

Ultradur® B 6550 FC
PBT

BASF

High viscosity grade for compounding or extrusion of semi-finished products, profiles and pipes or cable sheathing in sensitive applications and with food contact.

The BASF Ultradur® FC (Food Contact) grades enable the industry to develop products for food contact applications which are in compliance with different food regulatory legislations, including regulation (EU) 10/2011, regulation (EC) 2023/2006 (GMP for materials in food contact) or FDA regulation 21 CFR. Additional food contact compliances may also be available. Please contact your local representative or plastics safety (E-Mail: plastics.safety@basf.com).

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

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	9	cm³/10min	ISO 1133
Temperature	250	°C	-
Load	2.16	kg	-
Molding shrinkage, parallel	1.7	%	ISO 294-4, 2577
Molding shrinkage, normal	2.1	%	ISO 294-4, 2577

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527
Yield stress	54	MPa	ISO 527
Yield strain	3.5	%	ISO 527
Nominal strain at break	>50	%	ISO 527
Tensile Creep Modulus, 1h	1800	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	1100	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	no break	kJ/m²	ISO 179/1eU
Impact Strength (Charpy), -30°C	250	kJ/m²	ISO 179/1eU
Notched Impact Strength (Charpy), +23°C	6	kJ/m²	ISO 179/1eA
Notched Impact Strength (Charpy), -30°C	3.5	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)	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	-
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	0.8	mm	-

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	10	E-4	IEC 62631-2-1
Dissipation Factor, 1MHz	200	E-4	IEC 62631-2-1
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface Resistivity	1E13	Ohm	IEC 62631-3-2
Comparative tracking index	600	-	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

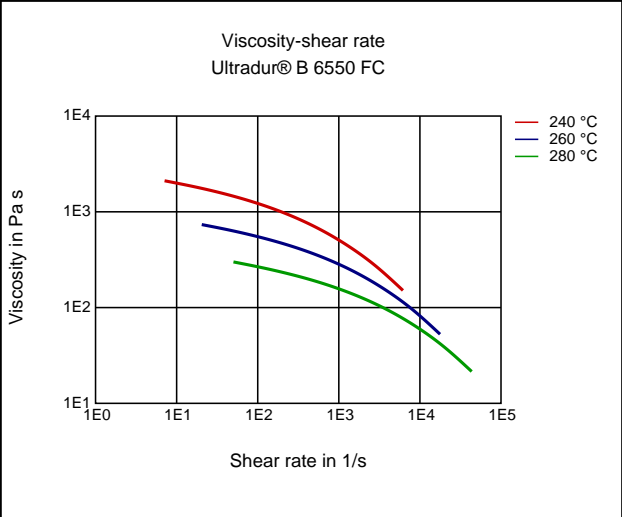
Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	160	cm³/g	ISO 307, 1157, 1628

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

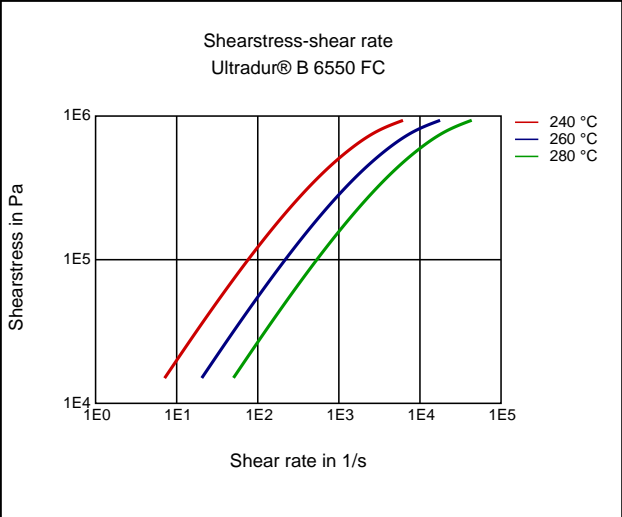
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	100	°C	-
Pre-drying - Time	4	h	-
Melt temperature	250 - 275	°C	-
Mold temperature	40 - 80	°C	-

