

Ultradur® B 2550
PBT

BASF

Very easy-flowing grade for compounding, injection molding, monofilament and bristle production or for paper or cardboard coatings with high heat resistance.

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 1043-1: PBT

Processing/Physical Characteristics	Value	Unit	Test Standard
ASTM Data			
Mold Shrinkage, MD	0.014	mm/mm	ASTM D 955
Density, 73 °F	1300	kg/m³	ASTM D 792

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	45	cm³/10min	ISO 1133
Temperature	250	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	1.6	%	ISO 294-4, 2577
Molding shrinkage, normal	1.9	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2500	MPa	ISO 527
Yield stress	57	MPa	ISO 527
Yield strain	3.7	%	ISO 527
Nominal strain at break	35	%	ISO 527
Tensile Creep Modulus, 1h	1500	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	1100	MPa	ISO 899-1
Impact Strength (Charpy), +23 °C	250	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30 °C	120	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23 °C	4	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30 °C	4	kJ/m²	ISO 179/1eA
ASTM Data			
Tensile Modulus	2482	MPa	ASTM D 638
Tensile Strength at Yield	60	MPa	ASTM D 638
Elongation at Yield	3.7	%	ASTM D 638
Flexural Modulus	2213	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)	50	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	130	°C	ISO 75-1/-2
Coeff. of Linear Therm. Expansion, parallel	110	E-6/K	ISO 11359-1/-2
Coeff. of Linear Therm. Expansion, normal	110	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thicken.	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	-	-
ASTM Data			
DTUL @ 66 psi	164	°C	ASTM D 648
DTUL @ 264 psi	67.2	°C	ASTM D 648
Melting Temperature	223	°C	ASTM D 3418

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	13	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	200	E-4	IEC 62631-2-1

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Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	1E13	Ohm	IEC 62631-3-2
Electric Strength	40	kV/mm	IEC 60243-1
Comparative tracking index	500	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	0.5	%	Sim. to ISO 62
Humidity absorption	0.25	%	Sim. to ISO 62
Density	1300	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	107	cm³/g	ISO 307, 1157, 1628

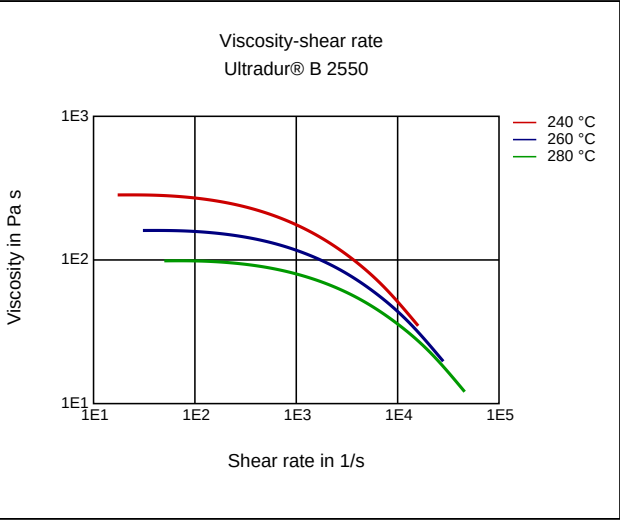
Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Ejection temperature	160	°C	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	260	°C	ISO 294
Injection Molding, mold temperature	60	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

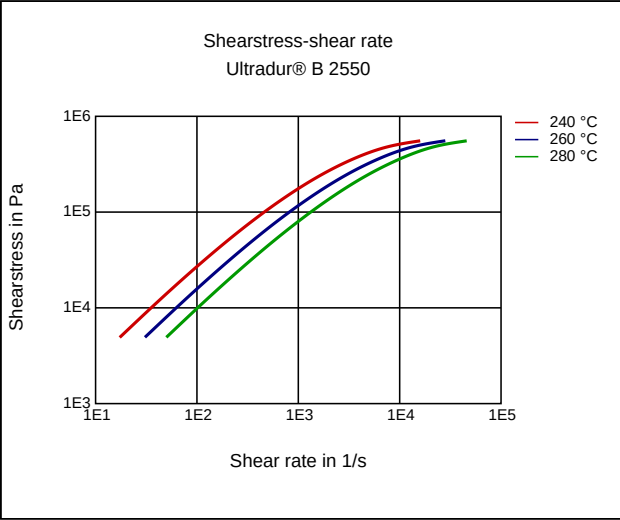
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 120	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.04	%	-
Melt temperature	245 - 275	°C	-
Mold temperature	40 - 70	°C	-

