AEI SX538:CM540U

Crosslinked Polyethylene

AEI Compounds Limited

Message:

Low-smoke, low-toxicity, halogen-free, flame-retardant, silane crosslinkable compound for low voltage insulation and sheathing of all types of cable
This is a low smoke, low fume, fire retardant silane crosslinkable compound which can be processed as a thermoplastic at high output rates and cured post processing by exposure to moisture. The graft component SX538 is mixed with a crosslinking catalyst masterbatch CM540U generally in the ratio 95:5.
The compound combines good mechanical, electrical and fire retardant properties to meet demanding insulation specifications including BS7211. The compound can also be used for sheathing of cables requiring high fire retardancy.

General Information			
Additive	Flame retardancy		
Features	Irritant gas low to no Low smoke Low toxicity Crosslinkable Halogen-free Flame retardancy		
Uses	Flame Retardant Insulation Flame Retardant Jacketing Low voltage insulation Cable sheath Wire and cable applications		
Agency Ratings	BS 7211 EC 1907/2006 (REACH)		
RoHS Compliance	RoHS compliance		
Forms	Particle		
Processing Method	Extrusion		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.51	g/cm³	BS 2782 620A
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	7.5	g/10 min	Internal method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress	14.0	MPa	IEC 60811-1-1
Tensile Strain (Break)	150	%	IEC 60811-1-1
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength			
70°C, 72 hr, in ASTM #2 oil	-47	%	

100°C, 24 hr, in ASTM #2 oil	-58	%	
135°C, 168 hr	20	%	IEC 60811-1-2
Change in Tensile Strain at Break			
70°C, 72 hr, in ASTM #2 oil	3.0	%	
100°C, 24 hr, in ASTM #2 oil	-20	%	
135°C, 168 hr	-15	%	IEC 60811-1-2
Thermal	**Nominal Value**	**Unit**	**Test Method**
Cold bending (-30°C)	pass		IEC 60811-1-4
Thermoset [1]			IEC 60811-2-1
Elongation under load, 20N/cm^2 : 200°C	30	%	IEC 60811-2-1
Permanent elongation after cooling	0.0	%	IEC 60811-2-1
Temperature index	> 300	°C	ISO 4589-3
Insulation Constant - Ki			IEC 60502
20°C	1.3E+12	ohms·cm	IEC 60502
90°C	2.9E+8	ohms·cm	IEC 60502
Conduction rate-of gases	13.0	μS/cm	IEC 60754-2
Corrosive gases in flue gas-pH	4.60		IEC 60754-2
Smoke Density		%	ASTM D2843
Halogen Acid Gas Evolution		%	IEC 60754-1
Pressure Test - K=1 (100°C)	40	%	IEC 60811-2-1
Head Temperature	190	°C	
Flammability	**Nominal Value**	**Unit**	**Test Method**
Oxygen Index	36	%	ISO 4589-2
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Crosslinking or Cure: A satisfactory cure can be obtained either by immersion in hot water or exposure to low pressure steam at a temperature up to 65°C.			
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.	180	°C	
Die Temperature	190	°C	
Extrusion instructions			
Many modern thermoplastic extruders will process the material although a screw designed to give good homogenisation without excessive shear (which could cause unacceptable increases in melt temperature) should be used. An extruder with an L/D ratio (length/diameter) of 15-24 and an extruder screw with a compression ratio 1.2:1 are recommended.			
NOTE			
1.	Cure assessment by hot set test (forced cured at 80°C in water)		

Recommended distributors for this material

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