



Polyethylene Visico™ LE4421/LE4432

Silane Crosslinkable Insulation Compound

Description

Visico LE4421/LE4432 is a scorch retardant, moisture-crosslinking polyethylene compound for low voltage insulation

The combination of a **VISICO** base material, LE4421, and a black tin catalyst masterbatch, LE4432, provides a highly scorch retardant compound with excellent thermal stability. **LE4421/LE4432** 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.

LE4432 should be added to **LE4421** directly in the extruder hopper by dry blending at a ratio of 10 parts **LE4432** to 90 parts **LE4421**. **LE4432** also provides, in addition to catalyst, a stabilization package containing suitable antioxidants, a metal deactivator and a 25% loading of a fine particle size carbon black for UV weather resistance. Properly mixed, during the extrusion process, **LE4421/LE4432** 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.

Application

LE4421.LE4432 is recommended for use as insulation for low voltage control cables and power cables up to 6 kv in rating.

Specifications

Visico LE4421/LE4432 can meet a variety of international specifications and standards when produced using sound commercial extrusion practice.

NBN C 33-321
ASTM D 2655
EC 502
NF C32-090
NF C33-210
Underwriters Laboratories Standards 854 for types USE and USE-2

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

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)	1050 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	15 MPa	
Retention of Tensile Properties After Ageing (7 d, 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

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Electrical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Dielectric constant (60 Hz) ¹	2,3	ASTM D 150
DC Volume Resistivity	10 POhm.cm	ASTM D 257
Dielectric Strength	> 22 kV/mm	
Dissipation Factor (60 Hz) ¹	0,0005	ASTM D 150

¹ 23 °C

Processing Techniques

Following parameters should be used as guidelines:

Most equipment designed for PVC or PE extrusion is equally suitable for **LE4421/LE4432**. 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 hve parallel lands of a length approximately twice that of the final cable diameter.

Typically the following process conditions are used:

146 °C
163 °C
171 °C
171 °C
177 °C

Packaging

LE4432 - Catalyst master batch
Package: Smallbins
Visico LE4421 - Base material
Package: Smallbins
Octabins

Storage

Visico LE4421/LE4432 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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