

Ultradur® B 4406

PBT FR(17)

BASF

Injection molding grade with migration-free flame retardant; for parts requiring enhanced fire resistance (eg plug-and-socket connectors, housings).

Abbreviated designation according to ISO 1043: PBT FR(17)

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	30	cm ³ /10min	ISO 1133
Temperature	275	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	1.8	%	ISO 294-4, 2577
Molding shrinkage, normal	1.9	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	3000	MPa	ISO 527
Yield stress	65	MPa	ISO 527
Yield strain	3.9	%	ISO 527
Nominal strain at break	5.3	%	ISO 527
Tensile Creep Modulus, 1h	1800	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	50	kJ/m ²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	3.5	kJ/m ²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	3.5	kJ/m ²	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)	60	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	170	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	170	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	95	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	103	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-0	class	UL 94
Thickness tested	0.4	mm	-
UL recognition	yes	-	-
Oxygen index	29	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.3	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.3	-	IEC 62631-2-1
Dissipation Factor, 100Hz	110	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	170	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	250	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.4	%	Sim. to ISO 62
Humidity absorption	0.25	%	Sim. to ISO 62
Density	1450	kg/m ³	ISO 1183

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	123	cm ³ /g	ISO 307, 1157, 1628

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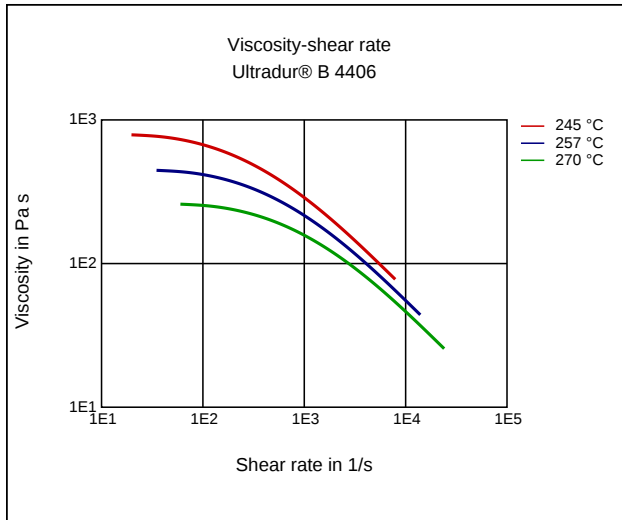
BASF

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	250	°C	ISO 294
Injection Molding, mold temperature	60	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

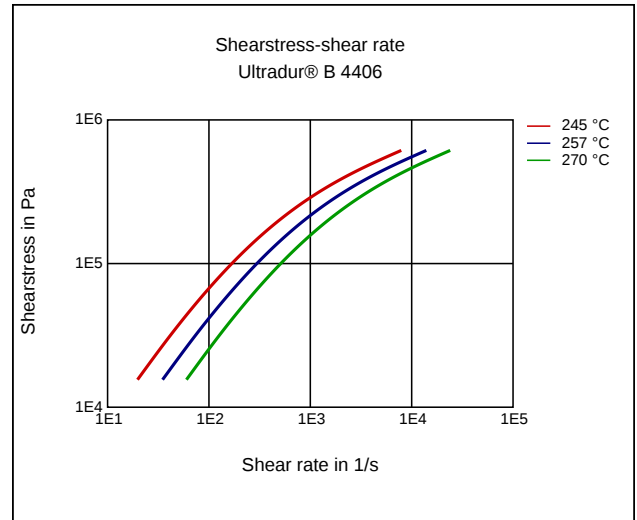
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 120	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.04	%	-
Melt temperature	245 - 270	°C	-
Mold temperature	40 - 70	°C	-

Diagrams

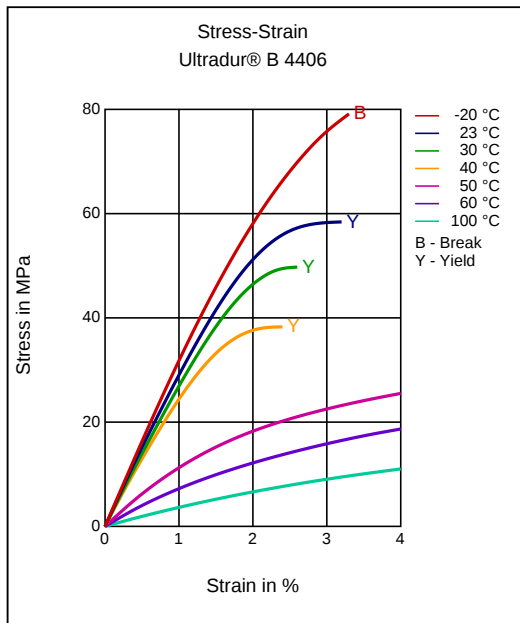
Viscosity-shear rate



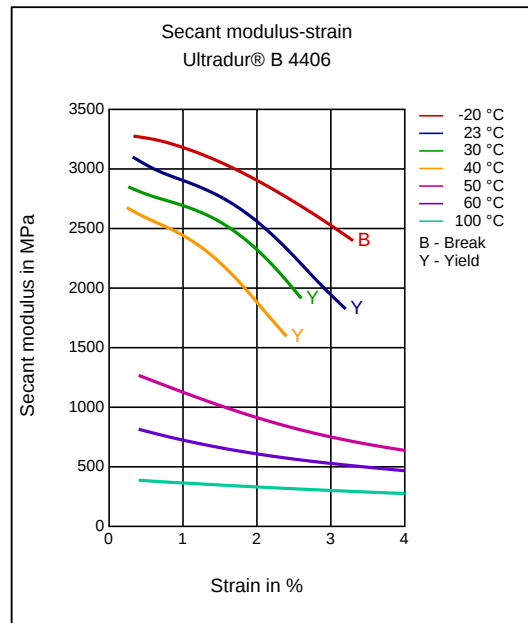
Shearstress-shear rate



Stress-strain



Secant modulus-strain

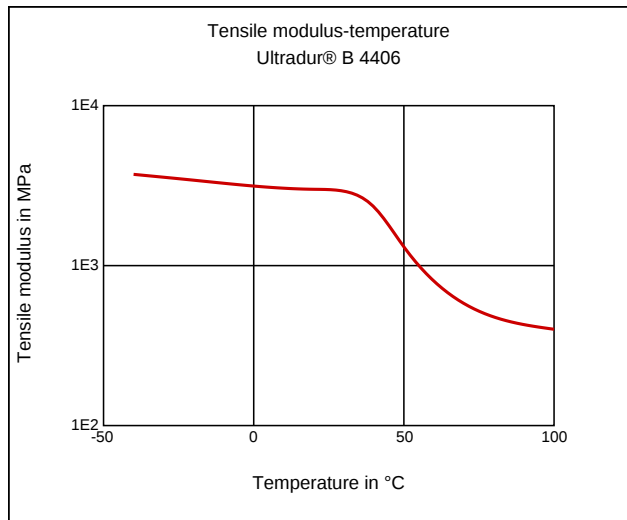


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Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding

Additives

Lubricants

Delivery form

Pellets

Special Characteristics

Flame retardant, 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: 245 - 270 °C

injection molding, Melt temperature, recommended: 250 °C

injection molding, Mold temperature, range: 40 - 70 °C

injection molding, Mold temperature, recommended: 60 °C