

GUR[®] 4116

HMW-PE powder grade for battery separators
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Product information

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 cm ³ /g	ISO 307, 1157, 1628
Intrinsic viscosity	550	ISO 307, 1157, 1628

Typical mechanical properties

Tensile Modulus	1000 MPa	ISO 527-1/-2
Yield stress, 50mm/min	24 MPa	ISO 527-1/-2
Yield strain, 50mm/min	8 %	ISO 527-1/-2
Stress at 50% strain	18 MPa	ISO 527-1/-2
Stress at break, 50mm/min	38 MPa	ISO 527-1/-2
Nominal strain at break	800 %	ISO 527-1/-2
Elongational stress, 150/10	0.01 MPa	ISO 21304-2
Charpy double notched impact strength, 23°C	75 kJ/m ²	ISO 21304-2
Shore D hardness, 15s	62	ISO 48-4 / ISO 868

Tribological properties

Relative Wear (based on GUR 4120=100), sandslurry method	200	Internal
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Thermal properties

Temp. 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

Other properties

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

Characteristics

Food contact	FDA 21 CFR
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