Celanese
The chemistry inside innovation™

GUR® 4523

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Melt processable UHMW-PE powder grade; screw extrusion grade

Product information

Resin Identification	(PE-UHMW)		ISO 1043
Part Marking Code	>(PE-UHMW)<		ISO 11469
Average molecular weight	6.7E6	g/mol	Margolies' equation
Average particle size, d50	120	µm	laser scattering

Rheological properties

Viscosity number	3000	cm^3/g	ISO 307, 1628
Intrinsic viscosity	2500		ISO 307, 1628

Typical mechanical properties

Tensile modulus	740	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	20	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	13	%	ISO 527-1/-2
Tensile stress at 50% strain	19	MPa	ISO 527-1/-2
Tensile stress at break, 50mm/min	38	MPa	ISO 527-1/-2
Nominal strain at break	410	%	ISO 527-1/-2
Elongational stress F, 150/10	0.24	MPa	ISO 21304-2
Charpy double notched impact strength, 23°C	160	kJ/m^2	ISO 21304-2
Poisson's ratio	0.46[C]		

[C]: Calculated

Tribological properties

Wear by sandslurry method (based on GUR 4120=100)	110		

Thermal properties

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

Physical/Other properties

Density	930	kg/m^3	ISO 1183
Bulk density	490	kg/m^3	ISO 60

Characteristics

Processing	Injection Moulding, Extrusion
Delivery form	Powder
Special characteristics	Hydrolysis resistant, Low wear / Low friction, Chemical resistant

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Revised: 2024-08-13 Source: Celanese Materials Database