

## Ultramid® A3HG6 WIT BK20560

(PA66+PPA)-(GF+GB)30

BASF

Glass fibre reinforced injection moulding grade with good resistance to hydrolysis, suited for processing by water injection technology (WIT). Applications in the automotive cooling circuit, e.g. cooling water pipes.

| Rheological properties      | dry / cond | Unit      | Test Standard   |
|-----------------------------|------------|-----------|-----------------|
| <b>ISO Data</b>             |            |           |                 |
| Melt volume-flow rate, MVR  | 8 / *      | cm³/10min | ISO 1133        |
| Temperature                 | 275 / *    | °C        | -               |
| Load                        | 5 / *      | kg        | -               |
| Molding shrinkage, parallel | 0.4 / *    | %         | ISO 294-4, 2577 |
| Molding shrinkage, normal   | 0.9 / *    | %         | ISO 294-4, 2577 |

| Mechanical Properties                   | dry / cond  | Unit  | Test Standard |
|-----------------------------------------|-------------|-------|---------------|
| <b>ISO Data</b>                         |             |       |               |
| Tensile Modulus                         | 8700 / 5300 | MPa   | ISO 527       |
| Stress at Break                         | 165 / 95    | MPa   | ISO 527       |
| Strain at Break                         | 3 / 4.9     | %     | ISO 527       |
| Impact Strength (Charpy), +23°C         | 55 / 85     | kJ/m² | ISO 179/1eU   |
| Impact Strength (Charpy), -30°C         | 50 / 50     | kJ/m² | ISO 179/1eU   |
| Notched Impact Strength (Charpy), +23°C | 6 / 8       | kJ/m² | ISO 179/1eA   |
| Notched Impact Strength (Charpy), -30°C | 5 / 5       | kJ/m² | ISO 179/1eA   |

| Thermal Properties                        | dry / cond | Unit | Test Standard |
|-------------------------------------------|------------|------|---------------|
| <b>ISO Data</b>                           |            |      |               |
| Temp. of deflection under load (1.80 MPa) | 230 / *    | °C   | ISO 75-1/-2   |
| Temp. of deflection under load (0.45 MPa) | 250 / *    | °C   | ISO 75-1/-2   |

| Other Properties | dry / cond | Unit  | Test Standard |
|------------------|------------|-------|---------------|
| <b>ISO Data</b>  |            |       |               |
| Density          | 1370 / -   | kg/m³ | ISO 1183      |

| Material Specific Properties | dry / cond | Unit  | Test Standard       |
|------------------------------|------------|-------|---------------------|
| <b>ISO Data</b>              |            |       |                     |
| Viscosity number             | 146 / *    | cm³/g | ISO 307, 1157, 1628 |

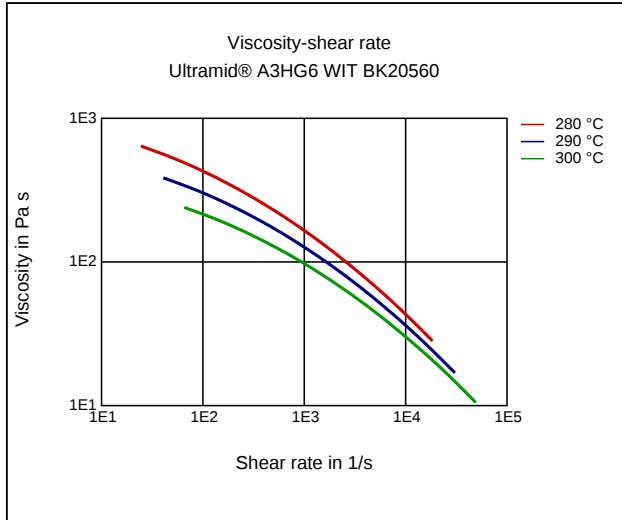
| Processing Recommendation Injection Molding | Value     | Unit | Test Standard |
|---------------------------------------------|-----------|------|---------------|
| Pre-drying - Temperature                    | 80        | °C   | -             |
| Pre-drying - Time                           | 4         | h    | -             |
| Processing humidity                         | ≤0.15     | %    | -             |
| Melt temperature                            | 290 - 310 | °C   | -             |
| Mold temperature                            | 80 - 90   | °C   | -             |

