



# KLJ POLYMERS & CHEMICALS LIMITED

## SEMI-CONDUCTING COMPOUND

### KLJ SC XL 500

#### Description:

KLJ SC XL 500 is a Semi Conducting Compound having excellent heat deformation resistant characteristics and specially designed for use as a thermoplastic conductor and insulation shield. Further the material has superior thermal stress crack resistance, toughness are the desired properties at the time of curing to avoid sticking of cable layers. It is also easy to process and has low volume resistivity..

#### Specifications:

KLJ SC XL 500 meets the requirement of:

- ICEA S-66-524/NEMA WC7
- BS 6622
- IEC 60502
- IEC 60840

#### Properties:

Properties	Test Method	Unit	Typical Value
Melt Flow Index , 190°C , 21.6 kg	ASTM D 1238	g/10 min.	30
Density at 27°C	ASTM D 1505	g/cm <sup>3</sup>	1.10
Tensile Strength	ASTM D 638	MPa	11
Elongation	ASTM D 638	%	350
Variation in Tensile Properties ,After ageing 168 hrs. at 121 oC	ASTM D 638	%	<25
Shore D Hardness	ASTM D 2240	Sh-D	54
DC Volume Resistivity	ASTM D 257		
- at 23 oC		ohm-cm	<50
- at 90 oC		ohm-cm	<200

#### Processing Guidelines:

Semiconducting KLJ SC XL 500 has been formulated to be easily extrudable using conventional polyethylene extrusion lines. For optimum extrusion result with KLJ SC XL 500 use melt extrusion temperature in the range of 140 - 180°C. Specific processing condition can be determined only by trials on individual equipment.

Semiconducting KLJ SC XL 500 absorbs moisture, which can result in porosity in the extrudate. It is therefore recommended that the compound be thoroughly dried prior to use, usually 2-4 hours in hopper drier at 70 – 75°C.

### **Application**

Semiconducting KLJ SC XL 500 has been designed to meet the conductivity and bondability requirements of both conductor and insulation shield for medium voltage cables.

Cables manufactured with KLJ SC XL 500 conductor and insulation shields are rated for 90°C continuous service and 130°C overload temperature.

### **Shelf Life/Storage:**

KLJ SC XL 500 can be stored for 6 months from date of manufacturing , without significant deterioration of the quality of material. However, it is recommended to be consumed as soon as possible.

KLJ SC XL 500 is recommended to be stored in a cool, dry & clean environment in unopened original packaging.

### **Packaging:**

KLJ SC XL 500 granules are packed in 25 kg bags, which are protected from moisture ingress.

### **Safety:**

KLJ SC XL 500 are not classified as dangerous preparation.

The products are supplied in the form of free-flowing granules of approx. 2-3 mm size and can be readily handled with commercially available equipment. Handling and transport of the products may generate some dust and fines, which constitute a potential hazard for dust explosion. All metal parts in the system should therefore be properly grounded. Properly designed equipment and good housekeeping will reduce the risk.

Inhalation of any type of dust should be avoided as it may cause irritation of the respiratory system.

The product is intended for industrial use only. MSDS is available on request.

### **Disclaimer:**

- The specifications given are the guidelines only.
- Above compound is suitable to run on different machines; however some adjustments may be required on individual machine.
- All properties are tested as per ASTM/IS/IEC standards.
- Any data may change without prior information.
- The customers are advised to check the quality, prior to commercial use. There is no guarantee and/or warranty what so ever, after processing.