

# Polyethylene Borstar® HE6081

Black Track Resistant High Density Polyethylene Based Compound for Jacketing for Fibre Optical Cables.

## Description

**Borstar HE6081** is based on high density polyethylene and has a specially designed additive package to give excellent track resistance. It is also well protected against UV degradation in order to ensure outstanding weathering resistance.

## Applications

**Borstar HE6081** is designed for: jacketing of Fibre Optic Cables designed for installation in high voltage power transmission lines.

The compound may also be used for other applications where thermoplastic track resistant materials can be applied.

**Borstar HE6081** can resist severe installation conditions and service conditions even at elevated ambient temperatures.

## Technical properties

Tracking data for **Borstar HE6081** according to IEC 60587:2007

Tested according to Method 2: stepwise tracking voltage.  
Passes class 2A 4.5kV.

## Special Features

Excellent mechanical properties  
Excellent environmental stress cracking resistance (ESCR)  
Heat deformation resistance

Excellent processing properties  
Excellent track resistance

## Physical Properties

Property	Typical Value	Test Method
<small>Data should not be used for specification work</small>		
Density (Compound)	1100 kg/m <sup>3</sup>	ISO 1183
Melt Flow Rate (190 °C/2,16 kg)	0,5 g/10min	ISO 1133
Melt Flow Rate (190 °C/5,0 kg)	1,7 g/10min	ISO 1133
Tensile Strain at Break	650 %	ISO 527
Tensile Strength	20 MPa	ISO 527
Brittleness temperature	< -80 °C	ASTM D 746
Environmental Stress Crack Resistance (50 °C, Igepal 10 % F20)	> 2.000 h	IEC 60811-4-1/B
Hardness, Shore D (15 s)	59	ISO 868

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## Electrical Properties

Property	Typical Value	Test Method
	Data should not be used for specification work	
Dielectric constant (50 Hz)	2,5	IEC 60250
Dielectric Strength	20 kV/mm	IEC 60243
Dissipation Factor (50 Hz)	0,0002	IEC 60250

## Processing Techniques

The actual conditions will depend on the type of equipment used.

### Extrusion

For the extrusion of Borstar HE6081 a screw giving good homogenisation without excessive shear, is recommended. Standard PE screws have proven satisfactory and in addition, screws designed for PVC may, in some cases, be used with good result. The suggested melt temperature is approximately 180-190 °C dependent on construction and line speed. It is recommended to use smallest possible draw down ratio and gradient cooling to minimise internal stresses. Borstar HE6081 has a tendency to absorb moisture from the atmosphere, compared to traditional HDPE jacketing compounds. Therefore drying at 80-100 °C for 4-6 h prior to extrusion is recommended.

Specific recommendations for processing conditions can be determined only when the application and type of equipment are known. Please contact your local Borealis representative for such particulars.

### Storage

**Borstar HE6081** 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.

### Safety

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



**Polyethylene**  
**Borstar HE6081**

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