

# PEI 9085 (ULTEM®)



AON3D Readyprint™ PEI 9085 resin is an amorphous polyetherimide (PEI) blend, commonly used in prototyping, tooling, and production parts. Produced from SABIC ULTEM™ 9085 resin, PEI-9085 filament offers long-term heat resistance and stability of physical and mechanical properties at elevated temperatures for extended periods. Due to its heat resistance, high impact strength, high strength-to-weight ratio properties, and high resistance to abrasion is widely used in aerospace, automotive, and military applications. PEI 9085 has the following certifications & properties:

- Flame retardant and non-toxic – UL94 V0
- Railway fire and smoke standard EN45545
- Aerospace FAR 25.853 Standard
- Complies with the RoHS and REACH standard

2-year AON3D warranty.

## Filament Properties

Properties	Test Methods	Values
Diameter	INS-6712	1.75 ± 0.1 mm
Density	ISO 1183-1	1.28 g/cm <sup>3</sup>
Glass Transition Temperature (T <sub>g</sub> )	ISO 11357-1 DSC (10°C/min - 0-420°C)	178 °C

## Print Parameters & Specimens Dimensions

Printing Direction	XY
Printing Speed	25 mm/s
Infill	100% - rectilinear
Infill Angle	45°/-45°
Nozzle Temperature	360°C
Bed T°	1°C

## Printed Specimens Properties

Properties	Test Methods	Values
Heat Distortion Temperature (HDT) (0,45Mpa)	ASTM D648	°C
Heat Distortion Temperature (HDT) (1,8Mpa)	ASTM D648	158 °C
Tensile Modulus	ISO 527-2/1A/50	2,322.5 MPa
Tensile Strength	ISO 527-2/1A/50	69.7 MPa
Tensile Strain at Yield	ISO 527-2/1A/50	6.2 %
Tensile Stress at Break	ISO 527-2/1A/50	69.7 MPa
Tensile Strain at Break (type B et C)	ISO 527-2/1A/50	6.2 %
Flexural Modulus	ISO 178	2,250 MPa
Deformation at Flexural Strain	ISO 178	>5 %
Flexural Stress at Conventional Deflection (3,5% strain)*	ISO 178	74.5 MPa
Charpy Impact Resistance	ISO 179/2C	11 kJ/m <sup>2</sup>
Shore Hardness	ISO 868	78,7D

\*According to ISO 178, end of the test at 5% deformation even if there is no specimen break.

\*The data should be considered as indicative values - Properties can be influenced by production conditions.