



## 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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 **Polyethylene**  
**FG5223****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

 **Polyethylene**  
**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.

**Borealis 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 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.