

## PRODUCT DATA SHEET

# POLYETHYLENE

# Borstar® FB1460

HIGH DENSITY POLYETHYLENE FOR HIGH PERFORMANCE FLEXIBLE PACKAGING

### DESCRIPTION

**Borstar®FB1460** is high density film grade produced using the proprietary **Borstar®** bimodal technology resulting in easy extrusion with superior mechanical properties. The product gives a strong and stiff film with high consistency. Material properties are best realized by processing at HDPE conditions

**Borstar®FB1460** contains antioxidant.

### APPLICATIONS

Mono layer & co-extrusion films  
Thin protection film  
Food Packaging  
Heavy duty shipping sacks

Exclusive Carrier/ Boutique bags  
Thin bags  
Industrial Liners

### KEY FEATURES

Easy process ability  
Excellent impact strength – stiffness balance  
Excellent draw down  
Bubble stability

### PHYSICAL PROPERTIES

Property	Typical Value*	Test Method
Density	946 kg/m <sup>3</sup>	ASTM D 792
Melt Flow Rate (190°C/2.16kg)	<0.1 g/10min	ASTM D1238
Melt Flow Rate (190°C/5.0kg)	0.2 g/10min	ASTM D1238
Melt Flow Rate (190°C/21.6kg)	6 g/10min	ASTM D1238
Melting Temperature	131 °C	ISO 11357/03
Vicat Softening Point A50 (10 N)	125 °C	ISO 306
ESCR – 10% Igepal – F 50%	>1000 Hours	ASTM D1693

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

### FILM PROPERTIES<sup>1</sup>

Property**	Typical Value*	Test Method
Tensile Strength at Break (MD/TD)	75/55 MPa	ISO 527-3
Elongation at Break (MD/TD)	350/500 %	ISO 527-3
Tensile Strength at Yield (TD)	25 MPa	ISO 527-3
Tensile Modulus (1 % Secant) (MD/TD)	700/800 MPa	ASTM D 882
Dart Drop	350 g	ASTM D 1709/A
Tear Strength (MD/TD)	20/40 N	ASTM D 1922
Puncture Resistance, force	30 N	ASTM D 5748
Puncture Resistance, energy	1 J	ASTM D 5748

<sup>1</sup> Film properties: 15µm, BUR=4:1, FLH=8DD, Die gap 1.2mm

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

\*\* The film properties are dependent on extrusion conditions.

## PROCESSING CONDITIONS

**Borstar®FB1460** should be processed in HDPE film extruders in order to obtain optimal processing performance and mechanical properties.

Recommended processing conditions:  
Melt temperature: 210 - 230°C  
Neck height: >5 x die diameter  
Blow up ratio >3:1

## FOOD CONTACT REGULATIONS

**Borstar®FB1460** fulfils the food contact regulations in most countries. If required, contact your Borouge representative for a certificate.

## STORAGE

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 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  
Statement on compliance to regulations for drinking water pipes

## 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.

Jan 2018