



Linear Low Density Polyethylene for Film Extrusion

# **Description**

**FG5224** is a Butene Linear Low Density Polyethylene for Film Extrusion. Includes Antioxidant, Anti-block and Medium Slip additives.

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

# **Applications**

FG5224 has been developed especially for applications like:

Lamination films Shrink film Carrier-bag film Food wrap film

### **Additives**

	Content		
Antiblock (Synthetic Silica)	625 ppm	Borealis Method	
Slip (Erucamide)	480 ppm	Borealis Method	
Antioxidant	Yes	Borealis Method	

# **Physical Properties**

Property	Typical Value Test Method Data should not be used for specification work			
Density Melt Flow Rate (190 °C/2,16 kg)	922 kg/m3 0,9 g/10min	ISO 1183 ISO 1133		
Melting temperature	122 °C	ISO 11357-3		

## **Film Properties**

Film properties are measured on 70  $\mu$ m film sample produced on a 60 mm W&H extruder with IBC cooling at BUR = 2,5:1.

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		

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Coefficient of friction (Dynamic)

0,1

ISO 8295

# **Processing Techniques**

FG5224 is easily processed on conventional extruders.

FG5224 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 FG5224. FG5224 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. FG5224 has excellent draw down properties and produced films have well balanced mechanical properties in spite of its mono-orientation.

## Storage

**FG5224** 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 polymer additives and BSE Statement on compliance to food contact regulations

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