

Introduction to the Build Plates

Important Notice:

1. The **256×256 mm Textured PEI Plate, Smooth PEI Plate, and Cool Plate SuperTack** are available in two generations.

- ▶ **First-generation plates** are compatible with **A1** and **X1/P1** series printers.
- ▶ **Second-generation plates** are compatible with the **P2S** printer.

The main difference lies in the updated QR code identification.

⚠️ **First-generation build plates** do **not** support the build plate recognition feature of second-generation printers (P2S and newer).

2. **P2S printers** can physically use first-generation build plates, but the plate type will not be automatically recognized.

- ▶ If the printer displays a “Build plate not recognized” message, select “Resolved” on the screen or disable the Build Plate Detection feature.

3. **X1 series printers** can also use second-generation build plates, but they will not be automatically identified.

- ▶ If the printer shows an unrecognized plate warning, choose “Resolved” or disable Build Plate Detection in the settings.

4. **A1 and P1 series printers** are fully compatible with second-generation build plates.

Textured PEI Plate

The Bambu Textured PEI Plate is manufactured by spraying PEI powder onto both sides of a stainless steel plate. The most prominent feature of the Bambu Textured PEI Plate is that its surface has a special rough texture, which can impart the same texture to the bottom surface of the printed part. Moreover, in most cases, it can deliver excellent adhesion without the need for adhesives, so the standard build plate of printers is all the Bambu Textured PEI Plate. In addition, the PEI coating on the Bambu Textured PEI Plate is extremely durable and has a long service life.

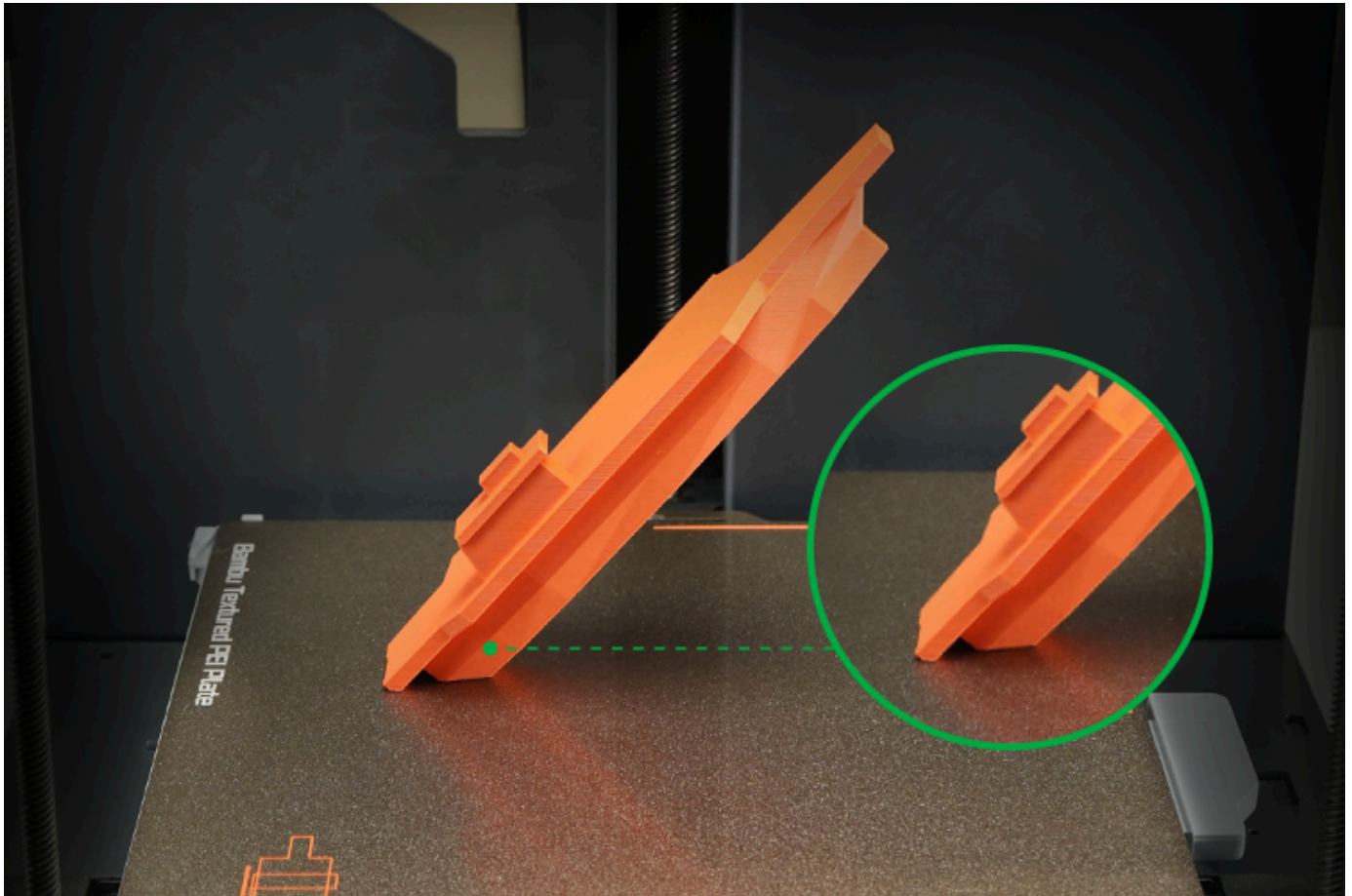


Features

Excellent First-layer Adhesion and Improved Durability

After optimizing the manufacturing process of the Bambu Texture PEI Plate, the durability of the plate is enhanced. Additionally, the adhesion between the prints and the plate is significantly improved, eliminating the need for adhesives.

When printing PC/PA/ABS/ASA materials on a Textured PEI Plate, it may be necessary to apply a layer of glue stick.



Self-release when Cooled Down

PEI is an excellent material for 3D printing applications due to its ability to withstand the repeated heating and cooling cycles of a printer heatbed. Prints come off easily when the temperature of the heatbed reaches room temperature, and we always recommend waiting until it reaches 35°C or lower. If the print is still adheres to the plate, simply bend the steel plate and the model will fall right into your hands.

