

Reduced Fire Hazard Jacketing Compound for Energy Cables

Description

Casico FR6082 is a thermoplastic, reduced fire hazard, zero halogen black jacketing compound combined with high mechanical strength, toughness and 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%.

Casico FR6082 contains 2,5% well dispersed furnace black of nominal particle size less than 25 nanometres in order to ensure excellent weathering resistance.

Applications

Casico FR6082 is designed for:

Jacket for energy cables

The principle feature of this compound is the high physical strength and toughness. It can be used in areas sensitive to smoke or corrosive and toxic combustion products. For most cable constructions, Casico FR6082 has sufficient flame retardancy to satisfy single wire vertical burning tests.

Specifications

Casico FR6082 meets the applicable requirements below using sound commercial extrusion practice and testing procedures:

ISO 1872-PE, KCGH, 33-D003

The following cable material standards are met by Casico FR6082:

EN 50290-2-27 VDE 0207 Teil 24 (HM2, HM4 & HM5)

EN 50363-8 TM7 BS 7655 LTS1-4

Cables manufactured with Casico FR6082 using sound extrusion practice normally comply with the following cable product standards:

 IEC 60502, Part 1, Type ST3, ST7
 HD 632 S1, ST3, ST7

 IEC 60502, Part 2, Type ST3, ST7
 HD 603 S1 DMO 1

 HD 620 S1, DMZ2
 HD 620 S2 DMZ 2-5

Special features

Casico FR6082 consists of specially selected components to offer:

High mechanical strength and toughness Superb system ageing compatibility Low water permeability UV resistance Possibility for cable downsizing Processability on most PVC/PE extrusion equipment No need for pre-drying normally Excellent processing properties

ASTM D1248 Type II Class C, Cat 4

Casico is a trademark of the Borealis group.





Physical Properties

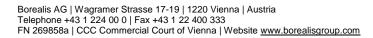
Property	Typical Value Data should not be used for	Test Method	
	Data should not be used for	Specification work	
Density ¹	1175 kg/m³	ISO 1872-2/ISO 1183	
Melt Flow Rate (190 °C/2,16 kg) 1	0,6 g/10min	ISO 1133	
Tensile Strain at Break ²	> 450 %	IEC 60811-501	
Tensile Strength (50 mm/min) ²	15 MPa	IEC 60811-501	
Retention of Tensile Properties After Ageing (7 d, 110 °C)	> 85 %	IEC 60811-401	
2			
Hardness, Shore D (15 s) 1	53	ISO 868	
Pressure Test at High Temperature (105 °C, 6 h) ²	6 %	IEC 60811-508	
Pressure Test at High Temperature (110 °C, 6 h) ²	8 %	IEC 60811-508	
Cold Bend (-40 °C)	Pass	IEC 60811-504	
Cold Impact (-40 °C)	Pass	IEC 60811-506	
Water absorption (70 °C,14 Days)	0,8 mg/cm ²	IEC 60811-402	

Electrical Properties

Property	Typical Value Data should not be used for s	Test Method specification work	
Volume Resistivity ¹ Dielectric Strength ¹	17 PΩcm > 10 kV/mm	IEC 60093 IEC 60243	
¹ Compound			

Other properties

Property	Typical Value Data should not be used for	Test Method specification work
Limited Oxygen Index ¹	28 %	ISO 4589-2
Corrosivity of Combustion Fumes ²	6,5 μS/cm pH 5,6	IEC 60754-2
Single Vertical Flame Test	Pass	IEC 60332-1
Tear resistance	13 N/mm	HD 605 S2, Method 2





¹ Compound ² NHxMH; 0,7 mm insulation

¹ Compound ² Acidity (pH)



Processing Techniques

Most equipment designed for PVC/PE extrusion is suitable.

Using the below set temperatures a stable extrusion process and a cable having a smooth glossy appearance can be achieved. On-size pressure or low draw down tube-on tolling is preferred. Whichever type of tooling is used, the die should preferable have a parallel land of length equal to the final cable diameter.

Barrel 1	160 °C
Barrel 2	170 °C
Barrel 3	180 °C
Barrel 4	190 °C
Die	190 °C

Packaging

Package: Octabins

Storage

Casico FR6082 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 and is intended for industrial use only. Check and follow local codes and regulations!

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety of the products. For more information, contact your Borealis representative.





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.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

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.

No liability can be accepted in respect of the use of any Borealis product in conjunction with any other products and/or materials. The information contained herein relates exclusively to our products when not used in conjunction with any other material unless as specifically provided for in the test methods stated above.

