We at DIYElectronics are eager to share our knowledge. We hope these guides will allow you to get the most out of your 3D Printers and electronics.
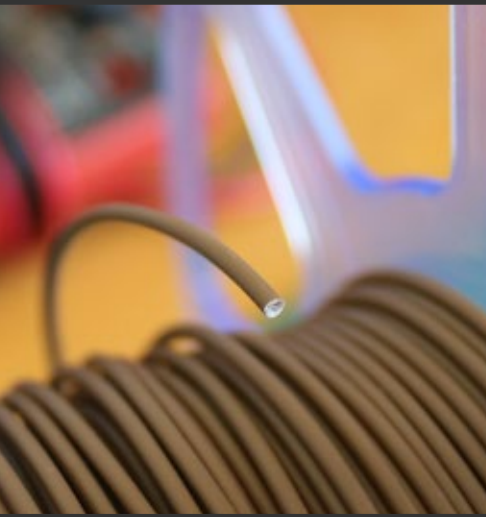
FILAMENT TANGLES

Tangling occurs when the end of a roll of filament is not held in place. The end of the filament is then able to slip under a loose coil resulting in a tangle. This can result in extrusion issues during printing.

To avoid tangles make sure that the filament is ready to print in the extruder, held in your hand, or clamped/fed through the holes in the edge of the spool. If you already have a tangled spool then try unwinding off the side of the spool and then carefully rewinding once the tangle has been removed.
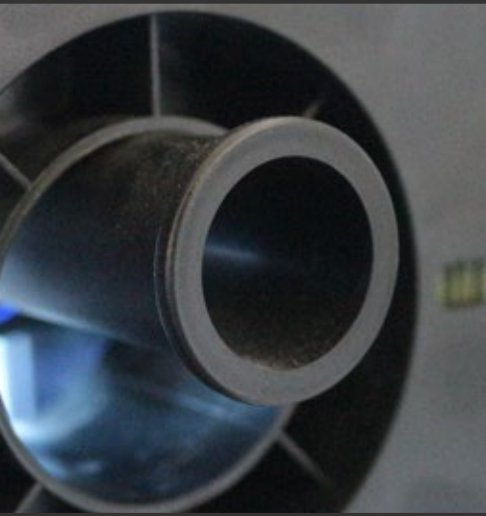
SPOOL HOLDER FRICTION

When loading filament into your 3D printer there are a few things to check before hitting print. One of the checks is for friction. Having too much or too little friction between spool and holder can have a massive impact on your print quality.

Check the friction between spool and holder whenever loading a new roll of filament. Ensure the spool can rotate freely and there is not too much drag. Also, check that the spool will not rotate too freely as this can cause the filament to unwind and tangle while printing.

LET YOUR 3D PRINTER COOL

Leaving filament in a heated hotend for extended periods can cause the filament to decompose which can result in a variety of issues for future prints.

The solution to this is to let your printer cool down before turning off the power. Most 3D Printers have a cool-down setting or automatically begin to cool down when a print is finished. When the nozzle reaches the idle temperature you can safely shut off your 3D Printer.

FILAMENT STORAGE

Keeping your filament properly stored is key to getting the highest possible print quality. Incorrectly stored filament may have absorbed moisture, been deformed by heat if left in a sunny or hot place, or been coated in dust.

The ideal way to store filament is in an airtight container with desiccant bags or gel at the bottom to help draw out the moisture. You can also buy filament storage boxes from most filament suppliers. These can vary in size, shape, and design.

DRYING FILAMENT

When filament absorbs moisture it will impact print quality. Different types of filament absorb moisture at different rates and amounts. Filaments like Nylon will absorb moisture after only a few hours if not properly stored.

To dry out filament that has absorbed moisture use a dedicated oven, food dehydrator, sealed container with desiccant bags or gel, or a filament drying box. If using a device with a heater then always check the glass transition temperature of the filament you are drying to avoid damaging it.

*Drying Filament image. Source: MatterHackers - PrintDry Filament Drying System