

**Product Texts**

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

ISO 1043 PA6-MX40

| Processing/Physical Characteristics        | dry / cond | Unit | Test Standard   |
|--|------------|------|-----------------|
| <b>ISO Data</b>                            |            |      |                 |
| <sup>[C]</sup> Molding shrinkage, parallel | 0.8 / *    | %    | ISO 294-4, 2577 |
| <sup>[C]</sup> Molding shrinkage, normal   | 0.8 / *    | %    | ISO 294-4, 2577 |

[C]: CAMPUS

| Mechanical properties                                | dry / cond  | Unit              | Test Standard |
|--|-------------|-------------------|---------------|
| <b>ISO Data</b>                                      |             |                   |               |
| <sup>[C]</sup> Tensile Modulus                       | 5700 / 2200 | MPa               | ISO 527       |
| <sup>[C]</sup> Stress at break                       | 85 / 55     | MPa               | ISO 527       |
| <sup>[C]</sup> Strain at break                       | 5.5 / 40    | %                 | ISO 527       |
| <sup>[C]</sup> Charpy impact strength, +23°C         | 150 / N     | kJ/m <sup>2</sup> | ISO 179/1eU   |
| <sup>[C]</sup> Charpy impact strength, -30°C         | 130 / 80    | kJ/m <sup>2</sup> | ISO 179/1eU   |
| <sup>[C]</sup> Charpy notched impact strength, +23°C | - / 12      | kJ/m <sup>2</sup> | ISO 179/1eA   |
| <sup>[C]</sup> Charpy notched impact strength, -30°C | - / 10      | kJ/m <sup>2</sup> | ISO 179/1eA   |
| <sup>[C]</sup> Puncture - maximum force, +23°C       | 3030 / -    | N                 | ISO 6603-2    |
| <sup>[C]</sup> Puncture - maximum force, -30°C       | 728 / -     | N                 | ISO 6603-2    |
| <sup>[C]</sup> Puncture energy, +23°C                | 20 / 65     | J                 | ISO 6603-2    |
| <sup>[C]</sup> Puncture energy, -30°C                | 3 / -       | J                 | ISO 6603-2    |

[C]: CAMPUS

| Thermal properties   | dry / cond | Unit  | Test Standard   |
|--|------------|-------|-----------------|
| <b>ISO Data</b>  |            |       |                 |
| <sup>[C]</sup> Melting temperature, 10°C/min               | 222 / *    | °C    | ISO 11357-1/-3  |
| <sup>[C]</sup> Temp. of deflection under load, 1.80 MPa    | 85 / *     | °C    | ISO 75-1/-2     |
| <sup>[C]</sup> Temp. of deflection under load, 0.45 MPa    | 185 / *    | °C    | ISO 75-1/-2     |
| <sup>[C]</sup> Coeff. of linear therm. expansion, parallel | 60 / *     | E-6/K | ISO 11359-1/-2  |
| <sup>[C]</sup> Coeff. of linear therm. expansion, normal   | 70 / *     | E-6/K | ISO 11359-1/-2  |
| <sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.       | HB / *     | class | IEC 60695-11-10 |
| Thickness tested   | 1.5 / *    | mm    | -               |
| <sup>[C]</sup> Oxygen index                                | 27 / *     | %     | ISO 4589-1/-2   |

[C]: CAMPUS

| Electrical properties                       | dry / cond | Unit  | Test Standard |
|---|------------|-------|---------------|
| <b>ISO Data</b>                             |            |       |               |
| <sup>[C]</sup> Relative permittivity, 100Hz | 4.5 / -    | -     | IEC 62631-2-1 |
| <sup>[C]</sup> Relative permittivity, 1MHz  | 4 / -      | -     | IEC 62631-2-1 |
| <sup>[C]</sup> Dissipation factor, 100Hz    | 255 / -    | E-4   | IEC 62631-2-1 |
| <sup>[C]</sup> Dissipation factor, 1MHz     | 240 / -    | E-4   | IEC 62631-2-1 |
| <sup>[C]</sup> Volume resistivity           | >1E13 / -  | Ohm*m | IEC 62631-3-1 |
| <sup>[C]</sup> Electric strength            | 36 / -     | kV/mm | IEC 60243-1   |
| <sup>[C]</sup> Comparative tracking index   | 550 / -    | -     | IEC 60112     |

[C]: CAMPUS

| Other properties                   | dry / cond | Unit              | Test Standard  |
|------------------------------------|------------|-------------------|----------------|
| <sup>[C]</sup> Water absorption    | 6 / *      | %                 | Sim. to ISO 62 |
| <sup>[C]</sup> Humidity absorption | 1.9 / *    | %                 | Sim. to ISO 62 |
| <sup>[C]</sup> Density             | 1440 / -   | kg/m <sup>3</sup> | ISO 1183       |

[C]: CAMPUS

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

|                                     |           |    |         |
|-------------------------------------|-----------|----|---------|
| Injection Molding, mold temperature | <b>80</b> | °C | ISO 294 |
|-------------------------------------|-----------|----|---------|

[C]: CAMPUS

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

## Characteristics

### Processing

Injection Molding

### Features

Low Warpage

### Delivery form

Pellets

### Regional Availability

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

### Special Characteristics

Heat stabilized or stable to heat

## Other text information

### 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