Further Reading:

- [Bambu Lab Textured PEI Plate Cleaning Guide](#)

Smooth PEI Plate

The Smooth PEI Plate is obtained by adhering a carefully selected PEI sheet to a spring steel using a highly heat-resistant 3M adhesive. The Smooth PEI Plate provides a flat surface for printed objects and is suitable for scenarios that require a level bottom surface.

The PEI sheet on the surface of the Smooth PEI Plate allows for printing with various filaments.

Only PLA filament does not require glue, while printing with other filaments requires the use of gluing to prevent the PEI sheet from tearing.

The thicker 0.5 mm spring steel helps reduce the risk of warping in the printing plate.



Features

Smooth and Matte Surface Finish

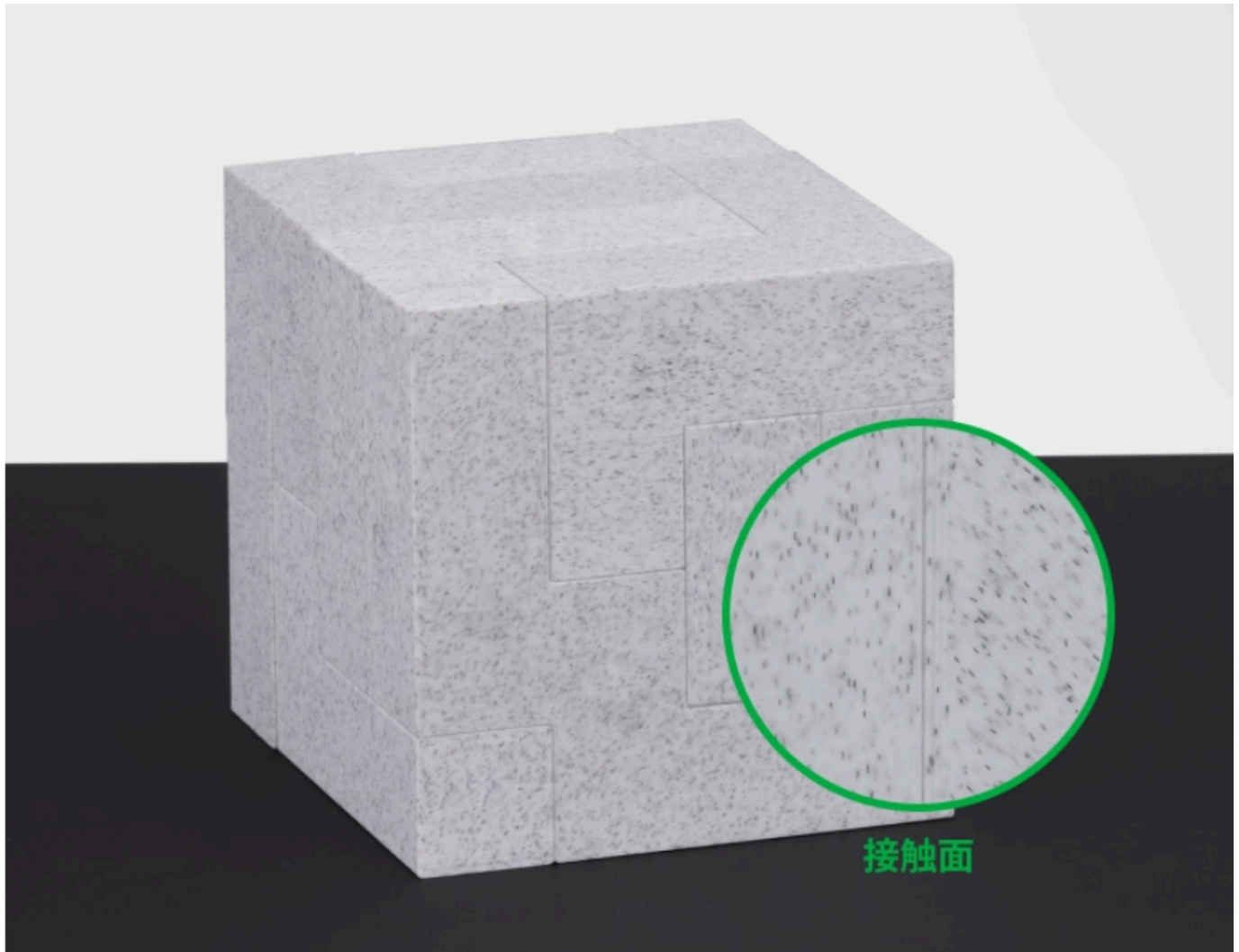
The use of a specially selected matte PEI sheet can impart a smooth and matte texture to the bottom surface of the printed object, enhancing its overall appearance.



High Z-axis Precision Printing

The use of a Smooth PEI Plate contributes to improved Z-axis precision during the printing process, ensuring greater accuracy and consistency in the vertical dimension. These qualities make the Smooth PEI Plate an excellent choice for printing parts that demand a high level of fit accuracy, where precise alignment and tight

tolerances are crucial.



Compatible with Various Filaments

PEI enables printing not only with common materials such as PLA, TPU, PETG, but also with materials that require high temperatures like ABS and Nylon.

