

Printing with Adcero FR Nylon:

There are really three critical issues to consider when printing with Adcero FR Nylon.

First and foremost, the filament needs to be dry. Pre-bake treatment should be at 175°C for between 2-4 hours. If you need to store the filament before use, for even a short period of time, do so in a sealed container with some form of desiccant. It is recommended that you print within 2 hours of completion of the pre-bake.

Second, print at the right temperature. Nylon needs to be printed at 260-280°C. You need an extruder with all metal hot ends. (PEEK or PTFE lined extruder hot ends will outgas noxious fumes at those temperatures). Note that layer adhesion can be sensitive to print temperature, so you may want to characterize your system at a couple different temperatures to get the optimum results.

Finally, Nylon generally has a propensity for warping due to coefficient of thermal expansion issues. For this reason we recommend used a Polyvinyl Acetate (PVA) glue stick, like Elmers, Purple Glue Stick. Spread a thin layer using a crosshatched pattern. Finally, if possible use a heated print bed run at 70-80°C to get the best results. Higher fill factors will increase warping as well, so this is another knob you can play with.

Recommended 3D Print Settings:

Pre-bake:	175°C for 2-4 hours
Bed Adhesive:	PVA Glue Stick
Extruder Temperature:	240-260°C
Bed Temperature:	70-80°C
Speed:	30-60 mm/s*
Layer Height:	0.2 -0.4 mm

* Some printers can accommodate only slower speeds. Characterizing with slower speeds is an effective troubleshooting method.

There are clear advantages of building parts with Nylon. With a little effort any tradeoffs with Nylon can be neutralized. Adcero FR Nylon is strong and durable with a smooth consistency, high melting point and great intra-layer adhesion. When you have characterized your printer and your process you will end up with parts that can be used in a wide range of home and industrial applications. Add to that Adcero's proprietary flame resistance and you can make unique, enabling parts.