

Nano4elec – BIO EC 12 MB

Nano4elec is a family of conductive thermoplastic compounds. The electrical conductivity is achieved by adding different conductive carbon blacks. **BIO EC 12 MB** is an electrically conductive thermoplastic compound based on biopolymer PLA. In addition to the conductive properties, **BIO EC 12 MB** has very good mechanical properties and is easy to use in injection molding. **BIO EC 12 MB** is based on a 100% bio-sourced polymer matrix.

Physical properties:

| properties | Method | Value | unit |
|----------------------------------|---|-----------|--------------------------------------|
| Density | intern | 1,2 | g/cm ³ |
| MFI | 210°C/2,16 kg | 1,4 | g/ 10 min |
| MFR | 210°C/2,16 kg | 1,2 | cc/ 10 min |
| Glass Transition Temperature | DSC | 40-55 | °C |
| Glass Transition Temperature | DSC | 140-160 | °C |
| Processing temperature | | 190-220 | °C |
| Young modulus | ISO 527-1 | 1800-2000 | MPa |
| Tensile stress at break | ISO 527-1 | 25-30 | MPa |
| Tensile elongation at break | ISO 527-1 | 5 | % |
| Charpy unnotched impact strength | ISO 179-1 (23°C ; type 1 ; Edgewise) | 20 | kJ/m ² |
| Electrical conductivity | intern | 12 | Ω.cm |
| Thermal conductivity | Hot ring | 0,26 | W/mK |
| Thermal diffusivity | Hot ring | 2,6 | . 10 ⁻⁷ m ² /s |

The information in this data sheet represents typical values obtained in our quality control laboratories and should not be regarded as a specification.

Processing:

It is suggested to process **Bio EC 12 MB** within the temperature range 190-220°C

Handling and storage:

The available data for handling and storage could be found in the Material Safety Data Sheet of this product.

Possible applications:

- **ANTISTATIC PACKAGING and TOOLS** for flammable products, ammunitions, explosives, electronic parts...

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- **HANDLING of ELECTRONIC COMPONENTS:** carrier boxes, conductive foams, carrier trays, carrier tapes...
- **FILMS:** antistatic and conductive films, packaging films, garbage bags...
- **POWER CABLES and ACCESSORIES:** insulator & conductor shield, strippable cables, jacketing...
- **AUTOMOTIVE INDUSTRY:** fuel injection systems, anticorrosion systems, fuel tank hoses...
- **TRANSPORT:** mobile phone parts, elevator parts, wheels...containers, bins, pallets...
- **COMPUTER, AUDIO & VIDEO:** antistatic articles for computer & accessories, CD player...
- **HEALTH:** medical applications, cleanroom equipment, articles for antistatic workplaces...
- **ANTISTATIC FLOORING**
- **CARPETS**
- **UNDERFLOOR HEATING**
- **HEATING ELEMENTS**
- **PTC (Positive Temperature Coefficient) SWITCHES**
- **TEXTILES...**

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Note: The product can be considered four stars bio-based (to apply for certification):



Information contained in this technical datasheet are reliable. They are presented for guidance only. Users should take care in determining the suitability of such product for the intended use.