

# Polyethylene

# Visico™ LE4422M / Visico™ LE4431M

## Description

**Visico LE4422M / Visico LE4431M** is a silane crosslinkable compound system, specially designed for insulation of energy cables.

## Applications

**Visico LE4422M / Visico LE4431M** is intended for insulation of XLPE medium voltage cables with rated voltages up to 36 kV.

## Specifications

**Visico LE4422M / Visico LE4431M** in combination meets the applicable requirements as below when processed using sound extrusion and testing procedure:

IEC 60502-2

Cenelec HD620 S2

## Special Features

**Visico LE4422M / Visico LE4431M** is a ready-to-use two-component compound system. Together with Borealis recommended semiconductive system Visico™ LE0542 (Bonded screen) and LE0572 (Strippable screen), they have been developed with the objective to provide the following benefits:

Quick change-over for short length cables  
Longer production runs between cleaning stops  
Very good surface finish

Low odour during processing  
Long shelf life


## Physical Properties

Property	Typical Value	Test Method
	Data should not be used for specification work	
Density (mixture 95:5)	923 kg/m <sup>3</sup>	ISO 1872-2/ISO 1183-2
Melt Flow Rate (190 °C/2,16 kg) <sup>1</sup>	1,0 g/10min	ISO 1133
Tensile Strain at Break (250 mm/min)	> 300 %	ISO 527
Tensile Strength (250 mm/min)	> 15 MPa	ISO 527
Change of Tensile Properties After Ageing (240 h, 135 °C)	<= 25 %	IEC 60811-401
Hot Set Test (200 °C, 0,20 MPa)	Elongation under load Permanent deformation	60 % 0 %

<sup>1</sup> Base Resin

Visico is a trademark of the Borealis group.

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### Electrical Properties

Property	Typical Value	Test Method
Dielectric constant (50 Hz)	< 2,3	IEC 60250
DC Volume Resistivity	> 10 PΩcm	IEC 60093
Dielectric Strength	> 30 kV/mm	IEC 60243
Dissipation Factor (50 Hz)	< 0,0005	IEC 60250

Data should not be used for specification work

### Processing Techniques

The crosslink system is based on the use of Visico LE4422M (base material) and Visico LE4431M (catalyst masterbatch). When used in combination, Visico LE4431M would accelerate the moisture-induced crosslinking reaction of Visico LE4422M. The system is easy to use: dry blend 5 parts Visico LE4431M to 95 parts Visico LE4422M directly into the extruder hopper. 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. Please contact your Borealis representative for more details.

### Crosslinking

**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 and maximum temperature will depend on e.g. the thickness of insulation, type of semiconductive screen and reel size. It is good practice to purge stranded aluminium conductors with air or nitrogen during crosslinking to prevent conductor corrosion.


### Packaging

Visico LE4422M - Base material  
 Package: Octabins  
 Visico LE4431M - Catalyst master batch  
 Package: Bags  
 Smallbins

### Storage

**Visico LE4422M / Visico LE4431M** 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.



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**LE4431M**

**Safety**

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety, recovery and disposal of the products. For more information, contact your Borealis representative.

**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.

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