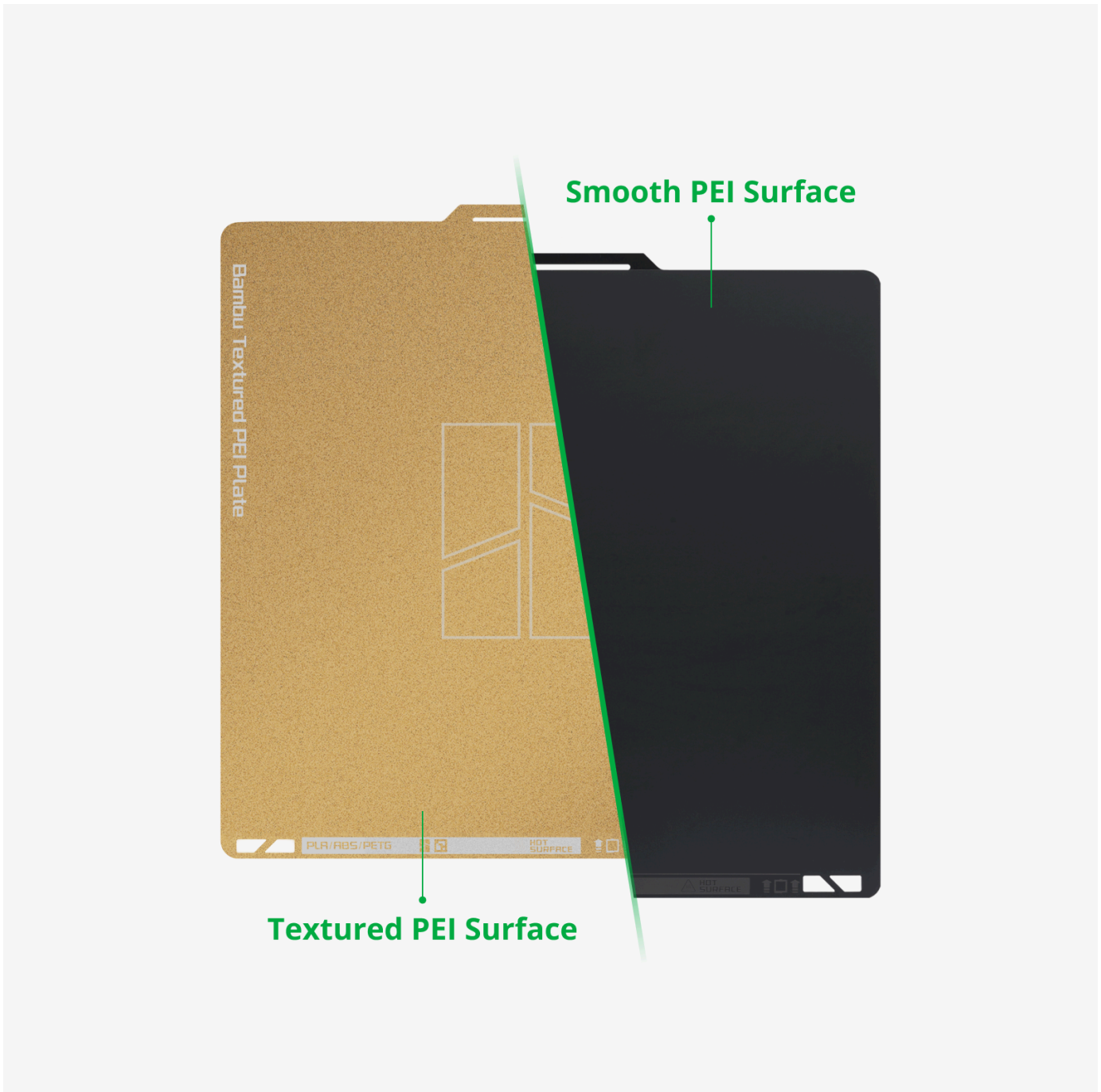
Note: Please apply glue to prevent the sheet from tearing if printing with filaments other than PLA.

Further Reading:

- [The Bambu Lab High Temperature/Smooth PEI Plate troubleshooting guides](#)

Dual-Texture PEI Plate

The stainless steel plate is equipped with dual-sided coatings, one side featuring textured PEI and the other side featuring smooth PEI. Users can choose between different surface textures, allowing the model's bottom surface to have either a **matte or smooth finish**, providing more printing options.



Engineering Plate

The Engineering Plate is manufactured using a corrosion-resistant reinforced coating process, specifically optimized for printing engineering materials such as ABS, ASA, PC, and PA. Compared with traditional build plates that tend to suffer from coating degradation over time, the new flat build plate significantly enhances surface corrosion resistance and durability. Its fine and uniform surface texture ensures stable adhesion while providing printed parts with a smoother, nearly glossy bottom finish.

Note:

1. Before printing with any filament, apply glue on the Engineering Plate. Depending on the specific material and conditions, choose either a glue stick or liquid adhesive. It is recommended to refer to the official [Bambu Lab Glue Application Guide](#) for proper usage.
2. Exercise caution when using a scraper to remove prints from the build plate. If the printed model

