



Polyethylene

TM

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 Permanent deformation	ICEA T-28-562
	<= 50 % <= 5 %	

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.

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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".

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