AEI CT-1159:CM601

Crosslinked Polyethylene

AEI Compounds Limited

Message:

UV resistant, silane crosslinkable, halogen free, flame-retardant insulation and sheathing compound for flexible single core cables in photovoltaic (PV) systems
This is a silane crosslinkable halogen free flame-retardant polyolefin compound, curable by exposure to moist conditions. The graft component CT-1159, coloured black, is mixed with a crosslinking catalyst masterbatch CM601 generally in the ratio 95:5.
The CT-1159:CM601 system has been developed to meet requirements for cables for PV systems TUV 2 Pfg 1169/08.2007.

General Information			
Features	Good UV resistance Crosslinkable Halogen-free Flame retardancy		
Uses	Wire and cable applications Insulating material		
Agency Ratings	EC 1907/2006 (REACH)		
RoHS Compliance	RoHS compliance		
Appearance	Black		
Forms	Particle		
Processing Method	Extrusion		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.45	g/cm³	BS 2782 620A
Melt Mass-Flow Rate (MFR) (150°C/21.6 kg)	20	g/10 min	Internal method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress	10.0	MPa	IEC 60811-1-1
Tensile Strain (Break)	180	%	IEC 60811-1-1
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength (150°C, 168 hr)	20	%	IEC 60811-1-2
Change in Tensile Strain at Break (150°C, 168 hr)	-20	%	IEC 60811-1-2
Thermal	**Nominal Value**	**Unit**	**Test Method**
Thermoset [1]			IEC 60811-2-1
Elongation under load, 20N/cm² : 200°C	75	%	IEC 60811-2-1
Permanent elongation after cooling	5.0	%	IEC 60811-2-1
Hot pressing test-6 hours, K=1(140°C)	35	%	IEC 60811-3-1
Temperature index	250	°C	ISO 4589-3
Halogen Acid Gas Evolution		%	IEC 60754-1

Head Temperature	160	°C	
Extruder Screw L/D Ratio	15.0 - 24.0		
Extruder Screw Compression Ratio	1.2:1		

Flammability	Nominal Value	Unit	Test Method
Oxygen Index	30	%	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 70°C. At the higher 10% addition levels of CM601 catalyst and under the correct conditions a satisfactory cure is possible at ambient temperature and humidity.

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	130	°C
Cylinder Zone 2 Temp.	140	°C
Cylinder Zone 3 Temp.	145	°C
Cylinder Zone 4 Temp.	150	°C
Die Temperature	160	°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.

NOTE

1.	Cure assessment by hot set test (forced cured at 80°C in water)

Recommended distributors for this material

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