



Product description

Silane grafted compound, moisture curable by addition of a catalyst masterbatch (Sioplas[®] method), containing a fire retardant system that contributes to give the cable self-extinguish properties without halogenidric acids evolution, toxic and corrosive gases and dark smoke emission. This material complies with RoHS requirements.

Application: W&C insulation and sheathing

Standard complying

EN 50363-0 M2, M4 and M18; EN 50363-5 EI8; EN 50363-6 EM8 and EM10; EN 50264 EI101...EI104, EI106...EI109 and EM101...EM104; IEC 60092/360 HF90; IEC 60092 SHF2; Cenelec HD 624.6; VDE 0266 HX11 and HXM1; VDE 0250 HI3; VDE 0207 HJ1, HM1 and HM3; BS 7655 LRS1 and SW3.

Burning behavior to be assessed accordingly to performances required by specific cable construction

Availability

Africa & Middle East, Asia Pacific, Europe, Latin America

Verify commercial availability and registration status in each country with local sales representative

Typical properties ⁽¹⁾	nominal value	unit	test method
Physical			
Density at 23°C	1.43	g/cm ³	ASTM D792
Melt Flow Index, 190°C/21.6 kg ⁽²⁾	6.5	g/10'	Internal method
Water absorption, 168 hs at 70°C	0.21	mg/cm ²	EN 60811
Water absorption, 24 hs at 100°C	0.530	mg/cm ²	EN 60811
Hardness, Shore D	49		ISO 868
Mechanical			
Tensile Strength at break	12.5	MPa	EN 60811
Tensile Elongation at break	170	%	
Thermal			
Hot Set Test at 250°C, 20 N/cm ²			
elongation under load	70	%	EN 60811
permanent elongation	0	%	
Hot Pressure Test at 100°C/K=1, max. penetration	< 50	%	EN 60811
Bending Test at -40°C	no cracks		EN 60811
Ageing			
Mechanical properties after ageing in Air Oven, 135°C/168 hours			
change in Tensile Strength	+12	%	EN 60811
change in Tensile Elongation	-10	%	

	nominal value	unit	test method
Ageing			
Mechanical properties after ageing in Air Bomb, 0.55 MPa, 127°C/40 hours			
change in Tensile Strength	+20	%	EN 60811
change in Tensile Elongation	-15	%	
Chemical resistance			
IRM 902 Oil Immersion Test, 100°C/168 hours			
change in Tensile Strength	-22	%	EN 60811
change in Tensile Elongation	+6	%	
IRM 903 Oil Immersion Test, 70°C/168 hours			
change in Tensile Strength	-12	%	EN 60811
change in Tensile Elongation	-11	%	
1N NaOH Solution Immersion Test, 23°C/168 hours			
change in Tensile Strength	+3	%	EN 60811
change in Tensile Elongation	-11	%	
1N Oxalic Acid Solution Immersion Test, 23°C/168 hours			
change in Tensile Strength	-18	%	EN 60811
change in Tensile Elongation	-24	%	
Environmental Stress Cracking Resistance			
Condition A, 50°C, 3.00 mm, 10% Igepal	> 1000	hours	ASTM D1693
Electrical			
Volume Resistivity at 20°C	1.1 E+15	Ω x cm	IEC 60502
Volume Resistivity at 90°C	1.4 E+14	Ω x cm	
Dielectric Constant	3.7		ASTM D150
Insulation Resistance Constant at 20°C	4000	MΩ x km	IEC 60502
Insulation Resistance Constant at 90°C	500	MΩ x km	
	nominal value	unit	test method
Burning properties			
Limiting Oxygen Index	35	%	ASTM D2863
Temperature Index	290	°C	NES 715
Burning properties			
Calorific Potential, upper (gross)	18.5	MJ/kg	ISO 1716
Corrosive Gas in Smoke			
conductivity	< 2.5	μS/mm	IEC 60754-2
pH	> 4.3	-	
Halogenidric Acid Emission	< 0.1	%	IEC 60754-1

Notes:

(1) Typical properties are not to be construed as specification. Tests reported are performed on pressed or extruded specimens, added with 5% of Catalyst Masterbatch CT/2-HP and crosslinked in hot water at 95°C for 6 hours

(2) Test performed without Catalyst Masterbatch addition

Additional information

The product must be stored under the following conditions:

- closed and undamaged bags
- ambient temperature not exceeding 30°C
- avoid direct exposure to sunlight and weathering

Product alterations could occur due to extended period of storage; shelf life: 9 months

Padanaplast S.r.l accepts no liability of any kind in case the above mentioned conditions are not fulfilled

Packaging

- 25 kg moisture-resistant bags on 1375 kg pallet
- 750 kg carton box

Processing information

Extruder temperature setting:

barrel zone 1	130 to 150 °C
barrel zone 2	140 to 160 °C
barrel zone 3	140 to 170 °C
barrel zone 4	140 to 170 °C
collar	150 to 170 °C
crosshead	150 to 170 °C
die	160 to 200 °C

Extrusion notes:

Processing

Cogegum® GFR/320 pregrafted base must be added with Catalyst Masterbatch CT/2-HP at 5% by weight to promote curing. Other Catalyst Masterbatch grades can be used accordingly to information given in the specific technical literature. Blending must be done just before using (2-3 hours max.). Catalyst Masterbatch doesn't need any predrying if stored in dry conditions in the original closed bags; in case, predrying can be made at 50-60°C for 4-8 hours

Cogegum® GFR grades are sensitive to moisture; open bags must be used within 4 hours. Cogegum® GFR grades must be not predried in any case.

Extrusion equipment

- standard extruders for thermoplastics equipped with low compression screw (1.2÷1.4 compression ratio and 25 L/D ratio) are suggested
- don't use screw thermoregulation
- filter net: normally not necessary
- compression or semi-compression tools are suggested; if tubing tools must be used D.D.R. should not exceed 1.5

Coloring

- EVA or PE based color masterbatches added at 1.2-1.5% by weight are suggested; in order to prevent precrosslinking during processing, colour masterbatch should be predried (4-6 hours at 50-60°C)

Curing

- by immersion in hot water at 60-70°C
- by exposure in ambient, crosslinking time depends on ambient temperature and relative humidity
- in all cases curing time depends on insulation thickness; for 0.7-1.2 mm wall thickness 3-6 hours are generally necessary in case of force curing in hot water

Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

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