

**Ultradur® B 6550**  
**PBT**

BASF

High viscosity grade for compounding or extrusion of semi-finished products, profiles and pipes or cable sheathing.

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 |
|-------------------------------------|-------|-------|---------------|
| <b>ASTM Data</b>                    |       |       |               |
| Mold Shrinkage, MD                  | 0.015 | mm/mm | ASTM D 955    |
| Density, 73°F                       | 1300  | kg/m³ | ASTM D 792    |

| Rheological properties      | Value | Unit      | Test Standard   |
|-----------------------------|-------|-----------|-----------------|
| <b>ISO Data</b>             |       |           |                 |
| 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 |
|-----------------------------------------|----------|-------|---------------|
| <b>ISO Data</b>                         |          |       |               |
| 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   |
| <b>ASTM Data</b>                        |          |       |               |
| Tensile Modulus                         | 2482     | MPa   | ASTM D 638    |
| Tensile Strength at Yield               | 60       | MPa   | ASTM D 638    |
| Elongation at Yield                     | 3.5      | %     | ASTM D 638    |

| Thermal Properties                          | Value | Unit  | Test Standard  |
|---------------------------------------------|-------|-------|----------------|
| <b>ISO Data</b>                             |       |       |                |
| 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    | -              |
| <b>ASTM Data</b>                            |       |       |                |
| DTUL @ 66 psi                               | 135   | °C    | ASTM D 648     |
| DTUL @ 264 psi                              | 53.9  | °C    | ASTM D 648     |
| Melting Temperature                         | 223   | °C    | ASTM D 3418    |

| Electrical Properties        | Value | Unit  | Test Standard |
|------------------------------|-------|-------|---------------|
| <b>ISO Data</b>              |       |       |               |
| 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  |
|---------------------|-------|-------|----------------|
| <b>ISO Data</b>     |       |       |                |
| Water Absorption    | 0.5   | %     | Sim. to ISO 62 |
| Humidity absorption | 0.25  | %     | Sim. to ISO 62 |
| Density             | 1300  | kg/m³ | ISO 1183       |

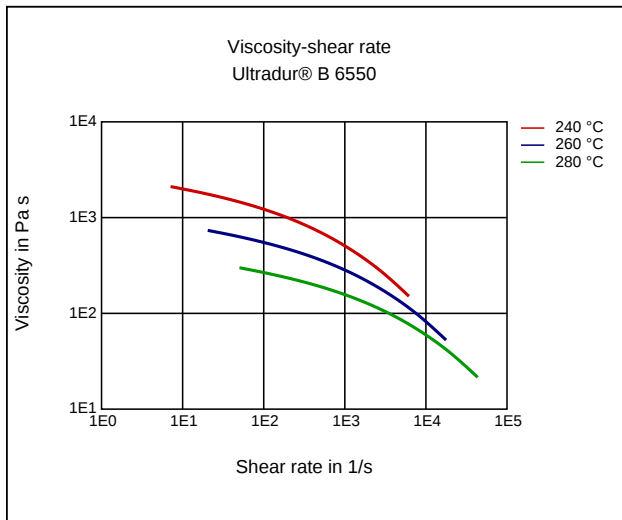
| Material Specific Properties | Value | Unit  | Test Standard       |
|------------------------------|-------|-------|---------------------|
| <b>ISO Data</b>              |       |       |                     |
| Viscosity number             | 160   | cm³/g | ISO 307, 1157, 1628 |

| Test specimen production              | Value | Unit | Test Standard |
|---------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                       |       |      |               |
| 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       |

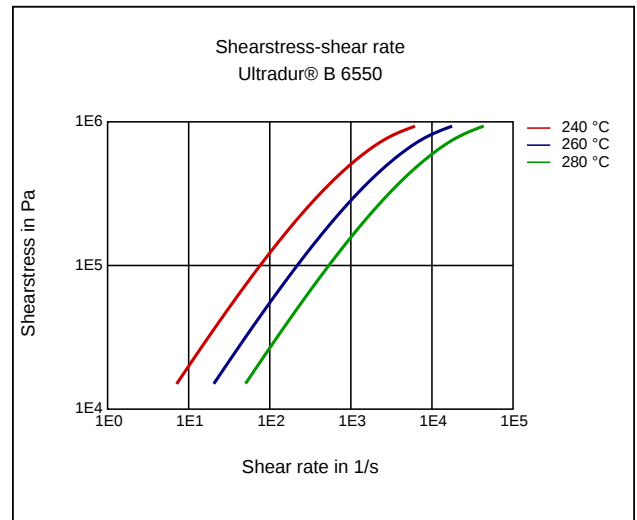
| Processing Recommendation Injection Molding | Value     | Unit | Test Standard |
|---------------------------------------------|-----------|------|---------------|
| Pre-drying - Temperature                    | 80 - 120  | °C   | -             |
| Pre-drying - Time                           | 4         | h    | -             |
| Processing humidity                         | ≤0.04     | %    | -             |
| Melt temperature                            | 250 - 275 | °C   | -             |
| Mold temperature                            | 40 - 80   | °C   | -             |

