

T & T Marketing TT 103FR

High Density Polyethylene

T & T Marketing, Inc.

Message:

TT 103FR is a halogenated fire resistant high density polyolefin compound which offers an excellent balance of flame retardancy, processability, electrical and physical properties. TT 103FR is designed to reduce flame spread and achieve a VW-1 flame resistant rating on 14 AWG wires and larger. It also offers good extrusion processing characteristics on either conventional polyethylene or PVC extrusion lines. In addition, TT 103FR contains a UV stabilization additive package that provides effective long-term UV weather resistance. TT 103FR is readily pigmented to a variety of colors using standard wire and cable color concentrates designed for polyolefins.

Application

TT 103FR can be used as an insulating material for data grade multi-pair and solid coaxial cable constructions. TT 103FR can be used in certain cable designs to meet UL 1581, UL 444, CSA FT-4, UL 1666 specifications and IEEE 383 and CSA C22.2 No. 3 requirements for vertical flame tests. TT 103FR complies with "Restriction of Hazardous Substances" Directive, Citation 2002-95-EC, commonly known as RoHS without exemption and does not contain decabromodiphenyl oxide. TT 103FR provides good resistance to abrasion, impact and crush.

General Information			
Additive	UV stabilizer		
	Flame retardancy		
Features	High density		
	Impact resistance, good		
	Good UV resistance		
	Good wear resistance		
	Halogenated		
	Flame retardancy		
Uses	Flame Retardant Insulation		
	Wire and cable applications		
	Insulating material		
RoHS Compliance	RoHS compliance		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.46	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	0.40	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Strength (0.762 mm)	17.2	MPa	ASTM D412
Tensile Elongation (Break, 0.762 mm)	600	%	ASTM D412
Aging	Nominal Value	Unit	Test Method
Tensile strength retention-7 days at 136°C (762.0 µm)	> 90	%	UL 1581
Elongation retention rate-7 days at 136°C (762.0 µm)	> 90	%	UL 1581

Extruder Screw L/D Ratio	24:1		
Extruder Screw Compression Ratio	2.7 to 3.5:1		
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (1.91 mm)	1.6E+16	ohms·cm	ASTM D257
Dielectric Strength (1.91 mm)	26	kV/mm	ASTM D149
Dielectric Constant (1.91 mm, 60 Hz)	2.40		ASTM D150
Dissipation Factor (1.91 mm, 60 Hz)	2.7E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (3.18 mm)	V-0		UL 94
Oxygen Index	29	%	ASTM D2863
Extrusion	Nominal Value	Unit	
Cylinder Zone 1 Temp.	188	°C	
Cylinder Zone 2 Temp.	199	°C	
Cylinder Zone 3 Temp.	204	°C	
Cylinder Zone 4 Temp.	210	°C	
Melt Temperature	210	°C	
Die Temperature	204 - 210	°C	
Extrusion instructions			

Screw: Single FlightDie: Smooth transition, With $\geq 1/8$ in. land, Die & Tip include angle: 22-35°Throat: Water-cooled

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