Polypropylene

PP4821

Non-Halogen Compound for Building Wire Insulation

Description

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.

Specifications

PP4821 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

DIN VDE 0250 Pt 215-NHMH

Special features

PP4821 consists of specially selected components to offer:

Low smoke and reduced toxic or corrosive gas emissions
processing properties
Superb system ageing compatibility
Low water permeability
Processability on most PVC/PE extrusion equipment
No need for pre-drying normally

Physical Properties

Property	Typical Value Data should not be used for specification work	Test Method
Density [1]	915 kg/m3	ISO 1872-2/ISO 1183
Melt Flow Rate (230 °C/2,16 kg) [1]	2,8 g/10min	ISO 1133
Tensile Strain at Break [2]	600 %	IEC 60811-1-1
Tensile Strength (50 mm/min) [2]	18 MPa	IEC 60811-1-1
Retention of Tensile Properties After Ageing (336 h, 120 °C) [2]	< 20 %	IEC 60811-1-2
Hardness, Shore D (15 s) [1]	48	ISO 868
Pressure Test at High Temperature (120 °C, 4 h) [2]	15 %	IEC 60811-3-1
Cold Bend (-20 °C) [2]	Pass	IEC 60811-1-4

[1] Compound

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[2] Cable (0.5 mm insulation over 1.5 mm² solid Cu)

Electrical Properties

Property		Typical Value Data should not be used for specification work	Test Method
Dielectric constant (50 Hz) [1]		2,2	IEC 60250
Volume Resistivity [2]		10 POhm.cm	IEC 60093
Dielectric Strength [2]		> 20 kV/mm	IEC 60243
Breakdown Voltage [1]		27 kV	ISO 6722
Breakdown Duration[1]		Pass	IEC 60227-2/2.3

[1] Cable (0.5 mm insulation over 1.5 mm² solid Cu)
[2] Compound

Combustion Properties

Property		Typical Value Data should not be used for specification work	Test Method
Cone Calorimeter (heat flux 35 kW/m2, 3 mm plaque)	Ingition time	75 s	ISO 5660
	Average Heat Release	400 kW/m²	
	Max Heat Release	1330 kW/m²	
	Heat Combustion	37,5 MJ/dm3	
	Smoke Obscuration	476 m2/dm3	
	CO	0,024 kg/dm3	
	CO2	2,4 kg/dm3	

Processing Techniques

The actual conditions will depend on the type of equipment used.

Extrusion

Drying in dehumidified air (2 h)	100 °C
Barrel 1	190 °C
Barrel 2	200 °C
Barrel 3	220 °C
Barrel 4	220 °C
Die head	220 °C
Screw speed	100 RPM
Line speed	250 m/min

Packaging

Package: Bags
Octabins

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