

Visico™ LE4423/Ambicat™ LE4472

Crosslinked Polyethylene

Borealis AG

Message:

Visico LE4423 / Ambicat LE4472 is a silane crosslinkable black compound designed for covering/insulation of overhead cables. The base material Visico LE4423 in combination with the catalyst masterbatch Ambicat LE4472 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 7 parts of Ambicat LE4472 to 93 parts of Visico LE4423 , insulation with excellent thermo-oxidative stability, also in contact with copper as well as aluminium, is achieved. The final product will contain nominal 2,5% of fine size carbon black ensuring excellent weatherability. Visico LE4423 / Ambicat LE4472 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 LE4472 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-4, TIX-6, TIX-9)
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 LE4472 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.

General Information	
Additive	Antioxidant
	Carbon Black (3%)
	Metal Deactivator
	Scorch Resistant
Features	Antioxidant
	Crosslinkable
	Fast Cure
	Good Processability
	Good Surface Finish
	Good Thermal Stability
	Good Weather Resistance
	Oxidation Resistant
Uses	Power Cable Jacketing
	Wire & Cable Applications
Agency Ratings	ANSI/ICEA S-70-547
	ASTM D 1248, II, Class C, Cat. 4

HD 603 S1
IEC 60502-1
NEMA WC-70 , WC-71

Appearance	Black		
Forms	Pellets		
Physical	Nominal Value	Unit	Test Method
Density ¹	0.933	g/cm ³	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
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 - 240 hr (135°C)	< 25	%	IEC 60811-1-2
Hot Set			IEC 60811-2-1
200°C ²	60	%	
200°C ³	0.0	%	
Crosslinking			
700.0 µm ⁴	1.5	day	
700.0 µm ⁵	< 15.0	min	
1.80 mm ⁶	7.0	day	
1.80 mm ⁷	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	> 20	kV/mm	IEC 60243-1
Dielectric Constant (50 Hz)	< 2.50		IEC 60250
Dissipation Factor (50 Hz)	< 6.0E-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 93:7, ISO 1872-2		

2.	Elongation under load, 0.20 MPa
3.	Permanent deformation, 0.20 MPa
4.	In air 23°C, 50 % humidity
5.	90°C, Sauna or water bath
6.	In air 23°C, 50 % humidity
7.	90°C, Sauna or water bath

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