Diagrams

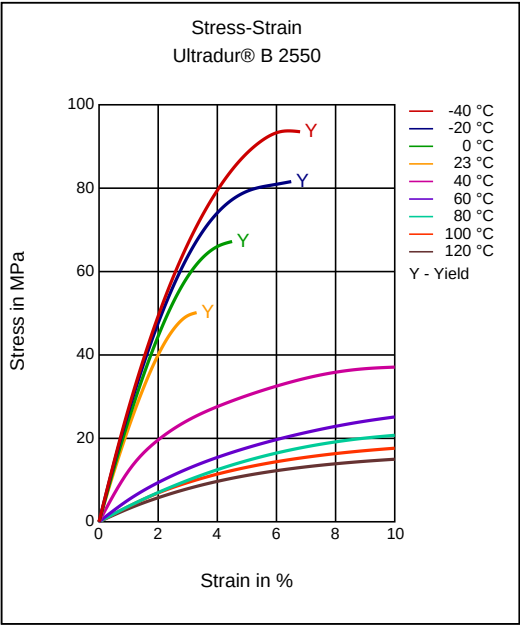
Viscosity-shear rate



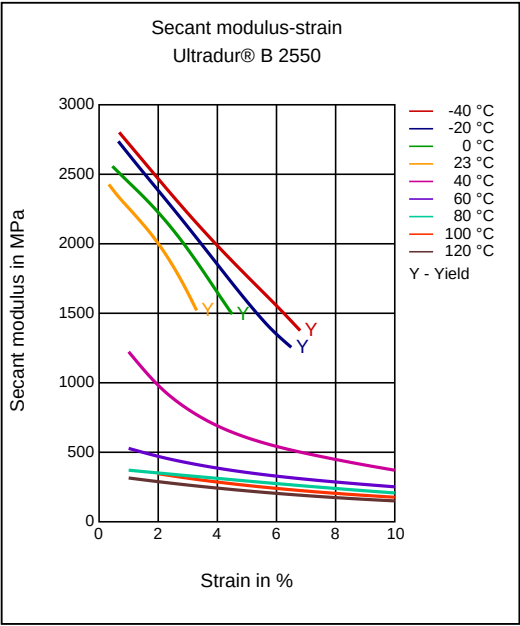
Shearstress-shear rate



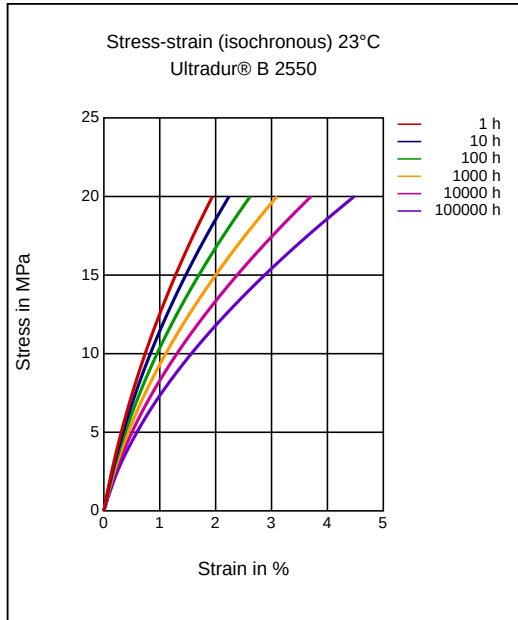
Stress-strain



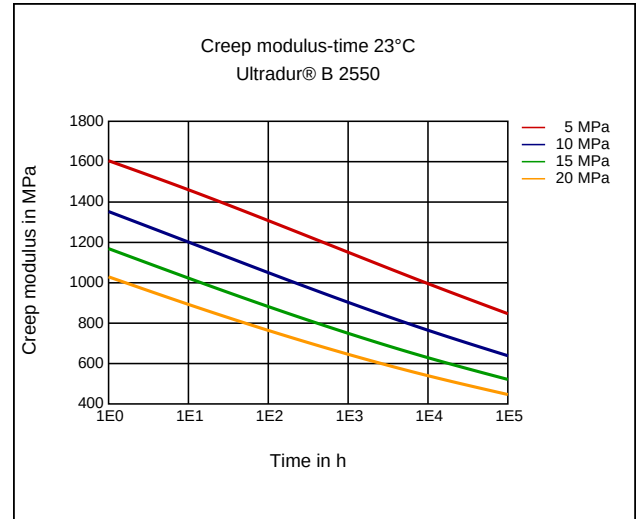
Secant modulus-strain



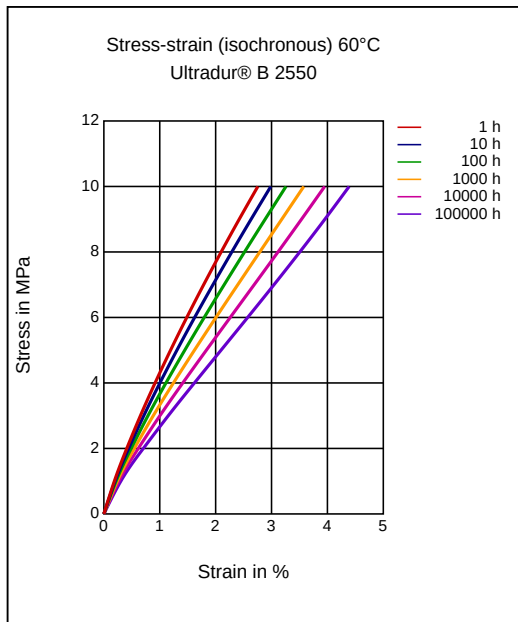
Stress-strain (isochronous) 23°C



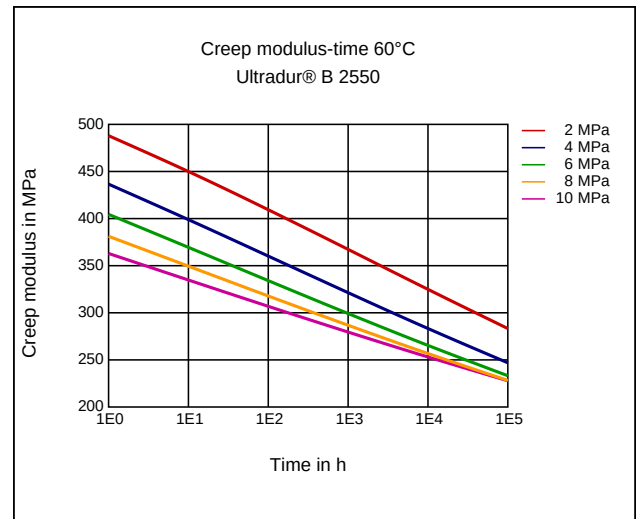
Creep modulus-time 23°C



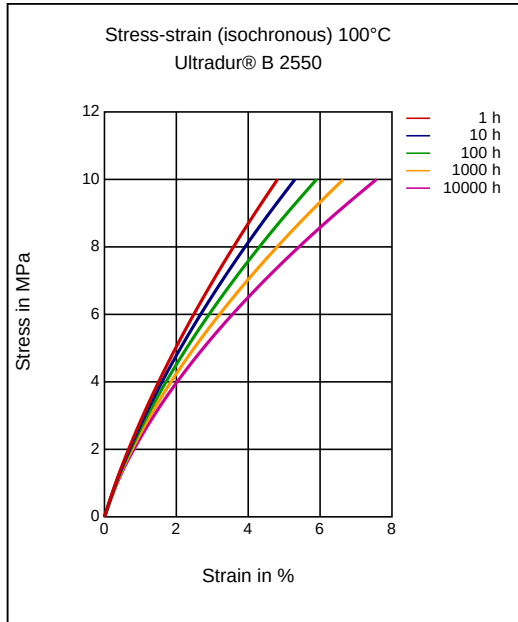
