

Technical Data Sheet

Onyx FR

Flame-retardant micro carbon fibre filled nylon, 3D printing (FDM)

Typical Properties

- Flame retardant, UL94 V-0 at wall thickness ≥ 3 mm (UL Blue Card)
- Compatible with all continuous fibre systems (incl. carbon fibre, carbon fibre FR, Kevlar®, fibreglass, HSHT fibreglass)
- High stiffness and strength for a 3D printing material
- Suitable, with appropriate qualification, to meet the FAR 25.853 aerospace flammability standard

Typical Industries

- Aerospace
- Electrical / energy engineering
- Jigs, fixtures and tooling
- Mechanical engineering

	Test Method	Unit	Value
General Properties			
Density		g / cm ³	1.2
Flammability (wall thickness ≥ 3 mm)	UL 94		V-0
Mechanical Properties			
Tensile modulus	ASTM D638	MPa	3000
Tensile stress at yield	ASTM D638	MPa	41
Tensile stress at break	ASTM D638	MPa	40
Tensile strain at break	ASTM D638	%	18
Flexural strength	ASTM D7901	MPa	71
Flexural modulus	ASTM D7901	MPa	3600
Thermal Properties			
Heat deflection temperature (0.45 MPa)	ASTM D648, Method B	°C	145

The stated values are average values based on test specimens produced by the additive manufacturing process (FDM). They serve only as information about our product range and as an aid to material selection. The actual properties of manufactured parts additionally depend on print parameters, layer build-up and part geometry; we do not thereby provide any legally binding assurance of specific properties or of suitability for a particular purpose. The flame-retardant classification (UL94 V-0) applies at the stated minimum wall thickness and should be confirmed for the specific part.