

### Technical Data Sheet

## Polystone® M black extruded

PE-UHMW / PE 1000

#### Typical characteristics

- Good mechanical properties
- Low coefficient of friction
- Good wear properties
- Good impact strength

#### Typical industries

- Chemical Processing Industry
- Mechanical Engineering Industry
- Rail Technology and Vehicles
- Building industry
- Paper Industry
- Conveyor Technology & Automation

|                                         | Test method             | Unit                  | Guideline value |
|-----------------------------------------|-------------------------|-----------------------|-----------------|
| <b>General properties</b>               |                         |                       |                 |
| Density                                 | DIN EN ISO 1183-1       | g / cm <sup>3</sup>   | >0,93           |
| Water absorption                        | DIN EN ISO 62           | %                     | <0,01           |
| Flammability (Thickness 3 mm / 6 mm)    | UL 94                   |                       | HB              |
| Molecular weight                        | -                       | 10 <sup>6</sup> g/mol | ~ 9             |
| <b>Mechanical properties</b>            |                         |                       |                 |
| Elongation at break                     | DIN EN ISO 527          | %                     | >50             |
| Tensile modulus of elasticity           | DIN EN ISO 527          | MPa                   | >650            |
| Notched impact strength                 | DIN EN ISO 11542        | kJ / m <sup>2</sup>   | >100            |
| Shore hardness                          | DIN EN ISO 868          | scale D               | >63             |
| <b>Thermal properties</b>               |                         |                       |                 |
| Melting temperature                     | ISO 11357-3             | °C                    | 130 ... 135     |
| Thermal conductivity                    | DIN 52612-1             | W / (m * K)           | 0,40            |
| Thermal capacity                        | DIN 52612               | kJ / (kg * K)         | 1,90            |
| Coefficient of linear thermal expansion | DIN 53752               | 10 <sup>-6</sup> / K  | 150 ... 230     |
| Service temperature, long term          | Average                 | °C                    | -250 ... 80     |
| Service temperature, short term (max.)  | Average                 | °C                    | 130             |
| Vicat softening temperature             | DIN EN ISO 306, Vicat B | °C                    | 80              |
| <b>Electrical properties</b>            |                         |                       |                 |



|                                                    | Test method      | Unit    | Guideline value   |
|----------------------------------------------------|------------------|---------|-------------------|
| Dielectric constant                                | IEC 60250        |         | 2,3               |
| Dielectric dissipation factor (10 <sup>6</sup> Hz) | IEC 60250        |         | 0,0001            |
| Volume resistivity                                 | DIN EN 62631-3-1 | Ω * cm  | >10 <sup>14</sup> |
| Surface resistivity                                | DIN EN 62631-3-2 | Ω       | >10 <sup>14</sup> |
| Comparative tracking index                         | IEC 60112        |         | 600               |
| Dielectric strength                                | IEC 60243        | kV / mm | >40               |