Stress-strain (isochronous) 60°C



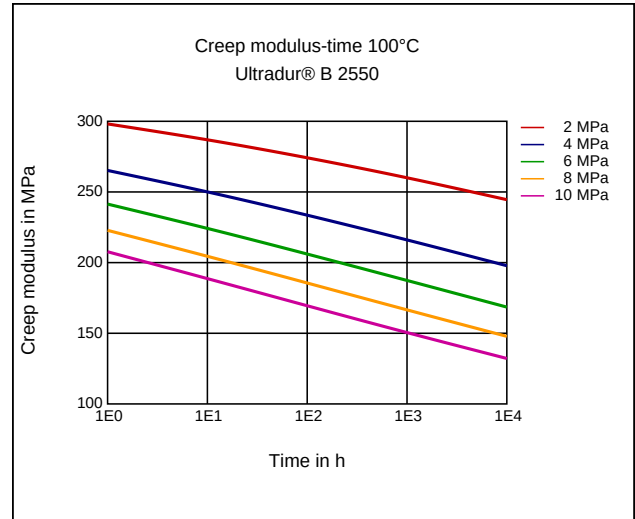
Creep modulus-time 60°C



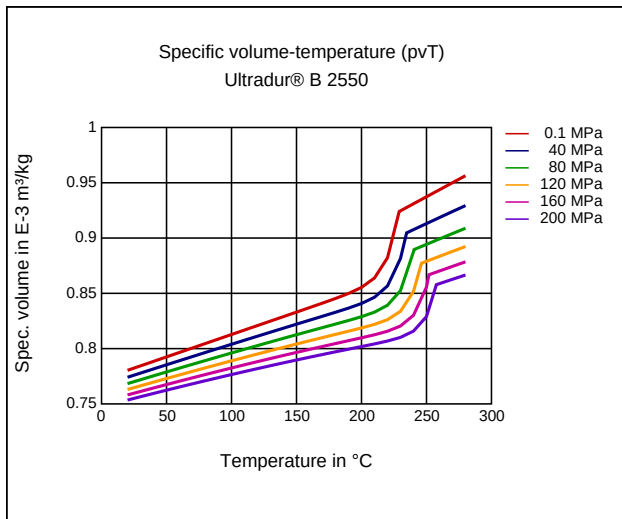
Stress-strain (isochronous) 100 °C



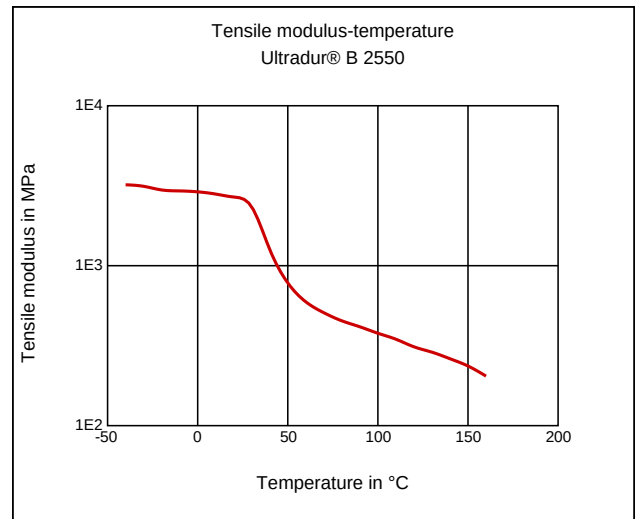
Creep modulus-time 100 °C



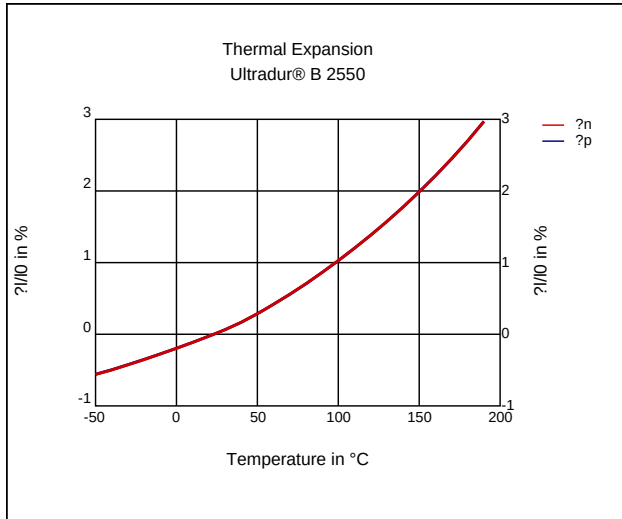
Specific volume-temperature (pvT)



Tensile Modulus-Temperature



Coeff. of linear thermal expansion, normal



Characteristics

Processing

Injection Molding, Coating

Special Characteristics

Heat aging stabilized

Delivery form

Pellets

Applications

Monofilament

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 - 275 °C
injection molding, Melt temperature, recommended: 260 °C
injection molding, Mold temperature, range: 40 - 70 °C
injection molding, Mold temperature, recommended: 60 °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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