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Polyethylene

# Borstar® LE8707

Black Bimodal Linear Low Density Polyethylene Jacketing Compound for Energy and Communication Cables

## Description

**Borstar LE8707** is a black linear low density (LLD) jacketing compound, which is produced with the Borealis proprietary Borstar bimodal process technology.

Borstar technology allows the manufacturing of polymers outside the traditional MFR and density range making it possible to optimize processability, reduce shrinkage and yet provide excellent physical toughness and environmental stress crack resistance (ESCR).

Borstar LE8707 contains 2.5% well-dispersed carbon black in order to ensure excellent weathering resistance.

## Applications

**Borstar LE8707** is designed for:

Jacket for energy and communication cables

The abrasion resistance combined with low coefficient of friction makes it ideally suitable for the jacketing of energy and communication cables. Borstar LE8707 offers a balance of properties giving advantages in manufacturing, installation and lifetime performance of communication and energy cables.

## Specifications

**Borstar LE8707** meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

ASTM D 1248 Type I, Class C, Category 4, Grade E4, E5,  
J3, W2-4  
BS 6234: Type 03C, TS2  
EN 50290-2-24  
HD 620 S1, Part 1, table 4B, DMP 12, 14, 17  
IEC 60502, Type ST3

IEC 60502, Type ST7  
IEC 60708  
IEC 60840, Type ST3  
IEC 60840, Type ST7  
ISO 1872-PE, KCHL, 18-D006  
NF C32-060

## Special features

**Borstar LE8707** consists of specially selected components to offer:

Superior processability  
Excellent environmental stress cracking resistance (ESCR)  
Rather low heat deformation  
Low coefficient of friction

Low water permeability  
Good petroleum-jelly resistance  
Outstanding UV resistance  
Low shrinkage

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## Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density (Base Resin)	923 kg/m <sup>3</sup>	ISO 1872-2/ISO 1183
Density (Compound)	936 kg/m <sup>3</sup>	ISO 1872-2/ISO 1183
Melt Flow Rate (190 °C/2,16 kg)	0,85 g/10min	ISO 1133
Flexural Modulus	400 MPa	ASTM D 790
Tensile Strain at Break (50 mm/min)	800 %	ISO 527
Tensile Strength (50 mm/min)	30 MPa	ISO 527
Brittleness temperature	< -76 °C	ASTM D 746
Environmental Stress Crack Resistance (50 °C) (Igepal 10 %), (F0),	> 5.000 h	IEC 60811-4-1/B
Hardness, Shore D ( 1 s)	54	ISO 868
Hardness, Shore D ( 3 s)	53	DIN 53505
Pressure Test at High Temperature (115 °C, 6 h)	< 15 %	IEC 60811-3-1

## Electrical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Dielectric constant (1 MHz)	2,5	IEC 60250
DC Volume Resistivity	10 POhm.cm	IEC 60093
Dielectric Strength	60 kV/mm	IEC 60243
Dissipation Factor (1 MHz)	0,0004	IEC 60250

## Processing Techniques

Borstar LE8707 provides excellent surface finish and allows a broad processing window. Standard PE-screw gives satisfactory results but also low compression screws can be used successfully.

### Extrusion

If preheating and/or drying is used, the maximum temperature should be 90°C.

Preheating	90 °C	Maximum Temperature
Drying	90 °C	
Feed section	170 °C	
Metering section	200 °C	
Die head	210 °C	

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## Packaging

Package:           Bulk  
                      Octabins  
                      Bags

## Safety

The product is not classified as a dangerous preparation and is intended for industrial use only. Check and follow local codes and regulations!

Please see our Safety Data Sheet for details on various aspects of safety of the product, for more information contact your Borealis representative.

## 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.

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