

TECHNICAL DATA SHEET

Crosslinkable Polyethylene Compound

XLPE – LS243BKA

CHEMTECH XLPE COMPOUND:

Grade LS243BKA is a silane crosslinkable black compound suitable for medium voltage wire and cable insulation with thickness 3 – 5.5 mm

Product Description

LS243BKA is Silane – XLPE compound produced under Sioplas Technology (two – step – process) used in manufacture of power cable insulation. LS243BKA complies with 2 components:

Material A: Silane grafted polyethylene

Material B: Catalyst master batch with processing aid and carbon black master batch

Typical Applications

LS243BKA is used for medium voltage wire and cable insulation up to 24 KV.

LS243BKA contents 2 % Carbon black by weight.

LS243BKA is black color.

Standard Package

One bag of LS243BKA contains 25 kgs resin which complies with Material A (22.5 kgs) in big vacuum sealed aluminum bag and Material B (2.5 kgs) in two small sealed aluminum bags.

Bags of Material A and B are in outer kraft paper/ PP bag for easy to handle and use.

Specification

The property requirement of the following material specifications

IEC 60502-2

Physical Properties

Property	Test method	Spec.	Value	Unit
Melt Flow Index, Base Resin (190 °C, 2.16 kg)	ASTM D-1238	>2.5	2.8	g/10 min.
Density based resin	ASTM D-1505	0.92±0.03	0.935	g/ cm ³
Elongation at Break	IEC 60811-1-1	Min. 200	>450	%
Tensile Strength	IEC 60811-1-1	Min 12.5	>18	MPa
After aging in oven (135 °C, 168 hours)				
Change of Elongation	IEC 60811-1-2	± 25	~-9	%
Change of Tensile Strength	IEC 60811-1-2	± 25	~-14	%
Hot set test (200 °C, 0.2 MPa, 15 min.)				
Elongation under load	IEC 60811-2-1	Max. 175	~-35	%
Elongation after cooling	IEC 60811-2-1	Max. 15	~-8.7	%



CHEMTECH COMPANY LIMITED

D_8A4_CN, My Phuoc 3 IP, Thoi Hoa, Ben Cat, Binh Duong, Vietnam

Tel: +84 2743 784 992 Fax: +84 2743 767 088

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Electrical Properties

Property	Test method	Spec.	Value	Unit
Dielectric Strength	IEC 60243	>30	35	KV/mm
Dielectric Constant (50 Hz)	IEC 60250	<2.5	2.28	-
Volume Resistivity (1 kV)	IEC 60093	1.0x10 ¹⁶	1.0x10 ¹⁷	Ω.cm
Gel content	ASTMD 2765	>70	82	%

Processing Guidelines

1. Mix Material A and Material B together by mixer.
2. Extrude for cable insulation with guideline processing condition as below:
 - Extruder type: General extruder design for processing Polyethylene
 - L/D ratio of screw: L/D 22 – 26
 - Compression ratio: 2:1 to 3:1
 - Processing condition

Zone 1 (°C)	Zone 2 (°C)	Zone 3 (°C)	Zone 4 (°C)	Head (°C)	Die (°C)
160 – 170	170 – 180	190 – 200	200 – 210	210 – 220	230 – 250

This profile will vary slightly depending on extruder type, head design and output

3. Guideline Curing time:

Thickness (mm)	Immerse in hot water 90 °C (Hours)	Ambient cure at 30°C, 80% RH (days)
3	5	10
5.5	10	21

Note: Specimens are made by strip passed to roller with thickness 3 and 5.5 mm, immersed in hot water 90 °C then take sample in the middle part of the specimen.

4. It is recommended:
 - Use all material after open the aluminum packaging within 2 – 3 hours.
 - Screen mesh 40-60 is recommended.
 - **Do not** dry mat A (grafted polyethylene).
 - Dry mat B (catalyst master batch) at 70 °C, 4 hours before using.
 - When change size of cable, should clean machine before run next cable.



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Storage

The shelf life of the products 12 months from the date of production, intact bags should be stored in ambient temperature (30 – 35 °C), in dry and dust free location. Avoid storage outside, water vapor absorbed
Avoid exposure to sunlight during storage

Safety

The product is not classified as a dangerous and is intended for industrial use only.
Please see our “Safety Data Sheet” for details.

Disposal

Disposal must be specially treated adhering to official regulations.

Related Documents

Safety Data Sheet, Handling and Storage Manual.

Disclaimer

- The product can be used only for the application as specified here above.
- To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatever for the accuracy and completeness of such information.
- We make no warranties which extend beyond the description contained herein. Nothing herein shall constitute any implied warranty of merchantability of fitness for a particular purpose.
- It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.
- No ability can be accepted in respect of the use of our products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials



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