# Ultramid® B3M6 BK30564

PA6-MD30 BASF

A mineral-filled injection molding grade for high impact industrial items requiring very high dimensional stability, such as automobile wheel covers.

| Rheological properties | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Melt volume-flow rate, MVR | 50 / * | cm³/10min | ISO 1133 |
| Temperature | 275 / * | °C | - |
| Load | 5 / * | kg | - |
| Molding shrinkage, parallel | 1.3 / * | % | ISO 294-4, 2577 |
| Molding shrinkage, normal | 1.1 / * | % | ISO 294-4, 2577 |

| Mechanical Properties | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Tensile Modulus | 4600 / 1700 | MPa | ISO 527 |
| Stress at Break | 75 / 45 | MPa | ISO 527 |
| Strain at Break | 12 / 45 | % | ISO 527 |
| Tensile Creep Modulus, 1h | * / 1500 | MPa | ISO 899-1 |
| Tensile Creep Modulus, 1000h | * / 800 | MPa | ISO 899-1 |
| Impact Strength (Charpy), +23°C | 190 / no break | kJ/m² | ISO 179/1eU |
| Impact Strength (Charpy), -30°C | 100 / - | kJ/m² | ISO 179/1eU |
| Notched Impact Strength (Charpy), +23°C | 9 / 18 | kJ/m² | ISO 179/1eA |
| Notched Impact Strength (Charpy), -30°C | 5 / - | kJ/m² | ISO 179/1eA |

| Thermal Properties | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Melting Temperature (10°C/min) | 220 / * | °C | ISO 11357-1/-3 |
| Temp. of deflection under load (1.80 MPa) | 70 / * | °C | ISO 75-1/-2 |
| Temp. of deflection under load (0.45 MPa) | 195 / * | °C | ISO 75-1/-2 |
| Coeff. of Linear Therm. Expansion, parallel | 75 / * | E-6/K | ISO 11359-1/-2 |
| Coeff. of Linear Therm. Expansion, normal | 91 / * | E-6/K | ISO 11359-1/-2 |
| Burning Behav. at 1.5 mm Nom. Thickn. | HB / * | class | UL 94 |
| Thickness tested | 1.6 / * | mm | - |
| Burning Behav. at thickness h | HB / * | class | UL 94 |
| Thickness tested | 3.2 / * | mm | - |

| Electrical Properties | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Relative permittivity, 1MHz | 3.5 / 6.2 | - | IEC 62631-2-1 |
| Dissipation Factor, 100Hz | - / 2000 | E-4 | IEC 62631-2-1 |
| Dissipation Factor, 1MHz | 200 / 2000 | E-4 | IEC 62631-2-1 |
| Volume Resistivity | 1E13 / 1E10 | Ohm*m | IEC 62631-3-1 |
| Surface Resistivity | * / 1E10 | Ohm | IEC 62631-3-2 |
| Comparative tracking index | - / 450 | - | IEC 60112 |

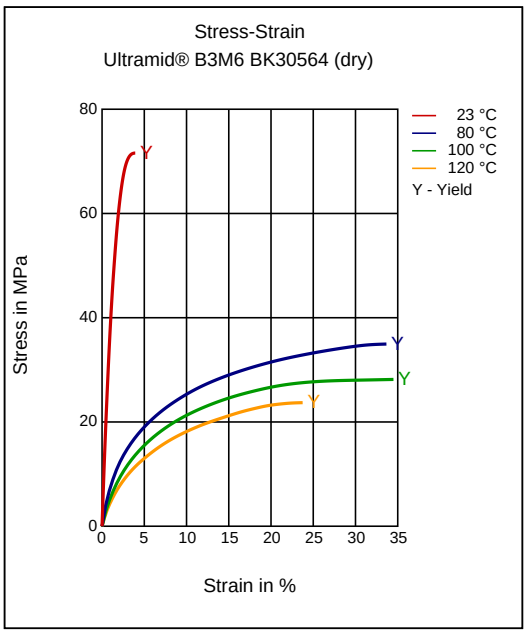
| Other Properties | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Water Absorption | 6.2 / * | % | Sim. to ISO 62 |
| Humidity absorption | 2.4 / * | % | Sim. to ISO 62 |
| Density | 1380 / - | kg/m³ | ISO 1183 |