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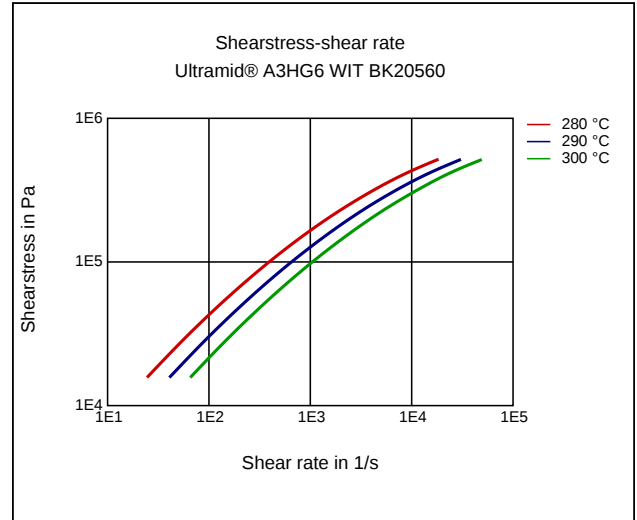
BASF

**Diagrams**

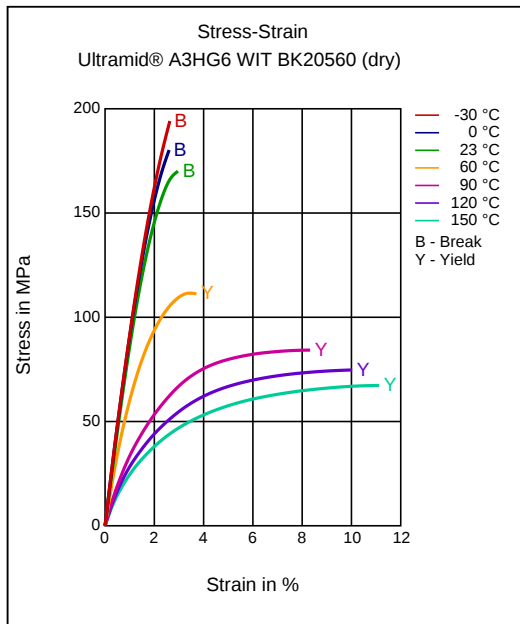
**Viscosity-shear rate**



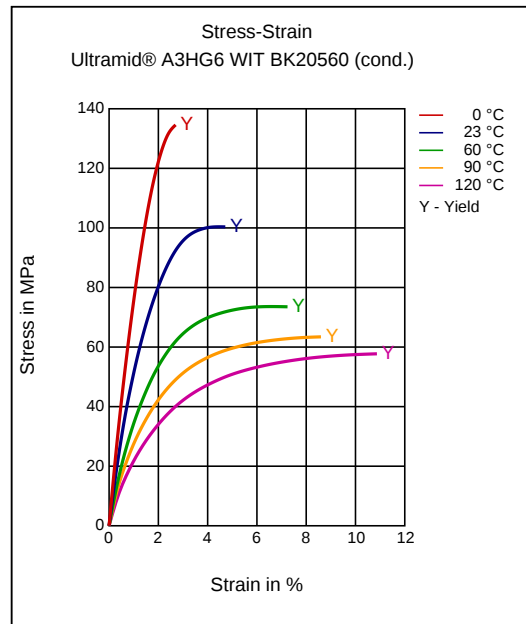
**Shearstress-shear rate**



**Stress-strain**



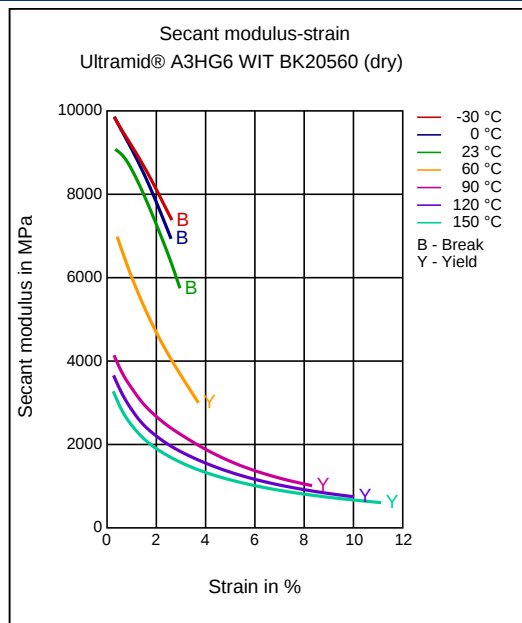
**Stress-strain**



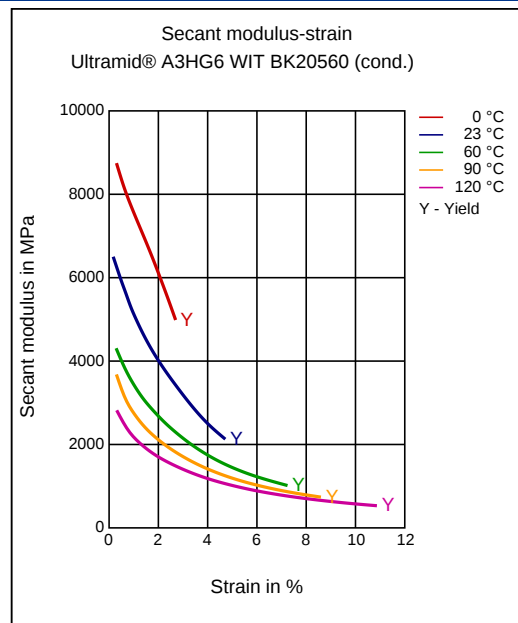
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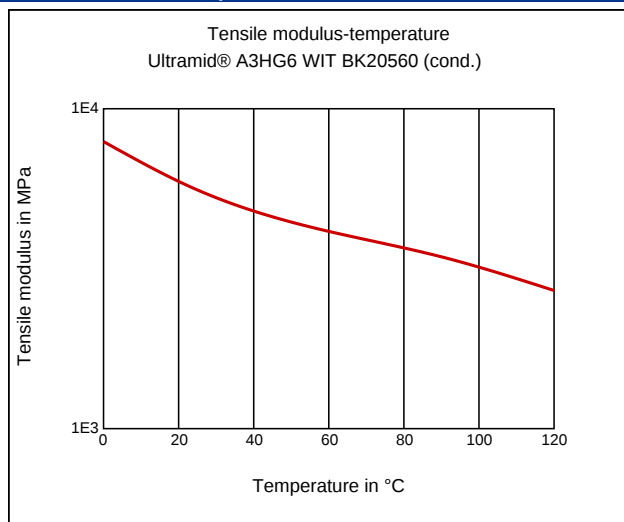
### Secant modulus-strain



### Secant modulus-strain



### Tensile Modulus-Temperature



### Characteristics

#### Processing

Injection Molding

#### Delivery form

Pellets, Black

#### Chemical Resistance

Hydrolysis

#### Applications

Automotive

### Injection Molding

#### PREPROCESSING

Pre/Post-processing, max. allowed water content: .15 %

Pre/Post-processing, Pre-drying, Temperature: 80 °C

Pre/Post-processing, Pre-drying, Time: 4 h

#### PROCESSING

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injection molding, Melt temperature, range: 290 - 310 °C  
injection molding, Melt temperature, recommended: 300 °C  
injection molding, Mold temperature, range: 80 - 90 °C  
injection molding, Mold temperature, recommended: 80 °C  
injection molding, Dwell time, thermoplastics: 10 min

### Chemical Media Resistance

#### Acids

- ✓ Acetic Acid (5% by mass) (23°C)