



PEI 1010 (ULTEM®)

AON3D Readyprint™ PEI 1010 filament belongs to the family of thermoplastic polyimides. Polyetherimide (PEI) is an amorphous thermoplastic. It benefits from good resistance to temperature and solvents, as well as high dimensional stability. It is used in the electronics, transport and medical sectors. The AON3D PEI 1010 filament is based on ULTEM by Sabic® and it has the following properties:

- High rigidity
- UV resistance
- Flame retardant – **UL94 V0** eligible
- Food contact certification **EU 10/2011, FDA 21 CFR**
- Complies with the **REACH** regulation and the **RoHS** directive

Filament Properties

Properties	Test Methods	Values
Diameter	INS-6712	1.75 ± 0.1 mm
Density	ISO 1183-1	1.28 g/cm ³
Melt Flow Index (MFI)	ISO 1133-1 (@240°C, 5 kg)	14 – 16 g/10 min
Glass Transition Temperature (T _g)	ISO 11357-1 DSC (10°C/min – 0–420°C)	217 °C

Print Parameters & Specimens Dimensions

Printing Direction	XY
Printing Speed	40 mm/s
Infill	100%
Infill Angle	45°/-45°
Nozzle Temperature	380°C
Chamber T°	220°C

PEI 1010 (ULTEM®)



Mechanical Properties

Properties	Test Methods	Values
Tensile Modulus	ISO 527-2/1A/50	2,917.5 MPa
Tensile Strength	ISO 527-2/1A/50	90.9 MPa
Strain at Tensile Strength	ISO 527-2/1A/50	5.6 %
Tensile Stress at Break	ISO 527-2/1A/50	90.9 MPa
Tensile strain at break (type A)	ISO 527-2/1A/50	5.6 %
Tensile strain at break (type B and C)	ISO 527-2/1A/50	5.6 %
Flexural Modulus	ISO 178	2,236 MPa
Flexural Strain at Break	ISO 178	>5%
Flexural Stress at 3.5% Strain*	ISO 178	76 MPa
Charpy Notched Impact Strength	ISO 179-1/1eA	3.1 kJ/m ²
Shore Hardness (D)	ISO 868	84.5 D

Note: Values are indicative only — actual properties may vary depending on production conditions.

Created on 10/03/2022 – Revised on 13/03/2023.