

TECHNICAL DATA SHEET

LLDPE FB2310-(LINEAR LOW DENSITY POLYEHTYLENE)

Product Description

FB2310 is a high molecular weight linear low-density polyethylene film grade combining good and flexible extrusion behavior, excellent draw down and superior mechanical properties, and it also contains antioxidant.

-For films made of FB2310 , the high toughness remains in cold conditions.

Application:

• Agricultural films • Food Packaging • Frozen food packaging • Heavy-duty sack • Shrink film • Protective film

Origin: Singapore

- Borouge Pte Ltd

Physical Properties	Value	Unit	Test Method
Density	931	kg/m ³	ISO 1183
Melt Flow Rate (190°C /2.16 kg)	0,25	g/10 min	ISO 1133
Melt Flow Rate (190°C /5.0 kg)	0,9	g/10 min	ISO 1133
Melt Flow Rate (190°C /21.6kg)	20	g/10 min	ISO 1133
Melting Temperature DSC	127	°C	ISO 11357-3

Film Properties:

are measured on 40 µm blown film produced on a 60 mm W&H extruder with L/D 30 and die 200 x 1,2 mm, BUR = 3:1, FLH = 2DD.

Film properties		Value	Unit	Method
Dart Drop		230	g	ISO 7765-1
Instrumented puncture test		20	J/mm	ISO 7765-1
Haze		80	%	ASTM D 1003
Gloss		7		ASTM D 2457
Tensile Strain @ Break ¹	MD	400	%	ISO 527-3
Tensile Strain @ Break ¹	TD	700	%	ISO 527-3
Tensile Strength	MD	50	MPa	ISO 527-3
Tensile Strength	TD	40	MPa	ISO 527-3
Tensile Modulus	MD	300	MPa	ISO 527-3
Tensile Modulus	TD	400	MPa	ISO 527-3
Tear Resistance (Elmendorf)	MD	50	N/mm	ISO 6383/2
	TD	250	N/mm	
Coefficient of friction (Dynamic)		0,4		ISO 8295



Processing techniques:

Borstar FB2310 is easily processed on conventional extruders.

Borstar FB2310 can be processed in most types of blown film equipment, incl. LDPE, LLDPE or even HDPE extruders. The balance of draw down properties and bubble stability is superior to conventional LLDPE and LDPE. Thicknesses of 10 to >200µm can be processed with good bubble stability. Borstar FB2310 is well suited for coextrusion.

Recommended extrusion temperature is 190°C-210°C. Conventional die gaps can be used without sharkskin or draw down problems. A gap of 1,0-1,5 mm will give the best balance between extruder pressure and physical properties in the film. Wider die gap gives higher machine direction orientation and narrow die gap may give too high extruder pressure.

Borstar FB2310 is sensitive to the orientation obtained by the film blowing conditions like Blow Up Ratio (BUR) and Frost Line Height (FLH). Higher impact can be achieved by rising the FLH and 4DD. High BUR (>2) also results in better mechanical properties and better balance in MD/TD.

Storage And Handling:

This product should be stored in dry conditions at temperature bellow 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odor generation and color changes and can have negative effects on physical properties of this product.

Recycling:

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.