

# GUR<sup>®</sup> 4019-7

## GUR<sup>®</sup>

UHMW-PE powder grade: very coarse particle

### Product information

|                            |             |                     |
|----------------------------|-------------|---------------------|
| Resin Identification       | (PE-UHMW)   | ISO 1043            |
| Part Marking Code          | >(PE-UHMW)< | ISO 11469           |
| Average molecular weight   | 5.5E6 g/mol | Margolies' equation |
| Average particle size, d50 | 450 µm      | laser scattering    |

### Rheological properties

|                     |                         |               |
|---------------------|-------------------------|---------------|
| Viscosity number    | 2500 cm <sup>3</sup> /g | ISO 307, 1628 |
| Intrinsic viscosity | 2250                    | ISO 307, 1628 |

### Typical mechanical properties

|                                             |                       |              |
|---------------------------------------------|-----------------------|--------------|
| Tensile stress at yield, 50mm/min           | 23 MPa                | ISO 527-1/-2 |
| Tensile strain at yield, 50mm/min           | 12 %                  | ISO 527-1/-2 |
| Tensile stress at 50% strain                | 21 MPa                | ISO 527-1/-2 |
| Tensile stress at break, 50mm/min           | 33 MPa                | ISO 527-1/-2 |
| Nominal strain at break                     | 360 %                 | ISO 527-1/-2 |
| Elongational stress F, 150/10               | 0.12 MPa              | ISO 21304-2  |
| Charpy double notched impact strength, 23°C | 160 kJ/m <sup>2</sup> | ISO 21304-2  |

### Tribological properties

|                                                      |     |
|------------------------------------------------------|-----|
| Wear by sandslurry method<br>(based on GUR 4120=100) | 130 |
|------------------------------------------------------|-----|

### Thermal properties

|                                         |       |         |
|-----------------------------------------|-------|---------|
| Vicat softening temperature, 50°C/h 50N | 80 °C | ISO 306 |
|-----------------------------------------|-------|---------|

### Electrical properties

|                     |            |               |
|---------------------|------------|---------------|
| Volume resistivity  | 1E12 Ohm.m | IEC 62631-3-1 |
| Surface resistivity | 1E12 Ohm   | IEC 62631-3-2 |

### Physical/Other properties

|              |                       |          |
|--------------|-----------------------|----------|
| Density      | 940 kg/m <sup>3</sup> | ISO 1183 |
| Bulk density | 470 kg/m <sup>3</sup> | ISO 60   |

### Characteristics

|                         |                                                                                                      |
|-------------------------|------------------------------------------------------------------------------------------------------|
| Processing              | Porous Sintering                                                                                     |
| Delivery form           | Powder                                                                                               |
| Special characteristics | High impact or impact modified, Hydrolysis resistant, Low wear / Low friction,<br>Chemical resistant |

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