Product data sheet

HF101

Linear Low Density Polyethylene for film extrusion

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Sasol Polymers
Polyolefins Business

Sasol Polymers LLDPE: HF101

Density: 0.923 g/cm³

MFI: 0.8 g/10min

Features

- Hexene copolymer
- Outstanding mechanical properties
- Excellent puncture resistance
- High impact strength

Applications

- Heavy duty film (>100µm)
- Blending into HDPE or LDPE

Additives

- Antioxidant
- Low anti block

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

		Value	Unit	Test method
MFI (190°C/2.16kg)		0.8	g/10 min	ASTM D1238
Nominal density		0.923	g/cm^3	ASTM D1505
Tensile strength at yield	MD	11	MPa	ASTM D882
	TD	12	MPa	ASTM D882
Tensile strength at break	MD	38	MPa	ASTM D882
	TD	37	MPa	ASTM D882
Elongation	MD	725	%	ASTM D882
	TD	763	%	ASTM D882
Tear strength	MD	18	g/µm	ASTM D1922
	TD	20	g/µm	ASTM D1922
Impact strength (F_{50})		500	g	ASTM D1709

The above values were calculated from data for 100µm film produced on a 75mm Barmag extruder with 190°C melt temperature using a 2:1 blow ratio and a die gap of 3.0mm.

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Typical processing conditions

Blown film

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

HF101 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.