| Material Specific Properties | dry / cond | Unit | Test Standard |
|---|---|---|---|
| **ISO Data** | | | |
| Viscosity number | 145 / * | cm³/g | ISO 307, 1157, 1628 |

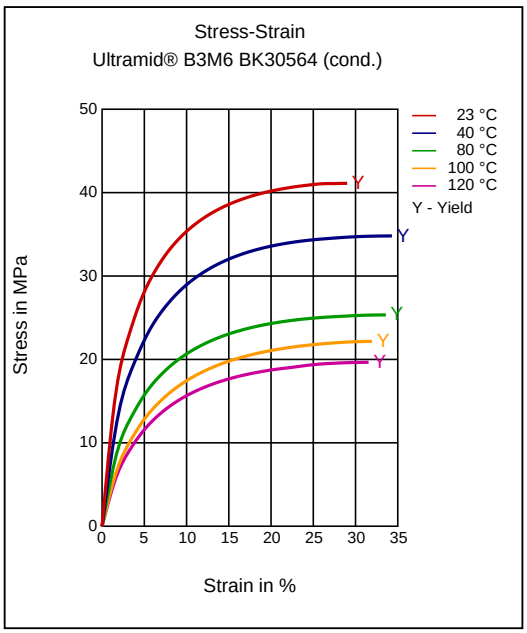
| Processing Recommendation Injection Molding | Value | Unit | Test Standard |
|---|---|---|---|
| Pre-drying - Temperature | 80 | °C | - |
| Pre-drying - Time | 4 | h | - |
| Processing humidity | ≤0.15 | % | - |
| Melt temperature | 270 - 290 | °C | - |
| Mold temperature | 80 - 90 | °C | - |

