

**Durethan® BM240H2.0 901510**  
**PA6-MX40**

Envalior

Injection Molding, 40% Mineral Reinforced, Heat Stabilized, Low Warpage

ISO 1043 PA6-MX40

| Mechanical Properties                   | dry / cond     | Unit              | Test Standard |
|-----------------------------------------|----------------|-------------------|---------------|
| <b>ISO Data</b>                         |                |                   |               |
| Tensile Modulus                         | 6000 / 2200    | MPa               | ISO 527       |
| Stress at Break                         | 85 / 50        | MPa               | ISO 527       |
| Strain at Break                         | 7 / 40         | %                 | ISO 527       |
| Impact Strength (Charpy), +23°C         | 120 / no break | kJ/m <sup>2</sup> | ISO 179/1eU   |
| Impact Strength (Charpy), -30°C         | 90 / 90        | kJ/m <sup>2</sup> | ISO 179/1eU   |
| Notched Impact Strength (Charpy), +23°C | - / 12         | kJ/m <sup>2</sup> | ISO 179/1eA   |
| Notched Impact Strength (Charpy), -30°C | - / 10         | kJ/m <sup>2</sup> | ISO 179/1eA   |
| Puncture - maximum force, +23°C         | 3050 / -       | N                 | ISO 6603-2    |
| Puncture - maximum force, -30°C         | 825 / -        | N                 | ISO 6603-2    |
| Puncture energy, +23°C                  | 9.2 / -        | J                 | ISO 6603-2    |
| Puncture energy, -30°C                  | 1.6 / -        | J                 | ISO 6603-2    |

| Thermal Properties                          | dry / cond | Unit  | Test Standard  |
|---------------------------------------------|------------|-------|----------------|
| <b>ISO Data</b>                             |            |       |                |
| Melting Temperature (10°C/min)              | 222 / *    | °C    | ISO 11357-1/-3 |
| Temp. of deflection under load (1.80 MPa)   | 90 / *     | °C    | ISO 75-1/-2    |
| Temp. of deflection under load (0.45 MPa)   | 190 / *    | °C    | ISO 75-1/-2    |
| Coeff. of Linear Therm. Expansion, parallel | 60 / *     | E-6/K | ISO 11359-1/-2 |
| Coeff. of Linear Therm. Expansion, normal   | 70 / *     | E-6/K | ISO 11359-1/-2 |
| Oxygen index                                | 26 / *     | %     | ISO 4589-1/-2  |

| Electrical Properties        | dry / cond | Unit  | Test Standard |
|------------------------------|------------|-------|---------------|
| <b>ISO Data</b>              |            |       |               |
| Relative permittivity, 100Hz | 4.4 / 15   | -     | IEC 62631-2-1 |
| Relative permittivity, 1MHz  | 4 / 4.7    | -     | IEC 62631-2-1 |
| Dissipation Factor, 100Hz    | 110 / 2500 | E-4   | IEC 62631-2-1 |
| Dissipation Factor, 1MHz     | 150 / 1000 | E-4   | IEC 62631-2-1 |
| Volume Resistivity           | 1E13 / 1E9 | Ohm*m | IEC 62631-3-1 |
| Surface Resistivity          | * / 1E13   | Ohm   | IEC 62631-3-2 |
| Electric Strength            | 35 / 38    | kV/mm | IEC 60243-1   |
| Comparative tracking index   | 525 / -    | -     | IEC 60112     |

| Other Properties    | dry / cond | Unit              | Test Standard  |
|---------------------|------------|-------------------|----------------|
| <b>ISO Data</b>     |            |                   |                |
| Water Absorption    | 6 / *      | %                 | Sim. to ISO 62 |
| Humidity absorption | 1.9 / *    | %                 | Sim. to ISO 62 |
| Density             | 1460 / -   | kg/m <sup>3</sup> | ISO 1183       |

