

Printing Recommendations

- Nozzle temperature: 230–270°C
- Build surface material: PEI, glass
- Build surface treatment: glue
- Build plate temperature: up to 110°C
- Cooling: 0–30%
- Printing speed: up to 180 mm/s
- Raft separation distance: 0.2 mm
- Retraction distance: 7 mm
- Retraction speed: 20 mm/s
- Environmental temperature: room temperature – 60°C
- Max. Volumetric Velocity: 12 mm³/s
- Closed Chamber Recommended
- Hardened Nozzle Required (Hardened Steel/Ruby)

Reference settings for a 0.5 mm nozzle. Optimal parameters may vary depending on printer and environmental conditions.

Drying recommendations

The filament should be dried at 70–90°C for 2–4 hours before printing to maintain material humidity at ≤0.1%. After drying, store in an airtight container with a desiccant.

Precautions

Shrinkage: Although ASA Glass Fiber provides improved stability, minor shrinkage may occur due to temperature fluctuations. For best results, print inside an enclosed chamber or maintain consistent ambient conditions to minimize warping.

Cooling Control: Print with cooling fan turned off. This supports strong interlayer adhesion and reduces the risk of cracking or weakened surfaces, particularly in larger components.

Filament Storage: Store the filament in a dry, cool environment away from direct sunlight. Because the material can absorb moisture over time, keep it sealed with desiccant when not in use.

Printer Compatibility: Ensure your printer is equipped with a suitable all-metal hotend and compatible with ASA materials. Glass-fiber reinforcement increases abrasion; therefore, hardened steel or ruby nozzles are recommended to prevent excessive wear.

Printing Guidelines

Due to the abrasive nature of glass fiber reinforcement, the use of a hardened steel or ruby nozzle is required. Printing in an enclosed build chamber is recommended to improve temperature stability and layer adhesion.

For optimal results, the filament should be dried before printing to reduce moisture content and ensure consistent extrusion. Controlled cooling and stable ambient conditions help achieve strong interlayer bonding and high-quality surface finishes.

Important Notes

- Abrasive material – hardened nozzle required
- Enclosed printing environment recommended
- Minor shrinkage may occur if temperature stability is not maintained
- Print parameters may vary depending on printer type and environment

Property	Standard	Unit	Value
Flexural Modulus	ASTM D790	MPa	3500 ±200
Tensile Modulus	ASTM D790	MPa	3520 ±200
Tensile Strength	ASTM D638	MPa	59.8 ±3
Flexural Strength	ASTM D638	MPa	91.2 ±3
Elongation at Yield	ASTM D638	%	3
Elongation at Break	ASTM D638	%	8
Notched Izod Impact Strength	ASTM D256	kJ/m ²	88
Unnotched Izod Impact Strength	ASTM D256	kJ/m ²	16
Vicat Softening Temperature (VST A)	ASTM D1525	°C	101
Melting Temperature	ISO 3146-C	°C	190–210
Heat Deflection Temperature (HDT/B)	ASTM D648	°C	99
Melt Flow Rate (MFR)	ASTM D1238	g/10 min	12
Density	ASTM D792	g/cm ³	1.1
Mold Shrinkage	ASTM D955	%	0.3
Rockwell Hardness	ASTM D785	R	110

Disclaimer of Liability

The technical values provided in this datasheet are intended for reference and comparison only. Actual performance may vary depending on printer configuration, part geometry, environmental conditions, and print parameters. Abrasive composite materials may cause increased nozzle wear; users are responsible for verifying hardware compatibility and conducting pre-use testing. Professional Lab is not liable for any damage, loss, or performance issues resulting from improper use of the filament or operation outside recommended guidelines. Always follow the specifications indicated on the product label.