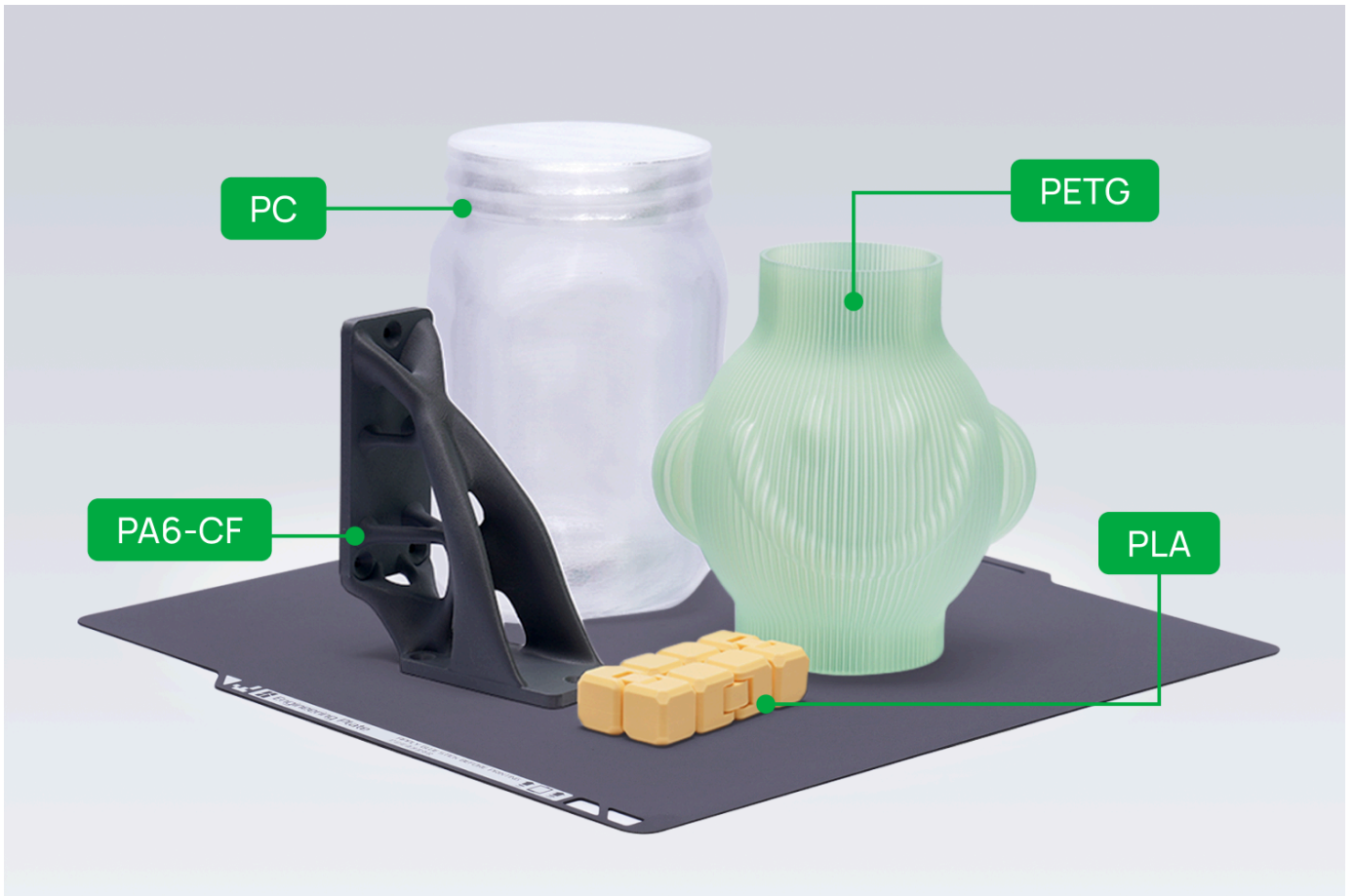
adheres too tightly to the plate, apply alcohol to the contact area between the model and the build plate to ease removal. Avoid using excessive force to prevent injury or damage to the model or the build plate.



Features

Compatible with All Filaments

The Engineering Plate is compatible with the full range of Bambu Lab filaments. Simply apply a thin layer of glue before printing. When you are unsure which build plate to use, this plate serves as the perfect all-around solution.



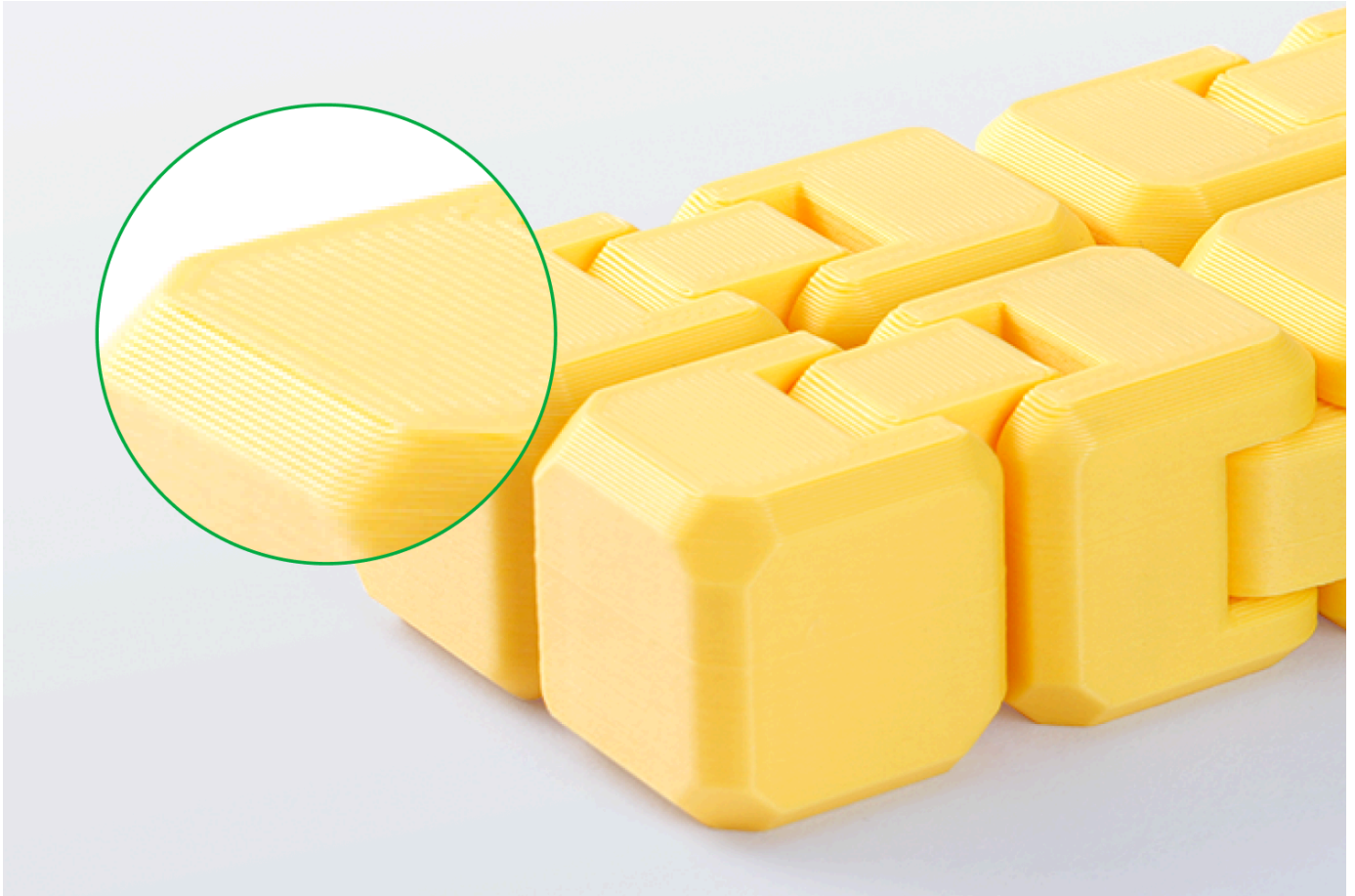
Durable and Smooth Coating

The new surface coating significantly enhances the Engineering Plate's resistance to high temperatures, scratches, and corrosion. Its smooth finish withstands prolonged high-temperature printing and hundreds of cleaning and part removal cycles, ensuring consistently stable adhesion throughout extended use.



