

## PRODUCT DATA SHEET

# POLYETHYLENE

## Borstar® HE6062

**BLACK BIMODAL LINEAR HIGH DENSITY POLYETHYLENE COMPOUND FOR JACKETING OF POWER AND COMMUNICATION CABLES**

### DESCRIPTION

**Borstar HE6062** is a black, linear, bimodal, high-density polyethylene (LHDPE) 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 with excellent physical toughness and environmental stress crack resistance (ESCR) properties.

**Borstar HE6062** contains 2.6% well-dispersed carbon black of nominal 20 nm particle size in order to ensure excellent weathering resistance.

### APPLICATIONS

**Borstar HE6062** is intended for jacketing of power and communication cables.

### SPECIFICATIONS

**Borstar HE6062** meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

ISO 1872-PE, KCHL, 40 D-006  
EN 50290-2-24  
ICEA S-70-547  
IEC 60502 ST3, ST7  
IEC 60840 ST3, ST7  
IEC 60708

ASTM D 1248, Type III, Class C, Category 4, Grade J4, E8, E9, W8,9  
HD 620 S1, Part 1, table 4B, DMP 8-12, 14-15  
ICEA S-108-720  
HD 603 S1; A3: DMP5, DMP7, DMP8

### SPECIAL FEATURES

**Borstar HE6062** consists of specially selected components to offer:

Superior processability  
Excellent environmental stress cracking resistance (ESCR)  
Excellent abrasion & scratch resistance  
Low water permeability

Low heat deformation  
Termite resistance  
Outstanding UV resistance  
Low shrinkage

### PHYSICAL PROPERTIES

#### Property

Density (Base Resin)  
Density (Compound)  
Melt Flow Rate (190°C/2.16kg)

#### Typical Value\*

943kg/m<sup>3</sup>  
954kg/m<sup>3</sup>  
0.5g/10min

#### Test Method

ISO 1872-2/ISO 1183  
ISO 1872-2/ISO 1183  
ISO 1133

Melt Flow Rate (190°C/5.0kg)	2.0g/10min	ISO 1133
Tensile Strength at break (50mm/min)	> 30MPa	ASTM D 638/Type 4
Elongation at Break (50mm/min)	900%	ASTM D 638/Type 4
ESCR (50°C, 10% Igepal, F0 = no crack)	5000h	IEC 60811-4-1
Durometer Hardness (1/3/15 s)	61/58/55 Shore D	ISO 868/DIN 53505
Pressure Test at High temperature (115°C, 6h)	< 10%	IEC 60811-3-1
Brittleness Temperature	< -76°C	ASTM D 746
Flexural Modulus	1000MPa	ASTM D 790
Carbon black dispersion, Grading	2	ISO18553
Carbon black dispersion, Appearance	A2	ISO18553
Absorption Coefficient (at 375 nm)	440	ASTM D 3349

\* Data should not be used for specification work

## ELECTRICAL PROPERTIES

Property	Typical Value*	Test Method
Dielectric constant (1MHz)	2.4	ASTM-D 150
Dissipation factor (1MHz)	0.0003	ASTM-D 150
Dielectric Strength	> 20kV/mm	ASTM-D 149

\* Data should not be used for specification work

## PROCESSING TECHNIQUES

**Borstar HE6062** provides excellent surface finish and high output rates over a broad range of conditions. For extrusion standard PE-screws are recommended, but also screws designed for PVC can be used with good result.

A suggested temperature profile is:

Feed pocket	: cooled water
Feed section	: 160 °C
Metering Section	: 180 °C
Head and die	: 190 - 200 °C

If material preheating/pre-drying is used maximum recommended temperature is 90°C.

To minimize shrink back hot cooling water, min 60°C in the first cooling trough is strongly recommended.

**Borstar HE6062** can be processed using either tube or pressure tooling. With tube tooling, a drawdown ratio of at least 3:1 to 4:1 is recommended. Higher drawdown ratios will increase jacket tightness.

## PACKAGING

Form:	Granules
Package:	25 kg bags (1.375 kg/pallet)
	650 kg big bags
	1100 kg big bags

## STORAGE

The material should be stored indoors (10 - 30°C) in closed original packages in clean and dry environment. It is also recommended to ensure proper stock rotation by using first in - first out principle. Following above-mentioned conditions the material can safely be stored for a period of up to 12 months after arrival.

## SAFETY

**Borstar HE6062** is not classified as a hazardous mixture.

The products are supplied in form of free-flowing granules of approximately 3 - 4 mm sizes and can be readily handled with commercially available equipment. Handling and transport of the products may generate some dust and fines, which constitute a potential hazard for dust explosion. All metal parts in the system should therefore be properly grounded. Properly designed equipment and good housekeeping will reduce the risk. Check and follow local codes and regulations!

Inhalation of any type of dust should be avoided as it may cause irritation of the respiratory system.

The products are intended for industrial use only. A Safety Information Sheet is available on request. Please contact your Borouge representative for more details on various aspects of safety, recovery and disposal of the product.

## 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

Statement on chemicals, regulations and standards

## STANDARDS

Borouge is certified to various ISO standards, please refer to [Borouge.com](http://Borouge.com) for more information.

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## 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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**The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.**

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