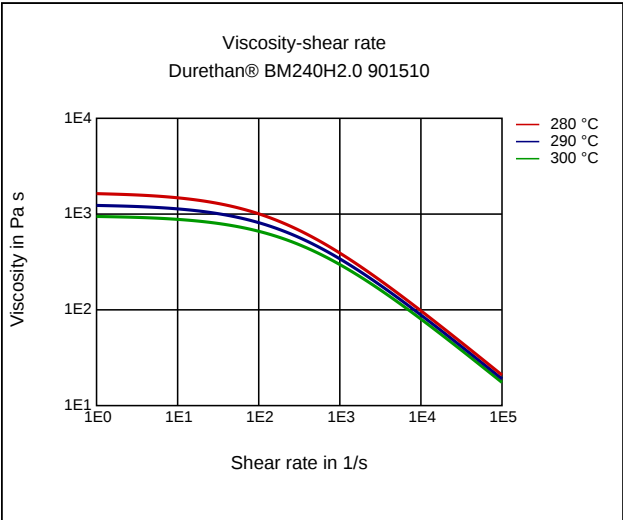
| Material Specific Properties | dry / cond | Unit               | Test Standard       |
|------------------------------|------------|--------------------|---------------------|
| <b>ISO Data</b>              |            |                    |                     |
| Viscosity number             | 142 / *    | cm <sup>3</sup> /g | ISO 307, 1157, 1628 |

| Test specimen production            | Value | Unit | Test Standard |
|-------------------------------------|-------|------|---------------|
| <b>ISO Data</b>                     |       |      |               |
| Injection Molding, melt temperature | 290   | °C   | ISO 294       |
| Injection Molding, mold temperature | 80    | °C   | ISO 294       |

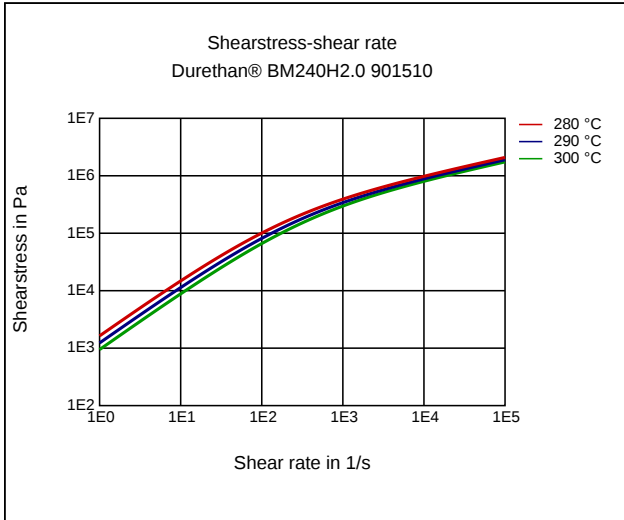
| Processing Recommendation Injection Molding | Value     | Unit | Test Standard |
|---------------------------------------------|-----------|------|---------------|
| Pre-drying - Temperature                    | 80        | °C   | -             |
| Pre-drying - Time                           | 2 - 6     | h    | -             |
| Processing humidity                         | ≤0.12     | %    | -             |
| Melt temperature                            | 280 - 300 | °C   | -             |
| Mold temperature                            | 80 - 120  | °C   | -             |

