



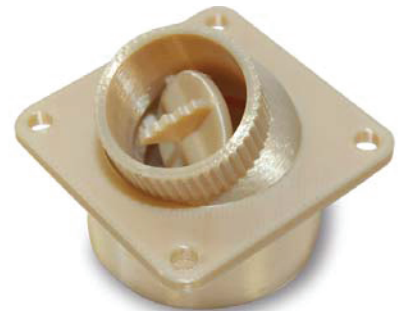
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ULTEM 9085

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ULTEM* 9085 is a flame retardant high performance thermoplastic for direct digital manufacturing and rapid prototyping. It is ideal for the transportation industry due to its high strength-to-weight ratio and its FST (flame, smoke, and toxicity) rating. This unique material's preexisting certifications make it an excellent choice for the commercial transportation industry – especially aerospace, marine and ground vehicles.

ULTEM 9085 allows design and manufacturing engineers to produce fully functional parts that are ideal for advanced functional prototypes or end use without the cost or lead time of traditional tooling.



| Mechanical Properties ¹ | Test Method | English | Metric |
|---|-------------|-----------------|-----------|
| Tensile Strength (Type 1, 0.125", 0.2"/min) | ASTM D638 | 10,390 psi | 71.64 MPa |
| Tensile Modulus (Type 1, 0.125", 0.2"/min) | ASTM D638 | 322 kpsi | 2,220 MPa |
| Tensile Elongation (Type 1, 0.125", 0.2"/min) | ASTM D638 | 5.9% | 5.9% |
| Flexural Strength (Method 1, 0.05"/min) | ASTM D790 | 16,700 psi | 115.1 MPa |
| Flexural Modulus (Method 1, 0.05"/min) | ASTM D790 | 362.6 kpsi | 2,507 MPa |
| IZOD Impact, notched (Method A, 23°C) | ASTM D256 | 2.0 ft-lb f/in | 106 J/m |
| IZOD Impact, un-notched (Method A, 23°C) | ASTM D256 | 11.5 ft-lb f/in | 613.8 J/m |

| Thermal Properties ³ | Test Method | English | Metric |
|---|-------------|-----------------------------|-----------------------------|
| Heat Deflection (HDT) @ 66 psi, 0.125" unannealed | ASTM D648 | 333°F | 167°C |
| Heat Deflection (HDT) @264 psi, 0.125" unannealed | ASTM D648 | 307 °F | 153°C |
| Glass Transition Temperature (Tg) | DSC (SSYS) | 367°F | 186°C |
| Coefficient of Thermal Expansion | ----- | ----- | ----- |
| Melt Point | ----- | Not Applicable ² | Not Applicable ² |

| Other ³ | Test Method | Value |
|-----------------------------|-------------|-------|
| Specific Gravity | ASTM D792 | 1.34 |
| Rockwell Hardness | ASTM D785 | ----- |
| Flame Classification | UL 94 | ----- |
| Dielectric Strength | D149 | ----- |
| Dielectric Constant @60 MHz | D150 | ----- |

| Flame Characteristics | Test Method | Value |
|---|-------------|--------------------------|
| Oxygen Index | ASTM D2863 | 49% |
| Vertical Burn (Test a (60s), passes at) | FAR 25.853 | 2 seconds |
| FAA Flammability (Method A/B) | FAR 25.853 | < 5 |
| OSU Peak Heat Release (5 minute test) | FAR 25.853 | 36 kW/m ² |
| OSU Total Heat Release (2 minute test) | FAR 25.853 | 16 kW·min/m ² |

| Layer Thickness Capability | Support Structure | Available Colors |
|---|-------------------|------------------|
| 0.013 inch (0.330 mm) ² 0.010 inch (0.254 mm) | BASS | ■ Tan |

The information presented are typical values intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. End-use material performance can be impacted (+/-) by, but not limited to, part design, end-use conditions, test conditions, etc. Actual values will vary with build conditions. Product specifications are subject to change without notice.

¹ Build orientation is on side long edge. ² Due to amorphous nature, material does not display a melting point. ³ Literature value unless otherwise noted.