

ULTEM 1010

ULTEM 1010 is a high-performance thermoplastic, PolyEtherImide (PEI), which offers excellent strength, thermal stability and the ability to withstand steam autoclaving. ULTEM 1010 offers the high heat resistance, chemical resistance and tensile strength and is ideal for aerospace, automotive applications and other areas.

| PHYSICAL PROPERTIES | TEST METHOD | UNITS | TYPICAL VALUE |
|------------------------------|------------------------------|-------------------|-------------------------|
| Density | ASTM D792 | g/cm ³ | 1.27 |
| Glass transition temperature | DSC, 10°C /min | °C | 215 |
| Heat Deflection Temperature | ASTM D648, 0.45MPa,6.4mm | °C | 207 |
| Flame Classification | UL 94 | — | V0(1.5mm), V0, 5VA(3mm) |
| Water Absorption | ASTM D570, 24hours | % | 0.25 |
| | ASTM D570, Equilibrium, 23°C | % | 1.25 |
| Hardness | Rockwell M | — | 109 |

| MECHANICAL PROPERTIES | TEST METHOD | UNITS | TYPICAL VALUE |
|-----------------------|--------------------|-------|---------------|
| Tensile strength | ASTM D638 | MPa | 90 |
| Young's modulus | ASTM D638 | MPa | 3427 |
| Elongation at break | ASTM D638 | % | 3.3 |
| Flexural strength | ASTM D790 | MPa | 126 |
| Flexural modulus | ASTM D790 | MPa | 3197 |
| Impact strength | ASTM D256, notched | J/m | 32 |

Note:

- All testing specimens were printed using a FUNMAT HT 3D PRINTER under the following conditions:
Printing temperature = 370 °C, printing speed = 45 mm/s, number of shells = 2, and 100% infill.

Disclaimer

The typical values presented in this document are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End-use performance of printed parts properties can be impact by, but not limited to, part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice.

Each user is responsible for determining the safety, lawfulness, technical suitability, and disposal/recycling practices of INTAMSYS materials for the intended application. INTAMSYS makes no warranty of any kind, unless announced separately, to the fitness for any particular use or application. INTAMSYS shall not be made liable for any damage, injury or loss induced from the use of INTAMSYS materials in any particular application.