

# **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 <sup>3</sup> | 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) <sup>1</sup> | 200 %                  | ISO 527                |
| Tensile Strength (25 mm/min) <sup>1</sup>        | 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)                  | 63 %                   | IEC 60811-507          |
| Moisture                                         | < 250 ppm              | Karl Fischer-titration |

<sup>1</sup> 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    |

Visico is a trademark of the Borealis group.

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 **Polyethylene**  
**Visico LE0542**

DC Volume Resistivity (90 °C)

&lt; 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

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