



HF 123

LLDPE

Date of Issue: February 2002

Print Date: July 2002

Information

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**Sasol Polymers
Polythene Business**

Film

Melt index: 1.0

Density: 0.929

Features

UCC gas phase resin
Hexene copolymer
Outstanding mechanical properties
Good heat sealing range

Additives

High slip
High antiblock
Antioxidants

Applications

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

Performance properties - HF 123

Test		Value	Unit	Test method
MFI (190°C/2.16kg)		1.0	g/10min	ASTM D1238
Nominal density		0.929	g/cm ³	ASTM D1505
Tensile strength at yield	MD	12.1	MPa	ASTM D882
	TD	13.0	MPa	ASTM D882
Tensile strength at break	MD	30.6	MPa	ASTM D882
	TD	22.8	MPa	ASTM D882
Elongation	MD	404	%	ASTM D882
	TD	485	%	ASTM D882
Tear strength	MD	6.4	g/µm	ASTM D1922
	TD	24.6	g/µm	ASTM D1922
Impact strength		131	F _{50g}	ASTM D1709
Haze		14.9	%	ASTM D1003
Gloss		45	units	ASTM D2457
Coefficients of friction	µs	0.12	units	ASTM D1894
	µd	0.11	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 2.3:1 blow ratio.



Processing

HF123 should be processed on equipment designed or retrofitted for LLDPE ie.

1. Increased die gap (~3mm) unless a processing aid is incorporated.
2. Suitable screw eg. Sasol Polymers design full length general purpose decreasing pitch.
3. Aerodynamic cooling systems.

Recommended melt temperature:

190 °C (minimum 180 °C, maximum 200 °C)

Recommended screen pack: 20/40/20 BS mesh.

Blow ratios of greater than 2:1 recommended.

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

Presentation

Supplied in pellet form packed in 25kg bags.

Food Packaging

This material complies with F&DA regulation 177.1520 when used unmodified and according to good manufacturing practices for food contact applications. Accordingly, this material may be used in all food contact applications (except holding food during cooking).

Conveying

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

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

We further recommend good housekeeping be practised throughout the facility.

Storage

As ultraviolet light may cause a change in the material, all resins should be protected from direct sunlight during storage.

Handling

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

Combustibility

Polyethylene resins will burn when supplied with adequate heat and oxygen. They should be handled and stored away from contact with direct flames and/or other ignition sources. In burning, polyethylene resins contribute high heat and may generate a dense black smoke. Fires can be extinguished by conventional means, with water and water mist preferred. In enclosed areas, fire fighters should be provided with self-contained breathing apparatus.