

Polypropylene

Fibremod™ FD221SF-9502

Description

Fibremod™ FD221SF-9502 is a 25% chemically coupled glass fibre reinforced polypropylene compound intended for injection moulding.

This product is stabilized with a halogen-free flame retardant. It has a high tensile strain at break as well as excellent resistance against chemicals and water. It also provides high level of insulation.

Applications

Fibremod FD221SF-9502 has been developed for E&E and automotive applications such as the Lithium-Ion battery module housing, cell holder or insulation plate.

Special Features

Flame-Retardant stabilization
Low density

Stabilised for contact with metals
High tensile strain at break

Physical Properties

Values determined on standard injection moulded specimens conditioned at 23°C and 50% relative humidity after at least 96 hours storage time.

Property	Typical Value	Test Method
Data should not be used for specification work		
Density	1238 kg/m ³	ISO 1183
Melt Flow Rate (230 °C/2,16 kg)	5 g/10min	ISO 1133
Flexural Modulus (2 mm/min)	5.297 MPa	ISO 178
Tensile Modulus (1 mm/min) (23 °C)	5.838 MPa	ISO 527-2
Tensile Strain at Break (23 °C)	5 %	ISO 527-1, -2
Tensile Strength (50 mm/min) (23 °C)	68 MPa	ISO 527-2
Heat Deflection Temperature (1,8 MPa)	116,5 °C	ISO 75
Charpy Impact Strength, notched (23 °C)	10 kJ/m ²	ISO 179/1eA
Charpy Impact Strength, unnotched (23 °C)	44 kJ/m ²	ISO 179/1eU
Charpy Impact Strength, unnotched (-30 °C)	40,3 kJ/m ²	ISO 179/1eU
Shrinkage, in flow ¹	0,16 %	Borealis Test Method
Shrinkage, perpendicular to flow ¹	0,62 %	Borealis Test Method

¹ Sector 300mm x 20° / 400 bar / 96 hours / 2.8mm thickness

Electrical Properties

Property	Typical Value	Test Method
Data should not be used for specification work		
Volume Resistivity ¹	0,01 · 10 ¹⁵ Ωcm	IEC 60093
Surface Resistivity ¹	0,04 · 10 ¹⁵ Ω	IEC 60093
Dielectric Strength	35,7 kV/mm	ASTM D 149
Comparative Tracking Index	600 V	IEC 60112

¹ 23 °C

Fibremod is a trademark of the Borealis group.

Polypropylene

Fibremod FD221SF-9502

Flammability Properties

Property	Typical Value	Test Method
Flammability at thickness 1,6 mm ¹	V-0	UL 94
Glow Wire Flammability Index at thickness 3,0 mm	930 °C	IEC 60695-2

¹ Tested at UL laboratory

Processing Techniques

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

Injection Moulding

To avoid residual humidity from transport or storage, the material should be pre-dried approximately 2h at 80°C. Following parameters should be used as guidelines:

Feeding temperature	40 - 80 °C
Mass temperature	200 - 240 °C
Back pressure	Low to medium
Holding pressure	30 - 60 MPa
Mould temperature	30 - 50 °C
Screw speed	Low to medium
Flow front speed	100 - 200 mm/s

Storage

Fibremod FD221SF-9502 should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odour generation and colour changes and can have negative effects on the physical properties of this product.

Safety

Please see our "Safety data sheet" / "Product safety information sheet" for details on various aspects of safety of the product. For more information, contact your Borealis representative.

Regional Availability

Europe

For information on regional availability please contact Borealis Sales Representative.

Polypropylene

Fibremod FD221SF-9502

Disclaimer

The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications and we do not support their use for such applications.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication; however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of any Borealis product in conjunction with any other products and/or materials. The information contained herein relates exclusively to our products when not used in conjunction with any other material unless as specifically provided for in the test methods stated above.