



## SX552:CM424

### Flexible, silane crosslinkable, polyethylene for low voltage cable insulation

This is a chemically crosslinkable compound for applications where good flexibility or 'soft touch' performance is required. The graft component SX552 is mixed with a crosslinking catalyst masterbatch CM424 or CM493 generally in the ratio 95:5.

The compound is processed in the same way as non-curable TPE compounds, giving good extrudability at normal output rates, with crosslinking off-line when exposed to moist conditions.

Test	Test method	Unit	Typical value
<b>Physical properties and mechanical properties</b>			
Density	BS 2782 Pt. 6 Mtd 620A-D	g/cm <sup>3</sup>	0.88
Tensile strength	IEC 60811-1-1	N/mm <sup>2</sup>	9.5
Elongation at break	IEC 60811-1-1	%	600
Hardness (N)	Shore A	-	75
Melt flow rate (2.16kg at 190°C)	AEI Method	g/10min	2
<b>Typical ageing behaviour after 7 days at 135°C</b>			
Tensile strength	IEC 60811-1-2	%Variation	-10
Elongation at break	IEC 60811-1-2	% Variation	-10
<b>Typical ageing behaviour after 16 days at 180°C</b>			
Tensile strength	IEC 60811-1-2	%Variation	-8
Elongation at break	IEC 60811-1-2	% Variation	-8
<b>Cure assessment</b>			
Hot elongation (20N/cm <sup>2</sup> at 200°C)	IEC 60811-2-1	%	<100
Hot set (20N/cm <sup>2</sup> at 200°C)	IEC 60811-2-1	%	100
<b>Electrical properties</b>			
Volume resistivity at 20°C	IEC 60502	Ohm.cm	4 x10 <sup>14</sup>
Volume resistivity at 85°C	IEC 60502	Ohm.cm	3 x10 <sup>14</sup>

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## Recommended processing and handling conditions

### Extruder

Most modern thermoplastic extruders will process SX552:CM493 compound, although screw designed to give good homogenisation without excessive shear is recommended. Both polyethylene and PVC screws have given satisfactory results

### Extruder Temperature Conditions

As a guide the following temperature profile is recommended:-

Zone 1	Zone 2	Zone 3	Zone 4	Head	Die
130°C	150°C	180°C	190°C	190°C	200°C

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

**Screw Water Temperature** 40-60°C

**Recommended Screen Pack** 30, 50 (mesh apertures per linear inch) or 600, 300 micron

### 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). 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 3.5:1 is used.

### Catalyst and Colour Masterbatches

CM424 catalyst masterbatch is normally added at 5% to 95% of SX552 graft.

Addition of approved colour masterbatches, including black, up to a maximum of 1%, has no detrimental effect on the properties or crosslinking capability.

It is recommended that all masterbatches including those containing the catalyst should be thoroughly dried before use for 8 hours at 60°C or 4 hours at 80°C.

### Storage & Shelf Life

SX552 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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