PRODUCT DATA SHEET

Polyethylene

Borlink™ LE4212

Crosslinkable Insulation Compound

Description

Borlink LE4212 is a crosslinkable natural polyethylene compound, specially designed for insulation of power cables.

Typical characteristics

Borlink™ LE4212 can be described with following typical characteristics:

Borlink LE4212 is a ready-to-use natural compound. It provides improved electrical performance (additive WTR XLPE) meeting the advanced wet ageing requirements. It offers easy extrusion performance and very good scorch resistance. Borlink LE4212 cleanliness level is assured through the Borealis Quality Management system.

Applications

Borlink LE4212 is intended for insulation of XLPE medium voltage (MV) AC cables with rated voltages up to 69 kV.
The values are voltages between phases as defined in ICEA S-108-720.

Specifications

AEIC CS8
ANSI/ICEA S-108-720
ANSI/ICEA S-93-639
ANSI/ICEA S-94-649
ANSI/ICEA S-97-682
DIN VDE 0276-620
IEC 60502-2
IEC 60840
UL 1072

Borlink LE4212 is expected to meet the applicable requirements included the above 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.
Please note that the AEIC CS8 standard is only applicable for the material sourced from the Borealis Rockport compounding plant, USA.

Physical properties

Property	Typical value *	Unit	Test method
Density [1]	923	kg/m³	ASTM D792
Melt flow rate (190 °C/2.16 kg)	2.2	g/10min	ASTM D1238
Brittleness temperature [2]	≤-76	°C	ASTM D746
Tensile strength [2]	≥2000	psi	ASTM D638
Elongation at Break [2]	≥400	%	ASTM D638
Elongation retention 136°C/7d [2]	≥90	%	ASTM D638
Retained TS 136°C/7d [2]	≥90	%	ASTM D638
Hot Creep Test (150°C, 29 psi) Elongation under load [2]	≤75	%	ICEA T-28-562
Hot Creep Test (150°C, 29 psi) Permanent deformation [2]	≤5	%	ICEA T-28-562

* Data should not be used for specification work

[1] *23°C*
[2] *Measured on crosslinked specimen*

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Electrical properties

Property	Typical value *	Unit	Test method
Dissipation factor [2]	≤0.0005	-	ASTM D150
Dielectric constant [2]	≤2.3	-	ASTM D150
DC Volume resistivity (23°C)[2]	≥10	PΩcm	ASTM D 257

* Data should not be used for specification work

[2] *Measured on crosslinked specimen*

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.
A screen-pack on the extruder is recommended for improved melt homogenisation.
Please contact your Borealis representative for more details.

Processing setting	Typical value/range
Melt temperature	125 - 135 °C
Melt temperature	257 - 275 °F

Packaging and storage

Borlink LE4212 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

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