

Premix Thermoplastics PRE-ELEC® PP 1398 Conductive Thermoplastic Compound

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with Carbon Black Filler

Material Notes:

PRE-ELEC® PP 1398 is a conductive thermoplastic compound based on polypropylene. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC® PP 1398 has an excellent balance of mechanical properties and is easy to injection mould. Applications: Include injection moulded crates, boxes, pallets and tote bins for electronic components and other static sensitive devices (SSD). Processing: PRE-ELEC® PP 1398 compound can be processed in the injection moulding machines using normal processing conditions as with polypropylene. Test Specimen: 10[mm] wide moulded rod Information from Premix OY

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-PP-1398-Conductive-Thermoplastic-Compound.php

| Physical Properties | Metric | English | Comments |
|-----------------------|--------------------------------------|--------------------------------------|-----------|
| Density | 1.01 g/cc | 0.0365 lb/in ³ | |
| Thickness | 102 microns | 4.00 mil | |
| Linear Mold Shrinkage | 0.012 - 0.015 cm/cm | 0.012 - 0.015 in/in | ISO 294-4 |
| Melt Flow | 1.0 g/10 min | 1.0 g/10 min | ISO 1133 |
| | @Load 2.16 kg, Temperature 230 °C | @Load 4.76 lb, Temperature 446 °F | |
| | 10 g/10 min | 10 g/10 min | ISO 1133 |
| | @Load 5.00 kg, Temperature 230 °C | @Load 11.0 lb, Temperature 446 °F | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|---|--|----------|
| Hardness, Shore A | 96 | 96 | ISO 868 |
| Hardness, Shore D | 70 | 70 | ISO 868 |
| Tensile Strength | 19.0 MPa | 2760 psi | ISO 527 |
| Tensile Strength, Yield | 26.0 MPa | 3770 psi | ISO 527 |
| Elongation at Break | 32 % | 32 % | ISO 527 |
| Elongation at Yield | 12 % | 12 % | ISO 527 |
| Flexural Modulus | 1.10 GPa | 160 ksi | ISO 178 |
| Izod Impact, Notched (ISO) | 6.00 kJ/m ² | 2.86 ft-lb/in ² | ISO 180 |
| | @Thickness 4.00 mm, Temperature -20.0 °C | @Thickness 0.157 in, Temperature -4.00 °F | |

| Mechanical Properties | NB Metric | NB English | Comments |
|------------------------------|---|--|----------|
| | @Thickness 4.00 mm, Temperature 23.0 °C | @Thickness 0.157 in, Temperature 73.4 °F | ISO 180 |
| Izod Impact, Unnotched (ISO) | 24.0 kJ/m ² | 11.4 ft-lb/in ² | ISO 180 |
| | @Thickness 4.00 mm, Temperature -20.0 °C | @Thickness 0.157 in, Temperature -4.00 °F | |
| | NB | NB | ISO 180 |
| | @Thickness 4.00 mm, Temperature 23.0 °C | @Thickness 0.157 in, Temperature 73.4 °F | |
| Charpy Impact Unnotched | NB | NB | ISO 179 |
| | @Thickness 102 mm, Temperature 23.0 °C | @Thickness 4.00 in, Temperature 73.4 °F | |
| | NB | NB | ISO 179 |
| | @Thickness 102 mm, Temperature -20.0 °C | @Thickness 4.00 in, Temperature -4.00 °F | |
| Charpy Impact, Notched | 2.60 J/cm ² | 12.4 ft-lb/in ² | ISO 179 |
| | @Thickness 102 mm, Temperature -20.0 °C | @Thickness 4.00 in, Temperature -4.00 °F | |
| | 3.00 J/cm ² | 14.3 ft-lb/in ² | ISO 179 |
| | @Thickness 102 mm, Temperature 23.0 °C | @Thickness 4.00 in, Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|--|---------|---------|--------------|
| Deflection Temperature at 0.46 MPa (66 psi) | 74.0 °C | 165 °F | 75/Method Bf |
| Deflection Temperature at 1.8 MPa (264 psi) | 46.0 °C | 115 °F | 75/Method Af |
| Vicat Softening Point | 90.0 °C | 194 °F | ISO 306/B50 |
| | 143 °C | 289 °F | ISO 306/A50 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|----------------|----------------|-------------------|
| Volume Resistivity | <= 1000 ohm-cm | <= 1000 ohm-cm | ISO D-257 |
| Surface Resistance | <= 10000 ohm | <= 10000 ohm | ISO IEC 61340-5-1 |

| Processing Properties | Metric | English | Comments |
|-----------------------|----------------|--------------|----------|
| Melt Temperature | 200 - 260 °C | 392 - 500 °F | |
| Mold Temperature | 60.0 - 80.0 °C | 140 - 176 °F | |

| Processing Properties | Metric ^{10.0 °C} | English ^{75 °F} | Comments |
|-----------------------|---------------------------|--------------------------|---------------------------|
| Dry Time | 2 - 4 hour | 2 - 4 hour | |
| Injection Pressure | 60.0 - 80.0 MPa | 8700 - 11600 psi | |
| Shelf Life | 12.0 Month | 12.0 Month | Normal Storing Conditions |

| Descriptive Properties | Value | Comments |
|------------------------|----------|----------|
| Injection Speed | Moderate | |

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