Borealis Casico™ FR4805 Non Halogen Flame Retardant Compound for Sheathing Energy Cables

Category : Polymer , Thermoplastic , Polyolefin

Material Notes:

Casico FR4805 is a thermoplastic, non-halogen containing natural jacketing compound. It combines high mechanical strength and toughness with flame retardancy. The composition of Casico FR4805 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 my be present in concentrations less than 0.1%. Flame retardancy is conferred by an inorganic filler and a novel char forming additiveCasico FR4805 is intended to be used as a 90°C rated jacket for fixed building wires (installation cables) and all types of power cables. This product can be used in areas sensitive to smoke or corrosive and toxic combustion products. The principal feature of this product is the high physical strength and toughness. For small downsized cables the enhanced physical properties compensate for reduced cross sectional area. For most cable constructions Casico FR4805 has sufficient flame retardancy to satisfy single wire vertical burning tests. The product contains a UV stabilization system. Information provided by the Manufacturer.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Borealis-Casico-FR4805-Non-Halogen-Flame-Retardant-Compound-for-Sheathing-Energy-Cables.php

Physical Properties	Metric	English	Comments
Density	1.16 g/cc	0.0419 lb/in³	Compound; ISO 1872-2/ISO 1183-D
Melt Flow	0.40 g/10 min @Load 2.16 kg, Temperature 190 °C	0.40 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	51	51	ASTM D2240
Tensile Strength, Yield	19.00 MPa	2755 psi	Cable At 50 mm/min; IEC 60811-1-1
Elongation at Break	600 %	600 %	Cable; IEC 60811-1-4
Flexural Modulus	0.590 GPa	85.6 ksi	ISO 178

Thermal Properties	Metric	English	Comments
Oxygen Index	29 %	29 %	ISO 4589-A-IV/ISO 5660

Electrical Properties	Metric	English	Comments
Electrical Resistivity	2.00e+16 ohm-cm	2.00e+16 ohm-cm	Compound; IE 600093
Dielectric Strength	>= 2.36 kV/mm	>= 60.0 kV/in	Compound; IEC 60243

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	>= 180 °C	>= 356 °F	
Front Barrel Temperature	>= 160 °C	>= 320 °F	
Die Temperature	>= 190 °C	>= 374 °F	
Head Temperature	>= 190 °C	>= 374 °F	

Descriptive Properties	Value	Comments
Average Rate of Heat Release, kW/m^2	305	ISO 5660, Cone Calorimeter (heat flux 35 kW/m^2)
Change of Tensile Properties	20% max	IEC 60811-1-2, After Heat Ageing (100°C, 10 days)
	20% max	IEC 60811-1-2, After heat ageing (100°C, 7 days)
	20% max	NF c 32-62-2 Annexe 3, After UV ageing (1000 hours)
CO, kg/dm^3	0.026	ISO 5660, Cone Calorimeter (heat flux 35 kW/m^2)
CO2, kg/dg^3	1.8	ISO 5660, Cone Calorimeter (heat flux 35 kW/m^2)
Corrosivity of Combustion Fumes, uS/cm	27	IEC 60754-2
Heat of Combustion, MJ/dm^3	24.5	ISO 5660, Cone Calorimeter (heat flux 35 kW/m^2)
Ignition Time, sec	75	ISO 5660, Cone Calorimeter (heat flux 35 kW/m^2)
Maximum Rate of Heat Release, kW/m^2	445	ISO 5660, Cone Calorimeter (heat flux 35 kW/m^2)
Pressure Test at High Temp, %	35	IEC 811-3-1, Cable - Pressure Test at High Temperature (115°C,6 hours)
	9	IEC 811-3-1, Cable - Pressure Test at High Temperature(90°C, 4 hours)
Smoke Obscuration, m^2/dm^3	529	ISO 5660, Cone Calorimeter (heat flux 35 kW/m^2)

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