

Product description

Modified PPE, PPE/PA alloy
SenTherm 201-01 1 is a high-performance thermally conductive resin for injection moulding

Product applications

SenTherm 201-01 1 is suitable for use in thermal management applications within automotive, offering lightweighting and thermal transfer benefits. The material can be substituted for metal parts which are non-structural.

Product Information

Resin IdentificationPPE/PAISO 1043

Rheological properties¹⁾

| Properties | Method | Unit | Typical Value* |
|--|-----------------|------|----------------|
| Mould shrinkage, Parallel ²⁾ | ISO 294-4, 2577 | % | 0.4 |
| Mould shrinkage, Transversal ²⁾ | ISO 294-4, 2577 | % | 0.5 |

Characteristics ¹⁾

| Properties | Method | Unit | Typical Value* |
|--|------------|-------------------|----------------|
| Density | ISO 1183 | Kg/m ³ | 1300 |
| Melt flow rate | ISO1133/T | g/10 min | - |
| Thermal conductivity (Injection moulded) | ASTM D7984 | W/mK | 1.7 |
| Thermal conductivity (Compression moulded) | ASTM D7984 | W/mK | 3 |
| Tensile modulus (50mm/min) | ISO 527 | MPa | 1845 |
| Tensile strength (50mm/min) | ISO 527 | MPa | 43 |
| Strain at break | ISO 527 | % | 4 |

*Values in italics are estimated

Characteristics ¹⁾

| Properties | Method | Unit | Typical Value* |
|-----------------------------|-------------------|-------------------------|----------------|
| Flexural modulus | ISO 178 | MPa | 5600 |
| <i>Charpy impact (23°C)</i> | <i>ISO 180/1A</i> | <i>kJ/m²</i> | <i>8</i> |

Injection ^{1) 3)}

| Properties | Unit | Typical Value* |
|--------------------------------|-------|----------------|
| Drying recommended | | Yes |
| Drying temperature | °C | 100-120 |
| Drying time, dehumidified oven | Hours | 2-4 |
| Process moisture content | % | 0.1 |
| Melt temperature | °C | 290 |
| Min melt temperature | °C | 280 |
| Max melt temperature | °C | 300 |
| Min mould temperature | °C | 80 |
| Max mould temperature | °C | 120 |
| Ejection temperature | °C | 210 |

- 1) The information stated on technical data sheets should be used as indicative only for material selection and not utilised for specifications or part and tool design.
- 2) Measurements have been estimated from moulded laboratory parts; actual shrinkage may be outside these parameters. This is dependant on mould conditions and parameters. Our recommendation is using legacy tooling before cutting on a new moulding tool.
- 3) It is highly recommended not to go above 300°C due to break down of the material causing degradation and smoking. Furthermore, low temperatures can lead to shear degradation and non-uniform plasticisation, whilst higher temperature cause silver streaking and degradation. Ventilation is recommended due to the phenolic smell created when processing the resin.

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***Values in italics are estimated**