



SX547:CM401

125°C rated, silane crosslinkable, flame retarded polyethylene for automotive wiring

This is a flame-retardant silane crosslinkable polyethylene compound, curable by exposure to moist conditions and possessing excellent extrusion properties at high output rates. The graft component SX547 is mixed with a crosslinking catalyst masterbatch CM401 generally in the ratio 95:5. The compound contains a de-activator to make it suitable for small section bare copper conductors.

This compound has been specifically developed to meet the requirements of Renault, Ford, PSA and Fiat specifications.

Test	Test method	Unit	Typical value
Physical properties and mechanical properties			
Density	BS 2782 Pt. 6 Mtd 620A-D	g/cm ³	1.1
Tensile strength	IEC 60811-1-1	N/mm ²	21
Elongation at break	IEC 60811-1-1	%	400
Cure assessment			
Hot set (20N/cm ² at 200°C)	IEC 60800-2-1	%	0
Hot elongation (20N/cm ² at 200°C)	IEC 60800-2-1	%	40
Flammability properties			
Oxygen index	BS ISO 4589-2	%	23

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Recommended processing and handling conditions

Extruder

Most modern thermoplastic extruders will process the material although a screw designed to give good homogenisation will be most successful.

Extruder temperature conditions

As a guide the following temperature profile is recommended:-

Zone 1	Zone 2	Zone 3	Zone 4	Head	Die
160°C	160°C	170°C	180°C	190°C	200°C

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

Screw water temperature 60-70°C

Recommended screen pack 30, 100, 300 (mesh apertures per linear inch) or 600, 150, 600 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, the possible draw down ratio is recommended to avoid internal stresses.

Crosslinking & cure

A satisfactory cure can be obtained either by immersion in hot water or by ambient atmospheric exposure.

Catalyst and colour masterbatches

CM401 catalyst masterbatch is normally added at 5% to 95% of SX547 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 at 60°C for 8 hours or at 80°C for 4 hours.

Storage and shelf life

SX547 normally has shelf life of at least 4 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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