Visico™ LE4427/Ambicat™ LE4476

Crosslinked Polyethylene

Borealis AG

Message:

Visico LE4427 / Ambicat LE4476 is a silane crosslinkable natural compound designed for weather resistant covering/insulation of overhead and façade cables.
The black base material Visico LE4427 in combination with the catalyst masterbatch Ambicat LE4476 will accelerate the moisture-induced crosslinking reaction. The system is highly active and crosslinks quickly at ambient conditions, in sauna or in hot water.
When properly mixed, addition of 5 parts of Ambicat LE4476 to 95 parts of Visico LE4427 , insulation with excellent thermo-oxidative stability, also in contact with copper as well as aluminium, is achieved.
Visico LE4427 / Ambicat LE4476 contains antioxidant, metal deactivator and a drying agent. Visico LE4427 contains a permanent scorch retardant additive, ensuring safe processing and enabling the use of highly active crosslinking catalyst.
Visico LE4427 / Ambicat LE4476 in combination meets the applicable requirements as below when processed using sound extrusion and testing procedure:
ANSI/ICEA S-70-547
ASTM D 1248 Type II, Class C, Category 4
HD 603 S1
HD 626 S1 (TIX-2, TIX-3, TIX-5, TIX-7, TIX8)
NF C33-209 part 6-2 (Except messenger wire)
NEMA WC 70
NEMA WC 71
The standards referred to above is a selection and is not complete coverage of all applicable standards. Contact your Borealis representative for additional information.
The black base material Visico LE4427 in combination with the catalyst masterbatch Ambicat LE4476 is a readymade two-component system which crosslinks quickly at ambient conditions, in sauna or in hot water. The base material Visico LE4427 is a black filled low density polyethylene, copolymerised with vinyl silane and designed for overhead cable covering/insulation. Visico LE4427 contains a well dispersed carbon black to provide the necessary protection for outdoor weatherability according to the French specification NF C 33 209 part 6-2, Cable de Façade. The catalyst masterbatch, Ambicat LE4476 , contains a novel, patented, environmentally friendly crosslinking catalyst and is completely free from heavy metals.

General Information	
Additive	Antioxidant
	Carbon Black (3%)
	Metal Deactivator
	Scorch Resistant
Features	Antioxidant
	Copolymer
	Crosslinkable
	Fast Cure
	Good Processability
	Good Surface Finish
	Good Thermal Stability
	Good Weather Resistance
	Low Density
	Low Die Swell
Uses	Cable Jacketing
	Insulation

	Masterbatch
	Outdoor Applications

Agency Ratings	ANSI/ICEA S-70-547
	ASTM D 1248, II, Class C, Cat. 4
	HD 603 S1
	HD 626 S1, TIX-3 , TIX-2, TIX-5, TIX8
	NEMA WC-70 , WC-71
	NFC 33-209, Part 6-2 (Except messenger wire)

Appearance	Black
Forms	Granules
Processing Method	Extrusion

Physical	Nominal Value	Unit	Test Method
Density [1]	0.935	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	1.0	g/10 min	ISO 1133
Environmental Stress-Cracking Resistance (Condition B, 50°C, 10% Igepal, F20)	> 96.0	hr	IEC 60811-4-1/B
Carbon Black Content	2.5	%	ISO 6964
Change in Tensile Properties - 240 h (150°C)	< 25	%	IEC 60811-1-2
Retention of Tensile Properties			
-- [2]	> 85	%	
-- [3]	> 70	%	
Hot Set			IEC 60811-2-1
200°C [4]	30	%	
200°C [5]	0.0	%	
Crosslinking			
700.0 µm [6]	2.0	day	
700.0 µm [7]	< 25.0	min	
1.80 mm [8]	1.00	hr	
1.80 mm [9]	7.0	day	

Mechanical	Nominal Value	Unit	Test Method
Tensile Stress (Yield)	> 15.0	MPa	ISO 527-2/250
Tensile Strain (Break)	> 300	%	ISO 527-2/250

Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -76.0	°C	ASTM D746

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
Dielectric Constant (50 Hz)	< 2.90		IEC 60250
Dissipation Factor (50 Hz)	< 1.0E-3		IEC 60250

Extrusion	Nominal Value	Unit

Cylinder Zone 1 Temp.	150	°C
Cylinder Zone 2 Temp.	170	°C
Cylinder Zone 3 Temp.	170	°C
Cylinder Zone 4 Temp.	170	°C
Die Temperature	170	°C

NOTE	
1.	Mixture 93:7, ISO 1872-2
2.	After UV Ageing, 3 to 6 weeks
3.	After UV Ageing, 6 weeks
4.	Elongation under load, 0.20 MPa
5.	Permanent deformation, 0.20 MPa
6.	In air 23°C, 50 % humidity
7.	90°C, Sauna or water bath
8.	90°C, Sauna or water bath
9.	In air 23°C, 50 % humidity

Recommended distributors for this material

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