

Filaments



| FILAMENT TYPE AND SETTINGS | | | |
|------------------------------------|------------|------------|-------------|
| Filament Type | PLA | ECO-ABS | Nylon |
| Nozzle Temperature Range | 190 -240 C | 190 -240 C | 220 – 280 C |
| Optimal Nozzle Temperature | 220 C | 220 C | 255 C |
| Build Platform Temperature Range | 0 – 60 C | 0 – 70 C | 0 – 100 C |
| Optimal Build Platform Temperature | 35 C | 45 C | 80 C |
| Print Speed Multiplier | 0 – 100% | 0 – 100% | 0 – 100% |
| Recommended Speed Multiplier | 100% | 100% | 90% |
| Fan Range | 0 – 100% | 0 – 100% | 0 – 100% |
| Object cooling fan setting | 100% | 100% | 50% |

Filament Size

PLA:

- Spool Length: 17500mm
- Filament Diameter: 1.75mm
- Spool Weight: 500grams

ECO-ABS:

- Spool Length: 17500mm
- Filament Diameter: 1.75mm
- Spool Weight: 500grams

Nylon:

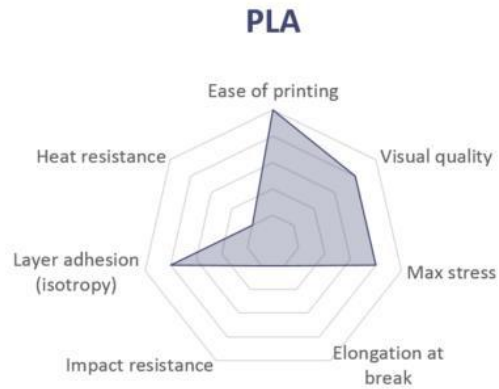
- Spool Length: 19500mm
- Filament Diameter: 1.75mm
- Spool Weight: 500grams

Filament Recognition

There is a RFID tag on the new Dremel filaments and RFID reader on the 3D45's spool holder. When you place a roll of Dremel filament into the spool holder, the printer will auto recognize the filament type and adjust the printer settings to be optimized for the filament that you are using.



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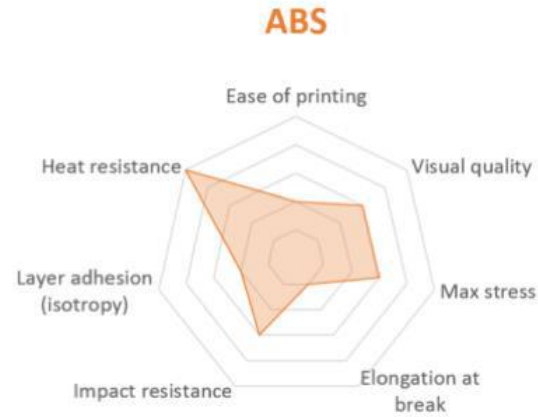
Easiest to print and provides good visual quality. It is ridged and quite strong, but it is very bright. PLA is a great choice for hobby shops or small production projects where high levels of detail are desired in the part.

PROS:

- Bio sourced, biodegradable
- Odorless
- Can be post-processed with sanding paper and painted with acrylics
- Good UV resistance

CONS:

- Low humidity resistance
- Can't be glued easily



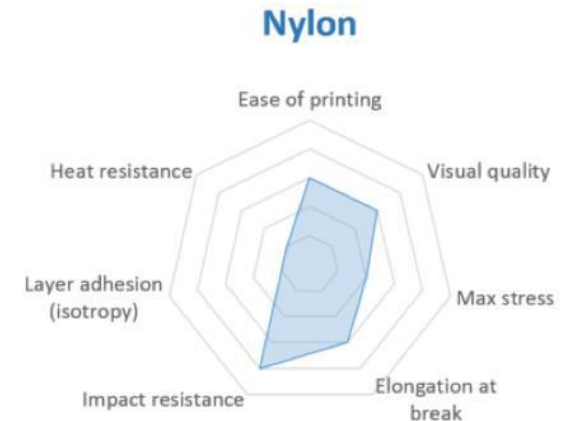
Usually picked over PLA when higher temperature resistance and higher toughness is required. It is used in things like camera housings, protective casings and packaging applications. ABS is also a good choice for engineers looking for high quality prototype production.

PROS:

- Can be post-processed with acetone vapors for a glossy finish
- Can be post-processed with sanding paper and painted with acrylics
- Acetone can also be used as strong glue
- Good abrasion resistance

CONS:

- UV sensitive
- Odor when printing
- Potentially high fume emissions



Possesses great mechanical properties, and the best impact resistance for a non-flexible filament. Layer adhesion can be an issue, however. Nylon lends itself well to things like living hinges and other functional parts.

PROS:

- Good chemical resistance

CONS:

- Very low humidity resistance
- Potentially high fume emissions