

# AEI SX546:CM497CD and SX546:CM493CD

Low Density Polyethylene

AEI Compounds Limited

## Message:

125°C rated silane crosslinkable polyethylene for low voltage power cable insulation

This is a silane crosslinkable polyethylene compound for insulation of power cables and is especially designed for operation temperatures up to 125°C. It possesses outstanding extrusion properties with low scorch characteristics. High output rates can be achieved with minimum point and die drool. The graft component SX546 is mixed with a crosslinking catalyst masterbatch CM497CD or CM493CD generally in the ratio 95:5. This compound can also be cured at ambient temperatures and has a nominal melt index of 1.2.

General Information			
Features	Crosslinkable		
Uses	Low voltage insulation		
	Wire and cable applications		
Agency Ratings	EC 1907/2006 (REACH)		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Density	0.920	g/cm <sup>3</sup>	BS 2782 620A
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress	24.0	MPa	IEC 60811-1-1
Tensile Strain (Break)	500	%	IEC 60811-1-1
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength			IEC 60811-1-2
125°C, 3000 hr	1.0	%	IEC 60811-1-2
155°C, 240 hr	4.0	%	IEC 60811-1-2
Change in Tensile Strain at Break			IEC 60811-1-2
125°C, 3000 hr	-11	%	IEC 60811-1-2
155°C, 240 hr	-5.0	%	IEC 60811-1-2
Thermal	Nominal Value	Unit	Test Method
Cold bending (-70°C)	pass		IEC 60811-1-4
Thermoset <sup>1</sup>			IEC 60811-2-1
Elongation under load, 20N/cm <sup>2</sup> : 200°C		%	IEC 60811-2-1
Permanent elongation after cooling	0.0	%	IEC 60811-2-1
Power factor-50Hz(23°C)	4.00E-4		IEC 60250
Cure Time - <100% Hot Set <sup>2</sup>			
800.0 µm	5.0	hr	
1.50 mm	14.0	hr	
Head Temperature	200	°C	

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (20°C)	> 1.0E+16	ohms·cm	IEC 60502
Dielectric Strength (20°C)	21	kV/mm	IEC 60243-1
Relative Permittivity (23°C, 50 Hz)	2.20		IEC 60250

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	130	°C
Cylinder Zone 2 Temp.	150	°C
Cylinder Zone 3 Temp.	170	°C
Cylinder Zone 4 Temp.	190	°C
Die Temperature	210	°C

#### Extrusion instructions

Most modern thermoplastic extruders will process the SX546:CM497CDsystem, particularly if a screw suitable for the extrusion of polyethylene is available.

#### NOTE

1. Cure assessment by hot set test  
(forced cured at 80°C in water)
2. Cure assessment (ambient cure at  
20°C and 50% humidity)

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