



PolyethyleneTM VisicoTM LE4421/LE4437

Silane Crosslinkable Insulation Compound

Description

Visico LE4421/LE4437 is a scorch retardant, moisture-crosslinking polyethylene compound for low voltage insulation

The combination of a VISICO base material, **LE4421**, and a tin catalyst masterbatch, **LE4437**, provides a highly scorch retardant compound with excellent thermal stability. **LE4421/LE4437** contains a patented scorch retardant additive (SRA) that increases the processing window for a moisture crosslinking compound and minimizes the tendency for premature crosslinking in the extruder, head or die. **LE4437** should be added to **LE4421** directly in the extruder hopper by dry blending a ratio of 5 parts **LE4437** to 95 parts **LE4421**. **LE4437** also provides, in addition to catalyst, a stabilizaton package containing suitable antioxidants, a metal passivator and a metal deactivator and a 25% loading of fine particle size carbon black for UV weather resistance. Properly mixed, during the extrusion process, **LE4421/LE4437** exhibits excellent thermal stability to oxidation. The final insulation or jacketing will also contain 2.5% of a suitable carbon black to ensure satisfactory UV weathering stability.

LE4421/LE4437 is readily pigmented to a variety of colors using standard wire & cable concentrates designed for thermoplastic or crosslinked polyethylene. UV weather resistance is obtained by the addition of a suitable carbon black or UV additive. Using VISICO **LE4432** in place of **LE4437** combines a tin catalyst along with the proper carbon black to provide a black, UV resistant, moisture crosslinking cable insulation.

APPLICATION:

LE4421/LE4437 is recommended for use as insulation for low voltage control cables and power cables up to 6kv in rating.

Specifications

Visico LE4421/LE4437 in combination meets the applicable requirements as below when processed using sound extrusion and testing procedure:

Underwriters Laboratories Standards 854 for types USE and USE-2
ASTM D 2655
EC 502
NBN C 33-321

NF C33-210
HD 603 S1
Canadian Standards Association C22.2 No. 1790-00-Airport Series Lighting Cables and C22.2 No. 38 Cable Type RW-90 Outdoor

Physical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Density (Base Resin)	923 kg/m ³	ASTM D 792
Density (Masterbatch)	941 kg/m ³	ASTM D 792
Melt Flow Rate (190 °C/2,16 kg) ¹	0,9 g/10min	ASTM D 1238

Borealis AG | Wagramerstrasse 17-19 | 1220 Vienna | Austria
Telephone +43 1 224 00 0 | Fax +43 1 22 400 333
FN 269858a | CCC Commercial Court of Vienna | Website www.borealisgroup.com

Polyethylene **Visico LE4421/LE4437**

Tensile Strain at Break	300 %	ASTM D 412
Tensile Strength	15 MPa	ASTM D 412
Retention of Tensile Properties After Ageing (7 d, 121 °C)	>= 90 %	ASTM D 638
Hot Creep Test (150 °C,)	<= 50 %	ICEA T-28-562
Elongation under load	<= 5 %	
Permanent deformation		

¹ Base Resin

Electrical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Dielectric constant	2,3	ASTM D 150
Volume Resistivity	10 POhm.cm	ASTM D 257
Dielectric Strength	> 550 V/mil	ASTM D 149
Dissipation Factor	0,0005	ASTM D 150

Processing Techniques

Following parameters should be used as guidelines:

Most equipment designed for PVC or PE extrusion is equally suitable for **LE4421/LE4437**. Typically the following process conditions should be used as a starting point to achieve a stable extrusion process. On-size pressure or low draw down tube-on tooling is recommended for a cable having a smooth glossy appearance. Whichever type of tooling is used, however, the die should have parallel lands of length approximately twice that of the final cable diameter.

Typically the following process conditions are used:

146 °C
155 °C
163 °C
171 °C
177 °C

Packaging

- Base material	
Package:	Smallbins
Package:	Octabins
- Catalyst master batch	
Package:	Smallbins

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 Polyethylene
Visico LE4421/LE4437**Storage**

Visico LE4421/LE4437 has a shelf life of 12 months from delivery 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".

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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