

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
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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