

Borealis FR4837

Polyethylene

Borealis AG

Message:

FR4837 is a chemically crosslinkable non-halogen flame retardant poyethylene compound for primiary automotive and appliance wire.
FR4837 is intended for use as a 125°C rated primary insulation for crosslinked automotive wire.
FR4837 meets the applicable requirements as below when processed using sound extrusion and testing procedures:
SAE J1128/J1127

General Information			
Features	Crosslinkable		
	Halogen-free		
	Flame retardancy		
Uses	Wire and cable applications		
	Home appliance components		
	Automotive Electronics		
Agency Ratings	SAE J1127		
	SAE J1128		
Forms	Particle		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.40	g/cm ³	ASTM D792
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	50		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Strength (Yield)	16.0	MPa	ASTM D412
Tensile Elongation (fracture, 165°C)	220	%	ASTM D412
Aging	Nominal Value	Unit	
Retention of Tensile Properties - After Ageing 240 h (165°C)	> 80	%	
Flame test ²	Pass		Multiple standards
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -50.0	°C	ASTM D746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms · cm	ASTM D257
Dielectric Strength	> 22	kV/mm	ASTM D149
Dielectric Constant (23°C, 60 Hz)	3.70		ASTM D150
Dissipation Factor (23°C, 60 Hz)	0.010		ASTM D150

Flammability	Nominal Value	Unit	Test Method
Oxygen Index	25	%	ASTM D2863
Extrusion	Nominal Value	Unit	
Drying Temperature	55.0	°C	
Drying Time	2.0 - 8.0	hr	
Cylinder Zone 1 Temp.	96.0	°C	
Melt Temperature	120 - 125	°C	
Extrusion instructions			
Barrel 6: 110°C			
NOTE			
1.	Compound, 23°C		
2.	20 AWG - 16 mil cable, ISO 6722/SAE J1128		

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