



Polyethylene Visico™ LE4423/LE4460/ LE4437

Silane Crosslinkable Insulation Compound

Description

Visico LE4423/LE4460/LE4437

LE4423/LE4460/LE4437 is a natural, moisture-induced crosslinking polyethylene compound that is designed for use as low voltage wire insulation and jacketing. The combination of a **VISICO LE4423** base resin, along with the **LE4460** brominated flame retardant masterbatch and the **LE4437** catalyst, provides a highly scorch retardant compound with excellent thermal stability and good retardant flame properties. **LE4423/LE4460/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.

A finished compound that is composed of 75 parts of **LE4423** mixed with 20 parts of **LE4460** and 5 parts of **LE4437** is recognized by Underwriters Laboratories as **VISICO HORIZONTAL**. **VISICO HORIZONTAL** is designed to reduce normal PE flame spread characteristics and achieve an HB-1 flame rating on 14 AWG wires and larger. **LE4437** also provides, in addition to catalyst, a stabilization package containing suitable antioxidants, a metal passivator and a metal deactivator. Properly mixed, during the extrusion process, **LE4423/LE4460/LE4437** exhibits excellent thermal stability to oxidation.

LE4423/LE4460/LE4437 is readily pigmented to a variety of colors using standard wire & cable color 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:

LE4423/LE4460/LE4437 is recommended for use as insulation for low voltage control cables and power cables up to 6kv in rating.

Specifications

NF C33 209
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



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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)	2000 kg/m ³	ASTM D 792
Density (Catalyst)	941 kg/m ³	ASTM D 792
Melt Flow Rate (190 °C/2,16 kg) ¹	0,9 g/10min	ASTM D 1238
Tensile Strain at Break	300 %	ASTM D 412
Tensile Strength	16,5 MPa	ASTM D 412
Retention of Tensile Properties After Ageing (168 h, 121 °C)	>= 90 %	
Hot Creep Test (150 °C, 0,20 MPa)	Elongation under load <= 50 % Permanent deformation <= 5 %	ICEA T-28-562

¹ Base Resin

Electrical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Dielectric constant (60 Hz)	2,5	ASTM D 150
DC Volume Resistivity	10 POhm.cm	ASTM D 257
Dielectric Strength	> 22 kV/mm	
Dissipation Factor (60 Hz)	0,0005	ASTM D 150

Combustion Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Horizontal Flame Test (14 AWG-30 mil)	Pass	

Processing Techniques

Following parameters should be used as guidelines:

LE4437 and **LE4460** are typically mixed with the LE4423 base resin directly and the extruder hopper using a volumetric or gravimetric masterbatch feeder. Most equipment designed for PVC or PE extrusion is equally suitable for **LE4423/LE4460/LE4437**. Typically the following process and 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 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:



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146 °C
155 °C
163 °C
177 °C
177 °C

Packaging

Visico LE4423 - Base material
Package: Octabins
LE4437 - Catalyst master batch
Package: Smallbins
LE4460 - FR master batch
Package: Smallbins

Storage

Visico LE4423/LE4460/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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