Smooth and Natural Surface Finish

The smooth base coating of the Engineering Plate provides printed models with a flat and refined bottom surface, allowing the bottom layer to blend seamlessly with the rest of the model.



FAQs

1. Model Detachment During Printing

Solution: Apply a uniform layer of liquid glue before printing to enhance adhesion. For detailed instructions on glue application, please refer to the official [Bambu Lab Glue Application Guide](#).

2. White Marks on the Model Bottom After Printing

Solution: Whitening on the model bottom is usually caused by the solidification of glue or glue stick residue during heating. Wipe the bottom of the printed model with a cleaning agent or alcohol to remove any residue and eliminate whitening marks.

3. Residual Print Marks on the Plate Surface

Solution: After prolonged use with certain materials, color variations or faint print marks may appear on the surface of the plate. This is normal and does not affect performance. Most marks can be removed by:

- ▶ Cleaning with detergent and water
- ▶ Wiping with alcohol

4. Build Plate Recognition Failure

Solution:

- ▶ Make sure the QR code on the build plate is clean and undamaged.
- ▶ Update the printer firmware to the latest version.
(If the issue persists, you may disable the Build Plate Recognition feature in settings and continue using the plate.)

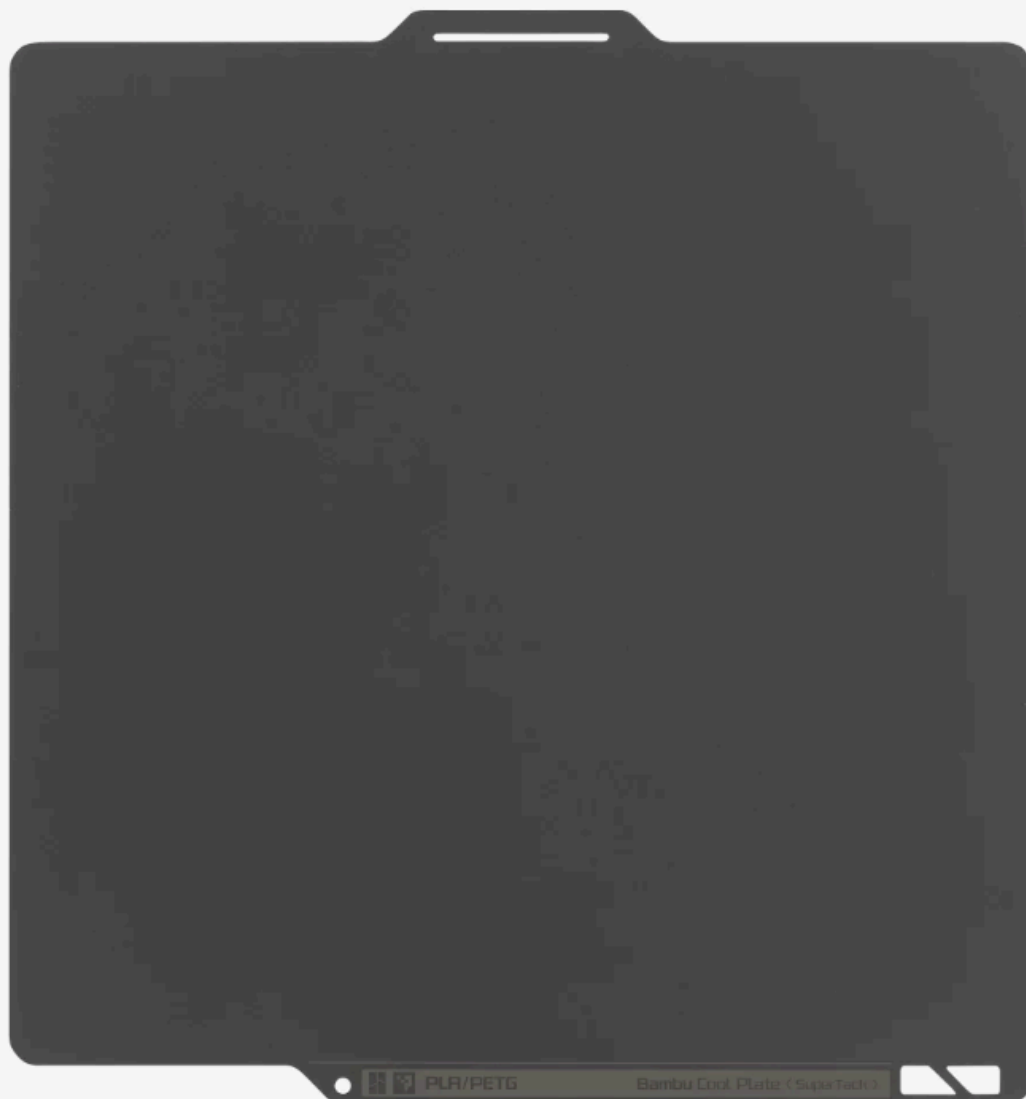
Cool Plate SuperTack

The Cool Plate SuperTack features a finely textured surface that approaches a smooth, glossy finish. It is a beginner-friendly build plate, especially suitable for **glue-free printing with PLA and PETG filaments**. The surface is resistant to dirt, provides strong adhesion, and minimizes print detachment.

Even at a low bed temperature of just **40 °C**, PLA prints adhere firmly to the plate, for the 2nd-generation Cool Plate SuperTack, PETG only requires a bed temperature of **55–60 °C**. Please note that some printer models currently still use shared parameters for both the 1st- and 2nd-generation plates. As a result, when printing PETG on these machines (such as the X/P series), the recommended bed temperature **may still be around 65 °C**. This helps effectively reduce warping and surface defects such as “elephant foot,” particularly for large models where it significantly lowers the risk of warping.

