



Polyethylene
Visico™ LE0542
Silane Crosslinkable Semiconductive Compound

Description

Visico LE0542 is a silane crosslinkable black polyethylene compound, specially designed for semiconductive conductor screen and bonded insulation screen of energy cables.

It is used for co-extrusion with LDPE silane crosslinkable insulation materials.

Applications

Visico LE0542 is designed for semiconductive screens in silane crosslinkable medium voltage cables with rated voltages up to 36 kV. It can be used as inner and outer screen for bonded cable constructions and as inner screen for strippable cable constructions.

Specifications

Visico LE0542 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

IEC 60502-2

Cenelec HD620 S2

Special features

Visico LE0542 is a ready-to-use semiconductive compound, which requires no further addition of a catalyst masterbatch. Visico LE0542 crosslinks via the migration of catalyst from its co-extrusion with silane insulation layer. The excellent distribution of carbon black and additives in Visico LE0542 would result in a smooth semiconductive screen.

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density	1127 kg/m ³	ISO 1872-2/ISO 1183
Melt Flow Rate (190 °C/21,6 kg)	13 g/10min	ISO 1133
Tensile Strain at Break (25 mm/min) ¹	200 %	ISO 527
Tensile Strength (25 mm/min) ¹	16 MPa	ISO 527
Strain at Break After Ageing (168 h, 135 °C)	150 %	IEC 60811-401
Hot Set Test (200 °C, 0,20 MPa)	Elongation under load 63 %	IEC 60811-507
Moisture	< 250 ppm	Karl Fischer-titration

¹ Measured on crosslinked specimens

Electrical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
DC Volume Resistivity (23 °C)	< 100 Ωcm	ISO 3915

HongRong Engineering Plastics Co.,Ltd.
Head Office Tel. +85-2-6957-5415
Research Center Tel.+188 1699 6168



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DC Volume Resistivity (90 °C)

< 1000 Ωcm

ISO 3915

Processing Techniques

Visico LE0542 provides excellent surface finish and minimal risk for scorch when processing conditions are optimal. The actual conditions will depend on the type of equipment used. 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. Practical advice is given in a separate brochure. The actual conditions will depend on the type of equipment used.

Please contact your Borealis representative for more details.

Crosslinking

Visico LE0542 in combination with Visico LE4422M/Visico LE4431M shall be crosslinked by immersion in hot water or exposed to low pressure steam at a temperature in typical circumstances of 70-80 °C. The time period needed for crosslinking will depend on e.g. the thickness of insulation or reel size. It is good practice to purge stranded aluminium conductors with air or nitrogen during crosslinking to prevent conductor corrosion.

Packaging

Package: Smallbins

Storage

Visico LE0542 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).

More information on storage is found in our "Safety data sheet" / "Product safety information sheet" for this product.

Safety

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety of the product. 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.

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