

Borealis PP4821

Polyolefin

Borealis AG

Message:

PP4821 is a thermoplastic, non-halogen containing, insulation compound based on a polypropylene copolymer.

The composition of PP4821 is based on the elements Carbon and Hydrogen. Compounds based on these elements will therefore be the only significant constituents of the fumes due to the combustion of this product. Other elements may be present in concentrations less than 0.1%

Applications

PP4821 is designed for:

70°C rated insulation for building wires (installation cables),

flexible cords, power cables

It can be used in areas sensitive to smoke or corrosive and toxic combustion products. PP4821 is stabilised for use in contact with copper.

General Information			
Features	Good corrosion resistance		
	Halogen-free		
Uses	Building wire insulation material		
	Cable sheath		
Agency Ratings	VDE 0250 Pt 215-NHMH		
Forms	Particles		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Density	0.915	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/2.16 kg)	2.8	g/10 min	ISO 1133
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (15 sec)	48		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress ¹	18.0	MPa	IEC 60811-1-1
Tensile Strain (Break)	600	%	IEC 60811-1-1
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength (120°C, 336 hr)	> -80	%	IEC 60754-1
Thermal	Nominal Value		Test Method
Cold bending (-20°C)	Pass		IEC 60811-1-4
Bottle Mean Failure Height	Pass		IEC 60227-2/2.3
Cone Calorimeter			ISO 5660
Average Heat Release ²	400	kW/m ²	ISO 5660
CO ³	24.0	kg/m ³	ISO 5660
CO ₂	2400	kg/m ³	ISO 5660
Heat Combustion ⁴	37.5		ISO 5660

Ignition Time ⁵	1.3	min	ISO 5660
Max Heat Release ⁶	1330	kW/m ²	ISO 5660
Smoke Obscuration ⁷	476		ISO 5660
Pressure Test (120°C) ⁸	15	%	IEC 60811-3-1
Breakdown Voltage	27000	V	ISO 6722
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Dielectric Strength	> 20	kV/mm	IEC 60243-1
Dielectric Constant (50 Hz)	2.20		IEC 60250
Extrusion	Nominal Value	Unit	
Drying Temperature	100	°C	
Drying Time	2.0	hr	
Cylinder Zone 1 Temp.	190	°C	
Cylinder Zone 2 Temp.	200	°C	
Cylinder Zone 3 Temp.	220	°C	
Cylinder Zone 4 Temp.	220	°C	
Die Temperature	220	°C	
Extrusion instructions			
Screw Speed: 100 RPMLine Speed: 250 m/min			
NOTE			
1.	50 mm/min		
2.	Heat flus 35 kW/m ² , 3 mm plaque		
3.	Heat flus 35 kW/m ² , 3 mm plaque		
4.	Heat flus 35 kW/m ² , 3 mm plaque, Mj/dm3		
5.	Heat flus 35 kW/m ² , 3 mm plaque		
6.	Heat flus 35 kW/m ² , 3 mm plaque		
7.	Heat flus 35 kW/m ² , 3 mm plaque, m2/dm3		
8.	at High Temperatureat 4 hours. Cable (0.5 mm insulation over 1.5 mm ² solid Cu)		

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