Visico™ LE4421/Ambicat™ LE4472

Crosslinked Polyethylene

Borealis AG

Message:

Visico LE4421 / Ambicat LE4472 is a silane crosslinkable black compound designed for covering/insulation of overhead cables.
The base material Visico LE4421 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 LE4421 , insulation with excellent thermo-oxidative stability, also in contact with copper as will as aluminium, is achieved. The final product will contain nominal 2,25% of fine size carbon black ensuring excellent weatherability.
Visico LE4421 / Ambicat LE4472 contains antioxidant, metal deactivator and a drying agent. Visico LE4421 contains a permanent scorch retardant additive, ensuring safe processing and enabling the use of highly active crosslinking catalyst.
Visico LE4421 / Ambicat LE4472 in combination meets the applicable requirements as below when processed using extrusion practice 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 71
NEMA WC 70
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 LE4421 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 LE4421 is based upon a cost optimised low density polyethylene, copolymerised with vinyl silane. The catalyst/carbon black masterbatch, Ambicat LE4472 , contains a novel, patented, environmentally friendly crosslinking catalyst and is completely free from heavy metals.

General Information	
Additive	Antioxidant
	Carbon Black (2%)
	Drying Agent
	Metal Deactivator
	Scorch Resistant
Features	Antioxidant
	Crosslinkable
	Fast Cure
	Good Processability
	Good Surface Finish
	Low Density
	Low Die Swell
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		
Processing Method	Extrusion		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density [1]	0.933	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**
Retention of Tensile Properties - After Ageing 240 h (135°C)	> 25	%	IEC 60811-1-2
Hot Set			IEC 60811-2-1
200°C [2]	0.0	%	
200°C [3]	60	%	
Crosslinking			
23°C, 700.0 µm [4]	1.5	day	
23°C, 1.80 mm [5]	6.0	day	
90°C, 700.0 µm [6]	< 15.0	min	
90°C, 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.	Permanent deformation, 0.20 MPa
3.	Elongation under load, 0.20 MPa
4.	In air, 50 % humidity
5.	In air, 50 % humidity
6.	Sauna or water bath
7.	Sauna or water bath

Recommended distributors for this material

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