



# Polyethylene Borlink™ LE0504

Crosslinkable Semiconductive Compound

## Description

**Borlink LE0504** is a crosslinkable black polyethylene compound, specially designed for semiconductive conductor shield or bonded insulation shield of power cables.

## Applications

**Borlink LE0504** is intended for semiconductive shields in TR-XLPE medium voltage (MV) AC cables with rated voltages up to 46 kV. It can be used as conductor and insulation shields for bonded cable constructions and as conductor shield for strippable cable constructions.

The values are voltages between phases as defined in ICEA S-94-649.

## Specifications

**Borlink LE0504** is expected to meet the applicable requirements included in the below mentioned standards provided it is processed using sound material handling, extrusion and crosslinking practices as well as appropriate testing procedures. This applies up to the maximum recommended voltage level indicated in "Applications" section above since some standards cover wider voltage ranges.

IEC 60840  
IEC 60502-2  
AEIC CS8  
ANSI/ICEA S-93-639

ANSI/ICEA S-94-649  
ANSI/ICEA S-97-682  
UL 1072

## Special Features

**Borlink LE0504** is a ready-to-use semiconductive compound. Borlink LE0504 provides excellent and consistent adhesion with aluminium conductors to meet stringent shrinkback requirements.

The excellent distribution of carbon black and additives and type of carbon black in Borlink LE0504 results in a smooth semiconductive shield.

## Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density (23 °C)	1130 kg/m <sup>3</sup>	ASTM D 792
Tensile Strain at Break (20 in/min) <sup>1</sup>	300 %	ASTM D 638
Tensile Strength (20 in/min) <sup>1</sup>	2,250 psi	ASTM D 638
Retention of Tensile Properties After Ageing (168 h, 150 °C) <sup>1</sup>	> 75 %	ASTM D 638
Brittleness temperature	< -40 °C	ASTM D 746

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

Borlink is a trademark of the Borealis group.

Borealis Compounds Inc | 176 Thomas Road | Port Murray, NJ 07865 | United States of America  
Tel. +1 908 850 6200 | Fax +1 908 850 6268  
22-2768116 | Court of New Jersey | Website [www.borealisgroup.com](http://www.borealisgroup.com)



# Polyethylene Borlink LE0504

## Electrical Properties

Property	Typical Value <small>Data should not be used for specification work</small>	Test Method
DC Volume Resistivity (23 °C)	< 50 Ωcm	ASTM D 991
DC Volume Resistivity (90 °C)	< 150 Ωcm	ASTM D 991

## Processing Techniques

**Borlink LE0504** 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.

The required extrusion melt temperature range is approximately 240 to 260°F (115 to 125°C). Lower melt temperatures may result in a poorly mixed, uneven extrudate and higher melt temperatures may result in extrudate pre-cure or scorch. The curing configuration should be carefully controlled.

To produce a good and reliable cable, it is essential to ensure careful and clean handling of semiconductive material. Please contact your Borealis representative for more details.

### Pre-drying

It is recommended that **Borlink LE0504** is dried prior to extrusion. Typical drying conditions are shown below:

Predrying (4 h)	60 °C	With dehumidified air
	160 °F	With dehumidified air

### Extrusion

A screen-pack on the extruder is recommended for improved melt homogenisation. Typical processing temperature ranges for **Borlink LE0504** are shown below:

Melt temperature	115 - 125 °C
	240 - 260 °F

## Packaging

Package: Smallbins



# Polyethylene Borlink LE0504

## Storage

**Borlink LE0504** has a shelf life of 24 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.

## Safety

Please see the Safety data sheet (SDS) / Product safety information sheet (PSIS) for details on various aspects of safety, recovery and disposal of the products. 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 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.