

Polypropylene

PP4821

Description

PP4821 is a thermoplastic, halogen-free, 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%

Typical characteristics

PP4821 can be described with following typical characteristics:

Superb system ageing compatibility	Processability on most PVC/PE extrusion equipment
Low water permeability	Pre-drying not required

Applications

70°C rated insulation for building wires (installation cables)	Power cables
Flexible cords	

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 is expected to meet the applicable requirements included in the below mentioned standards provided it is processed using sound material handling and processing practices as well as appropriate testing procedures.

DIN VDE 0250 Pt 215-NMH

Physical properties

Property	Typical value *	Unit	Test method
Density	905	kg/m ³	ISO 1183-1
MFR 230°C/2.16kg	3.1	g/10min	ISO 1133-1
Tensile strength	18	MPa	ISO 527
Elongation at Break	600	%	ISO 527
Shore-D 15s	48	-	ISO 868
Pressure test at high temperature (120°C, 4h)	15	%	IEC 60811-508
Cold bend (-20°C)	Pass	-	IEC 60811-504
Change of tensile properties After ageing 120°C, 336h	<20	%	IEC 60811-401

* Data should not be used for specification work

Electrical properties

Property	Typical value *	Unit	Test method
DC volume resistivity	>10	PΩcm	IEC 62631
Dielectric constant (50 Hz)	2.2	-	IEC 60250
Dielectric strength	>20	kV/mm	IEC 60243

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Other properties

Property	Typical value *	Unit	Test method
Corrosivity of combustion fumes	>4.3	pH	IEC 60754-2
Corrosivity of combustion fumes, Conductivity	<10	µS/mm	IEC 60754-2

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Processing techniques

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

Processing setting	Typical value/range
Drying temperature ¹	100 °C
Barrel temperature	190 - 200 - 220 - 220 °C
Die head temperature	220 °C
Screw speed	100 RPM
Line speed	250 m/min

¹ 2 h in dehumidified air

Packaging and storage

PP4821 should be stored indoors at temperatures between 10 - 30°C in unopened original packages in clean and dry environment, protected from sunlight.

It is also recommended to ensure proper stock rotation by using first in - first out principle.

Following above-mentioned conditions the material can safely be stored for a period of up to 24 months after date of production.

Product compliance documents

Latest versions of product safety information sheets (PSIS), product safety data sheets (SDS) and other product liability documents are available in our website www.borealisgroup.com.

Sustainability aspects

Borealis is ever mindful of the impact of our products on the planet. We promote Design for Circularity (DfC) and Design for Recycling (DfR) to conserve natural resources and to reduce the environmental impact of products over their entire lifetime (including production, use phase and after phase). DfR helps ensure that material can be effectively recycled while maximizing the material performance efficiency. Further information on sustainability and Design for Recycling (DfR) can be found from our websites www.borealisgroup.com and www.borealiseverminds.com.

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