

## Polypropylene

# Fibremod™ FE121SF-9502

Polypropylene Compound, Glass Fibre Reinforced, Halogen-Free Flame-Retardant

### Description

**Fibremod™ FE121SF-9502** is a 10% 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 FE121SF-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  
High flowability  
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  | 1118 kg/m <sup>3</sup>  | ISO 1183             |
| Melt Flow Rate (230 °C/2,16 kg)                | 14 g/10min              | ISO 1133             |
| Flexural Modulus (2 mm/min)                    | 3.256 MPa               | ISO 178              |
| Tensile Modulus (1 mm/min) (23 °C)             | 3.627 MPa               | ISO 527-2            |
| Tensile Strain at Break (23 °C)                | 4,3 %                   | ISO 527-1, -2        |
| Tensile Strength (50 mm/min) (23 °C)           | 51 MPa                  | ISO 527-2            |
| Heat Deflection Temperature (1,8 MPa)          | 109,5 °C                | ISO 75               |
| Charpy Impact Strength, notched (23 °C)        | 7 kJ/m <sup>2</sup>     | ISO 179/1eA          |
| Charpy Impact Strength, unnotched (23 °C)      | 48 kJ/m <sup>2</sup>    | ISO 179/1eU          |
| Charpy Impact Strength, unnotched (-30 °C)     | 29,55 kJ/m <sup>2</sup> | ISO 179/1eU          |
| Shrinkage, in flow <sup>1</sup>                | 0,31 %                  | Borealis Test Method |
| Shrinkage, perpendicular to flow <sup>1</sup>  | 0,66 %                  | Borealis Test Method |

<sup>1</sup> 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 <sup>1</sup>                | 0,33 · 10 <sup>15</sup> Ωcm | IEC 60093   |
| Surface Resistivity <sup>1</sup>               | 3,8 · 10 <sup>15</sup> Ω    | IEC 60093   |
| Dielectric Strength                            | 40,1 kV/mm                  | ASTM D 149  |
| Comparative Tracking Index                     | 600 V                       | IEC 60112   |

<sup>1</sup> 23 °C

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### Flammability Properties

| Property   | Typical Value | Test Method |
|--|---------------|-------------|
| Flammability at thickness 1,6 mm <sup>1</sup>    | V-0           | UL 94       |
| Glow Wire Flammability Index at thickness 3,0 mm | 960 °C        | IEC 60695-2 |

<sup>1</sup> 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 FE121SF-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.

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### Issuer:

New Business Development / Florian Schütz  
Product Management / Ramesh Selvasankar

### 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.**

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