## Diagrams

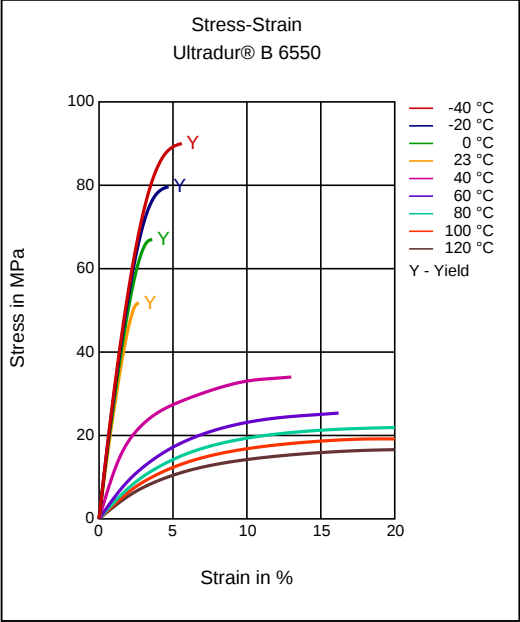
### Viscosity-shear rate



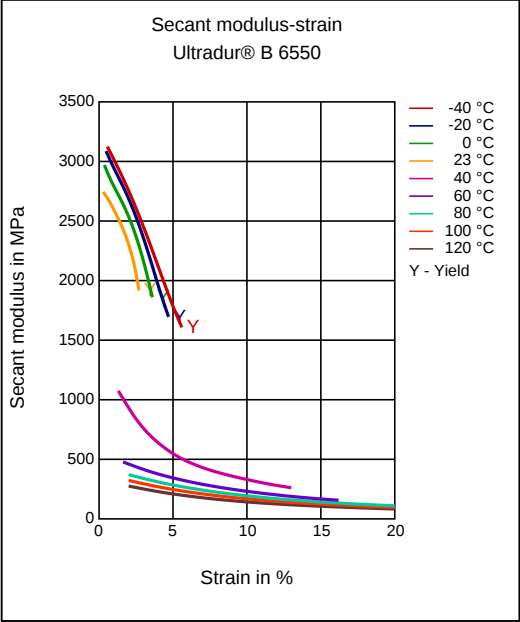
### Shearstress-shear rate



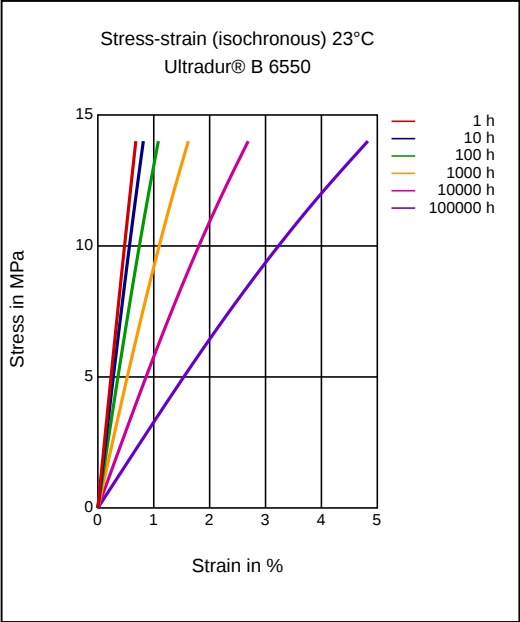
Stress-strain



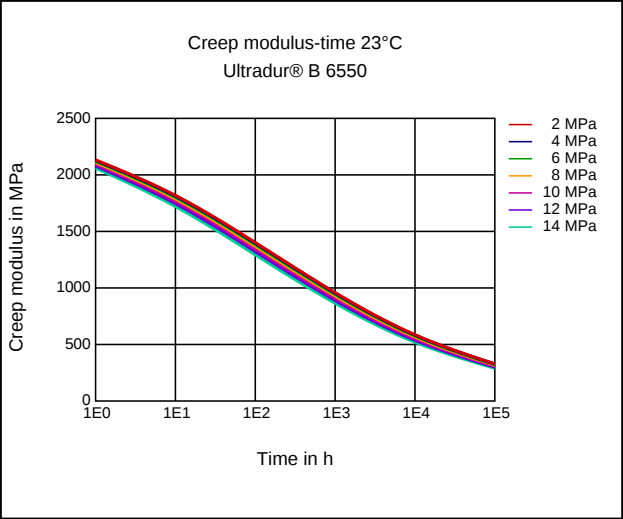
Secant modulus-strain



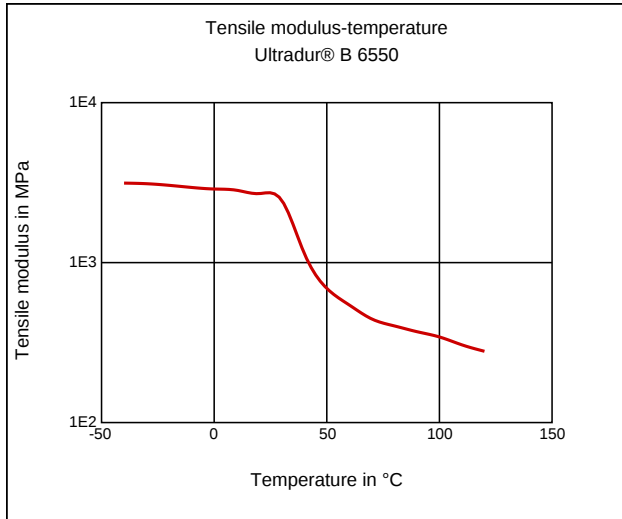
Stress-strain (isochronous) 23 °C



Creep modulus-time 23 °C



### Tensile Modulus-Temperature



### Characteristics

#### Processing

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

#### Delivery form

Pellets, Natural Color

#### Special Characteristics

Light stabilized or stable to light, UV stabilized, 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: 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, max. allowed water content: .04 %  
Pre/Post-processing, Pre-drying, Temperature: 80 - 120 °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, max. allowed water content: .04 %  
Pre/Post-processing, Pre-drying, Temperature: 80 - 120 °C  
Pre/Post-processing, Pre-drying, Time: 4 h

#### PROCESSING

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

### Sheet Extrusion

#### 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

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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