

GUR[®] 2122 M EP

GUR[®]

UHMW-PE powder grade: special particle morphology

Samples of the above listed GUR[®] product are tested according to the requirements described in monograph 3.1.3. of Ph.Eur. 10.0 "Polyolefines". The results of those tests indicated the sampled material was compliant with monograph 3.1.3 of Ph.Eur. 10.0.

Please note that the manufacturer or seller of parts and articles made out of the above mentioned products have to take the full responsibility regarding applicable legal requirements.

Product information

| | | |
|----------------------------|-------------|---------------------|
| Resin Identification | (PE-UHMW) | ISO 1043 |
| Part Marking Code | >(PE-UHMW)< | ISO 11469 |
| Average molecular weight | 4.2E6 g/mol | Margolies' equation |
| Average particle size, d50 | 130 µm | laser scattering |

Rheological properties

| | | |
|----------------------------------|-------------|---------------|
| Melt mass-flow rate | 0.1 g/10min | ISO 1133 |
| Melt mass-flow rate, Temperature | 190 °C | |
| Melt mass-flow rate, Load | 21.6 kg | |
| Intrinsic viscosity | 1900 | ISO 307, 1628 |

Typical mechanical properties

| | | |
|---|-----------------------|--------------------|
| Tensile modulus | 770 MPa | ISO 527-1/-2 |
| Tensile stress at yield, 50mm/min | 21 MPa | ISO 527-1/-2 |
| Tensile strain at yield, 50mm/min | 13 % | ISO 527-1/-2 |
| Tensile stress at 50% strain | 20 MPa | ISO 527-1/-2 |
| Tensile stress at break, 50mm/min | 39 MPa | ISO 527-1/-2 |
| Nominal strain at break | 400 % | ISO 527-1/-2 |
| Elongational stress F, 150/10 | 0.21 MPa | ISO 21304-2 |
| Charpy double notched impact strength, 23°C | 170 kJ/m ² | ISO 21304-2 |
| Poisson's ratio | 0.46 ^[C] | |
| Shore D hardness, 15s | 60 | ISO 48-4 / ISO 868 |

[C]: Calculated

Tribological properties

| | |
|--|-----|
| Wear by sandslurry method (based on GUR 4120=100) | 100 |
|--|-----|

Thermal properties

| | | |
|---|-------|-------------|
| Temperature of deflection under load, 1.8 MPa | 41 °C | ISO 75-1/-2 |
| Vicat softening temperature, 50°C/h 50N | 80 °C | ISO 306 |

Electrical properties

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

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Physical/Other properties

| | | |
|--------------|-----------------------|----------|
| Density | 930 kg/m ³ | ISO 1183 |
| Bulk density | 250 kg/m ³ | ISO 60 |

Characteristics

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