

Post Print Processes for ATARU™ /ATARU™ Black 3D Printed Parts

Objective:

This cleaning procedure ensures that 3D printed parts are clean, residue-free, and properly prepared for subsequent post-processing steps (UV-Cure and thermal annealing).

Post process steps ensure the curing is complete and provide the targeted thermo-mechanical properties & surface quality.

Best Practices:

- Operating under yellow light is preferred to maintain optimal surface quality.
- Use appropriate PPE gloves for personal safety and avoid contaminating the parts.
- Ensure all cleaning materials are clean and uncontaminated.
- Use well-ventilated areas for resin handling and drying.
- Dispose the cleaning liquids according to local safety and environmental regulations.

Refer to safety recommendations noticed in the MSDSs of Ataru™ Resin Cleaner and to ATARU/ ATARU Black.

Equipment & Materials

- Ataru™ resin cleaner
- Scraper
- Lint free cloth/paper
- Tap water
- Pressurized air
- Any type of curing box (365-405nm)
- Oven with a programmable oven up to 200°C



It is not recommended to use alternative solvents, cleaner solutions, or ultrasonic baths. As their use may damage the surface quality and reduce the mechanical properties.



Cleaning - Step-By-Step Instructions:

1. Remove Printed Parts from Build Tray

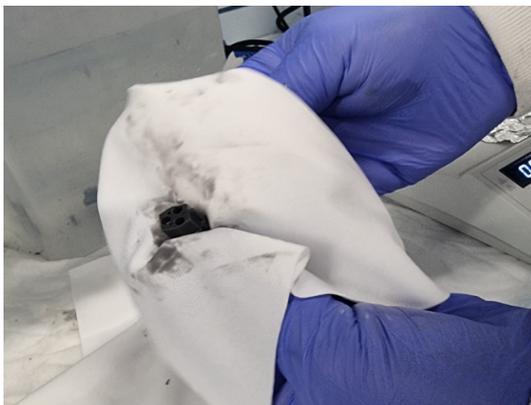
Carefully detach the printed parts from the build tray to avoid damage. Use appropriate tools (e.g., spatula or scraper) as needed.

2. Remove Excess Resin

Use a scraper or similar tool or a lint free cloth/paper to gently remove as much residual resin as possible from the surface of the printed parts. Avoid damaging fine details.



Build tray with models & resin residuals



Removal of the maximum amount of resin from the part surface using a lint free cloth

3. Resin Cleaner Bath Treatment

- Submerge the parts in the **Ataru resin cleaner** bath for 7–10 minutes at room temperature.
- Agitating the bath using a magnetic stirrer or other automatic stirring method (e.g., a washing station) is recommended to improve cleaning performance.
- Heating the resin cleaner can enhance the cleaning process. Limit the temperature to a maximum of 45°C. When heated, reduce the soaking time to a maximum of 5 minutes.

 Do not use ultra sonification at any point.

4. Water Rinse

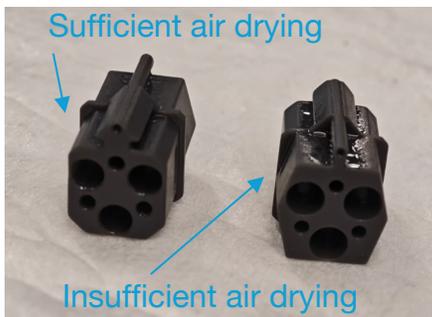
Rinse the cleaned parts thoroughly with water to remove any remaining cleaner or resin residues.

5. Blow Dry with Pressurized Air

Use compressed air to blow dry the parts. Ensure all moisture is removed from intricate areas. Do not hesitate to insist at this stage to reduce the glossiness significantly.



Compressed air allows the part to dry



Improvement of the residue's removal using stronger and longer air flow on the left

 Glossy areas may appear on surfaces at this stage; these should disappear during the post-curing process. It is normal at this stage because the curing is still incomplete.

6. Repeat if Necessary

If parts are still visibly dirty or stained, repeat steps 3–5 until a satisfactory level of cleanliness is achieved.

7. Final Drying

Allow parts to fully air-dry before proceeding to the next stage of post-processing. Ensure no moisture remains inside or on the parts.



Glossy surfaces may appear at this stage before the last post curing step

Post curing - Step-By-Step Instructions:

! Make sure the parts do not touch each other during this step to avoid sticking.

1. UV Curing

Any type of UV treatment is suitable (low risk of overcuring).

Examples:

- 6x10 sec @50% power (Hoenle UV Cube 100 IC)
- 2x30 min (CureBox Wicked Engineering)

2. Thermal- Post Treatment

- Heat from room temperature to 200°C:
For bulky parts, apply heat at a controlled rate of 2°C/min to promote even material heating before curing begins. For thin parts heat-up ramps can be 1-3°C/min.
- Dwell time at 200°C – 2 hours.
- Cool down to 45°C at a rate of 3°C/min. The parts can be removed from the oven at 45°C.

! Slight color variations may be obtained, depending on the process conditions.



Fully cured final part