

## TECHNICAL DATA SHEET

### Crosslinkable Polyethylene Compound

# XLPE – LS224NTA

#### CHEMTECH XLPE COMPOUND:

Grade LS224NTA Silane Crosslinkable PE compound suitable for Low Voltage Cable insulation with thickness 0.5 – 2 mm

#### Product Description

LS224NTA is Silane – XLPE compound produced under Sioplas Technology (two – step – process) used in manufacture of power cable insulation. LS224NTA complies with 2 components:

Material A: Silane grafted polyethylene

Material B: Catalyst master batch

LS224NTA is developed to provide good surface, low shrinkage and high speed for low voltage cable.

#### Typical Applications

LS224NTA is for low voltage wire and cable insulation.

LS224NTA is natural color.

#### Standard Package

One bag of LS224NTA contains 25 kgs resin which complies with Material A (23.75 kgs) in vacuum sealed aluminum bag and Material B (1.25 kgs) in a small sealed aluminum bag.

Bags of Material A and B, total 25 kgs, are in outer kraft paper/ PP bag for easy to handle and use.

#### Specification

The property requirement of the following material specifications  
IEC 60502-1

#### 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	ASTM D- 1505	0.92±0.03	0.92	g/ cm <sup>3</sup>
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	~10	%
Change of Tensile Strength	IEC 60811-1-2	± 25	~12	%
Hot set test (200 °C, 0.2 MPa, 15 min.)				
Elongation under load	IEC 60811-2-1	Max. 175	~70	%
Elongation after cooling	IEC 60811-2-1	Max. 15	~ -7.5	%



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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	<2.3	2.18	-
Volume Resistivity (1 kV)	IEC 60093	>1.0x10 <sup>16</sup>	1.0x10 <sup>17</sup>	Ω.cm
Gel content	ASTMD 2765	>70	85	%

#### Processing Guidelines

1. Mix well Material A and Material B together.
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)
150 – 160	160-165	165-170	170-175	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)
1	2	4
2	4	8

*Note Specimens are made by strip passed to roller with thickness 1 and 2.0 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 4 – 6 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. Please do not use material in case found leak.

#### 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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