In addition, the coating greatly reduces the energy required for bed heating, lowers the risk of nozzle clogging when printing PLA and PETG, decreases electricity consumption, and is more environmentally friendly.

Note: This plate is designed **only for printing PLA and PETG**. Using any other materials may damage the surface coating.



Features

Energy Saving

The SuperTack coating requires only an extremely low heatbed temperature to ensure that printed objects adhere securely. This means you can save a significant amount of energy during heating, leading to lower power bills and, more importantly, helping to protect our planet.



Say Goodbye to Print Failures

SuperTack coating provides ultra-strong adhesion to PLA and PETG filaments, even at lower heatbed temperatures. It enhances printing success by eliminating adhesion issues, reduces warping when printing

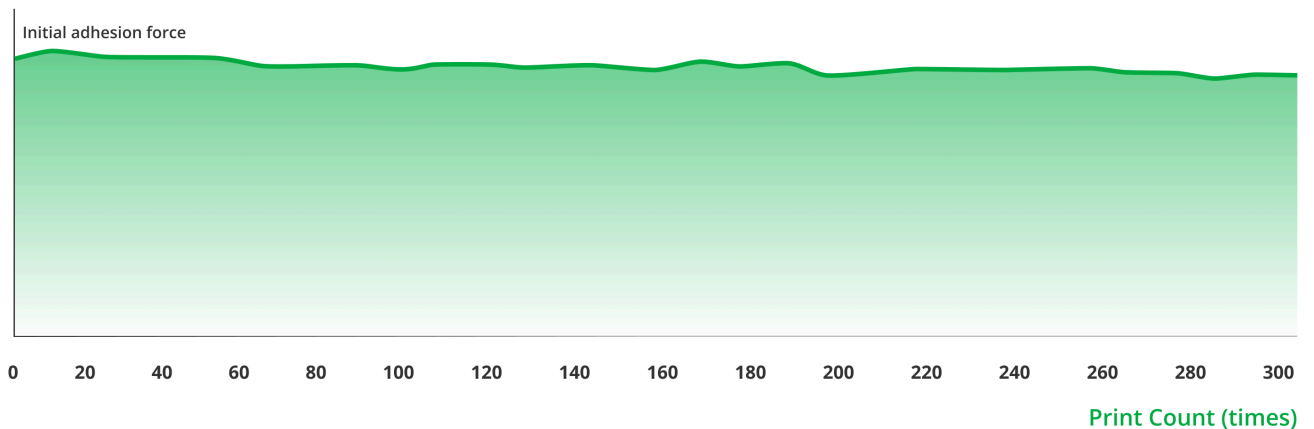
large objects and works well with bad shape surface.



Long Lasting Performance

The SuperTack coating is durable, retaining its sticky properties even after extensive use. This results in a longer lifespan for the printing plate, reducing printing costs (less than 20% adhesion loss after 300 prints) and lowering carbon emissions.

Build Plate Adhesion



- ▶ The test data was produced using PLA Basic filament and completed on the A1 3D Printer.

Further Reading:

- ▶ [Bambu Cool Plate SuperTack](#)
- ▶ [How to print Support for PLA/PETG with Bambu Cool Plate SuperTack](#)

FAQs

1. Printed Model Adheres Too Firmly and Is Difficult to Remove

Solutions:

- ▶ Place the build plate back on the heated bed and warm it to around **50 °C**, then try removing the model again.
- ▶ Alternatively, apply **alcohol** to the underside of the plate where it contacts the model, and gently lift the model using a scraper.
- ▶ For future prints, slightly lower the bed temperature according to the filament's characteristics to reduce adhesion.

Common scenarios where removal can be difficult:

- ▶ Prints with extensive tree supports and brims.
- ▶ Large, flat, low-layer models such as art panels or lithophanes.

For these cases, the Cool Plate SuperTack helps improve first-layer quality and success rate even at lower temperatures. However, due to structural characteristics, such models are generally not suitable for removal by flexing the plate. It's recommended to use the scraper-assisted methods above to reduce removal difficulty.

2. Scratches on the Plate Surface from the Scraper

Explanation & Recommendation:

To achieve stable, glue-free adhesion at low temperatures, the Cool Plate SuperTack uses a coating slightly softer than that of the Textured PEI Plate, making it more susceptible to scratches.

Minor scratches from normal use will not significantly affect adhesion performance.

Best practice:

Before using a scraper, moisten the contact area between the model and the plate with **alcohol**. This greatly reduces removal difficulty and minimizes the risk of surface damage.

3. Residual Marks on the Plate Surface

Solutions:

- ▶ Most residue or marks can be removed with alcohol wipes or detergent and water.
- ▶ A few persistent stains or first-layer marks are normal and do not affect long-term use or performance.

