

Successful Printing with Bambu on PEX

Bambu Settings are generic and they do not know which filament you are using unless it is Bambu's or one of the brands they support. More importantly they do not know the build plate composition unless it's their own. Therefore, it is important to create new profiles for your build plate and your filament for best results and to prevent damage.

The best rule of thumb is to set your slicer profile **Nozzle Temperatures** to those printed on the side of your filament spool.

Set the **Recommended Nozzle Temperature** lines **Min and Max** exactly as those on the spool.

For your **Nozzle First layer** set this toward the lower end of the print range, and for **Other layers** you may set toward the upper range for higher speed printing.

If you are using a hardened steel nozzle you may go up 5-10°C higher than the recommended settings to compensate for reduced thermal conductivity.

You do not want to exceed recommended temperatures listed by filament manufacturers as this may cause the structure of the polymer chains to be compromised, carbonize, create weaker parts or print issues, and worse, may damage the PEX.

Every manufacturer has their own composition and secret formula for filaments. Many put in additives to enhance different properties, like clarity, water absorption, flexibility, aesthetic enhancements. Some add other copolymers (like PET which likes to bond to PEX) to reduce brittleness. Few or none disclose or share this information with us nor the public. Some of these additives can cause excessive bonding, some manufacturers even have different formulas that vary between colors.

Adjusting temperatures and doing small test prints in a corner can help you to dial in best settings and avoid damage before doing a large print.

When in doubt, or if you find bonding, use glue stick as a barrier layer.

Use actual PVA glue stick such as Elmers purple stick. It will wash away after easily from build plate and the part with warm water. Bambu's included glue stick is an adhesion promoter, but it is too thin to act as a barrier.

* Please note that some filaments such as PETG and sometimes even ASA like to bond to PEX due to the molecular similarity of the polymers. Our guide below will help minimize issues. When in doubt, or if you find bonding, use glue stick as a barrier layer.

Quick Summary:

- ° In slicer lower your hot end settings to those indicated on the filament spool.
- ° Print a test cube in a corner for each filament roll (especially PETG and ASA) before printing full prints.
- ° If a certain filament is adhering you can adjust temperature settings or use glue stick as a barrier layer, this can wash off with soap and water after.
- ° Allow your flexi plate and your part to fully cool before removing.
- ° Always flex to remove, never pry or force off.
- ° Feel free to write to us at technical@whambamsystems.com for more advice or if you damaged your PEX so we can help you.

Wham Bam build surfaces are considered consumables (like tires on a car) as there is no way to foresee how each user will print with it, nor for Wham Bam to know each manufacturer's filament composition, but with some care you should be able to print successfully for years.

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Scuff your PEX

We highly recommend using 000 steel wool, our CAP or Scotch-Brite 7447 pads to keep the PEX clean and uncontaminated, improve adhesion, make release more predictable, and to keep a consistent surface for the life of the build plate. Scuffing will help that sticky filaments like PETG so they don't bond as easily while promoting adhesion on others that may want to curl like PLA.

Your surface will not be glossy but if done right it will have a very smooth satin finish!

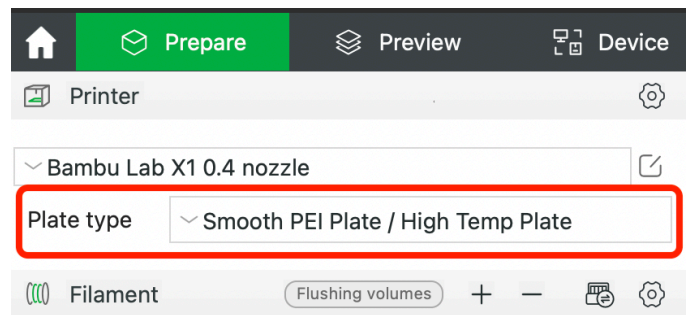
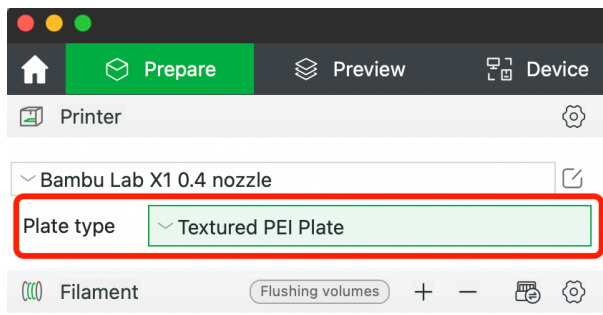
More on that at bottom of document.

Follow the below advice for adjusting your settings in the slicer.