## Diagrams

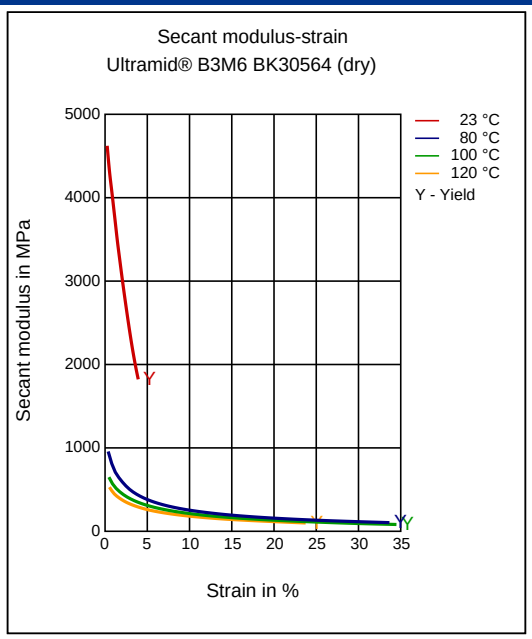
### Stress-strain



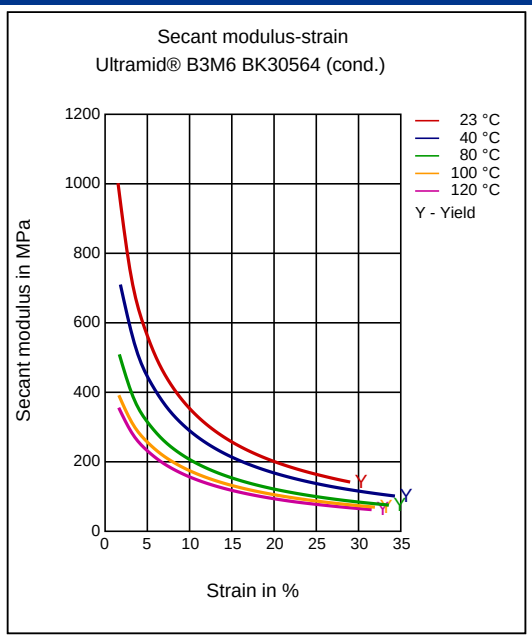

### Stress-strain



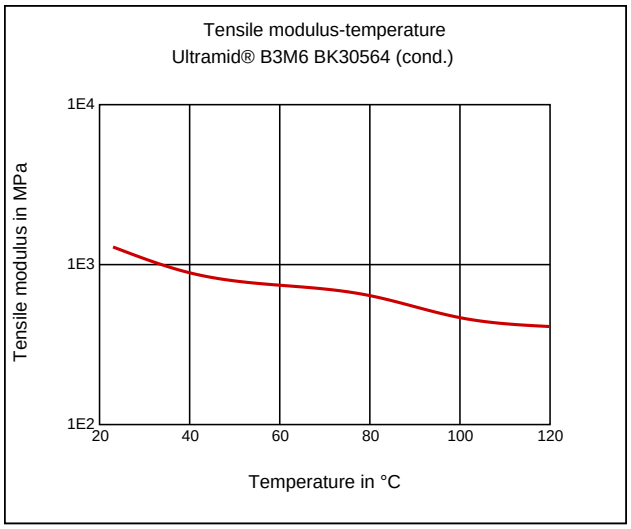

### Secant modulus-strain




### Secant modulus-strain



## Tensile Modulus-Temperature




## Characteristics

### Processing
Injection Molding

### Special Characteristics
Heat aging stabilized

### Delivery form
Pellets, Black

### Applications
Automotive

### Additives
Lubricants, Release agent

## 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
injection molding, Melt temperature, range: 270 - 290 °C
injection molding, Melt temperature, recommended: 280 °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)
- ✔ Citric Acid solution (10% by mass) (23°C)
- ✔ Lactic Acid (10% by mass) (23°C)
- ✖ Hydrochloric Acid (36% by mass) (23°C)
- ✖ Nitric Acid (40% by mass) (23°C)
- ✖ Sulfuric Acid (38% by mass) (23°C)
- ✖ Sulfuric Acid (5% by mass) (23°C)
- ✖ Chromic Acid solution (40% by mass) (23°C)

### Bases

- ✖ Sodium Hydroxide solution (35% by mass) (23°C)

- ✔ Sodium Hydroxide solution (1% by mass) (23°C)

## Alcohols

- ✔ Isopropyl alcohol (23°C)
- ✔ Methanol (23°C)
- ✔ Ethanol (23°C)

## Hydrocarbons

- ✔ n-Hexane (23°C)
- ✔ Toluene (23°C)
- ✔ iso-Octane (23°C)

## Ketones

- ✔ Acetone (23°C)

## Ethers

- ✔ Diethyl ether (23°C)

## Mineral oils

- ✔ SAE 10W40 multigrade motor oil (23°C)
- ✔ SAE 10W40 multigrade motor oil (130°C)

## Standard Fuels

- ✔ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- ✖ Diesel fuel (pref. ISO 1817 Liquid F) (>90°C)

## Salt solutions

- ✔ Sodium Chloride solution (10% by mass) (23°C)
- ✖ Sodium Hypochlorite solution (10% by mass) (23°C)
- ✖ Zinc Chloride solution (50% by mass) (23°C)

## Other

- ✔ Ethyl Acetate (23°C)
- ✖ Hydrogen peroxide (23°C)
- ✖ DOT No. 4 Brake fluid (130°C)
- ✖ Ethylene Glycol (50% by mass) in water (108°C)
- ✔ Water (23°C)

## Disclaimer

any critical component in any medical device that supports or sustains human life.

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