



Polyethylene

Borstar® FB3450

Polyethylene for Film Extrusion

Description

Borstar FB3450 is a high density polyethylene

Borstar FB3450 is well suited for multilayer coextruded films where higher stiffness and toughness than in standard LDPE and LLDPE is recommended

Applications

Borstar FB3450 has been developed especially for applications like:

Blending
General packaging film

Additives

Borstar FB3450 contains antioxidant.

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density	945 kg/m ³	ISO 1183
Melt Flow Rate (190 °C/2,16 kg)	0,3 g/10min	ISO 1133
Melt Flow Rate (190 °C/5,0 kg)	1,1 g/10min	ISO 1133
Melt Flow Rate (190 °C/21,6 kg)	25 g/10min	ISO 1133
Melting temperature	129 °C	ISO 11357-3

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Film Properties

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.

Property		Typical Value	Test Method
Data should not be used for specification work			
Dart Drop		80 g	ISO 7765-1
Instrumented puncture test	Total Penetration Energy	8 J/mm	ISO 7765-2
Haze		75 %	ASTM D 1003
Gloss		7	ASTM D 2457
Tensile Strain at Break ¹	MD	500 %	ISO 527-3
Tensile Strain at Break	TD	800 %	ISO 527-3
Tensile Strength	MD	60 MPa	ISO 527-3
Tensile Strength	TD	50 MPa	ISO 527-3
Tensile Modulus	MD	550 MPa	ISO 527-3
Tensile Modulus	TD	750 MPa	ISO 527-3
Tear resistance (Elmendorf)	MD	20 N/mm	ISO 6383/2
	TD	150 N/mm	
Coefficient of friction (Dynamic)		0,4	ISO 8295

¹ MD = machine direction, TD = transverse direction.

Processing Techniques

Borstar FB3450 is easily processed on conventional extruders.

Borstar FB3450 has excellent flow properties and homogenises well with lower MFR LDPE and LLDPE materials. Borstar FB3450 in LDPE/LLDPE blends contributes with improved bubble stability and draw down.

Borstar FB3450 in blends should be processed in conventional film extruders in order to obtain optimal performance in extrusion and in mechanical properties. By increasing addition of Borstar FB3450 in LDPE and LLDPE, the stiffness of the film increases accordingly. Borstar FB3450 in blends should be processed with 10-15°C higher temperatures on the extruder/die compared to the processing temperatures on the base polymer alone. At higher blend ration or pure Borstar FB3450, the optimal processing is obtained on a HDPE film line with HDPE conditions. The recommended melt temperatures are 200°C-210°C.

Storage

Borstar FB3450 should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and colour changes and can have negative effects on the physical properties of this product.

More information on storage is found in our "Safety data sheet" / "Product safety information sheet".

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Safety

The product is not classified as dangerous.

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety, recovery and disposal of the product. For more information, contact your Borealis representative.

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.

Related Documents

The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.

"Safety data sheet" / "Product safety information sheet"
Statement on chemicals, regulations and standards
General statement on compliance to food contact regulations
Statement on polymer additives and BSE