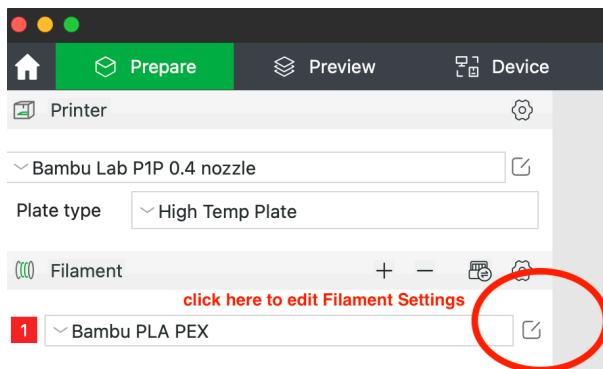
Make sure you are selecting the proper Plate type in the first layer of the slicer as in photo below.

Smooth PEI Plate / High Temp Plate for **Wham Bam PEX build surfaces**

Textured PEI Plate for **Wham Bam Powder Painted ULTEM build plates**



To adjust and make a new profile for a specific filament and our build surfaces:



click on the symbol after the Type of Filament Selected.

you can start with a generic profile then adjust from there, when you save you will be given the chance to rename during saving. Create a name that indicates for PEX

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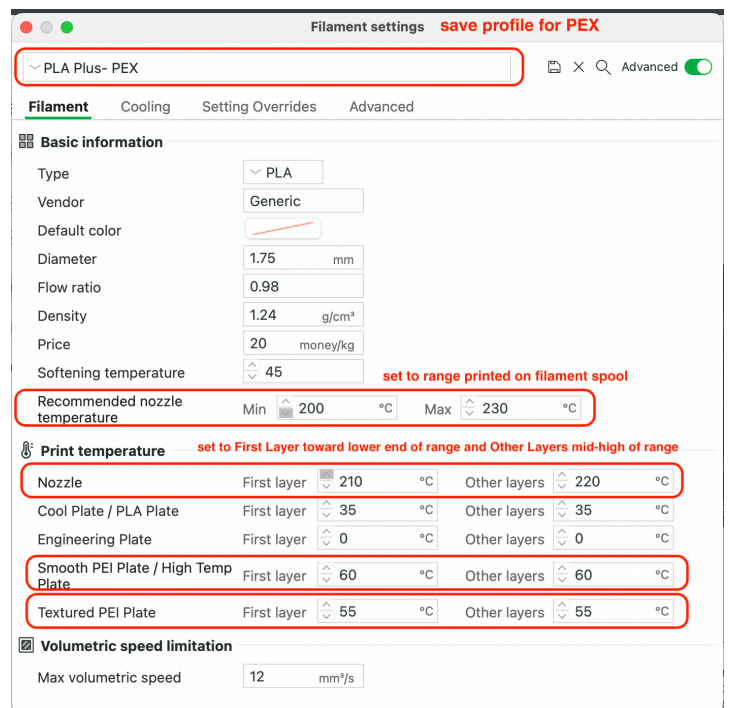
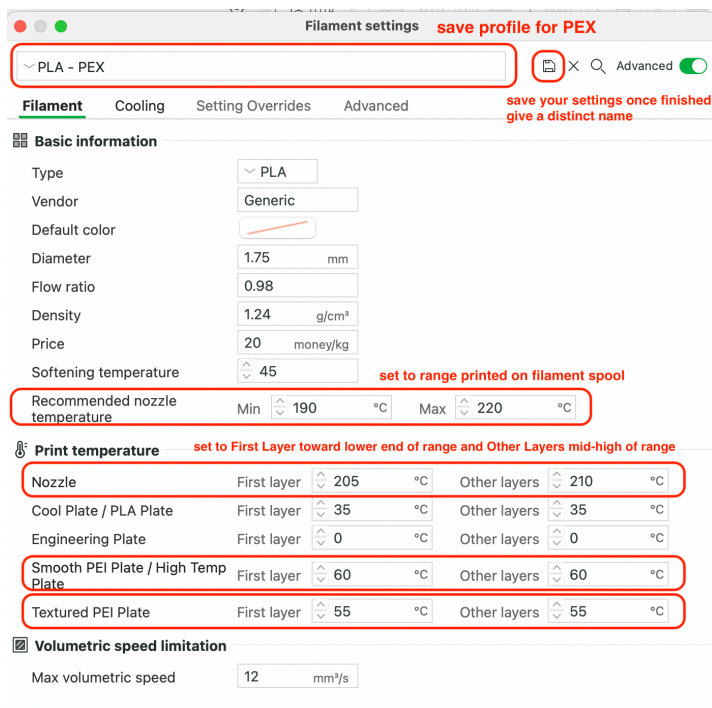
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For PLA, PLA Plus, TPU, and other Filaments which do not bond easily.

1. Adjust the **Recommended nozzle temperature Min and Max** to those written on the side of the filament spool.
2. Adjust the **Nozzle First Layer** to the lower end of the range on the spool to prevent damage during first layer, and set the **Other layers** toward middle or higher end of the range.
3. Set the Plate temps; **Smooth PEI Plate / High Temp Plate** for PEX, and **Textured PEI Plate** for Wham Bam Powder Painted ULTEM PEI Plate so both First layer and Other Layers are the same.
4. Save by selecting the floppy disc icon and give it a distinct name for PEX.
5. Print a test cube in a corner for each filament roll (especially PETG and ASA) before printing full prints.
6. If a certain filament is adhering you can adjust temperature settings or use glue stick as a barrier layer, this can wash off with soap and water after.

