

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. Thickn.	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

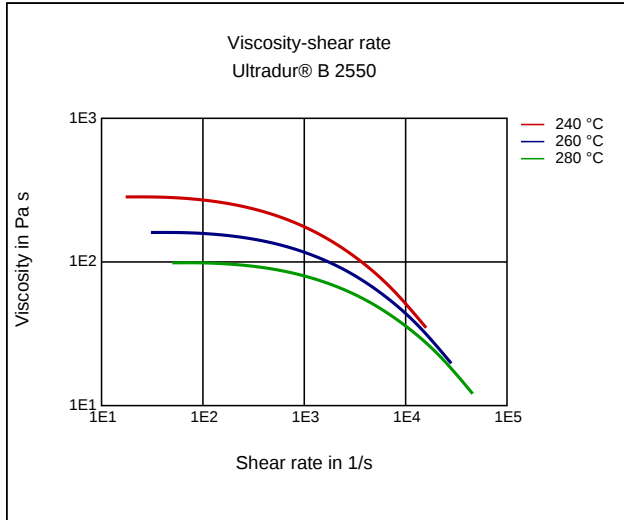
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80 - 120	°C	-
Pre-drying - Time	4	h	-
Processing humidity	≤0.04	%	-
Melt temperature	245 - 275	°C	-
Mold temperature	40 - 70	°C	-

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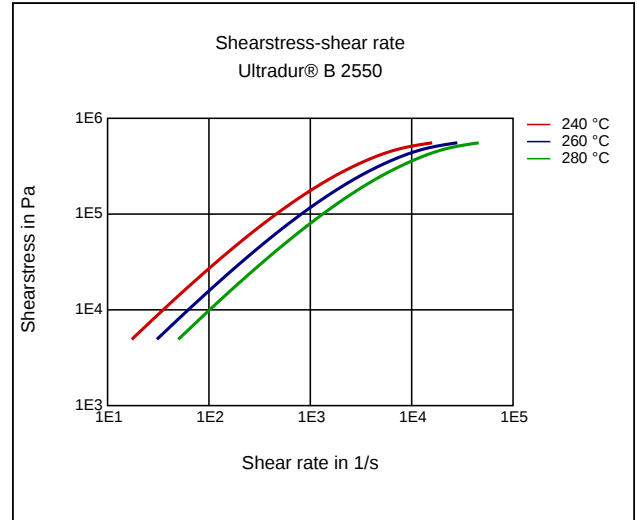
BASF

