

Polyethylene

Borstar® FB1510

High Density Polyethylene

Description

Borstar® FB1510 is a high molecular weight linear high density polyethylene film grade for high neck extrusion of thin films, with superior mechanical properties

Borstar® FB1510 is also suitable for extrusion in low neck setup, when used in a formulation

Cas No. 25087-34-7

Borstar® FB1510 contains:

Antioxidants

Excellent Mechanical Properties
High Stiffness and Toughness

Drawability

Applications

Borstar® FB1510 is intended for following applications:

Liners

Industrial liners

Heavy duty shipping sack

Protective film

Refuse sacks and liners

Food packaging

Physical properties

Property	Typical value *	Unit	Test method
Density	953	kg/m³	ISO 1183-1
Melt flow rate (190 °C/21.6 kg)	7.5	g/10min	ISO 1133-1
Melt flow rate (190 °C/5 kg)	0.27	g/10min	ISO 1133-1
Melting temperature	133	°C	ISO 11357-3

* Data should not be used for specification work

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Film properties

Property	Typical value *	Unit	Test method
Tensile Modulus MD ¹	900	MPa	ISO 527-3
Tensile Modulus TD ¹	1200	MPa	ISO 527-3
Tensile strain at break MD	320	%	ISO 527-3
Tensile strain at break TD	500	%	ISO 527-3
Tensile strength MD	80	MPa	ISO 527-3
Tensile strength TD	50	MPa	ISO 527-3
Tear resistance (Elmendorf) MD ²	5	N/mm	ISO 6383/2
Tear resistance (Elmendorf) TD ²	100	N/mm	ISO 6383/2
Dart drop	190	g	ISO 7765-1
Instrumented puncture test, Total penetration energy	24	J/mm	ISO 7765-2
Gloss 45°	80	GU	ASTM D2457
Haze	6	%	ASTM D1003
Coefficient of friction (Dynamic)	0.27	-	ISO 8295

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¹ Internal method

² Relative Tear resistance

Film properties measured on 15µm blown film on 50 mm Alpine extruder, die diameter 200 mm, die gap 1,2 mm, BUR=4:1, FLH=10DD

Processing techniques

Borstar® FB1510 is designed for high neck extrusion of thin films.

Borstar® FB1510 can be processed in most types of blown film equipment, with both high and low neck setup.

A die 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.

When mixed with LDPE, LLDPE or MDPE Borstar® FB1510 can be extruded in standard low neck equipment in standard conditions.

Recommended extrusion temperature for high neck is 190°C - 210°C

BUR=4:1

FLH 10DD (neck height: 8DD)

Packaging and storage

Borstar® FB1510 should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which can result in odour generation and colour changes and can have negative effects on the physical properties of this product.

Product compliance documents

Latest versions of product safety information sheets (PSIS), product safety data sheets (SDS) and other product liability documents are available in our website www.borealisgroup.com.

Sustainability aspects

Borealis is ever mindful of the impact of our products on the planet. We promote Design for Circularity (DfC) and Design for Recycling (DfR) to conserve natural resources and to reduce the environmental impact of products over their entire lifetime (including production, use phase and after phase). DfR helps ensure that material can be effectively recycled while maximizing the material performance efficiency.

Further information on sustainability and Design for Recycling (DfR) can be found from our websites www.borealisgroup.com and www.borealiseverminds.com.

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Disclaimer

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

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It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

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