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

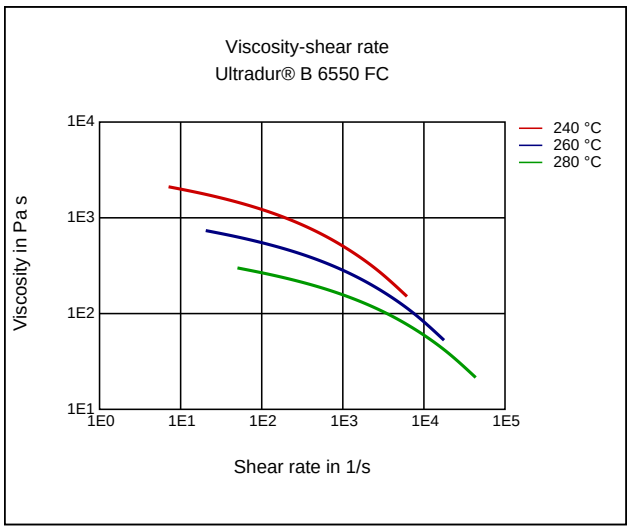
Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Viscosity number	160	cm³/g	ISO 307, 1157, 1628

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

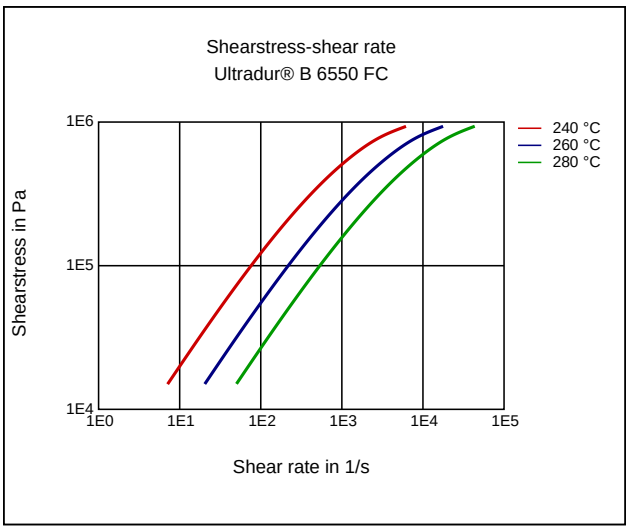
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	100	°C	-
Pre-drying - Time	4	h	-
Melt temperature	250 - 275	°C	-
Mold temperature	40 - 80	°C	-

