



TECHNICAL INFORMATION

KLJ SEM 500

THERMOPLASTIC BONDED SEMI-CONDUCTING SHIELDING COMPOUND

Description:

KLJ SEM 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..

Specification:

KLJ SEM 500 meets the requirement of:

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

The standards referred to above is a short selection of standards and does not cover all applicable standards. Contact your KLJ representative for additional information.

Application:

Semiconducting KLJ SEM 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 SEM 500 conductor and insulation shields are rated for 90°C continuous service and 130°C overload temperature.



SEMI CONDUCTING COMPOUND



9001:2015



14001:2015

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Technical Characteristics:

Properties	Unit	Test Method	KLJ Specification	Typical Value
Density	g/cm ³	IS 10810 Part 7	1.12- 1.14	1.14
Melt Flow Index (190°C, 10 kg Load)	gm/10min	ASTM D 1238	8.0 – 10	9.0
Tensile Strength at Break	MPa	IS 10810 Part 7	≥ 14	15.5
Elongation at Break	%	IS 10810 Part 7	≥ 200	250
After Ageing (168 h, 121 °C)				
Change of Tensile Properties	%	IS 10810 Part-11	<20	<20
Change of Elongation at break	%	IS 10810 Part-11	>100	200
Moisture Content	ppm	IS 7086	≤200	100
DC Volume Resistivity		ASTM D 257		
-23°C	ohm-cm		<50	39
-90°C	ohm-cm		<100	70

*Tensile properties on 1 mm extruded tape

Processing Guidelines

Semiconducting KLJ SEM 500 has been formulated to be easily extrudable using conventional polyethylene extrusion lines. For optimum extrusion result with KLJ SEM 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 SEM 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.

Shelf Life/Storage:

- KLJ SEM 500 can be stored for 180 (In case of export packaging the shelf life is for 240 days instead of 180 days) from date of manufacturing, however it is suggested to use within 90 days from the date of receipt. Shelf life is subject to storage in original intact packing, in cool and dry place, away from sunlight and weathering, storage temperature not generally exceeding 35°C.
- Use the compound immediately.



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Packaging:

KLJ SEM 500:

Form: Granules.

Package: 25 kg aluminium multilayer bag and 650 kg Octabin with aluminium liner with Top & Bottom discharge as required by the customer.

Safety:

This compound is 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.

For technical service & further information and assistance:

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Disclaimer: The data given above are for the guidelines purpose 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 warrantee what so ever, after processing.
