



Kkalpana Industries (India) Limited

An ISO 9001:2015 company
TECHNICAL DATA

**Two component Moisture curable Polyethylene Compound
for Insulation of Aerial bunched Compound**

: KI-XL-03 MT / 04 ABC -SC

DESCRIPTION:

KI-03 MT is a superior grade of silane grafted polyethylene compound. It is designed to be used as insulation of low voltage aerial bunched cable. An enriched additive package makes it highly scorch retardant and protects it against heavy metal induced degradation.

KI-XL-03 MT is to be used in conjunction with black catalyst Masterbatch KI-XL-04 ABC-SC, which contains a catalyst to enhance the process of crosslinking in steam bath (Sauna) or hot water and a suitable grade of carbon black to impart UV resistance (Weatherability test as per NFC-33-209)

The shelf life of KI-XL-03 MT and KI-XL-04 ABC-SC are indicated at the end of this brochure. However when mixed, extruded and exposed to ambient condition, crosslinking starts immediately. The components are therefore to be mixed just before consumption, usually in the ratio of 93 parts of KI-XL-03 MT to 7 parts of catalyst Master Batch (KI-XL-04 ABC-SC)

The above two components can be extruded in a normal thermoplastic conventional PE (or even PVC) extrusion line. In this case, time of curing is to be optimized as a function of thickness of insulation and temperature of water bath.

SPECIFICATIONS:

KI-XL 03 MT & KI-04 ABC-SC meets requirements as applicable under following standards, when processed using sound extrusion practice and testing procedure;

IS-7098 Part 1 / IS 10810
BS 5467, 5468, 6724, 7655
IEC 60502
NFC-33-209

TYPICAL PROPERTIES:

A) KI-XL 03 MT (GRAFTED POLYMER)

Sl. No	Property	Unit	Typical Value	Test Method
1	Density	gm/cm ³	0.928-0.931	ASTM-D-792
2	MFI@190 ⁰ C, 2.16 kg load	gm/10 Minutes	1.0-2.0	IS-10810 / ASTM-D-1238
3	Contamination (Visual)	No./Kg.	< 5	Internal (KIIL)

MKT: TDS – 03MT/04ABC-SC – 11/17

B) KI-XL 03 MT / KI-04 ABC-SC

KI-XL 03 MT & KI-04 ABC- SC are mixed at 93:07 ratio and a tape of 1.5 mm thickness is extruded. Cured by immersion in water at 85°C for 3 hours.

Sl. No	Property	Unit	Typical Value	Test Method
1	Tensile Strength	MPa	16-19	IS-10810 Part-7 / ASTM D-635
2	Elongation at break	%	500-600	IS-10810 Part-7 / ASTM D-635
3	Hot set at 200°C & 30 N/cm ² Load a) Hot Elongation after 15 min. b) Permanent Set after 5 min	% %	60-90 ±5	IS-10810 Part-30 / IEC 60811-507 - do -
4	Oven ageing at 150°C,240 hours a) Variation in Tensile Strength b) Variation in Elongation at Break	% %	±25 ±25	IS-10810 Part-11 / IEC 60811-401 - do -
5	Carbon Content	%	2.5±0.5	ASTM D-1063
6	Volume Resistivity@25°C	Ohm-cm	>1x10 ¹⁵	ASTM D-257
7	Dissipation factor (50Hz)	-	<0.007	ASTM-D-150
8	Dielectric Constant (50Hz)	-	2.6	ASTM-D-150

PROCESSING GUIDELINES:

It is recommended to dry the catalyst master batch at 60°C in air oven in 4-6 cm layers for 8-12 hours. The grafted Polymer should never be pre heated.

The Grafted Polymer, catalyst master batch should not be mixed by bare hands to avoid moisture from bare hands.

It is important that the extruder should not be kept ideal for more than 10 minutes when filled with KI-XL 03 MT / KI- 04 ABC -SC premix. If it is needed for size change, extruder should be kept running at low RPM.

PACKING:

- Moisture Barrier Multilayer Bags of 25 kg.
- 20' FCL will take palletized 11 MT and 40' FCL will take 24.75 MT.

MKT: TDS – 03MT/04ABC-SC – 11/17

STORAGE:

The shelf life of the product is 90 days (In case of Export packaging the shelf life is guaranteed for 180 days instead of 90 days) from the date of production, subject to following conditions:

- Storage temperature not generally exceeding 25 °C
- Away from direct sunlight and weathering.
- Closed and unbroken bags.
- Uses of compound within 3-4 hours of after bags are open.
- No mixing of leftovers from previous runs.

The information given in the document is believed to be reliable and is given in good faith but without warranty. The user should test the product to ascertain the suitability for the intended use. Product specification or the whole document is subject to change without any prior notice.