

TECHNICAL INFORMATION

CTX 03/7

January 2019

GRAFTED HALOGENATED COMPOUND, CURABLE BY EXPOSURE TO MOISTURE FOR CABLE APPLICATION

Description. This product is a flame retardant silane grafted compound for cable applications, Cross-linkable by heat and moisture by previous addition of a suitable catalyst masterbatch (SIOPLAS method). It is highly recommended to store separately the grafted compound and the catalyst, as scorching may take place during the reactive extrusion.

Application. Sheathing of electrical cables with high flexibility, resistance to harsh weather conditions, oils and hydrocarbons. The properties of this compound meet the requirements of EN 50363-2-1 type EM2, EN 50363-2-2 type EM5.

Technical characteristics after the crosslinking process

Property	Test method	Unit	Typical Value
Density	ISO 1183	g/cm ³	1.27
Hardness at 15"	ISO 868	Shore A	62
Tensile strength	ISO 527	N/mm ²	12.5
Elongation at break	ISO 527	%	650
Oxygen Index	ISO 4589	% O ₂	26
Melt Flow Index (190 °C; 21.6 Kg on grafted compound)	ISO 1133	g/10 min	5.0
Hot set test 200°C, 15mins, 0.2 N/mm ²			
Elongation under load	IEC 60811	%	25
Permanent elongation after cooling		%	-10
Mechanical Properties After Immersion in IRM 902 oil, 24h, 100°C			
Variation in tensile strength	ISO 527	%	-22
Variation in elongation at break		%	-10
Mechanical Properties After Aging in Air Oven, 240h, 100°C			
Variation in tensile strength	ISO 527	%	20
Variation in elongation at break		%	5

The typical values reported in the table have been obtained from measurements made on extruded samples or pressed plates of CTX 03/7 mixed with 5% of ALOCAT 4HT.

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Processing

The grafted silane compound is dry blended in a separate step with a crosslinking catalyst master batch ALOCAT 4HT, in a traditional single screw extrusion process. A temperature profile for the reactive extrusion is given below, are however indicative, and may depend on the equipment design used.

Zone 1	Zone 2	Zone 3	Zone 4	Collar	Head	Die
125	130	135	140	140	145	150

The extrudate is most of the time cooled down at ambient conditions or into a water bath, which provides the moisture necessary for crosslinking. The reaction is fast but diffusion of moisture in the material is a limiting factor. For this reason, hot water bath or low pressure sauna can be used to speed up crosslinking. In case of self curing, time depends on the specific ambient temperature and humidity.

Storage

The thermoplastic compound must be stored at ambient temperature (not exceeding 30°C) in closed and unbroken bags, in order to avoid exposure to sunlight and moisture. Long stocking time may negatively affect the quality of the material. Therefore it shall be used within 6 months from the compounding date and within a few hours if the bags are opened. It is recommended to store separately the grafted compound and the catalyst, and mix just before use.

Packaging

Available in 25 Kg aluminium bags.

Our technical service is at your disposal, for further information and assistance.

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