

Borealis FR4830

Crosslinked Polyethylene

Borealis AG

Message:

FR4830 is a chemically crosslinkable non-halogen flame retardant polyethylene compound for primary automotive and appliance wire. FR4830 is intended for use as a 125°C rated primary insulation for crosslinked automotive and appliance wires. FR4830 meets teh applicable requirements as below when processed using sound extrusion practice and testing procedure:
SAE J1128/J1127
UL 44 SIS
UL Style 3173, 125°C

General Information			
Features	Crosslinkable		
	Halogen-free		
	Flame retardancy		
Uses	Electrical appliances		
	Wire and cable applications		
	Automotive Electronics		
Agency Ratings	SAE J1127		
	SAE J1128		
	UL 44		
Appearance	Natural color		
Forms	Particle		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.40	g/cm³	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 (Break)	220	%	ASTM D412
Aging	Nominal Value	Unit	
Change in Tensile Strength (168°C, 165 hr)	< -20	%	
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
Radiant Panel Flame Spread Index			
Flame test ²	Pass		Multiple standards
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	< 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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