



## SX716:CM401

### Silane crosslinkable polyethylene compound for heat shrinkable wrap-around applications.

This is a silane crosslinkable polyethylene compound which has been developed for Telecom wrap-around heat shrinkable applications. The graft component SX716 is mixed with a crosslinking catalyst masterbatch CM401 generally in the ratio 95:5.

| 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> | 0.92                  |
| Melt flow rate (2.16kg at 190°C)                      | AEI Method               | g/10min           | 1.93                  |
| Tensile strength                                      | IEC 60811-1-1            | N/mm <sup>2</sup> | 18                    |
| Elongation at break                                   | IEC 60811-1-1            | %                 | 450                   |
| <b>Typical Ageing Behaviour after 7 days at 135°C</b> |                          |                   |                       |
| Tensile strength                                      | IEC 60811-1-2            | %Variation        | +7                    |
| Elongation at break                                   | BS EN 60811-1-2          | % Variation       | -7                    |
| <b>Thermo Mechanical Properties</b>                   |                          |                   |                       |
| Cold bend at -70°C                                    | IEC 60811-1-4            | -                 | Pass                  |
| <b>Cure Assessment</b>                                |                          |                   |                       |
| Hot elongation (20N/cm <sup>2</sup> at 200°C)         | IEC 60811-2-1            | %                 | 150%                  |
| Hot set (20N/cm <sup>2</sup> at 200°C)                | IEC 60811-2-1            | %                 | 0%                    |
| <b>Electrical Properties</b>                          |                          |                   |                       |
| Volume resistivity at 20°C                            | IEC 60502                | Ohm.cm            | >1 x 10 <sup>16</sup> |
| Dielectric strength at 20°C                           | IEC 80243                | kV/mm             | 21                    |
| Power factor at 50Hz at 23°C                          | IEC 60250                | -                 | 0.0003                |
| Permittivity at 50Hz at 23°C                          | IEC 60250                | -                 | 2.0                   |

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## Recommended processing and handling conditions

### Extruder

Most modern thermoplastic extruders will process SX716:CM401 compounds particularly if a screw suitable for polyethylene extrusion is available.

### 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  | 170°C  | 190°C  | 200°C | 210°C |

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

**Screw Water Temperature** 70°C

**Recommended Screen Pack** 30, 100, 30 (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).

### Catalyst and Colour Masterbatches

CM401 catalyst masterbatch is normally added at 5% to 95% of SX716 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 for 4 hours at 80°C.

### Storage & Shelf Life

SX716 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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