



KLJ GROUP

## SEMI CONDUCTING COMPOUND



9001:2015



14001:2015

July 2022 Ed8

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# TECHNICAL INFORMATION

## KLJ PX SEM 535

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### THERMOSET BONDED SEMI-CONDUCTING COMPOUND

#### Description:

KLJ PX SEM 535 is a Semi Conducting cross-linkable conductor shielding & insulation shielding compound for medium and high voltage power cables. Further the material has very high resistance to scorch. It is easy to process and has low volume resistivity.

#### Specification:

KLJ PX SEM 535 meets the requirement of:

- 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 PX SEM 535 has been designed to meet the conductivity and bonding-ability requirements of both conductor and insulation shield for medium voltage cables.

Cables manufactured with KLJ PX SEM 535 conductor and insulation shields are rated for 90°C continuous service and 130°C overload temperature.



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## Technical Characteristics:

Properties	Unit	Test Method	Specification	Typical Value
Density	g/cm <sup>3</sup>	ASTM D 792	1.12- 1.16	1.14
Tensile Strength at Break	MPa	IS 10810 Part 7	≥ 15	18
Elongation at Break	%	IS 10810 Part 7	≥ 150	180
After Ageing (168 h, 135 °C)				
Change of Tensile Properties	%	IS 10810 Part-11	<15	<15
Change of Elongation at break	%	IS 10810 Part-11	<15	<15
Hot Set @ 200°C, 20N/cm <sup>2</sup>	%	IS 18010 Part-30	≤100	50
Permanent Set after cooling	%	IS 18010 Part-30	≤10	5
Heat Deformation (120°C x 2kg),	%	IS 10810 P 15	<50	10
Moisture Content	ppm	IS 7086	≤500	200
ESCR 100%, IGEPAL F20	hrs	ASTM D 1683	>500	>500
DC Volume Resistivity		ASTM D 257		
-23°C	ohm-cm		<100	44
-90°C	ohm-cm		<1000	300

\*Tensile properties on 1 mm extruded tape

## Processing Guidelines

Semiconducting KLJ PX SEM 535 has been formulated to be easily extrudable using conventional polyethylene extrusion lines. For optimum extrusion result with KLJ PX SEM 535, use melt extrusion temperature in the range of 100 - 110°C, Triple Cross Head 120°C & Connecting Flanges 120°C. Specific processing condition can be determined only by trials on individual equipment.

Semiconducting KLJ PX SEM 535 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 40 – 50°C.

## Shelf Life/Storage:

- KLJ PX SEM 535 can be stored for 365 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.



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- Use the compound immediately.

### Packaging:

#### **KLJ PX SEM 535:**

Form: Granules.

Package: 25 kg aluminium multilayer bag and 550 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.