



Ddev Plastiks Industries Limited

An ISO 9001:2015 company

TECHNICAL DATA

**Silane Grafted XLPE Compound for Insulation of
Aerial Bunched Cable up to 33 KV:**

KI – XL – 09 -33 / KI-XL-04 ABC SC1

DESCRIPTION :

KI-XL-09-33 / KI-XL-04 ABC SC1 combination is suitable for insulation of aerial bunched cable up to 33KV.

KI-XL-09-33 is to be used in conjunction with catalyst master batch KI-XL-04 ABC-SC1, which contains a catalyst to enhance the process of cross-linking and a suitable grade of carbon black to impart UV resistance.

KI-XL-09-33 and KI-XL-04 ABC-SC1 are mixed in 93:07 ratio extruded in a normal thermoplastic in a conventional PE (or even PVC) extrusion line, thus obviating the need of an expensive continuous vulcanizing (CV) extrusion line. The cross-linking step is subsequently carried out by immersion in hot water (Sauna), or exposure to steam. In each case, time of curing is to be optimized as a function of thickness of insulation, concentration of catalyst and temperature.

KI-XL-09-33 & KI-XL-04 ABC-SC1 meets requirements as applicable under following standards, when processed using sound extrusion practice and testing procedure;

- IS-7098 Part 2
- IS 14255
- IEC 60502 Part 2

TYPICAL PROPERTIES

A) KI-XL-09-33

Property	Unit	Typical Value	Test Method
Density	gm / cm ³	0.923	ASTM-D-792
Melt Flow Index (190°C, 2.16 kg)	gm / 10 min	0.5 – 1.5	IS-10810 (Part-23) / ASTM-D-1238
Contamination	No./500 g. granules	<200µ<500µ>500µ 10-2-0	By Optical Control Systems (KIIL)

MKT: TDS – 09-33/04ABC-SC1 – 04/2022

B) KI-XL-09-33 / KI-XL-04 ABC-SC1 Combination

Mixed at 130°C at 93:7 ratio for 3 minutes. Compression-molded to a sheet of 1.5 mm thickness. Cured by immersion in water at 95°C for 3 hours. Conditioning for 3 hours.

Property	Unit	Typical Value	Test Method
Tensile Strength	MPa	16 - 19	IS-10810 (Part-7) ASTM D-638
Elongation at break	%	500 – 600	IS-10810 Part-7 ASTM D-638
Hot set at 200 °C a) Hot Elongation after 15 min.	%	60 – 90	IS-10810 Part-30 / IEC 60811-507
b) Permanent Set after 5 min	%	± 5	
Oven ageing at 135 °C, 168 hours a) Variation in Tensile Strength	%	± 15	IS-10810 Part-11 / IEC 60811-401
b) Variation in Elongation at Break	%	± 15	
Carbon content	%	2.5 ± 0.5	ASTM D-1063
Volume Resistivity @ 25°C	Ohm-cm	1 X 10 ¹⁶	ASTM D-257
Dielectric Strength	kV/mm	≥ 30	ASTM-D-149

PROCESSING GUIDELINES :

It is recommended to dry the Catalyst Mater 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 Grafter Polymer and Catalyst Master Batch should not be mixed by bare hands to avoid moisture from bare hands.

It is important that extruder should not be kept idle for more than 10 minutes when filled with KI-09-33 / KI-XL-04 ABC-SC1 premix. It is needed for size change; extruder should kept running at low RPM.

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PACKAGING :

For Export:

- 600 kg. paper carton with aluminum foil liner & 40' FCL will take 24 MT.
- 25 kg. Moisture barrier multilayer liner bags pelletized & 20' FCL will take 12 MT & 40' FCL will take 24.75 MT.

For Local:

25 kg. Moisture barrier multilayer bags.

850 kg. paper carton with aluminum foil liner.

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.
- Use of compound within 3-4 hours after bags are open.

The information given in the document is believed to be reliable and is given in the 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.

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