

PRE-ELEC® TPU 1510

Thermoplastic Polyurethane Elastomer

Premix Oy

Message:

PRE-ELEC® TPU 1510 is a conductive compound based on a modified polyether thermoplastic polyurethane (TPU). Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC® TPU 1510 has retained the excellent mechanical properties of the base elastomer.

PRE-ELEC® TPU 1510 has been developed for extrusion but it can also be injection moulded. Typical applications included extruded conveyor belts, sheets, tubing, cables and injection moulded technical parts.

| General Information | | | |
|---------------------|----------------------|--|--|
| Additive | Carbon black | | |
| Features | Conductivity | | |
| Uses | Conveyor belt repair | | |
| | Conveyor accessories | | |
| | Pipe fittings | | |
| | Sheet | | |
| Forms | Particles | | |
| Processing Method | Extrusion | | |
| | Injection molding | | |

| Physical | Nominal Value | Unit | Test Method |
|---|---------------|-------------------|-----------------------------|
| Specific Gravity | | | |
| -- | 1.13 | g/cm ³ | ASTM D792 |
| -- | 1.10 | g/cm ³ | ISO 1183 |
| Melt Mass-Flow Rate (MFR) (190°C/10.0 kg) | 10 | g/10 min | ASTM D1238, ISO 1133 |
| Hardness | Nominal Value | Unit | Test Method |
| Durometer Hardness (Shore D) | 45 | | ASTM D2240, ISO 868 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Strength | | | |
| Yield | 11.0 | MPa | ASTM D638, ISO 527-2 |
| -- | 11.0 | MPa | ASTM D638 |
| 4.00 mm | 11.0 | MPa | ISO 527-2 |
| Tensile Elongation | | | |
| Yield | 250 | % | ASTM D638, ISO 527-2 |
| Fracture | 250 | % | ASTM D638 |
| Fracture, 4.00mm | 250 | % | ISO 527-2 |
| Electrical | Nominal Value | Unit | Test Method |
| Surface Resistivity | < 1.0E+4 | ohms | ESD STM11.11, IEC 61340-2-3 |

| | | | |
|------------------------|---------------|---------|-----------------|
| Volume Resistivity | 1.0E+2 | ohms·cm | Internal method |
| Extrusion | Nominal Value | Unit | |
| Drying Temperature | 80.0 - 90.0 | °C | |
| Drying Time | 2.0 - 3.0 | hr | |
| Cylinder Zone 1 Temp. | 180 | °C | |
| Cylinder Zone 2 Temp. | 190 | °C | |
| Cylinder Zone 3 Temp. | 200 | °C | |
| Cylinder Zone 4 Temp. | 210 | °C | |
| Cylinder Zone 5 Temp. | 200 | °C | |
| Extrusion instructions | | | |
| Cylinder Zone 6: 200°C | | | |

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