

GUR® 4011

HMW-PE powder grade for battery separators

Product information

Average molecular weight	2E6 g/mol	Margolies' equation
Average particle size, D50	115 µm	laser scattering

Rheological properties

Melt mass-flow rate, Temperature	190 °C	
Melt mass-flow rate, Load	21.6 kg	
Viscosity number	1200 cm³/g	ISO 307, 1157, 1628
Intrinsic viscosity	1150	ISO 307, 1157, 1628

Typical mechanical properties

Yield stress, 50mm/min	23 MPa	ISO 527-1/-2
Yield strain, 50mm/min	13 %	ISO 527-1/-2
Stress at 50% strain	20 MPa	ISO 527-1/-2
Stress at break, 50mm/min	36 MPa	ISO 527-1/-2
Nominal strain at break	400 %	ISO 527-1/-2
Elongational stress, 150/10	0.07 MPa	ISO 21304-2
Charpy double notched impact strength, 23°C	215 kJ/m²	ISO 21304-2

Tribological properties

Relative Wear	137	Internal
(based on GUR 4120=100), sandslurry method		

Thermal properties

Vicat softening temperature, 50°C/h, 50N	80 °C	ISO 306
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Electrical properties

Volume resistivity	>1E12 Ohm.m	IEC 62631-3-1
Surface resistivity	>1E12 Ohm	IEC 62631-3-2

Other properties

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