

GUR® 4116

GUR®

Melt processable HMW-PE powder grade

Product information

Resin Identification	(PE-HMW)	ISO 1043
Part Marking Code	>(PE-HMW)<	ISO 11469
Average molecular weight	700000 g/mol	Margolies' equation
Average particle size, d50	115 µm	laser scattering

Rheological properties

Melt mass-flow rate	0.5 g/10min	ISO 1133
Melt mass-flow rate, Temperature	190 °C	
Melt mass-flow rate, Load	21.6 kg	
Viscosity number	600 cm³/g	ISO 307, 1628
Intrinsic viscosity	550	ISO 307, 1628

Typical mechanical properties

Tensile modulus	1000 MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	24 MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	8 %	ISO 527-1/-2
Tensile stress at 50% strain	18 MPa	ISO 527-1/-2
Tensile stress at break, 50mm/min	38 MPa	ISO 527-1/-2
Nominal strain at break	800 %	ISO 527-1/-2
Elongational stress F, 150/10	0.01 MPa	ISO 21304-2
Charpy double notched impact strength, 23°C	75 kJ/m²	ISO 21304-2
Poisson's ratio	0.45 ^[C]	
Shore D hardness, 15s	62	ISO 48-4 / ISO 868

[C]: Calculated

Tribological properties

Wear by sandslurry method (based on GUR 4120=100)	200
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Thermal properties

Temperature of deflection under load, 1.8 MPa	42 °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
Surface resistivity	1E12 Ohm	IEC 62631-3-2

Physical/Other properties

Density	940 kg/m³	ISO 1183
Bulk density	450 kg/m³	ISO 60

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Characteristics

Processing

Gel Extrusion

Delivery form

Powder

Special characteristics

High impact or impact modified, Hydrolysis resistant, Low wear / Low friction,
Chemical resistant