

Borealis Casico™ FR4807 Non-Halogen Flame Retardant Compound for Low Voltage Insulation and Jacketing

Category : Polymer , Thermoplastic , Polyolefin

Material Notes:

Casico FR4807 is a natural, thermoplastic polyolefin compound designed for flame retardant low voltage wire insulation and jacketing. As such, FR4804 offers a unique combination of good extrusion properties with a non-halogen flame retardant. FR4804 is specifically formulated for use in areas sensitive to smoke, corrosive fumes and toxic combustion products. Its flame retardant properties are conferred by a patented combination of inorganic filler and a novel, char-forming additive. FR4804 is readily pigmented to a variety of colors using standard wire & cable color concentrates designed for thermoplastic or crosslinked polyethylene. UV weather resistance is obtainable by the addition of a suitable carbon black or UV additive. Borstar FR4807 is intended to be used as a 80°C rated jacket for flexible cords. In addition it may also be used as a superior insulation or jacketing compound in PVC replacement applications. For most cable constructions FR4807 has sufficient flame retardant properties to satisfy single wire horizontal and European vertical burning flame tests. It is stabilized for use in contact with copper. Information provided by the Manufacturer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Borealis-Casico-FR4807-Non-Halogen-Flame-Retardant-Compound-for-Low-Voltage-Insulation-and-Jacketing.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in ³	Compound; ASTM D792
Melt Flow	1.1 g/10 min @Load 2.16 kg, Temperature 190 °C	1.1 g/10 min @Load 4.76 lb, Temperature 374 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	31	31	ASTM D2240
Tensile Strength, Yield	11.7 MPa	1700 psi	Cable - At 2 inch/min; ASTM D638
Elongation at Break	600 %	600 %	Cable; ASTM D638
Flexural Modulus	0.100 GPa	14.5 ksi	ASTM D790

Thermal Properties	Metric	English	Comments
NBS Smoke Density	46	46	Flaming Mode; ASTM D662
	54	54	Non-Flaming Mode; ASTM D662
Oxygen Index	34 %	34 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Electrical Resistivity	6.00e+15 ohm-cm	6.00e+15 ohm-cm	Compound; ASTM D257

Electrical Properties	Metric	English	Comments
Dielectric Strength	>= 19.7 kV/mm	>= 500 kV/in	Compound; ASTM D149
Dielectric Breakdown	32000 V	32000 V	ISO 6722
Dissipation Factor	0.0063	0.0063	Compound; ASTM D150

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	>= 160 °C	>= 320 °F	
Front Barrel Temperature	>= 120 °C	>= 248 °F	
Die Temperature	>= 171 °C	>= 340 °F	
Head Temperature	>= 170 °C	>= 338 °F	

Descriptive Properties	Value	Comments
Average Rate of Heat Release, kW/m ²	193	ASTM E 1354, Cone Calorimeter (heat flux 35 kW/m ²)
CO, kg/dm ³	0.026	ASTM E 1354, Cone Calorimeter (heat flux 35 kW/m ²)
CO ₂ , kg/dg ³	1.8	ASTM E 1354, Cone Calorimeter (heat flux 35 kW/m ²)
Corrosivity of Combustion Fumes, uS/cm	1.8	IEC 754-2
Heat of Combustion, MJ/dm ³	28	ASTM E 1354, Cone Calorimeter (heat flux 35 kW/m ²)
Ignition Time, sec	134	ASTM E 1354, Cone Calorimeter (heat flux 35 kW/m ²)
Insulation Resistance Megaohm -cm	1000	IEC 227-2/2.4, 28 mil insulation on 16AWG Cu
Maximum Rate of Heat Release, kW/m ²	335	ASTM E 1354, Cone Calorimeter (heat flux 35 kW/m ²)
Smoke Obscuration, m ² /dm ³	531	ASTM E 1354, Cone Calorimeter (heat flux 35 kW/m ²)
Time to Dm (max) min	20	ASTM E 662, Non-Flaming Mode
Time to Dm (max), min	6	ASTM D662, Flaming Mode
Water Absorption, mg/cm ²	0.4	UL 1581, At 70°C, 14 days

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