Diagrams

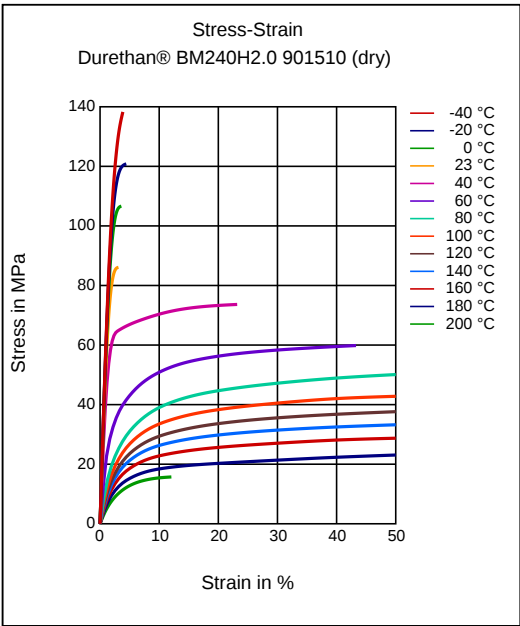
Viscosity-shear rate



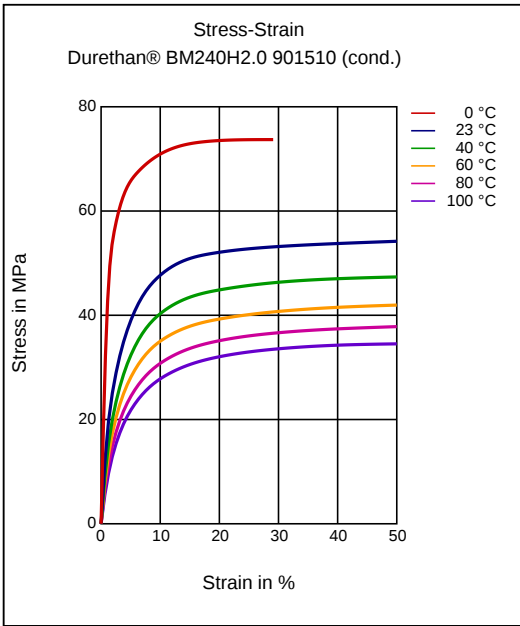
Shearstress-shear rate



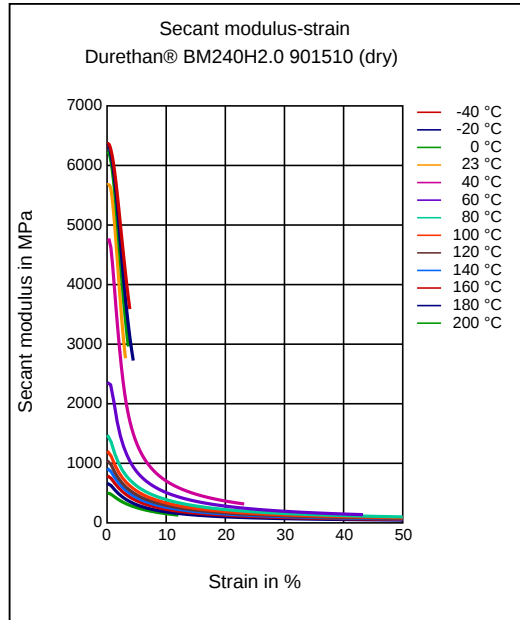
Stress-strain



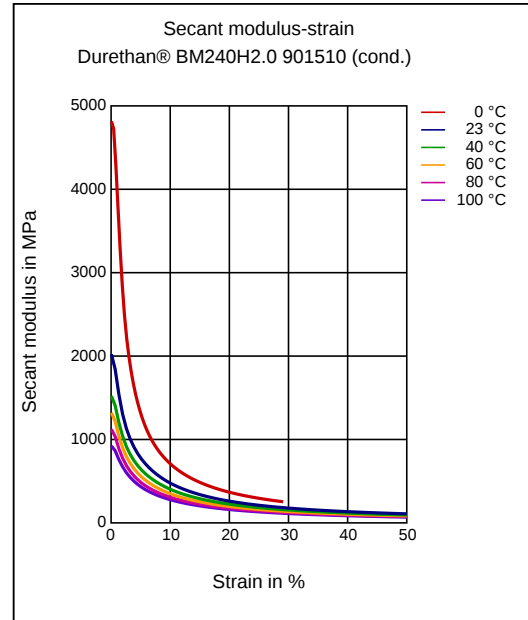
Stress-strain



#### Secant modulus-strain



#### Secant modulus-strain



#### Characteristics

##### Processing

Injection Molding

##### Delivery form

Pellets

##### Additives

Release agent

##### Special Characteristics

Heat aging stabilized

##### Features

Low Warpage

#### Injection Molding

##### PREPROCESSING

Residual moisture content: 0.03 - 0.12%

Drying temperature dry air dryer: 80 °C

Drying time dry air dryer 2 - 6 h

##### PROCESSING

Melt temperature (Tmin - Tmax): 280 - 300 °C

Mold temperature: 80 - 120 °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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