



Kkalpana Industries (India) Limited

An ISO 9001:2015 company
TECHNICAL DATA

**Peroxide Based Tree Retardant XLPE Compound For
Continuous Vulcanization Line**

KI – XL – 8503 TR

DESCRIPTION :

KI-XL-8503 TR is a long life, water-tree retardant, cross-linkable (peroxide based) polyethylene compound specially designed and developed for medium voltage power cables (up to 35 KV) insulation in service involving exposure to moisture. It contains extremely low level of contamination. Proper balance of anti-oxidant and peroxide ensures thermal stability during processing and post extrusion and results in optimum cure levels.

SPECIFICATIONS :

KI-XL-8503 TR compound meets requirements as applicable under following standards, when processed using sound extrusion practice and testing procedure;

- IEC 60502 / 60840
- HD 620-S1

TYPICAL PROPERTIES :

| Property | Unit | Typical Value | Test Method |
|--|----------------------|---------------------------|-----------------------------------|
| Density | gm / cm ³ | 0.920 | ASTM-D-792 |
| Tensile Strength | MPa | 15 | ASTM D-638 |
| Elongation at break | % | 500 | ASTM D-638 |
| Hot elongation @200°C, 20N/cm ² | % | 70 | IEC-60811-507 |
| Permanent Set after 5 Min. | % | 0 | IEC-60811-507 |
| Variation in Tensile Strength * | % | ± 20 | IEC-60811-401 |
| Variation in elongation at break* | % | ± 20 | IEC-60811-401 |
| Contamination | No./1000 g. granules | <200µ<500µ>500µ 10-2-0 | By Optical Control Systems (KIIL) |

* After Heat Ageing at 150°C for 240 hrs.
On moulded sheet at 180°C / 20 min.

ELECTRICAL PROPERTIES :

| Property | Unit | Typical Value | Test Method |
|------------------------------|--------|----------------------|-------------|
| Di-Electric Constant @25°C | - | 2.3 | ASTM-D-150 |
| Dissipation Factor @25°C | - | 0.0005 | ASTM-D-150 |
| Di-electric Strength | KV/mm | 22 | ASTM-D-149 |
| DC Volume Resistivity @ 25°C | Ohm-cm | 1 X 10 ¹⁶ | ASTM-D-257 |

MKT: TDS – 8503TR – 11/17



Kkalpana Industries (India) Limited

TREE RESISTANCE (RELATIVE TO STANDARD COMPOUND KI-XL-8503 TR) :

| Property | Unit | Typical Value | Test Method |
|--|------|---------------|-------------|
| Relative Water-Tree Size | % | 25 - 50 | ASTM-D-6097 |
| Resistance to Water-Tree Growth @ 25°C 30 days | % | 10 | ASTM-D-6097 |

PROCESSING GUIDELINES :

During extrusion in a typical CCV line, following temperature profile is suggested.

| Position | Temperature (°C) |
|----------|------------------|
| Barrel | 95 – 115 |
| Head | 115 |
| Die | 115 |
| Screw | 90 |

PACKAGE : 450 / 550 / 800/ 875 Kg in PE Liner and Corrugated Paper boxes.

STORAGE Shelf life of the product is 12 months from the date of production subject to following conditions:
Storage shall take place indoors at temperature not generally exceeding 25°C. Box should be kept away from direct sunlight and weathering.

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.

MKT: TDS – 8503TR – 11/17