Celanese
The chemistry inside innovation™

GUR® 4114

HMW-PE powder grade for battery separators
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Product information

Average molecular weight	1000000	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	750	cm^3/g	ISO 307, 1157, 1628
Intrinsic viscosity	700		ISO 307, 1157, 1628

Typical mechanical properties

Tensile Modulus	950	MPa	ISO 527-1/-2
Yield stress, 50mm/min	24	MPa	ISO 527-1/-2
Yield strain, 50mm/min	11	%	ISO 527-1/-2
Stress at 50% strain	19	MPa	ISO 527-1/-2
Stress at break, 50mm/min	41	MPa	ISO 527-1/-2
Nominal strain at break	750	%	ISO 527-1/-2
Elongational stress, 150/10	0.02	MPa	ISO 21304-2
Charpy double notched impact strength, 23°C	125	kJ/m^2	ISO 21304-2
Shore D hardness, 15s	61		ISO 48-4 / ISO 868

Tribological properties

Relative Wear (based on GUR 4120=100), sandslurry method	170		Internal

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

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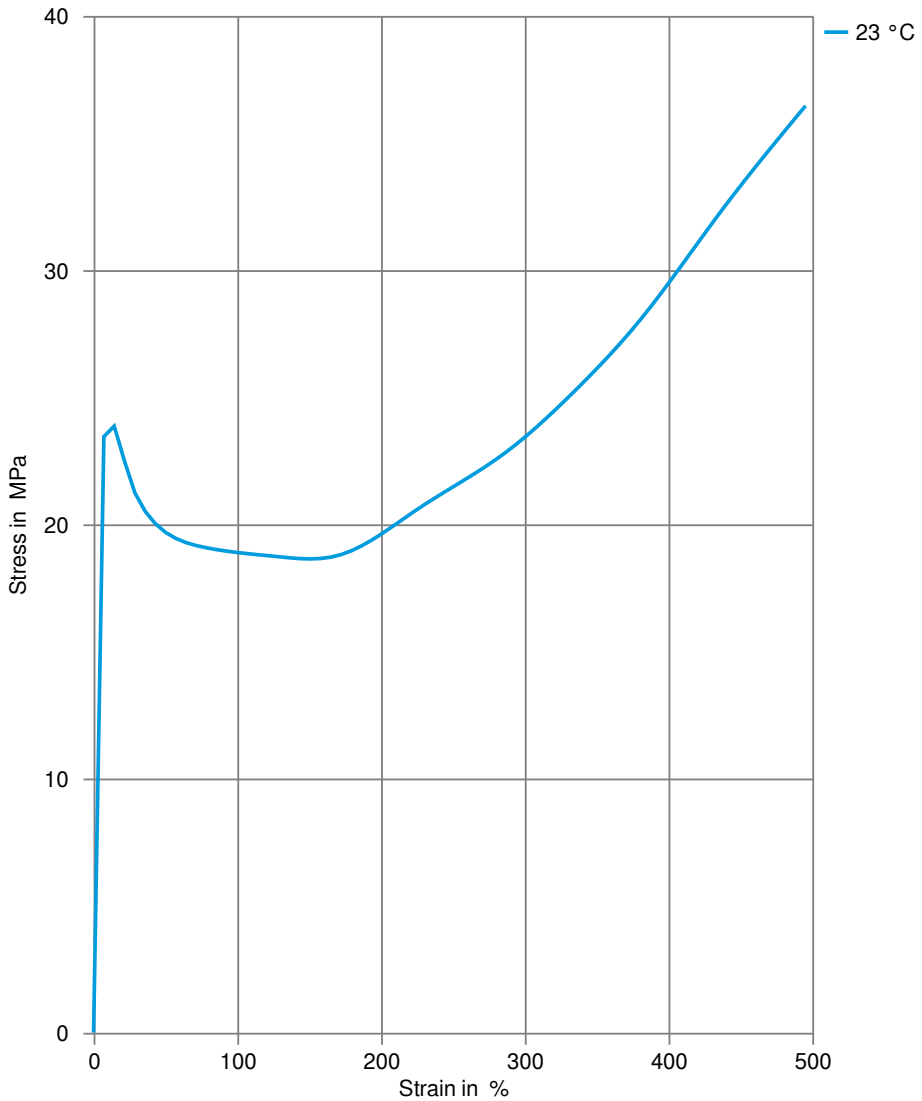
Characteristics

Food contact	FDA 21 CFR

Stress-strain



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Secant modulus-strain