

# PREPERM® L700HF

Polyphenylene Ether

Premix Oy

## Message:

PREPERM® L700HF is a special compound with elevated dielectric constants of 7.0.

PREPERM® L700HF is a special compound based on Premix proprietary PPE technology. Extremely low dissipation factor (< 0.001) makes PREPERM® L700HF an excellent material for high frequency applications. PREPERM® L700HF offers stable dielectric constant over wide frequency and wide temperature range. PREPERM® L700HF is modified for injection moulding.

Applications include structural parts for antennas in base stations, point to point, wlan, mobile phones etc. Devices made out of PREPERM® can operate at very high frequencies as PREPERM® offers stable performance even at 120 GHz.

| General Information                               |   |                   |                 |
|---|---|-------------------|-----------------|
| Uses  | Electrical/Electronic Applications<br>Electrical components |                   |                 |
| RoHS Compliance                                   | RoHS compliance   |                   |                 |
| Forms   | Particles   |                   |                 |
| Processing Method                                 | Injection molding   |                   |                 |
| Physical  | Nominal Value   | Unit              | Test Method     |
| Density   | 1.98  | g/cm <sup>3</sup> | ISO 1183        |
| Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)          | 14  | g/10 min          | ISO 1133        |
| Molding Shrinkage - Flow                          | 0.60  | %                 | ISO 294-4       |
| Mechanical  | Nominal Value   | Unit              | Test Method     |
| Tensile Stress (4.00 mm)                          | 60.0  | MPa               | ISO 527-2       |
| Tensile Strain (Break, 4.00 mm, Injection Molded) | 5.0   | %                 | ISO 527-2       |
| Flexural Modulus (4.00 mm)                        | 4500  | MPa               | ISO 178         |
| Impact  | Nominal Value   | Unit              | Test Method     |
| Notched Izod Impact <sup>1</sup>                  |   |                   | ISO 180         |
| -20°C   | 4.0   | kJ/m <sup>2</sup> | ISO 180         |
| 23°C  | 4.0   | kJ/m <sup>2</sup> | ISO 180         |
| Unnotched Izod Impact Strength <sup>2</sup>       |   |                   | ISO 180         |
| -20°C   | 30  | kJ/m <sup>2</sup> | ISO 180         |
| 23°C  | 35  | kJ/m <sup>2</sup> | ISO 180         |
| Thermal   | Nominal Value   | Unit              | Test Method     |
| Heat Deflection Temperature                       |   |                   |                 |
| 0.45 MPa, not annealed                            | 140   | °C                | ISO 75-2/Bf     |
| 1.8 MPa, not annealed                             | 122   | °C                | ISO 75-2/Af     |
| Electrical  | Nominal Value   | Unit              | Test Method     |
| Dielectric Constant (1.00 GHz)                    | 7.00  |                   | Internal method |
| Dissipation Factor (1.00 GHz)                     | 6.0E-4  |                   | Internal method |
| Injection   | Nominal Value   | Unit              | Test Method     |

|                        |               |    |
|------------------------|---------------|----|
| Drying Temperature     | 100 - 120     | °C |
| Drying Time            | 2.0 - 4.0     | hr |
| Processing (Melt) Temp | 290 - 310     | °C |
| Mold Temperature       | 80.0 - 110    | °C |
| Injection Rate         | Moderate-Fast |    |

#### Injection instructions

Injection Pressure: High

#### NOTE

1. 4 mm thickness
2. 4 mm thickness

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### Recommended distributors for this material

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