



Medium Voltage Semiconductor Compound – Thermoplastic

- Description**

ZARPLS™ SC7710 is a thermoplastic material for direct use as semiconductive cable compound. It offers good surface smoothness and excellent extrusion properties.

- Applications**

ZARPLS™ SC7710 is designed and delivered for direct use as a conductive conductor and bonded insulation screen for power cables . ZARPLS™ SC7710 is not designed for use as master batch as this will degrade its conductive properties. It's used as conductor and insulation screen of medium voltage (MV) AC cables with rated voltages up to 33 kV (Um = 36 kV).

The values are voltages between phases as defined in IEC 60183.

- Specifications**

ZARPLS™ SC7710 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

- IEC 60502-2
- VDE 0271 – 0273
- BSI 6622

- Physical Properties**

Data should not be used for specification work

Property	Typical Value	Test Method
Density (Base Resin)	1.13 gr/cm3	ISO 1183
Elongation at Break (250 mm/min)	150 %	IEC 60811-401
Tensile Strength (250 mm/min)	11 N/mm2	IEC 60811-401
Change of tensile strength after aging 135°C 168h	<20 %	IEC 60811-1-2
Moisture (max 1000)	600 ppm	Karl Fischer-titration

- Electrical Properties**

Data should not be used for specification work

Property	Typical Value	Test Method
DC Volume Resistivity (23°C)	<100 Ohm.cm	ISO 3915
DC Volume Resistivity (90°C)	<1000 Ohm.cm	ISO 3915

- Processing Guidelines**

ZARPLSTM SC7710 provides excellent surface finish and outstanding output rates, when processing conditions are optimized for the actual processing equipment and cable dimension.



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Actual conditions may vary according to the equipment used but, as a guide, temperatures according to the table below are suggested:

Hopper drying* (4 hours) 70°C

Melt temperature: 115-125°C

Inner Semiconductor Extruder							
Screw	Zone 1	Zone 2	Zone 3	Zone 4	Clamp	Connection 1	Connection 2
95	105	110	115	115	120	120	120

Outer Semiconductor Extruder							
Screw	Zone 1	Zone 2	Zone 3	Zone 4	Clamp	Connection 1	Connection 2
105	115	120	125	125	120	120	120

- Please note that to get smoother surface on outer semiconductor layer , related extruder temperature are set +10°C more than inner semiconductor extruder.

* If possible with dehumidified air under agitation

For **Screen Packs** , cable maker can use best optimum number and size of screen packs as per best practice on line , however following recommendation as minimum should be followed:

* Inner Semiconductor layer : 80/80 * Outer Semiconductor layer: 80/80

- **Packaging**

Package: Octabin (600 - 700 kg) ; Aluminium bags (25kg , 55 on pallet , 1375kg)

- **Storage**

Storage shall take place indoors at temperatures between 10-30°C. Recommend maximum storage time at customer’s place in dry and clean conditions and in unopened original packages is 12 months.

Before use, material shall be conditioned indoors (production room) to reach ambient temperature. It is also recommended to ensure proper stock rotation by First In – First Out principle.

- **Safety**

ZARPLSTM SC7710 is not classified as a dangerous preparation. The product is supplied in form of free-flowing granules of approximately 3 - 4 mm sizes and can be readily handled with commercially available equipment. Handling and transport of the product 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. Check and follow local codes and regulations!

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