Visico™ LE4423/Ambicat™ LE4476

Crosslinked Polyethylene

Borealis AG

Message:

Visico LE4423 / Ambicat LE4476 is a silane crosslinkable natural compound designed for low voltage power cables up to 6 kV.
The base material Visico LE4423 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 LE4423 , insulation with excellent thermo-oxidative stability, also in contact with copper as well as aluminium, is achieved. If the insulation is designed to meet the thermooxidative ageing demand requiring by IEC 60502 at 150°C in contact with copper, addition of 9 parts Ambicat LE4476 to Visico LE4423 is recommended.
Visico LE4423 / Ambicat LE4476 contains antioxidant, metal deactivator and a drying agent. Visico LE4423 contains a permanent scorch retardant additive, ensuring safe processing and enabling the use of highly active crosslinking catalyst.
Visico LE4423 / Ambicat LE4476 in combination meets the applicable requirements as below when processed using sound extrusion and testing procedure:
ASTM D 1248 Type I, Class A, Category 4
HD 603 S1
HD 604 S1
IEC 60502-1
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 base material Visico LE4423 in combination with the catalyst masterbatch Ambicat LE4476 is a ready-made two-component system which crosslinks quickly at ambient conditions, in sauna or in hot water. Visico LE4423 is based upon a cost optimised low density polyethylene, copolymerised with vinyl silane. The catalyst masterbatch, Ambicat LE4476 , contains a novel, patented, environmentally friendly crosslinking catalyst and is completely free from heavy metals.

General Information	
Additive	Antioxidant
	Metal Deactivator
	Scorch Resistant
Features	Antioxidant
	Crosslinkable
	Fast Cure
	Good Processability
	Good Surface Finish
	Good Thermal Stability
	Low Die Swell
	Oxidation Resistant
Uses	Cable Jacketing
	Low Voltage Insulation
Agency Ratings	ASTM D 1248, I, Class A, Cat. 4
	HD 603 S1
	HD 604 S1

IEC 60502-1

NEMA WC-70 , WC-71

Forms	Pellets		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density [1]	0.923	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 (50°C, 10% Igepal, F20)	> 96.0	hr	IEC 60811-4-1/B
Hardness	**Nominal Value**	**Unit**	**Test Method**
Shore Hardness (Shore D, 1 sec)	52		ISO 868
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (Yield)	> 15.0	MPa	ISO 527-2/250
Tensile Strain (Break)	> 300	%	ISO 527-2/250
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Properties			IEC 60811-2-1
135°C [2]	< 25	%	
150°C [3]	< 30	%	
Hot Set			IEC 60811-2-1
200°C [4]	60	%	
200°C [5]	0.0	%	
Crosslinking			
23°C, 700.0 µm [6]	1.5	day	
23°C, 1.80 mm [7]	7.0	day	
90°C, 700.0 µm [8]	< 15.0	min	
90°C, 1.80 mm [9]	1.00	hr	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Brittleness Temperature	< -76.0	°C	ASTM D746
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	> 1.0E+16	ohms·cm	IEC 60093
Electric Strength	> 22	kV/mm	IEC 60243-1
Dielectric Constant (50 Hz)	< 2.30		IEC 60250
Dissipation Factor (50 Hz)	< 5.0E-4		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 95:5, ISO 1872-2		
2.	Addition of 5% Catalyst, 240 h		

3.	Addition of 9% Catalyst, 168 h
4.	Elongation under load, 0.20 MPa
5.	Permanent deformation, 0.20 MPa
6.	In air, 50 % humidity
7.	In air, 50 % humidity
8.	Sauna or water bath
9.	Sauna or water bath

Recommended distributors for this material

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