

## Polyethylene

# Borlink LE0550DC

### Description

Borlink LE0550DC is a supersmooth crosslinkable black polyethylene compound, specially designed for semiconductive conductor screen and insulation screen of high voltage direct current (HVDC) power cables.

Borlink LE0550DC is a ready-to-use supersmooth semiconductive compound. The excellent distribution of carbon black and additives in Borlink LE0550DC results in a superior smoothness of the semiconductive screen.

### Applications

Borlink LE0550DC is intended for following applications:

Borlink LE0550DC is intended for use as semiconductive screens of XLPE HVDC cables.

### Specifications

IEC 62895  
CIGRE TB 852

### Physical properties

| Property   | Typical value * | Unit              | Test method   |
|--|-----------------|-------------------|---------------|
| Density  | 1075            | kg/m <sup>3</sup> | ISO 1183      |
| Tensile strain at break (25 mm/min) <sup>1</sup>                     | > 200           | %                 | ISO 527       |
| Tensile strength (25 mm/min) <sup>1</sup>                            | > 15            | MPa               | ISO 527       |
| Change of tensile properties After ageing 135 °C, 168h <sup>1</sup>  | < 20            | %                 | IEC 60811-401 |
| Hot set test - Elongation under load (200 °C, 0.20 MPa) <sup>1</sup> | < 100           | %                 | IEC 60811-507 |
| Hot set test - Permanent deformation (200 °C, 0.20 MPa) <sup>1</sup> | < 10            | %                 | IEC 60811-507 |
| MDR max  | 11              | dNm               | ISO 6502      |
| Moisture content <sup>2</sup>  | 100             | ppm               | ISO 15512     |

\* Data should not be used for specification work

<sup>1</sup> Measured on crosslinked specimens

<sup>2</sup> Measured at time of production

### Electrical properties

| Property                     | Typical value * | Unit | Test method |
|------------------------------|-----------------|------|-------------|
| DC Volume resistivity (23°C) | < 100           | &cm  | ISO 3915    |
| DC Volume resistivity (90°C) | < 1000          | Ωcm  | ISO 3915    |

\* Data should not be used for specification work

# Polyethylene

## Borlink LE0550DC

### Processing techniques

Borlink LE0550DC provides excellent surface finish and outstanding output rates, when processing conditions are optimized for the actual processing equipment and cable dimensions. Optimal conditions may vary according to the equipment used. Hence all material handling should be conducted in closed systems and in clean room conditions.

A screen-pack on the extruder is recommended for improved melt homogenisation.

Please contact your Borealis representative for more details.

Typical processing temperature ranges for Borlink LE0550DC are shown below:

| Processing setting              | Typical value/range |
|---------------------------------|---------------------|
| Melt temperature                | 120 - 130 °C        |
| Drying temperature <sup>3</sup> | 60 °C               |

<sup>3</sup>4h with dehumidified air

### Packaging and storage

Package: Smallbins

Borlink LE0550DC has a shelf life of 18 months from production date if stored in unopened original packages, under dry and clean conditions at temperatures between 10 - 30 °C (50 - 85 °F).

Material shelf life is affected by the storage conditions and extreme conditions influence the general material quality and performance.

It is also recommended to ensure proper stock rotation by First In – First Out principle.

More information on storage is found in the Safety data sheet (SDS) / Product safety information sheet (PSIS) for this product.

### Product compliance documents

Latest versions of product safety information sheets (PSIS), product safety data sheets (SDS) and other product liability documents are available in our website [www.borealisgroup.com](http://www.borealisgroup.com).

### Sustainability aspects

Borealis is ever mindful of the impact of our products on the planet. We promote Design for Circularity (DfC) and Design for Recycling (DfR) to conserve natural resources and to reduce the environmental impact of products over their entire lifetime (including production, use phase and after phase). DfR helps ensure that material can be effectively recycled while maximizing the material performance efficiency.

Further information on sustainability and Design for Recycling (DfR) can be found from our websites [www.borealisgroup.com](http://www.borealisgroup.com) and [www.borealiseverminds.com](http://www.borealiseverminds.com).

### 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 any Borealis product in conjunction with any other products and/or materials. The information contained herein relates exclusively to our products when not used in conjunction with any other material unless as specifically provided for in the test methods stated above.