Diagrams

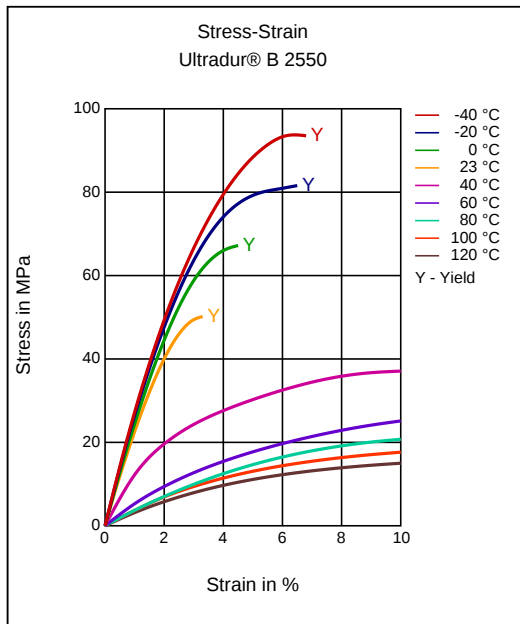
Viscosity-shear rate



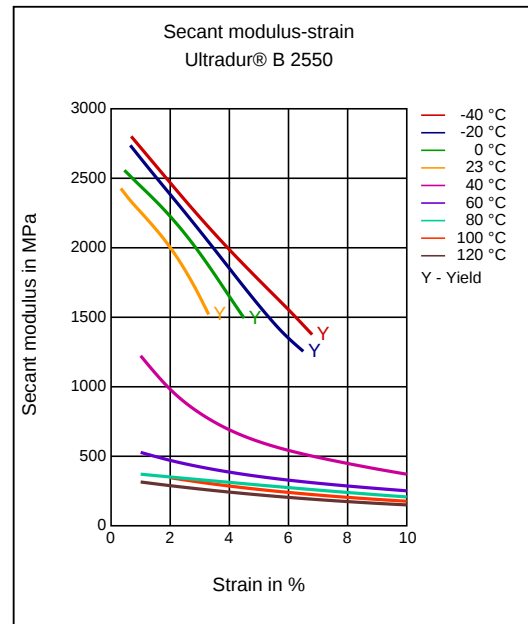
Shearstress-shear rate



Stress-strain



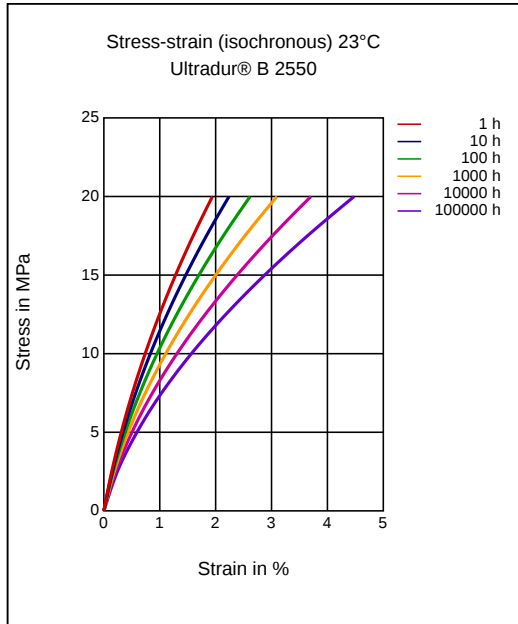
Secant modulus-strain



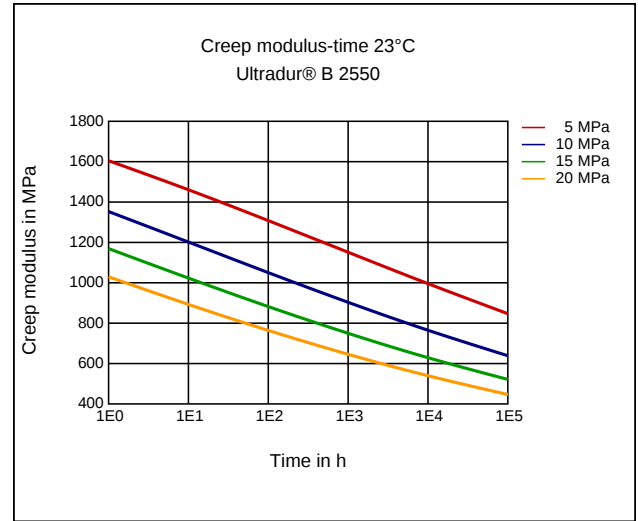
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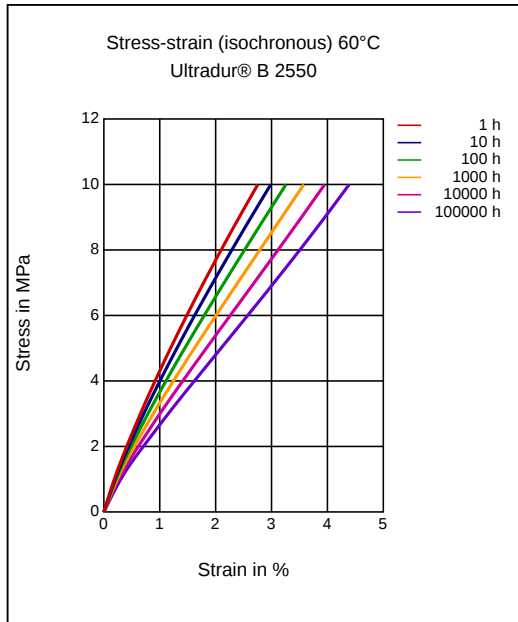
Stress-strain (isochronous) 23°C



