



### Medium Voltage Semiconductor Compound – Peroxide

- **Description**

ZARLNK™ SC0540 is a Silane crosslinkable black polyethylene compound, specially designed for bonded semiconductive screen applications. It is highly suitable for co-extrusion with LDPE Silane crosslinkable insulation materials.

- **Applications**

ZARLNK™ SC0540 is intended for semiconductive applications for Silane crosslinkable medium voltage cables with rated voltages up to 36 kV.

- **Specifications**

ZARLNK™ SC0540 is expected to meet the applicable requirements included in the below mentioned standards provided it is processed using sound material handling, extrusion and crosslinking practices as well as appropriate testing procedures. This applies up to the maximum recommended voltage level indicated in "Applications" section above since some standards cover wider voltage ranges.

IEC 60502-2  
BS 6622  
VDE 0271 - 0273

- **Special Features**

ZARLNK™ SC0540 a ready-to-use compound, which requires no further addition of a catalyst masterbatch. ZARLNK™ SC0540 crosslinks via the migration of catalyst from its co-extrusion with Silane insulation layer. The excellent distribution of carbon black and additives in ZARLNK™ SC0540 would result in an outstanding smooth semiconductive screen. ZARLNK™ SC0540 offers easy and long extrusion performance.



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- Physical Properties**

Data should not be used for specification work

Property	Typical Value	Test Method
Density (Base Resin)	1.08 gr/cm <sup>3</sup>	ISO 1183
Melt Flow Rate (190°C , 2.16 kg)	Approx. 2 gr/10 min	ISO 1133
Elongation at Break (250 mm/min)	>300 %	IEC 60811-401
Tensile Strength (250 mm/min)	13 N/mm <sup>2</sup>	IEC 60811-401
Hot set test (200°C , 20N/cm <sup>2</sup> ) Elongation under load	60 %	IEC 60811-507
Retention of Tensile strength after aging (240h , 135°C)	>= 25 %	IEC 60811-1-2
Brittleness temperature	< -76 °C	ASTM D 746
Pressure test at high temperature 90°C , 6h	25 %	IEC 60811-2-1
Hardness , Shore D (1s)	50	ISO 868
Moisture	200 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 Techniques**

ZARLNK™ SC0540 provides excellent surface finish and minimal risk for scorch when processing conditions are optimal. The actual conditions will depend on the type of equipment used.

#### Extrusion

Typical processing temperature ranges for ZARLNK™ SC0540 are shown below:

Barrel 2 150 °C

Barrel 3 150 °C

Barrel 4 150 °C

Head 150 °C

Melt temperature 170 °C Maximum



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- **Crosslinking**

ZARLNK™ SC0540 can be cross-linked by immersion in hot water or in a steam sauna at a temperature up to 80 °C. The time period needed for crosslinking will depend on e.g. The thickness of insulation, type of semiconductive screen and reel size.

- **Packaging**

Package:                    Aluminum bags (25 kg)  
                                  Small Octabin (700 kg)

- **Storage**

ZARLNK™ SC0540 is protected against moisture ingress by use of aluminum-laminated liners. ZARLNK™ SC0540 should not be dried prior to extrusion.

An opened package should be used within two weeks or be sealed airtight for further storage. 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.