Celanese
The chemistry inside innovation™

GUR® 4222-5

GUR®

Heat stabilized coarse particle UHMW-PE powder grade for porous application

Product information

Resin Identification	(PE-UHMW)		ISO 1043
Part Marking Code	>(PE-UHMW)<		ISO 11469
Average molecular weight	4.4E6	g/mol	Margolies' equation
Average particle size, d50	170	µm	laser scattering

Rheological properties

Viscosity number	2200	cm^3/g	ISO 307, 1628
Intrinsic viscosity	1900		ISO 307, 1628

Typical mechanical properties

Tensile modulus	800	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	21	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	15	%	ISO 527-1/-2
Tensile stress at 50% strain	21	MPa	ISO 527-1/-2
Tensile stress at break, 50mm/min	41	MPa	ISO 527-1/-2
Nominal strain at break	380	%	ISO 527-1/-2
Elongational stress F, 150/10	0.24	MPa	ISO 21304-2
Charpy double notched impact strength, 23 °C	120	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		

Physical/Other properties

Density	930	kg/m^3	ISO 1183
Bulk density	410	kg/m^3	ISO 60

Characteristics

Processing	Compression moulding, Porous Sintering
Delivery form	Powder
Special characteristics	High impact or impact modified, Heat stabilised or stable to heat, Hydrolysis resistant, Low wear / Low friction, Chemical resistant

Revised: 2024-07-24 Source: Celanese Materials Database