

GUR[®] 402M13

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UHMW-PE powder grade with high puncture strength for LIBS application

Product information

Resin Identification	(PE-UHMW)	ISO 1043
Part Marking Code	>(PE-UHMW)<	ISO 11469
Average molecular weight	2.3E6 g/mol	Margolies' equation
Average particle size, d50	115 µm	laser scattering

Rheological properties

Viscosity number	1350 cm ³ /g	ISO 307, 1628
Intrinsic viscosity	1250	ISO 307, 1628

Typical mechanical properties

Tensile modulus	850 MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	20 MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	10 %	ISO 527-1/-2
Tensile stress at 50% strain	20 MPa	ISO 527-1/-2
Tensile stress at break, 50mm/min	40 MPa	ISO 527-1/-2
Nominal strain at break	470 %	ISO 527-1/-2
Charpy double notched impact strength, 23°C	235 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)	140
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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

Physical/Other properties

Density	940 kg/m ³	ISO 1183
Bulk density	450 kg/m ³	ISO 60

Characteristics

Processing	Film Extrusion
Delivery form	Powder
Special characteristics	Chemical resistant