

Polyethylene

Borlink™ LE0592**Crosslinkable Semiconductive Compound****Description**

Borlink LE0592 is a crosslinkable black polyethylene compound, specially designed for semiconductive conductor screen and bonded insulation screen of power cables.

Typical characteristics

Borlink LE0592 can be described with following typical characteristics:

Borlink LE0592 is a ready-to-use semiconductive compound. It offers excellent thermal stability which provides robust cable extrusion and crosslinking at high surface temperature, allowing for high line speed.
The excellent distribution of carbon black and additives in Borlink LE0592 results in a smooth semiconductive screen.

Applications

Borlink LE0592 is intended for semiconductive screen of XLPE medium and high voltage (MV & HV) AC cables with rated voltages up to 161 kV (Um = 170 kV). It can be used as conductor and insulation screen for bonded cable constructions and as conductor screen for strippable cable constructions. The values are voltages between phases as defined in IEC 60183.

Specifications

Borlink LE0592 is expected to meet the applicable requirements included in the below mentioned standards provided it is processed using sound material handling and processing practices as well as appropriate testing procedures.

AEIC CS8	DIN VDE 0276-620
AEIC CS9 (below 8 kV/mm)	DIN VDE 0276-632
ANSI/ICEA S-108-720	IEC 60502-2
ANSI/ICEA S-93-639	IEC 60840
ANSI/ICEA S-94-649	NF C33-226
ANSI/ICEA S-97-682	UL 1072

This applies up to the maximum recommended voltage level indicated in "Applications" section above since some standards cover wider voltage ranges.

Physical properties

Property	Typical value *	Unit	Test method
Density	1135	kg/m ³	ISO 1183
Tensile strain at break (25 mm/min) ¹	> 150	%	ISO 527
Tensile strength (25 mm/min) ¹	> 15	MPa	ISO 527
Change of tensile properties After ageing 135 °C, 168h	< 25	%	IEC 60811-401
Hot set test - Permanent deformation (200 °C, 0.20 MPa)	< 10	%	IEC 60811-507
Hot set test - Elongation under load (200 °C, 0.20 MPa)	<100	%	IEC 60811-507
MDR max	12	dNm	ISO 6502
Moisture content ²	< 200	ppm	ISO 15512

* Data should not be used for specification work

¹ Measured on crosslinked specimens

² Measures at time of production

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Electrical properties

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

* Data should not be used for specification work

Processing techniques

Borlink LE0592 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 preferably be conducted in closed systems and in clean room conditions. It is recommended that Borlink LE0592 is dried prior to extrusion. 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 LE0592 are shown below:

Processing setting	Typical value/range
Drying temperature ³	60 °C
Melt temperature	120 - 135 °C

³ 4 h with dehumidified air

Packaging and storage

Packaging
Smallbins and Octabins

Storage

Borlink LE0592 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.

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 and 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.