Ticona
Performance Driven Solutions™

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/m³	ISO 1183
Mass melt-flow rate (MFR) 190°C/21.6 kg	**10**	g/10 min	ISO 1133
Viscosity number	**290**	cm³/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/m²	ISO 179/1eA
Charpy notched impact strength @ -30°C	**>60p**	kJ/m²	ISO 179/1eA
Charpy impact strength (14° V-notch both sides)	**15**	kJ/m²	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

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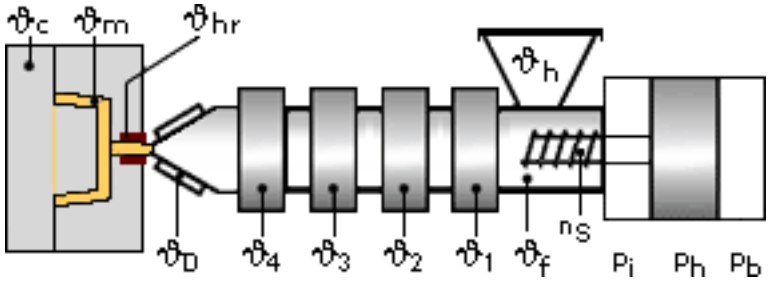
Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.15%
Not needed
None

Drying time: 2 h

Drying temperature: 0 - 80 °C

Temperature:

	ϑManifold	ϑMold	ϑMelt	ϑNozzle	ϑZone4	ϑZone3	ϑZone2	ϑZone1	ϑFeed	ϑHopper
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

Screw diameter (mm)	16	25	40	55	75
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.