

GUR® HOSTALLOY 731 | PE-HD | Specialty

Description

Hostalloy 731 is a linear polyolefin resin in pellet form with a molecular weight exceeding most high molecular weight high density polyethylene (HMW-HDPE) resins. The very high molecular weight of this resin yields several unique properties including good abrasion and impact strength. Outstanding properties include a low coefficient of friction that results in self-lubricating, non-stick surfaces after processing. The resin is melt processible and suitable for general purpose injection molding or extrusion applications.

Physical properties	Value	Unit	Test Standard
Density	950	kg/m ³	ISO 1183
Mass melt-flow rate (MFR) 190°C/21.6 kg	10	g/10 min	ISO 1133
Viscosity number	290	cm ³ /g	ISO 307, 1157, 1628

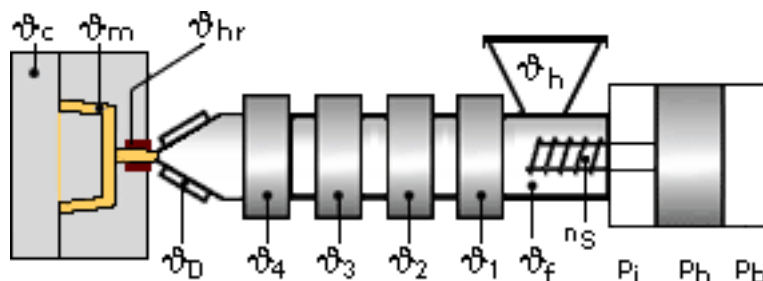
Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	850	MPa	ISO 527-2/1A
Tensile stress at yield (50mm/min)	19	MPa	ISO 527-2/1A
Tensile stress at break (50mm/min)	>20	MPa	ISO 527-2/1A
Charpy notched impact strength @ 23°C	>80p	kJ/m ²	ISO 179/1eA
Charpy notched impact strength @ -30°C	>60p	kJ/m ²	ISO 179/1eA
Charpy impact strength (14° V-notch both sides)	15	kJ/m ²	ISO 11542-2
Wear by sandslurry method (based on GUR 4120=100)	350	-	Internal

Thermal properties	Value	Unit	Test Standard
Vicat softening temperature B50 (50°C/h 50N)	80	°C	ISO 306
Coeff.of linear therm. expansion (parallel)	2	E-4/°C	ISO 11359-2
Flammability @1.6mm nom. thickn.	HB	class	UL94
Thermal conductivity at 23°C	0.41	W/(m K)	Internal
Specific heat at 23°C	1.84	kJ/(kg·°K)	Internal

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	2.9	-	IEC 60250
Relative permittivity - 1 MHz	2.9	-	IEC 60250
Dissipation factor - 100 Hz	2	E-4	IEC 60250
Dissipation factor - 1 MHz	4	E-4	IEC 60250
Volume resistivity	>1E12	Ohm*m	IEC 60093
Surface resistivity	>1E12	Ohm	IEC 60093
Electric strength	40	kV/mm	IEC 60243-1
Comparative tracking index CTI	600	-	IEC 60112

GUR® HOSTALLOY 731 | PE-HD | Specialty

Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.15%

Not needed

None

Drying time: 2 h

Drying temperature: 0 - 80 °C

Temperature:

	ϑ _{Manifold}	ϑ _{Mold}	ϑ _{Melt}	ϑ _{Nozzle}	ϑ _{Zone4}	ϑ _{Zone3}	ϑ _{Zone2}	ϑ _{Zone1}	ϑ _{Feed}	ϑ _{Hopper}
min (°C)	180	30	180	180	180	180	180	180	15	15
max (°C)	280	90	280	280	280	280	280	190	40	30

Pressure:

	Inj press	Hold press	Back pressure
min (bar)	700	400	0
max (bar)	1400	1200	5

Speed:

Injection speed: high

Screw speed

	16	25	40	55	75
Screw diameter (mm)					
Screw speed (RPM)	100-150	100-150	100-150	100-150	100-150

Special Info:

For screw diameter > 50 mm peripheral screw speed can be up to 0.7 m/s.