Diagrams

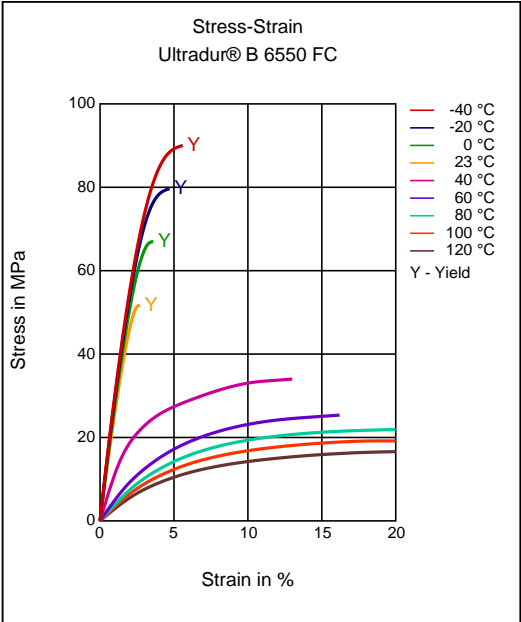
Viscosity-shear rate



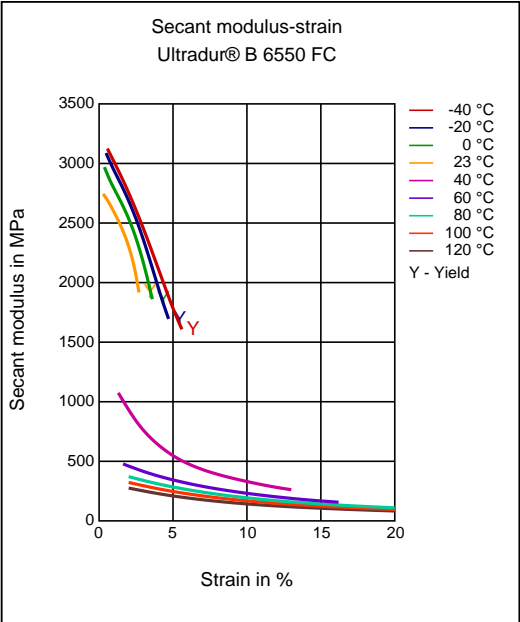
Shearstress-shear rate



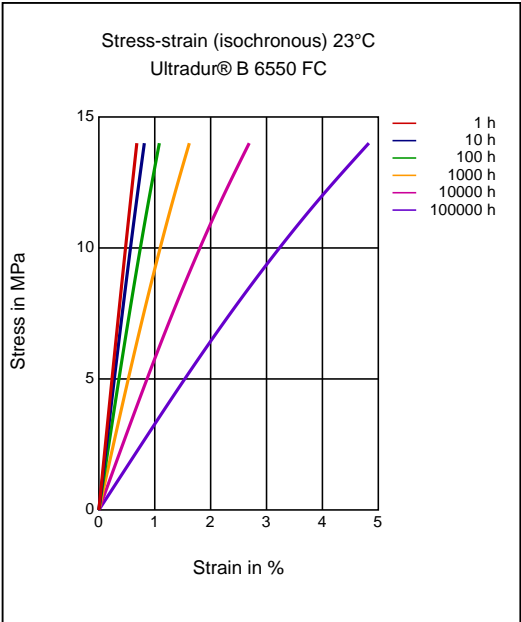
Stress-strain



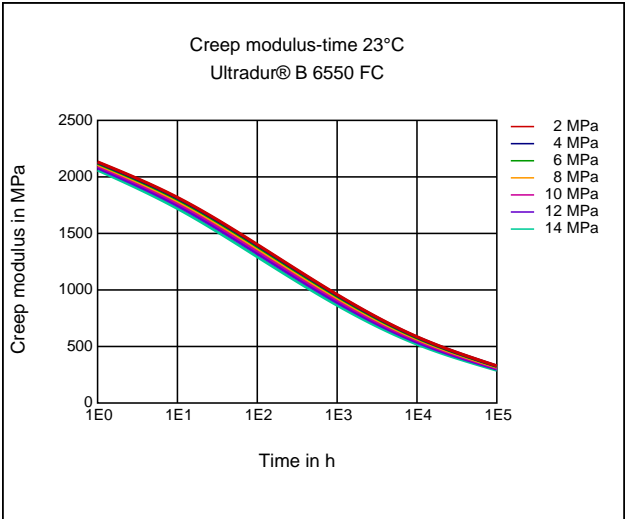
Secant modulus-strain



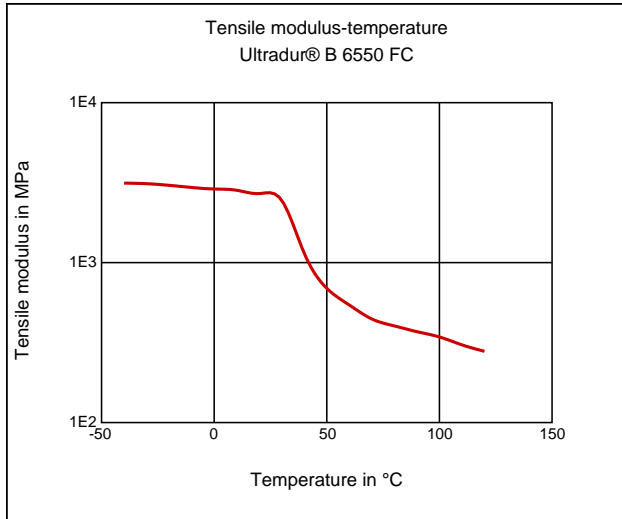
Stress-strain (isochronous) 23 °C



Creep modulus-time 23 °C



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion

Certifications

Food approval, Food approval 10/2011, Food Contact (FDA)

Delivery form

Pellets

Injection Molding

PREPROCESSING

Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 4 h

PROCESSING

injection molding, Melt temperature, range: 250 - 275 °C
injection molding, Melt temperature, recommended: 260 °C
injection molding, Mold temperature, range: 40 - 80 °C
injection molding, Mold temperature, recommended: 60 °C
injection molding, Dwell time, thermoplastics: 10 min

Other Extrusion

PREPROCESSING

Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 4 h

PROCESSING

Extrusion, Prepreg, Melt temperature: 230 - 250 °C
Extrusion, Pipes, Melt temperature: 230 - 260 °C
Extrusion, cable sheathing, Melt temperature: 230 - 260 °C

Profile extrusion

PREPROCESSING

Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 4 h

PROCESSING

Extrusion, Profiles, Melt temperature: 230 - 260 °C

Sheet Extrusion

PREPROCESSING

Pre/Post-processing, Pre-drying, Temperature: 100 °C
Pre/Post-processing, Pre-drying, Time: 4 h

PROCESSING

Extrusion, Plates, Melt temperature: 230 - 250 °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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- any critical component in any medical device that supports or sustains human life.

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