PRODUCT DATA SHEET

POLYETHYLENE
ANTEO™ FK1820

BORSTAR® BIMODAL TERPOLYMER LLDPE FOR HIGH PERFORMANCE FLEXIBLE PACKAGING

DESCRIPTION

Anteo™ FK1820 is produced using the proprietary **Borstar®** bimodal terpolymer technology combining outstanding sealing performance with easy processabilty, good optics and superior mechanical properties. Film made with **Anteo™ FK1820** exhibits unique combination of low seal initiation temperature (SIT), high hot tack force and excellent puncture and tear properties. **Anteo™ FK1820** used in combination with **Borstar® PE / BorShape™ PE / LDPE / PP** products offers best in class high performance transparent flexible packaging solution with potential for down gauging.
Anteo™ FK1820 contains Antioxidant and processing Aid (PPA).

CAS-No. 60785-11-7

APPLICATIONS

Heavy duty shipping sacks (HDSS)
Lamination
Stand up Pouches
Agriculture Film
Multilayer Packaging Film
Stretch Cling Film
Stretch Hood
Frozen Food Packaging
Form Fill Seal (FFS)
Transparent Film
Impact modifier
Liner
Food Packaging
Artificial Grass
Lamitube
Protection Film

KEY FEATURES

Easy process ability
Excellent Mechanical Strength
Excellent Low Temperature Performance
Superior Puncture Resistance
Excellent Organoleptic Properties
Balanced Tear Strength
Good Optics
Outstanding Seal Performance (low SIT, High Hot Tack Force and wide sealing Window)

PHYSICAL PROPERTIES

Property	Typical Value*	Test Method
Density	918 kg/m3	ASTM D 792
Melt Flow Rate (190°C/2.16kg)	1.5 g/10min	ASTM D1238
Melting Temperature	122 °C	ISO 11357/03
Vicat Softening Point	102 °C	ASTM D 1525

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

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FILM PROPERTIES

Anteo™ FK1820 film properties are measured on 40 micron blown film produced on a lab scale extruder with processing conditions: BUR = 2.5:1, FLH = 3 DD, Die gap =1.8mm

Property**	Typical Value*	Test Method
Tensile Strength at Break (MD/TD)	52/50 MPa	ISO 527-3
Elongation at Break (MD/TD)	650/700 %	ISO 527-3
Tensile Strength at Yield (TD)	11 MPa	ISO 527-3
Tensile Modulus (MD/TD)	210/220 MPa	ISO 527-3
Tensile Modulus (1 % Secant) (MD/TD)	190/200 MPa	ASTM D 882
Elmendorf tear strength (MD/TD)	550/700 g	ASTM D 1922
Dart Drop	>1000 g	ASTM D 1709/A
Coefficient of Friction (Dynamic)	0.8	ASTM D 1894
Haze**	8%	ASTM1003
Gloss (45)**	70	ASTM D 2457
Puncture Resistance, force	55 N	ASTM D 5748
Puncture Resistance, energy	4.5 J	ASTM D 5748

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

** Blend with 10% LDPE.

PROCESSING CONDITIONS

Anteo™ FK1820 can be processed in most types of blown film equipment such as LDPE, LLDPE or HDPE extruders.

Anteo™ FK1820 is well suited for co-extrusion in combination with Borstar® PE/ BorShape™ PE **/** LDPE / PP products.

Recommended extrusion temperature is 180 - 210°C. Die gap of 1.4 - 2.2 mm will give the best balance between extruder pressure and physical properties in the film. **Anteo™ FK1820** enables energy saving by processing at lower temperature and motor load with excellent bubble stability.

To boost optical properties of film made with **Anteo™FK1820,** it is recommended to blend with minimum 5% LDPE.

FOOD CONTACT REGULATIONS

Anteo™FK1820 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

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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

STANDARDS

Borouge is certified to various ISO standards, please refer to Borouge.com for more information.

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.
AnteoTM is a trademark of the Borealis group.

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