

Knowledge compendium – printing temperatures

1. ABS

- Printing temperature: **240°C - 250°C** [Brass nozzles E3D; 0.25mm – 0.5mm]
250°C - 255°C [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **95°C - 110°C** [Adhesion agents: Needit, or ABS juice]
- Chamber temperature: **30°C - 60°C**
- Cooling: **not recommended / very low**
- Drying: **60°C - 65°C** [Dry for 8 hours when the quality and durability of prints drops down or during printing process appears characteristic sounds of "crackling" coming from the nozzle for proper printing temperature.]

2. ASA

- Printing temperature: **240°C - 250°C** [Brass nozzles E3D; 0.25mm – 0.5mm]
250°C - 255°C [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **95°C - 110°C** [Adhesion agents – Needit, or ABS juice]
- Chamber temperature: **30°C - 60°C**
- Cooling: **not recommended / very low**
- Drying: **60°C - 65°C** [Dry for 8 hours when the quality and durability of prints drops down or during printing process appears characteristic sounds of "crackling" coming from the nozzle for proper printing temperature.]

3. BVOH

- Printing temperature: **190°C - 210°C** [Brass nozzles E3D; 0.25mm – 0.5mm]
210°C - 220°C [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **50°C - 60°C** [Adhesion agent – Needit]
- Cooling: **depending on base material**
- Drying: **60°C - 65°C** [Dry for 10 hours when the quality and of printed support structures drops down or filament clogging within nozzle for proper printing temperature]

4. HIPS

- Printing temperature: **235°C - 240°C** [Brass nozzles E3D; 0.25mm – 0.5mm]
245°C - 250°C [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **95°C - 110°C** [Adhesion agents – Needit, ABS juice]
- Chamber temperature: **30°C - 60°C**
- Cooling: **not recommended / very low**
- Drying: **60°C - 65°C** [Dry for 8 hours when the quality and of printed support structures drops down or during printing process appears characteristic sounds of "crackling" coming from the nozzle for proper printing temperature]

5. PA

- Printing temperature: **250°C - 260°C** [Hardened steel nozzles E3D; 0.25mm – 0.5mm] **260°C - 270°C** [Hardened steel nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **50°C - 90°C** [adhesion agents – Needit, pva glue]
- Chamber temperature: **30°C - 50°C**
- Cooling: **Not recommended / very low**
- Drying: **70C - 75°C** [Dry for 10 hours when the quality and durability of prints drops down or during printing process appears characteristic sounds of "crackling" coming from the nozzle for proper printing temperature.]

6. PEEK

- Printing temperature: **370°C - 420°C** [DyzeDesign nozzles; 0.4mm – 0.6mm] **430°C - 450°C** [DyzeDesign nozzles; 0.9mm – 1,2mm]
- Bed temperature: **120°C - 160°C** [Adhesion agents – Needit, pva glue]
- Chamber temperature: **50°C - 100°C**
- Cooling: **Not recommended**
- Drying: **70°C - 75°C** [Dry for 10 hours when the quality and durability of prints drops down or during printing process appears characteristic sounds of "crackling" coming from the nozzle for proper printing temperature.]

7. PC

- Printing temperature: **270°C - 290°C** [Hardened steel nozzles E3D; 0.25mm – 0.5mm] **290°C - 300°C** [Hardened steel nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **120°C - 140°C** [Adhesion agents – Needit, pva glue, Magigoo PC]
- Chamber temperature: **50 - 60°C**
- Cooling: **Not recommended**
- Drying: **70°C - 75°C** [Dry for 10 hours when the quality and durability of prints drops down or during printing process appears characteristic sounds of "crackling" coming from the nozzle for proper printing temperature.]

8. PC/ABS

- Printing temperature: **250°C - 260°C** [Hardened steel nozzles E3D; 0.25mm – 0.5mm] **260°C - 270°C** [Hardened steel nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **95°C - 110°C** [adhesion agents – Needit, ABS juice]
- Chamber temperature: **30 - 60°C**
- Cooling: **Not recommended**
- Drying: **65°C - 70°C** [Dry for 10 hours when the quality and durability of prints drops down or during printing process appears characteristic sounds of "crackling" coming from the nozzle for proper printing temperature.]

9. PEI

- Printing temperature: **350°C - 360°C** [DyzeDesign nozzles; 0.4mm – 0.6mm]
360°C - 380°C [DyzeDesign nozzles; 0.9mm – 1.2mm]
- Bed temperature: **120°C - 160°C** [Adhesion agents – Needit, pva glue]
- Chamber temperature: **50 - 80°C**
- Cooling: **Not recommended**
- Drying: **70°C - 75°C** [Dry for 10 hours when the quality and durability of prints drops down or during printing process appears characteristic sounds of "crackling" coming from the nozzle for proper printing temperature.]

10. PETG

- Printing temperature: **230°C - 240°C** [Brass nozzles E3D; 0.25mm – 0.5mm]
240°C - 245°C [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **60°C - 75°C** [Adhesion agent – Needit]
- Cooling: **Recommended / medium**
- Drying: **60°C - 65°C** [Dry for 8 hours when the quality and durability of prints drops down or appears lot of strings, during idle move.]

11. PLA

- Printing temperature **195°C - 210°C** [Brass nozzles E3D; 0.25mm – 0.5mm]
215°C - 230°C [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **50°C - 60°C** [adhesion agent – Needit]
- Cooling: **Recommended**

12. PMMA

- Printing temperature: **240°C - 250°C** [Brass nozzles E3D, 0.25mm – 0.5mm]
250°C - 260°C [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **95°C - 110°C** [Adhesion agent – Needit]
- Chamber temperature: **30 - 40°C**
- Cooling: **Not recommended**

13. POM

- Printing temperature: **265°C - 270°C** [Hardened Steel nozzles E3D; 0.25mm –
0.5mm] **270°C - 280°C** [Hardened Steel nozzles E3D; 0.6mm –
0.8mm]
- Bed temperature: **70°C - 110°C** [Adhesion agent – Needit]
- Chamber temperature: **40 - 60°C**
- Cooling: **Not recommended**

14. PP

- Printing temperature: **250°C - 260°C** [Hardened Steel nozzles E3D; 0.25mm – 0.5mm] **260°C - 270°C** [Hardened Steel nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **70°C - 110°C** [Adhesion agents – Needit, adhesion surfaces for PP use]
- Chamber temperature: **40 - 60°C**
- Cooling: **Not recommended**

15. PVA

- Printing temperature: **195°C - 205°C** [Brass nozzles E3D; 0.25mm – 0.5mm] **205°C - 210°C** [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **50°C - 60°C** [Adhesion agent – Needit]
- Cooling: **Depending on base material**

16. TPU

- Printing temperature: **210°C - 230°C** [Brass nozzles E3D; 0.25mm – 0.5mm] **230°C - 245°C** [Brass nozzles E3D; 0.6mm – 0.8mm]
- Bed temperature: **60°C - 80°C** [Adhesion agent – Needit]
- Cooling: **Not recommended / very low**