

PRODUCT DATA SHEET

POLYETHYLENE

Borstar® FB5600

HIGH DENSITY POLYETHYLENE FOR MULTILAYER FILMS

CAS number (25087-34-7)

DESCRIPTION

Borstar®FB5600 is produced using the proprietary **Borstar®** bimodal technology resulting in easy extrusion with superior mechanical properties. Product offers excellent balance of stiffness, barrier properties and good processability for multilayer blown film structures.

Borstar®FB5600 when used in combination with **Borstar®PE / LDPE / PP** products for multilayer films, it offers excellent stiffness and barrier properties.

APPLICATIONS

Borstar®FB5600 is recommended for Lamination films, Food Packaging films, Lamitubes, Heavy Duty Shipping Sacks and Shrink film and Standup Pouches.

KEY FEATURES

Excellent stiffness, Excellent barrier performance, Good Processing and Bubble Stability.

PHYSICAL PROPERTIES

Property	Typical Value*	Test Method
Density	960 kg/m ³	ASTM D 792
Melt Flow Rate (190°C/2.16kg)	0.7 g/10min	ASTM D1238
Melt Flow Rate (190°C/21.6kg)	42 g/10min	ASTM D1238
Melting Temperature	132 °C	ISO 11357/03
Vicat Softening Point A50 (10 N)	127 °C	ISO 306
ESCR – 10% Igepal – F 50%	>72 Hours	ASTM D1693-B

* Typical properties and data should not be used for specification work

FILM PROPERTIES

Borstar®FB5600 film properties are measured on 25 micron blown film produced at lab scale extruder with processing conditions: BUR = 2.5:1, FLH = 4 DD, Die gap = 1.8mm.

Property**	Typical Value*	Test Method
Tensile Strength at Break (MD/TD)	74/32 MPa	ISO 527-3
Elongation at Break (MD/TD)	500/5 %	ISO 527-3
Tensile Strength at Yield (MD/TD)	32/33 MPa	ISO 527-3
Tensile Modulus (1 % Secant) (MD/TD)	1100/1650 MPa	ASTM D 882
Elmendorf tear strength (MD/TD)	12/800 g	ASTM D 1922
Dart Drop	<40 g	ASTM D 1709/A
Puncture Resistance, force	30 N	ASTM D 5748
Puncture Resistance, energy	0.7 J	ASTM D 5748

* Typical properties and data should not be used for specification work

** The film properties are dependent on extrusion conditions.

PROCESSING CONDITIONS

Borstar®FB5600 can be processed in most types of blown film multilayer equipment. The actual extrusion conditions will depend on the type of equipment used and the combination of materials used for the multilayer structure.

The following conditions should be used as a guide when starting up the extruder.

Barrel zone	190-210°C
Die zone	200-220°C

Please contact your local Borouge representative for specific recommendations for processing conditions

FOOD CONTACT REGULATIONS

Borstar®FB5600 fulfils the food contact regulations in most countries. If required, contact your Borouge / Borealis representative for a certificate.

STORAGE

Borstar®FB5600 should be stored in dry conditions at temperature 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 physical properties of this product.

More information on storage can be found in Safety Information Sheet (SIS) for this product.

SAFETY

The product is not classified as a hazardous mixture.

Dust and fines from the product carry a risk of dust explosion. All equipment should be properly earthed. Inhalation of dust should be avoided as it may cause irritation of the respiratory system. Small amounts of fumes are generated during processing of the product. Proper ventilation is therefore required.

Please see our Safety Information Sheet (SIS) for details on various aspects of safety, recovery and disposal of the product, for more information contact your Borouge 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 Information Sheet
Statement on chemicals, regulations and standards

DISCLAIMER

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however, we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borouge makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

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.

No liability can be accepted in respect of the use of Borouge's products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

Borstar® is a trademark of the Borealis group.