4. Build Plate Recognition Failure

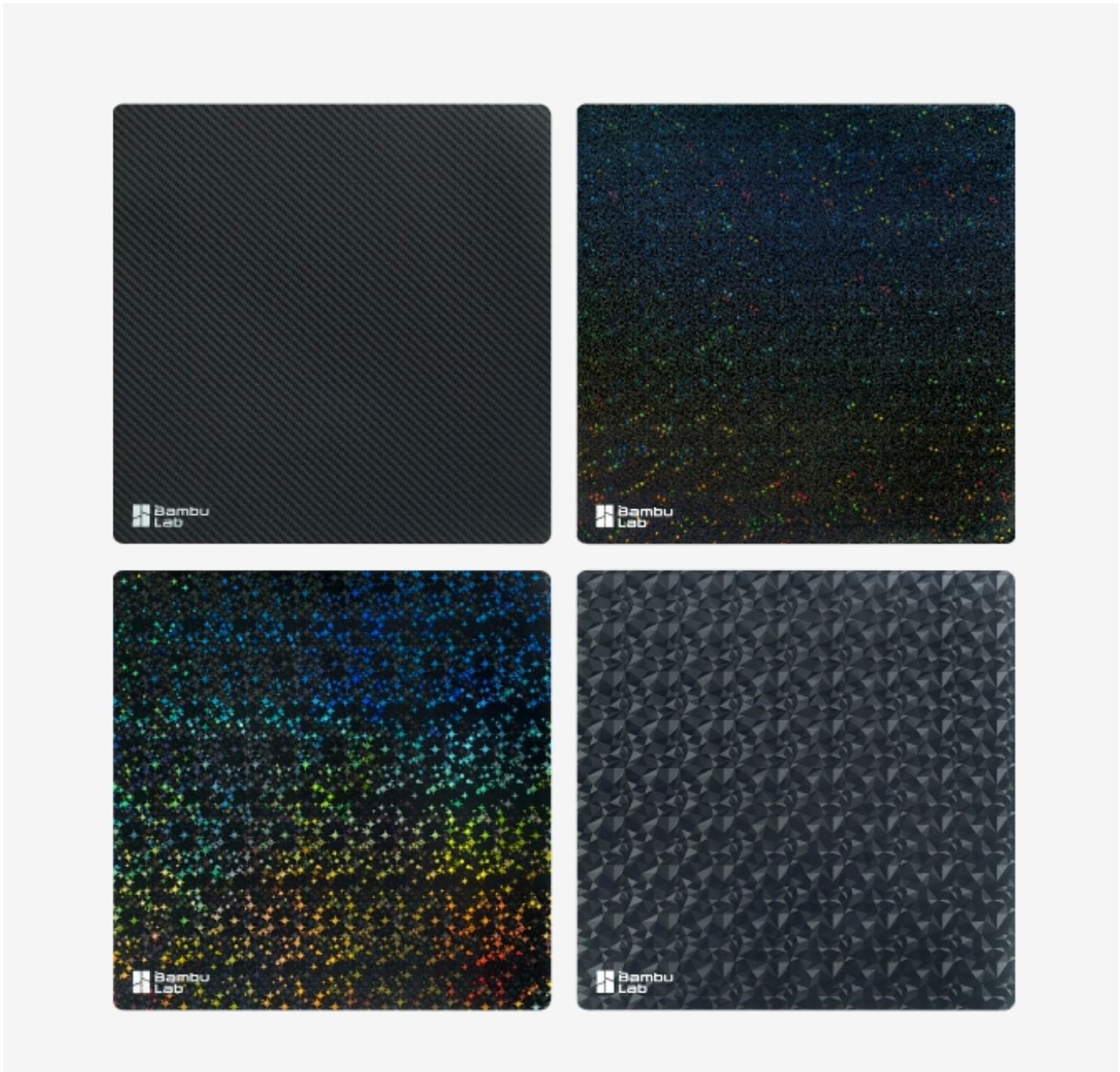
Solutions:

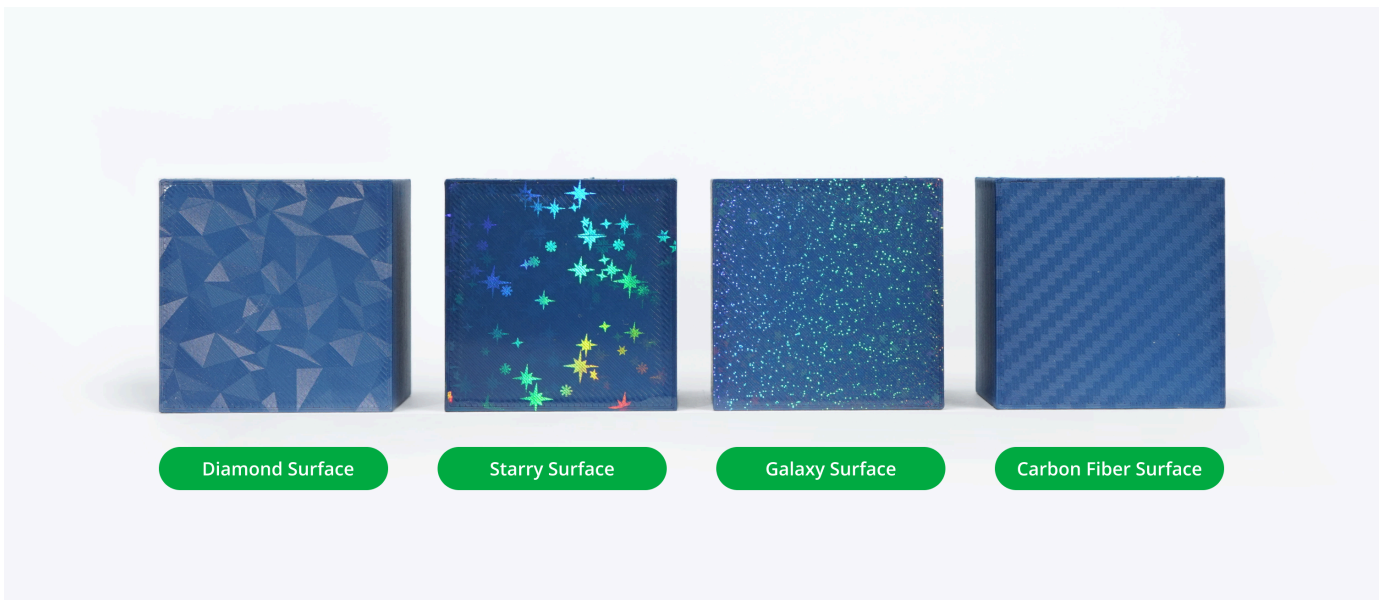
- ▶ Ensure the **QR code** on the build plate is clean, undamaged, and unobstructed.
- ▶ Update the **printer firmware** to the latest version.
If the issue persists, you can **disable the Build Plate Recognition** feature in the printer settings and continue printing normally.

3D Effect Sheet

Using laser technology, fine optical textures are formed on the surface of the film, imparting optical properties such as increased transmittance, reflection, and polarization. During the printing process, the high-temperature polymer flows into these textures, transferring them to the bottom surface of the printed model. Depending on the angle of the light, the model's bottom surface displays different color effects. Currently, four patterns are available for selection: diamond, starry, galaxy, and carbon fiber.

