Polyethylene

Borlink™ LS4258DCS

Crosslinkable Insulation Compound

Description

Borlink LS4258DCS is a crosslinkable natural polyethylene compound based on Supercure technology, specially designed for insulation of high voltage direct current (HVDC) power cables. **Applications**

Borlink LS4258DCS is intended for insulation of XLPE high voltage (HV) DC cables with rated voltages up to 320 kV.

Specifications

Borlink LS4258DCS is expected to meet the applicable requirements provided it is processed using sound material handling, extrusion and crosslinking practices as well as appropriate testing procedures.

Special Features

Borlink LS4258DCS is a ready-to-use natural compound. Borlink LS4258DCS is developed to provide excellent electrical performance showing low DC conductivity, low space charge accumulation and high DC breakdown strength when used in combination with Borlink LE0550DC as supersmooth insulation and conductor screen. Borlink LS4258DCS also offers good scorch resistance and reduced degassing burden. The cleanliness and product consistency of Borlink LS4258DCS results in superclean insulation. Borlink LS4258DCS cleanliness level is assured through the Borealis quality management system.

Physical Properties

Property		Typical Value Data should not be used for specification work	Test Method
Density (Base Resin)		922 kg/m³	ISO 1183
Melt Flow Rate (190 °C/2,16 kg) [1]		2 g/10min	ISO 1133
Tensile Strain at Break (250 mm/min) [2]		> 450 %	ISO 527
Tensile Strength (250 mm/min) [2]		> 17 MPa	ISO 527
Change of Tensile Properties After Ageing (168 hrs, 135 °C) [2]		< 25 %	IEC 60811-401
Hot Set Test (200 °C, 5 N/cm²) [2]	Elongation under load	< 175 %	IEC 60811-507
	Permanent deformation	< 15 %	
MDR, max torque		1,4 - 1,9 dNm	ISO 6502
Methanol Wash [3]		< 800 ppm	BTM 00118
Moisture		< 200 ppm	ISO 15512

[1] Base Resin
[2] Measured on crosslinked specimens
[3] Borealis Method

Electrical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Dielectric constant (50 Hz)	2,3	IEC 60250
DC Volume Resistivity (23 °C)	> 10 PΩcm	IEC 62631
Dissipation Factor (50 Hz)	< 0,0003	IEC 60250

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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.

Extrusion

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

Melt temperature	125 - 135 °C

Packaging

Package:	Octabins

Storage

Borlink LS4258DCS 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.

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.

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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.

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