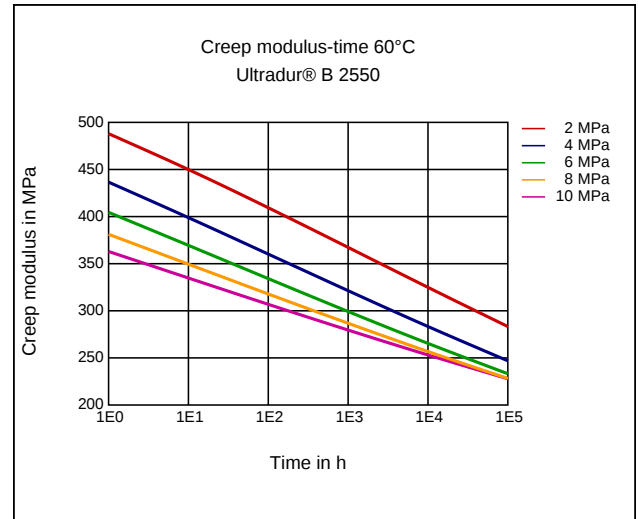
Creep modulus-time 23°C



Stress-strain (isochronous) 60°C



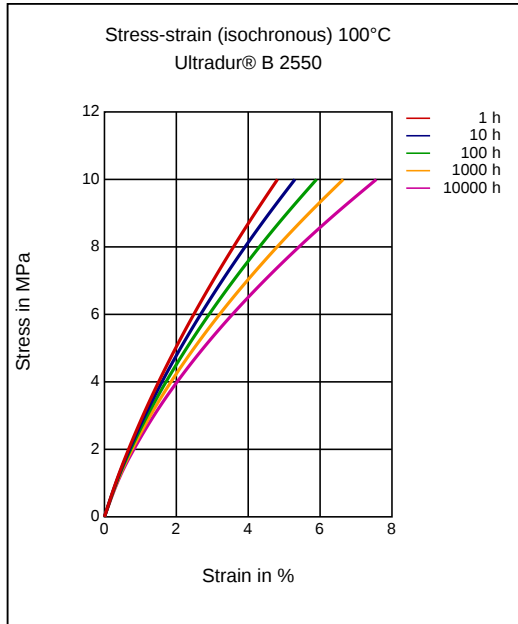
Creep modulus-time 60°C



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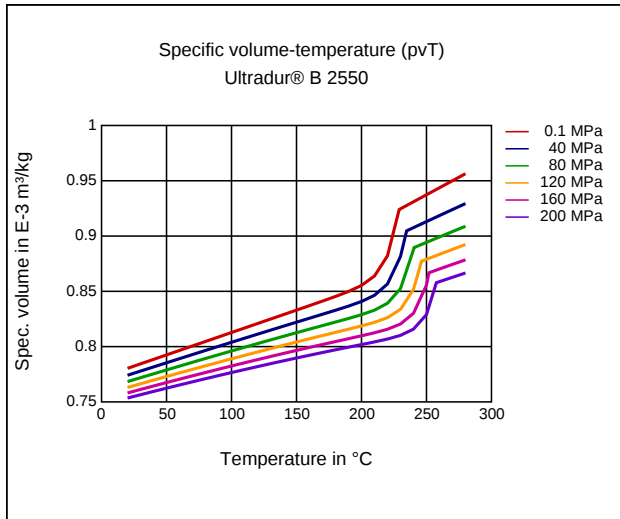
Stress-strain (isochronous) 100°C



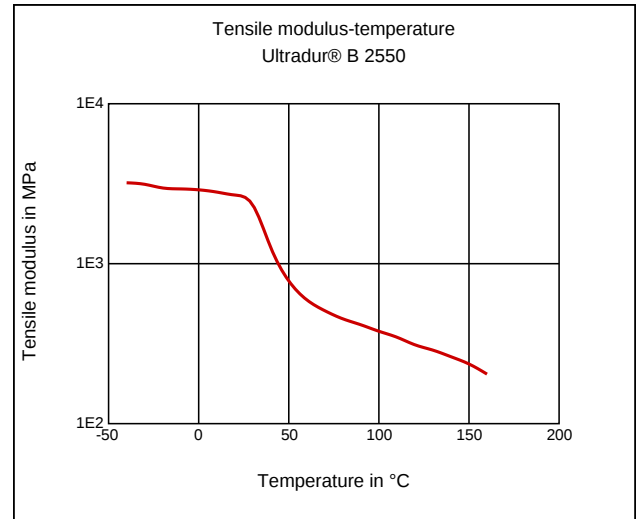
Creep modulus-time 100°C



Specific volume-temperature (pvT)



Tensile Modulus-Temperature

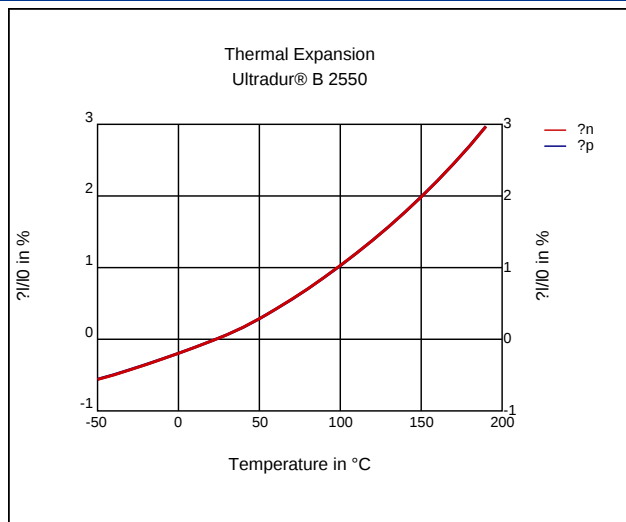


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Coeff. of linear thermal expansion, normal



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)