



SX739:CM488-6

Chemically crosslinkable high density polyethylene for injection moulding

The SX739 system 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 equipment. The graft component SX739 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 SX739:CM488-6 has high degree of crosslinking which gives it a useful strength at temperatures not usually reached by HDPE.

Test	Test method	Unit	Typical value
Physical properties and mechanical properties			
Density	BS 2782 Pt. 6 Mtd 620A-D	g/cm ³	0.954
Melt flow rate (190°C/22.16kg)	AEI Method	g/10min	4.5
Tensile strength	IEC 60811-1-1	N/mm ²	26
Elongation at break	IEC 60811-1-1	%	450
1% secant modulus	BS 2782-3 METHOD 320A	N/mm ²	900
Gel content	ASTM D2765-01 (2006)	%	62
Thermo mechanical properties			
E.S.C.R.	ASTM D1693 (A)	hrs	20
Izod Notched Strength (23°C)	ISO 180:2000	KJ/m ²	12.27
Izod Notched Strength (-30°C)	ISO 180:2000	KJ/m ²	5.99
Abrasion Resistance	ISO 4649	mm ³	160
Cure assessment by hot set test (forced cured at 80°C in water)			
Elongation under load (20N/cm ² at 200°C)	IEC 60811-2-1	%	60
Permanent elongation after cooling	IEC 60811-2-1	%	5

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SX739:CM488/6

Recommended processing and handling conditions

By conventional thermoplastic injection moulding equipment 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 SX739 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

SX739 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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