Note: Due to the reflective effect of the transfer film, the X1 series laser lidar calibration will not function properly when using it.





Features

Considerations

- ▶ We recommend using PLA and TPU filament for printing.
- ▶ For best results, we recommend applying the 3D effect spare sheet only on the official steel plate from Bambu Lab.
- ▶ Please set the plate type to Smooth PEI/High Temp Plate and carefully follow the Heatbed Recommended Settings when using the Bambu 3D Effect Plate.
- ▶ Due to reflections, the LIDAR calibration will not work as expected when using Effect Sheets. We recommend skipping the LIDAR calibration sequence, or calibrating with a regular plate.
- ▶ The 3D Effect Spare Sheets are considered consumables. To prolong the lifespan of the transfer textures, try placing your print objects on different areas of the sheet.

Further Reading:

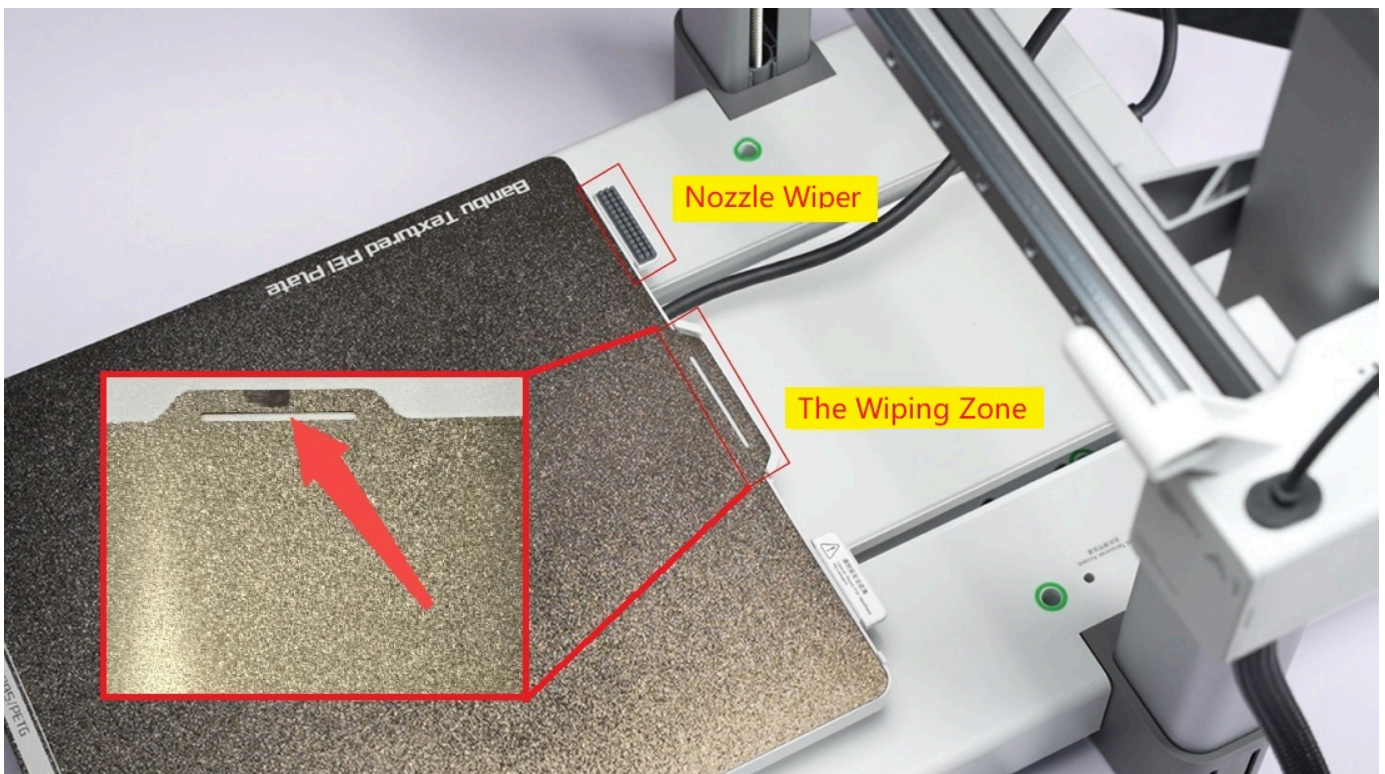
- ▶ [How to Replace the Bambu Lab Plate Sheet](#)
- ▶ [How to replace the Bambu 3D Effect Sheets](#)

Appendix

Wipe zone on the build plate

Before printing, there may be some filament residue remaining on the nozzle, and if not cleaned, it can cause surface defects on the printed object. Therefore, the nozzle is first wiped on a nozzle wiper before printing starts and then repeatedly wiped in a specific area on the build plate (wipe zone). This helps to clean the filament residue on the nozzle and stabilize the chamber pressure inside the nozzle. This prevents surface defects on the printed object due to filament residue on the nozzle.

For the X1C, P1S/P1P, and A1 printers, as the nozzle comes into direct contact with the build plate, there may be some "wear" observed in the wiping zone (as shown in the image below). However, this phenomenon does not affect the functionality of the nozzle or the build plate.



For the A1 mini printer, there is a wipe zone on the heatbed to clean the nozzle. Therefore, the phenomenon of "wear" on the build plate will not happen.



Correct gluing

For the correct gluing procedure, please check [How to Use Bambu Lab Glue](#). Ensure that the print adheres properly to the plate without causing damage to the surface by sticking too tightly. Otherwise, the sheet may bubble or crack. Also, third-party glues are strongly discouraged and may damage the plate.

Alternatively, we provide textured PEI Plates that allow you to print without the need for a glue stick.

More information

If you want to learn more about the compatibility and parameter settings for different filaments, plates, and glues, please check out: [Filament Guide](#).

End Notes

We hope the detailed guide provided has been helpful and informative.

If this guide does not solve your problem, *please submit a [technical ticket](#)* [↗](#), we will answer your questions and provide assistance.

If you have any suggestions or feedback on this Wiki, please leave a message in the comment area.

Thank you for your support and attention!