See images below for areas to adjust:



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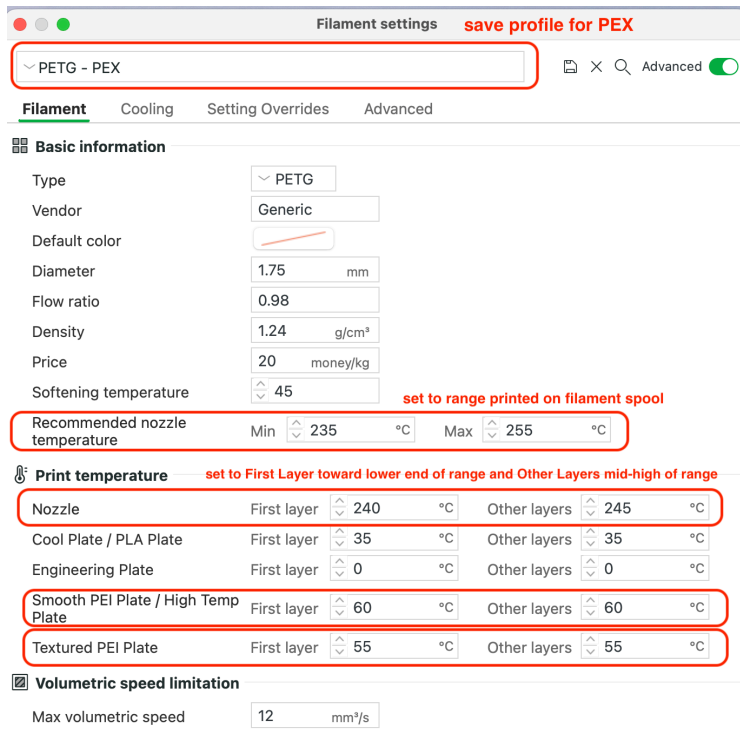
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For PETG, ASA and Filaments Which May Bond:

PETG and ASA like to bond to PEX and PEI due to their molecular similarity, special care in setting your temperatures and doing test prints must be taken to ensure success and minimize or avoid damage.

1. Adjust the **Recommended nozzle temperature Min and Max** to those written on the side of the filament spool (in most cases 235 -255, but some are significantly lower).
2. Adjust the **Nozzle First Layer** to the lower end of the range on the spool (typically 235) to prevent damage during first layer, and set the **Other layers** toward middle or higher end of the range (typically 245).
3. Set the Plate temps; **Smooth PEI Plate / High Temp Plate** (50-60) for PEX, and **Textured PEI Plate** (45-55) for Wham Bam Powder Painted ULTEM PEI Plate so both First layer and Other Layers are the same.
4. Save by selecting the floppy disc icon and give it a distinct name for PEX.

See image below for areas to adjust:



For more info and most up to date instructions and information please go to our support page:
<https://www.whambamsystems.com/pages/fbs-kits-support-page>

Or feel free to write to us with any questions or issues at:
technical@whambamsystems.com



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Prepare Your PEX Before Use and Between Prints

We highly recommend using 000 steel wool, Wham Bam Composite Abrasive Pads, or Scotch-Brite 7447 pads to keep the PEX clean and uncontaminated, improve adhesion, make release more predictable, and to keep a consistent surface for the life of the build plate. Scuffing will help that sticky filaments like PETG so they don't bond as easily while promoting adhesion on others that may want to curl like PLA.

Your surface will not be glossy but if done right it will have a very smooth satin finish!

Many filament companies add many undeclared additives to the filament to improve strength, flex, and aesthetics. The silky filaments, for example, use fats and oils to get the effects, the manufacturers do not publish their additives and many times these can contaminate the build surface.

The best solution prior to failure is prevention, by using steel wool and alcohol between each print, to try to remove the contaminant before it builds up.

When you first get a new PEX sheet:

https://youtu.be/_lIO_QcPJRc

From 27:00

Make sure to rough up the PEX surface with 000 steel wool or red Scotch-Brite 7447 pads (do not use products for the kitchen like steel wool or Scotch-Brite with detergent in them, choose hardware store versions in the sanding section).

On the first preparation you will need to scuff in circles for 4-5 minutes until you have an even satin finish without seeing individual scratches. Clean repetitively with isopropyl alcohol >90% and fresh paper towel. Do not use other rags or towels as these may propagate your contaminants back to the PEX.

Between Prints:

Always prepare the PEX for next print by using either 000 steel wool, CAP, or a red Scotch-Brite pad for about 10 seconds, then clean with 90% or higher IPA and fresh paper towels a few times. This will keep oils and contaminants from building up.

See this for maintenance between prints:

<https://www.youtube.com/watch?v=GSJNOK6mgOo>

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