

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 wether 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





Physical Properties

Property		Typical Value Test Method Data should not be used for specification work		
Density (Base Resin) Density (Masterbatch) Density (Catalyst) Melt Flow Rate (190 °C/2,16 kg) ¹ Tensile Strain at Break Tensile Strength		923 kg/m3 2000 kg/m3 941 kg/m3 0,9 g/10min 300 % 16,5 MPa	ASTM D 792 ASTM D 792 ASTM D 792 ASTM D 1238 ASTM D 412 ASTM D 412	
Retention of Tensile Propertie °C) Hot Creep Test (150 °C, 0,20 MPa)	Elongation under load Permanent deformation	>= 90 % <= 50 % <= 5 %	ICEA T-28-562	

¹ Base Resin

Electrical Properties

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

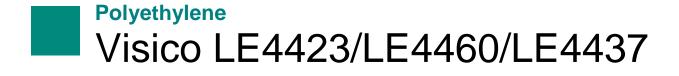
LE4437 and **LE4460** are typically mixed with the LE4423 base resin directly and the extruder hopper using a volumetric or gravimetric masterbatch feeder. Most equipment designed for PVC or PE extrusion is equally suitable for **LE4423/LE4460/LE4437**. Typically the following process and conditions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