



## SX703:CM488-6

### Silane crosslinkable, high density polyethylene for injection moulding

SX703 is a silane grafted HDPE compound curable by exposure to moist conditions. It is specifically designed for high output processing by conventional thermoplastic injection moulding. The graft component SX703 is mixed with a crosslinking catalyst masterbatch CM488-6 generally in the ratio 95:5.

This material combines good flow, high rigidity and excellent notched impact strength. The two component system SX703:CM488-6 has high degree of crosslinking which gives it useful strength at temperatures not usually reached by HDPE.

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>	0.955
Melt flow rate (190°C/2.16kg)	AEI Method	g/10min	6
Tensile strength	IEC 60811-1-1	N/mm <sup>2</sup>	26
Elongation at break	IEC 60811-1-1	%	450
1% Secant Modulus	BS 2782-3 METHOD 320A	N/mm <sup>2</sup>	900
Gel content	ASTM D2765-01 (2006)	%	65
<b>Thermo mechanical properties</b>			
E.S.C.R.	ASTM D1693 (A)	hrs	20
Izod Notched Strength (23°C)	ISO 180/2000	KJ/m <sup>2</sup>	12.27
Izod Notched Strength (-30°C)	ISO 180/2000	KJ/m <sup>2</sup>	5.99
Abrasion Resistance	ISO 4649	mm <sup>3</sup>	160
<b>Cure assessment by hot set test (forced cured at 80°C in water)</b>			
Elongation under load (20N/cm <sup>2</sup> at 200°C)	IEC 60811-2-1	%	50
Permanent elongation after cooling	IEC 60811-2-11	%	0

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## Recommended processing and handling conditions

By conventional thermoplastic injection moulding using temperatures set in the range 200°C – 250°C. It is essential to minimise moulding stresses, since these may be released during elevated temperature cure or service, causing warpage.

### Crosslinking

In hot water at 95 -100°C

- 1mm thickness 5 hours
- 2mm thickness 12 hours
- 3mm thickness 24 hours

### Catalyst and colour masterbatches

CM488-6 catalyst masterbatch is normally added at 5% to 95% of SX703 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

SX703 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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