

Reduced Fire Hazard Jacketing Compound for Energy Cables

Description

Casico FR4802 is a thermoplastic, low smoke zero halogen (LSZH) flame retardant, natural jacketing insulation compound combining with excellent extrusion properties. The composition is based on the elements Carbon, Hydrogen, Oxygen, Silicon and Calcium. Compounds based on these elements will therefore be the only significant constituents of the combustion fumes. Other elements may be present in concentrations less than 0.1%.

Specifications

Casico FR4802 meets the applicable requirements below using sound commercial extrusion practice and testing procedures:

ASTM D 1248 Type I, Class A, Category 4

ISO 1872-PE KGHN-23D006

The following cable material standards are met by Casico FR4802:

EN 50290-2-27 EN 50290-2-26 EN 50363-8 TM7 BS 7655 LTS2 EN 50363-7 TI6 & TI7 VDE 0207 Teil 23 (HI2) and Teil (HM2, HM4 & HM5)

Cables manufactured with Casico FR4802 using sound extrusion practice normally comply with the following cable product standards:

BS 7211

IEC 60502 Part 1 ST3

Physical Properties

Property	Typical Value Data should not be used for	Test Method specification work	
Density ¹ Melt Flow Rate (190 °C/2,16 kg) ¹ Flexural Modulus ¹ Tensile Strain at Break ² Tensile Strength (50 mm/min) ² Change of Tensile Properties After Ageing (10 h, 100 °C) ² Brittleness temperature ¹ Hardness, Shore D (15 s) ¹ Pressure Test at High Temperature (90 °C, 4 h) ²	Data should not be used for 1150 kg/m3 0,4 g/10min 220 MPa 550 % 13 MPa < 20 % < -60 °C 40 < 50 %	specification work ISO 1872-2/ISO 1183 ISO 1133 ISO 178 IEC 60811-1-1 IEC 60811-1-1 IEC 60811-1-2 ISO 974 ISO 868 IEC 60811-3-1	
Cold Bend (-40 °C) Cold Impact (-40 °C) ² Water absorption (70 °C,14 Days) ²	Pass Pass 0,1 mg/cm2	IEC 60811-1-4 IEC 60811-1-4 IEC 60811-1-3	

¹ Compound ² Cable (0.7 mm insulat

² Cable (0.7 mm insulation over 1.5 mm² solid Cu)

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Electrical Properties

Property	Typical Value Data should not be used for spec	Test Method
Volume Resistivity ¹	10 POhm.cm	IEC 60093
Dielectric Strength ¹	> 20 kV/mm	IEC 60243
Breakdown Voltage ²	36 kV	ISO 6722
Breakdown Duration ²	Pass	IEC 60227-2/2.3

¹ Compound ² Cable (0.7 mm insulation over 1.5 mm² solid Cu)

Combustion Properties

Property		Typical Value Data should not be used for specific	Test Method cation work
Temperature index		200 °C	ISO 4589-3
Limited Oxygen Index ¹		32 %	
NBS Smoke Data	Optical Smoke Density Dmax	49	
(76x76x0.7 mm plaque) Flaming mode	Time to Dmax	6 min	
NBS Smoke Data	Optical Smoke Density Dmax	104	
(76x76x0.7 mm plaque) Non Flaming mode	Time to Dmax	20 min	
Cone Calorimeter (heat flux	Ingition time	125 s	ISO 5660
35 kW/m2, 3 mm plague)	Average Heat Release	244 kW/m²	
	Max Heat Release	400 kW/m ²	
	Heat Combustion	29 MJ/dm3	
	Smoke Obscuration	520 m2/dm3	
	СО	0,023 kg/dm3	
	CO2	1,7 kg/dm3	
Corrosivity of Combustion Fumes ¹		1,5 µŠ/cm 5.6	IEC 60754-2

¹ Compound

Processing Techniques

The actual conditions will depend on the type of equipment used.

Most equipment designed for PVC/ PE extrusion is equally suitable for this product.

Barrel 1	130 °C
Barrel 2	160 °C
Barrel 3	180 °C
Barrel 4	190 °C
Die	190 °C
Screw speed	100 RPM
Line speed	185 m/min

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Packaging

Package: Octabins

Storage

Casico FR4802 normally does not need pre-drying unless the material has been stored in a moist environment for a long period. In such cases drying in dehumidified air for 4 hours at 70°C will normally reduce the moisture content to an acceptable value.

Safety

The product is not classified as dangerous.

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety of the product.

Disclaimer

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication, however we do not assume any liability whatsoever for the accuracy and completeness of such information.

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It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

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