## Polyethylene

# Borstar® HE6062

Black Bimodal High Density Polyethylene Jacketing Compound for Energy and Communication Cables

## Description

**Borstar HE6062** is a black high density (HD) 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 HE6062 contains 2.5% well-dispersed carbon black in order to ensure excellent weathering resistance.

## Applications

**Borstar HE6062** is designed for jacketing of energy and communication cables.

The physical toughness and very low water permeability of the compound make it an ideal solution especially for buried power cables. Borstar HE6062 offers a balance of properties giving advantages in manufacturing, installation and lifetime performance of energy and communication cables.

## Specifications

**Borstar HE6062** meets the following material classification:

ISO 1872-PE, KCHL, 45 D-006

ASTM D 1248 Type III, Class C, Category 4, Grade E8, E9, J4, W8,9

The following cable material standards are met by Borstar HE6062:

EN 50290-2-24
DIN VDE 0207 Type 2YM3

DMP 2, 5, 7, 8, 9, 10, 11, 12, 14, 15

Cables manufactured with Borstar HE6062 using sound extrusion practice normally comply with the following cable product standards:

DIN VDE 0818
EN 187105
HD 603 S1, DMP 1, 2, 5, 7, 8
HD 632 S2, ST7
IEC 60502, Part 2, Type ST7
IEC 60708

IEC 60794
IEC 60840, Type ST7
HD 620 S2, Part 1, table 4B, DMP 2, 8-12, 14-15, 17
HD 620 S2, Part 1, table 4B, DMP 2, 8-12, 14-15, 17
UL 1072 Oil resistance I & II

## 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



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Excellent surface hardness

## Physical Properties

| Property | Typical Value<br>Data should not be used for specification work | Test Method |
|---|---|---|
| Density (Base Resin) | 946 kg/m³ | ISO 1183-1, Method A |
| Density (Compound) | 958 kg/m³ | ISO 1183-1, Method A |
| Melt Flow Rate (190 °C/2,16 kg) | 0,5 g/10min | ISO 1133-1, Method A |
| Melt Flow Rate (190 °C/5 kg) | 2,0 g/10min | ISO 1133-1, Method A |
| Flexural Modulus | 1.000 MPa | ISO 178 |
| Tensile Strain at Break (50 mm/min) | 1.000 % | ISO 527-2 |
| Tensile Strength (50 mm/min) | 33 MPa | ISO 527-2 |
| Absorption coefficient (abs/m) | 400 | ASTM D3349 |
| Brittleness temperature | < -76 °C | ASTM D 746 |
| Environmental Stress Crack Resistance (50 °C, Igepal 10 %, F0) [1] | > 5.000 h | IEC 60811-406 |
| Hardness, Shore D (1 s) | 61 | ISO 868 |
| Pressure Test at High Temperature (115 °C, 6 h) | < 10 % | IEC 60811-508 |

[1] No crack

## Electrical Properties

| Property | Typical Value<br>Data should not be used for specification work | Test Method |
|---|---|---|
| DC Volume Resistivity | 10 PΩcm | IEC 60093 |
| Dielectric Strength | 20 kV/mm | IEC 60243 |

## Processing Techniques

Borstar HE6062 provides excellent surface finish and allows a broad processing window. Borstar HE6062 is suitable for most equipment designed for PVC/PE extrusion. To minimise shrink back gradient cooling with hot water, minimum 60ºC in the first part of the cooling trough, is strongly recommended.

### Extrusion

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

| | | |
|---|---|---|
| Preheating | 90 °C | Maximum recommended temperature |
| Melt temperature | 180 - 190 °C | |
| Cooling water | 60 °C | First part of cooling trough<br>Minimum Temperature |

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## Packaging

Package: Bulk
Octabins
Bags

## 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 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.

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