PRODUCT DATA SHEET

Polyethylene

Borlink™ LS4201R

Crosslinkable Insulation Compound

Description

Borlink LS4201R is a crosslinkable natural polyethylene compound based on Supercure technology, specially designed for insulation of power cables.

Borlink LS4201R is a ready-to-use natural compound. Thanks to its inherent properties, Borlink LS4201R provides very good electrical performance. It offers excellent scorch resistance and long production runs. Borlink LS4201R cleanliness level is assured through the Borealis Quality Management system.

Applications

Borlink LS4201R is intended for insulation of XLPE medium voltage (MV) AC cables with rated voltages up to 69 kV (Um = 72,5 kV).

The values are voltages between phases as defined in IEC 60183.

Specifications

AEIC CS8	HD 620 S2 Part 1
AEIC CS9	HD 632 S1
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

Borlink LS4201R is expected to meet the applicable requirements included in the above mentioned standards provided it is processed using sound material handling and processing practices as well as appropriate testing procedures.
While some standards may cover wider voltage ranges, this statement applies up to the maximum recommended voltage level indicated in the "Applications" section.

Physical properties

Property	Typical value *	Unit	Test method
Melt flow rate (190 °C/2.16 kg) [1]	2	g/10min	ISO 1133-1
Base resin density	922	kg/m3	ISO 1183-1
Tensile strain at break (250 mm/min) [2]	> 450	%	ISO 527-2
Tensile strength (250 mm/min) [2]	> 17	MPa	ISO 527-2
Change of tensile properties After ageing 135 °C, 168h [2]	< 25	%	IEC 60811-401
Hot set test - Elongation under load (200 °C, 0.20 MPa) [2]	< 100	%	IEC 60811-507
Hot set test - Permanent deformation (200 °C, 0.20 MPa) [2]	10	%	IEC 60811-507
MDR, max torque	2.9 - 3.8	dNm	ISO 6502
Moisture content [3]	< 200	ppm	ISO 15512
Methanol wash [4]	< 1000	ppm	BTM00118

* Data should not be used for specification work

[1] *Without peroxide*
[2] *Measured on crosslinked specimen*
[3] *Measured at time of production*
[4] *BTM=Borealis Test Method*

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Electrical properties

Property	Typical value *	Unit	Test method
Dielectric constant (50 Hz)	2.3	-	IEC 60250
DC Volume resistivity (23°C)	> 10	PΩcm	IEC 62631
Dissipation factor (50 Hz)	< 0.0005	-	IEC 60250

* Data should not be used for specification work

Processing techniques

To produce a good and reliable cable, it is essential to ensure careful and very clean handling of the insulation material. Hence all material handling should preferably be conducted in closed systems and in clean room conditions. Please contact your Borealis representative for more details. A screen-pack on the extruder is recommended for improved melt homogenisation.

Processing setting	Typical value/range
Melt temperature	125 - 135 °C

Packaging and storage

Borlink LS4201R 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 - 35°C (50 - 95°F). The material can be stored at ambient temperature up to 40°C (104°F) for a period up to 6 months provided it is in unopened original packages and under dry and clean conditions. Material shelf life is affected by the storage conditions and extreme conditions influence the general material quality and performance.
Before use, material shall be conditioned indoors (production room) to reach ambient temperature.
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.

Borealis AG | Trabrennstrasse 6-8 | A-1020 Vienna | Austria
Telephone: +43 1 22 400 0* | Fax: +43 1 22 400 333
Website www.borealisgroup.com

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