PRODUCT DATA SHEET

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Low Density Polyethylene

LF2103

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Melt Index: 0.33 g/10min

Density: 0.921 g/cm^3

Features
- Tubular Resin
- Good mechanical properties
- High impact strength
- High tear strength
- Wide processing range

Applications
- Heavy duty shrink film (>100µm)
- Heavy duty sacks
- Agricultural film
- Thick film

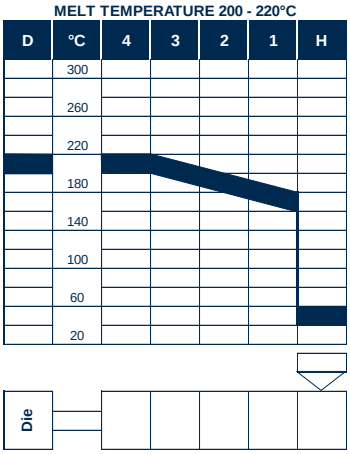
Additives
- Antioxidant

Typical properties (not to be construed as specifications)		Value (SI)	Value (English)	Method
Resin Properties	Melt Index (190°C/2.16kg)	0.33 g/10min	0.33 g/10min	ASTM D1238
	Nominal density	0.921 g/cm^3	0.921 g/cm^3	ASTM D1505
Film Properties	Tensile strength at yield MD	11 MPa	1595 psi	ASTM D882
	Tensile strength at yield TD	10 MPa	1450 psi	ASTM D882
	Tensile strength at break MD	23 MPa	3325 psi	ASTM D882
	Tensile strength at break TD	20 MPa	2900 psi	ASTM D882
	Elongation MD	510 %	510 %	ASTM D882
	Elongation TD	610 %	610 %	ASTM D882
	Elmendorf Tear MD	3 g/µm	3 g/µm	ASTM D1922
	Elmendorf Tear TD	5 g/µm	5 g/µm	ASTM D1922
	Dart Drop Impact Strength (F_{50})	300 g	300 g	ASTM D1709A
	Haze	9%	9 %	ASTM D1003
	Gloss (60°)	90	90	ASTM D2457

The above values were measured on a 100 µm film produced on a 65 mm Macchi extruder with a Macchi LDPE screw and a 250 mm die, using 218°C melt temperature, 625 mm FLH and a 2.5:1 BUR using a die gap of 0.8mm.

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Blown film extrusion



Processing

LF2103 should be processed on a conventional LDPE extruder, but can be processed on a LLDPE extruder (wide die gap) with drawdown limitations, inferior mechanical and film shrinkage properties. The optimum blow ratio is 2:1. However good properties are obtained at a blow ratio of 1.4:1 (for > 100µm thick film). Recommended screen pack: 60/100/60 BS mesh. The optimum melt temperature is 200°C – 220°C.

Handling

Workers should be protected from the possibility of skin or eye contact with molten polymer. Safety glasses are suggested as a minimal protection to prevent possible mechanical or thermal injury to the eyes. Fabrication areas should be ventilated to carry away fumes or vapours. Please consult the material safety data sheet (SDS) for more detailed information.

Storage

As ultraviolet light may cause a change in the material, all resins should be protected from direct sunlight during storage. If stored in cool (<25°C), dry area with low ambient light levels, polyolefin resins are expected to maintain their original material and processing properties for at least 12 months.

Combustibility

Polyethylene resins will burn when supplied 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.

Conveying

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

It is further recommended that good housekeeping is practiced throughout the facility.

Regulatory & Legal Compliance

This material complies with FDA regulation 21 CFR 177.1520 when used unmodified and according to good manufacturing practices for food contact applications. Refer to applicable food contact compliance statement which is available on request.

This material is not medically approved and should therefore not be used in any such application.

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