

Sasol Polymers LLDPE: HF123

Density: 0.929 g/cm³

MFI: 1.0 g/10min

Features

- Hexene copolymer
- Outstanding mechanical properties
- Excellent drawdown
- Good heat sealing range
- Good stiffness

Applications

- General packaging thin film (10µm to 30µm)
- Not recommended for lamination film
- Blending into LDPE

Additives

- Antioxidant
- High anti block
- High slip

Material properties (typical values not to be construed as specifications)

	Value	Unit	Test method
MFI (190°C/2.16kg)	1.0	g/10 min	ASTM D1238
Nominal density	0.929	g/cm ³	ASTM D1505
Tensile strength at yield MD	12	MPa	ASTM D882
TD	12	MPa	ASTM D882
Tensile strength at break MD	33	MPa	ASTM D882
TD	23	MPa	ASTM D882
Elongation MD	499	%	ASTM D882
TD	580	%	ASTM D882
Tear strength MD	8	g/µm	ASTM D1922
TD	27	g/µm	ASTM D1922
Impact strength (F ₅₀)	147	g	ASTM D1709
Haze	15	%	ASTM D1003
Gloss @ 45°	45	units	ASTM D2457
Coefficient of friction µs	0.12	units	ASTM D1894
µD	0.12	units	ASTM D1894

The above values were calculated from data for 30µm film produced on a 75mm Barmag extruder with 190°C melt temperature using a 2:1 blow ratio.





Typical processing conditions

Blown film

°C	H	1	2	3	4	D
220						
200						
180						
160						
140						



HF123 should be processed on equipment designed or retrofitted for LLDPE, i.e.

- Increased die gap unless a processing aid is incorporated.
- Suitable screw e.g. Sasol Polymers design full length general purpose pitch.
- Aerodynamic cooling systems.

Recommended melt temperature: 190°C
Recommended screen pack: 20/40/20 BS mesh.
Blow ratios of greater than 2:1 recommended.

Packaging

Sasol Polymers polyolefin resins are supplied in pellet form packed in 25kg bags. Alternative packaging modes for polypropylene resins are available for selected grades.

Handling

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses and heat resistant gloves are suggested as a minimal precaution to prevent possible mechanical or thermal injuries to the eyes and skin. Fabrication areas should be ventilated to carry away fumes or vapours.

Conveying equipment should be designed to prevent accumulation of fines or dust particles that are contained in all polyolefin resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. Sasol Polymers recommend the conveying system used:

- be equipped with adequate filters
- is operated and maintained in such a manner to ensure no leaks develop
- that adequate grounding exists at all times

Sasol Polymers further recommend that good housekeeping be practised throughout the manufacturing facility. Polymer pellets may pose a slippage hazard if spilled.

Storage

As ultraviolet light may cause a change in the material properties, all polyolefin resins should be protected from direct sunlight during storage. Under cool, dry, dark conditions Sasol Polymers polyolefin resins are expected to maintain their original material and processing properties for at least 18 months.