Diagrams

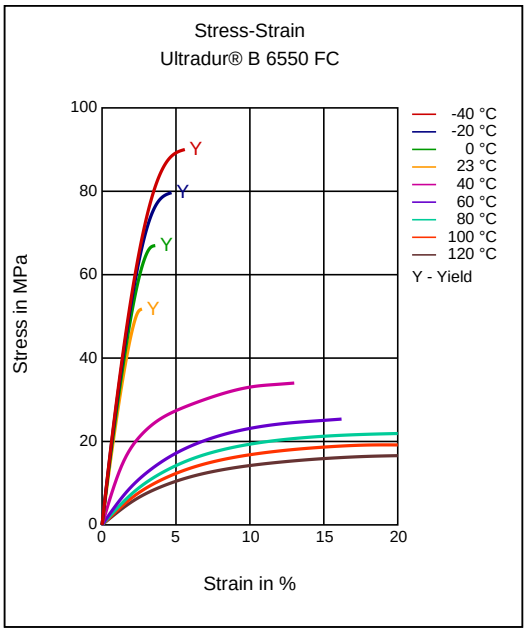
Viscosity-shear rate



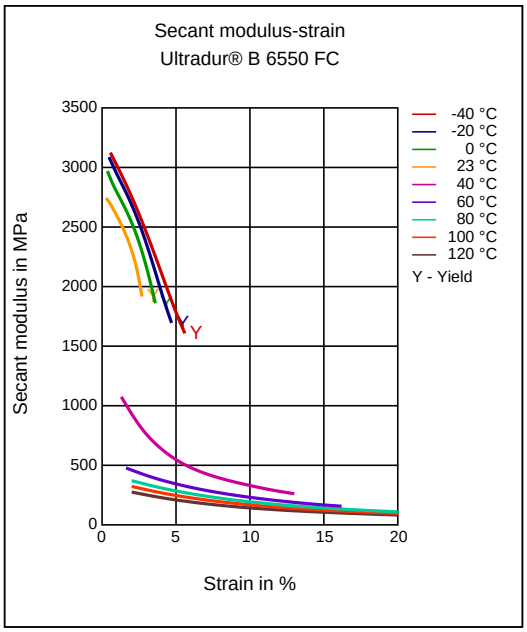
Shearstress-shear rate



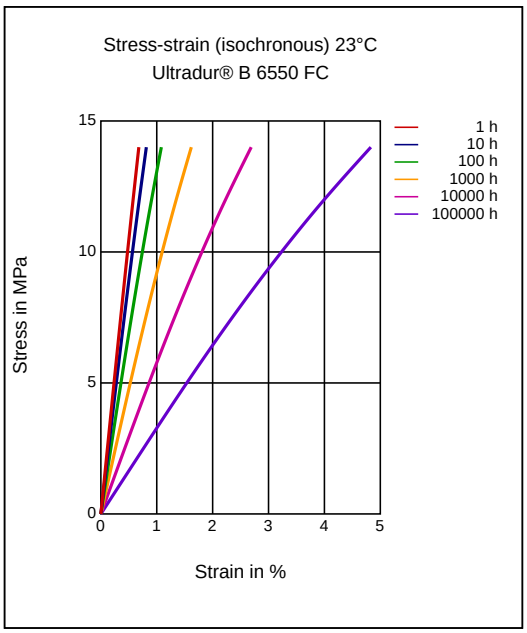
Stress-strain



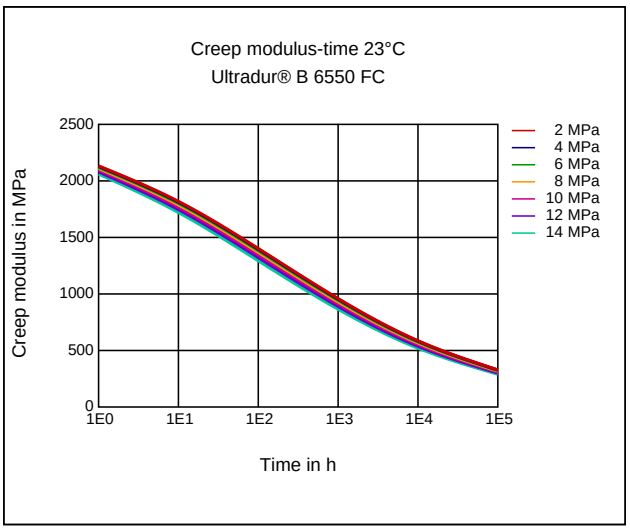
Secant modulus-strain



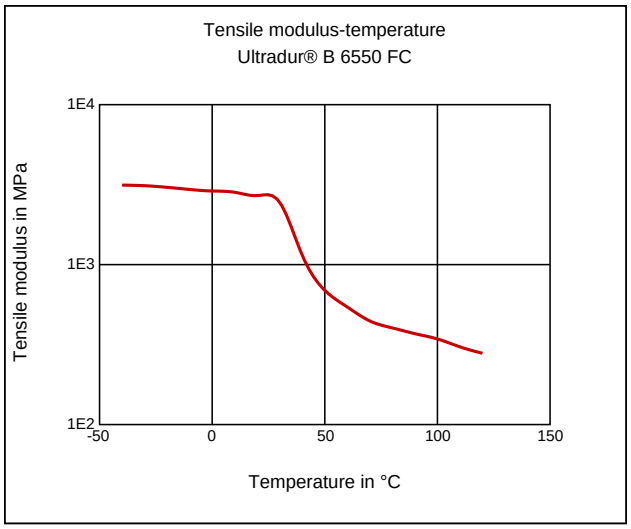
Stress-strain (isochronous) 23 °C



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