



SX528

Easily-strippable, semi-conducting, silane crosslinkable compound for medium voltage cable screening application

This is a silane crosslinkable semi-conducting polyethylene compound to be used in conjunction with Sioplas insulation material for easily-strippable core screening applications. To achieve easily-strippable properties it is necessary to apply SX528 to hot insulation, i.e. to extrude simultaneously with the insulation through a multi-layer (2 or 3 layer) extruder head. Crosslinking occurs in the presence of moisture by migration of catalyst from the adjacent core insulation layer.

Test	Test method	Unit	Typical value
Physical properties and mechanical properties			
Density	BS 2782 Pt. 6 Mtd 620A-D	g/cm ³	1.15
Tensile strength	IEC 60811-1-1	N/mm ²	7
Elongation at break	IEC 60811-1-1	%	300
Hot deformation test at 120°C			
528 Compound	BS 6469:99:1	%	70
In comparison to:-			
Thermoplastic semi-con compound	BS 6469:99:1	%	100
High pressure resistant thermoplastic semi-con compound	BS 6469:99:1	%	95
Gel content	ASTM D2765-01 (2006)	%	30
Stripping force at 20°C	BS 6622	N	20
Volume resistivity			
at room temperature	IEC 60502	Ohm.cm	<10 ³
at 90°C	IEC 60502	Ohm.cm	<10 ³

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Recommended processing and handling conditions

Drying

Although the material is a silane crosslinkable system pre-drying is necessary, preferably using a desiccant air or vacuum dryer, for a minimum of 16 hours at 40 to 50°C.

Extruder

Most modern thermoplastic extruders will process SX528.

Extruder temperature conditions

As a guide the following temperature profile is recommended:-

Zone 1	Zone 2	Zone 3	Head	Die
95°C	100°C	110°C	170°C	170°C

Screw water temperature 60°C

Recommended screen pack 60, 80 mesh (apertures per linear inch) or 260, 180 microns

Head and tool design

The head and tools should be so designed as to allow streamlined flow without the possibility of stagnation of material (where pre-curing could take place).

Crosslinking or cure

The methods and duration of curing will normally be those applicable to the type of insulation material used and the radial thickness of the insulation. Curing temperature is limited to a maximum of 60-65°C.

Storage & shelf life

SX528 normally has shelf life of at least 6 months from the date of manufacture. The storage of silane crosslinkable compounds in cool dry conditions will maximise useful shelf life. Other precautions are:-

- Packaging should remain sealed
- Avoid temperature above 25°C
- Avoid storage outside and in direct sunlight
- Use within 8 hours of opening packaging

Form and packaging

Form – pellets

Packaging – The following possibilities are available:-

- Moisture resistant sacks containing 25kg.
- Boxes with a heat sealed moisture resistant liner containing approximately 125kg, 500kg or 1000kg.

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