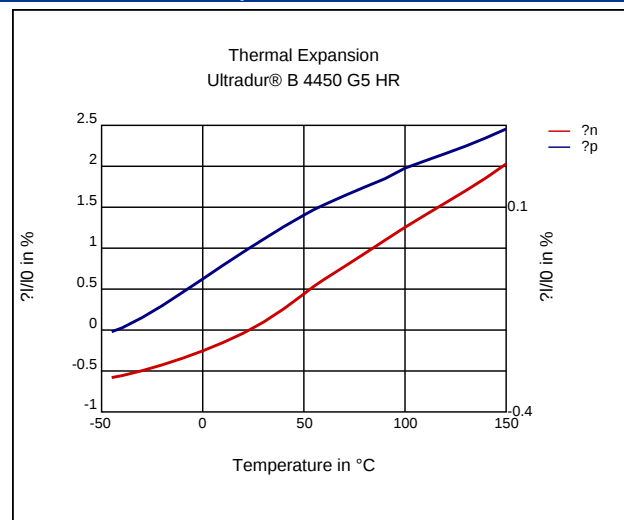
Secant modulus-strain



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Ultradur® B 4450 G5 HR

PBT-GF25 FR(53+30)

BASF

Characteristics

Processing

Injection Molding

Delivery form

Pellets

Additives

Lubricants

Special Characteristics

Flame retardant, Halogen-free, Light stabilized or stable to light, UV stabilized, 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