



# Polyethylene FG5223

Linear Low Density Polyethylene for Film Extrusion

## Description

**FG5223** is a Butene Linear Low Density Polyethylene for Film Extrusion. Includes Antioxidant and Anti-block additives.

This grade is developed for production of lamination film. FG5223 has good heat sealing properties and hot tack strength. By mixing with FG5224 any desired level of friction can be obtained.

## Applications

**FG5223** has been developed especially for applications like:

Lamination films  
High clarity shrink film

Food wrap film

## Additives

	Content	
Antiblock (Synthetic Silica)	1250 ppm	Borealis Method
Antioxidant	Yes	Borealis Method

## Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density	922 kg/m <sup>3</sup>	ISO 1183
Melt Flow Rate (190 °C/2,16 kg)	0,9 g/10min	ISO 1133
Melting temperature	122 °C	ISO 11357-3

## Film Properties

Film properties are measured on 70 µm film sample produced on a 60 mm W&H extruder with IBC cooling at BUR = 2,5:1. Film properties are strongly dependent of extrusion conditions.

Property	Typical Value	Test Method
Data should not be used for specification work		
Dart Drop	260 g	ISO 7765-1
Haze	10 %	ASTM D 1003
Gloss at 20 degree (of arc)	100	ASTM D 2457
Tensile Strain at Break	MD 800 %	ISO 527-3
Tensile Strain at Break	TD 1.000 %	ISO 527-3
Tensile Strength	MD 29 MPa	ISO 527-3
Tensile Strength	TD 28 MPa	ISO 527-3
Tensile Modulus	MD 145 MPa	ASTM D 882-A
Tensile Modulus	TD 165 MPa	ASTM D 882-A
Tear resistance (Elmendorf)	MD 2 N	ISO 6383/2
	TD 9 N	
Coefficient of friction (Dynamic)	0,7	ISO 8295

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## Processing Techniques

FG5223 is easily processed on conventional extruders.

FG5223 is an LLD-based grade and should be extruded with low freeze line height. Recommended blow up ration is 2:1. A normal die gap can be used. A LLD resin will generate higher extrusion pressure than conventional LDPE. Hence, previous materials, which remain in the extruder, will be purged out and an optimal film will not be produced until roughly 20 - 30 minutes after start-up with FG5223. FG5223 can, however, be extruded in a standard LD film blowing equipment.

Recommended melt temperature is 220°C - 230°C. The temperature setting depends on the degree of friction heat and has to be determined for each individual extruder. FG5223 has excellent draw down properties and produced films have well balanced mechanical properties in spite of its mono-orientation.

## Storage

**FG5223** 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".

## 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  
Statement on compliance to food contact regulations

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**FG5223**

**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.**

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.

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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.**

No liability can be accepted in respect of the use of Borealis' 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.