



SX524:CM424-1 and SX524:CM424

Tough, electrical tracking resistant, crosslinkable sheathing grade suitable for ADSS and other outdoor applications

This is a chemically crosslinkable sheathing compounds curable by exposure to moist conditions. The graft component SX524 is mixed with a crosslinking catalyst masterbatch CM424-1 or CM424 generally in the ratio 95:5.

The compound has been specially developed particularly for optical fibre ADSS (all dielectric self-supporting) communication cables to be installed on overhead power distribution networks. The material is suitable for outdoor use with excellent tracking and UV resistance,

Test	Test method	Unit	Typical value
Physical properties and mechanical properties			
Density	BS 2782 Pt. 6 Mtd 620A-D	g/cm ³	1.4
Tensile strength	IEC 60811-1-1	N/mm ²	10
Elongation at break	IEC 60811-1-1	%	300
Cure assessment (forced cure at 65°C)			
Hot elongation (20N/cm ² at 200°C)	IEC 60811-2-1	%	60

Tracking resistance

Combined 60kV 50Hz salt-fog and 15kN tensile testing has been completed on a SX524:CM424/1 sheathed ADSS cable which had previously been exposed to 2000 hours of UV radiation to ASTM G53-84. The cable completed the 1000 hour salt-fog test generally to IEC 1109 showing no signs of tracking.

Designed for use with overhead power transmission lines up to and including 500kV

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Recommended processing and handling conditions

Extruder

Most modern thermoplastic extruders will process SX524:CM424 but those with a length/ diameter ratio of 18-25 are recommended. A simple general purpose screw with a compression ratio of 1.5:1 is suitable but it is important to ensure that good melt homogenisation is achieved. It is recommended that the melt temperature should not rise above 160°C.

Extruder temperature conditions

As a guide the following temperature profile is recommended:-

Zone 1	Zone 2	Zone 3	Zone 4	Head	Die
130°C	140°C	140°C	150°C	150°C	150°C

This profile will vary slightly depending on extruder type, head design and output.

Screw water temperature 40-70°C

Recommended screen pack 300 micron or 50 (mesh apertures per linear inch)

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).

Both tubing and pressure tubing can be used to extrude SX524. To obtain the optimum in physical properties in the case of tubing tools, it is generally recommended that a draw down ratio not greater than 2.6:1 is used.

Catalyst and colour masterbatches

The choice of which catalyst masterbatch to use, CM424 or CM424-1, is based on the processing conditions and equipment. Our Sales Engineer can make a suitable recommendation.

The catalyst masterbatch is normally added at 5% to 95% of SX524 graft.

It is recommended that the catalyst masterbatch be thoroughly dried before use for 8 hours at 60°C or 4 hours at 80°C.

Storage and shelf Life

SX524 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 moisture resistant heat sealed liner containing approximately 125kg, 500kg or 1000kg.

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