Celanese
The chemistry inside innovation™

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	cm^3/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/m^2	ISO 21304-2

Tribological properties

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

Thermal properties

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