



trūsana™

Optimized for
SprintRay

SprintRay Pro 95 3D Printer: Trusana Printing Process

Purpose

To achieve optimum physical and mechanical properties in final restorations when printing with Trusana on the SprintRay Pro 95 3D printer.

Formulation

The instructions outlined in this document are valid for Trusana Premium 3D Printing Resin.

Equipment

- SprintRay Pro 95 3D Printer
- SprintRay Pro Wash (cleaning equipment) filled with isopropyl alcohol [Follow the set-up and installation guide for the Pro Wash for your specific SprintRay model.]
- SprintRay ProCure (post curing equipment)
- Water bath set to 80°C (annealing equipment)
- Plastic bag (to keep samples sealed in water bath)
- Stainless steel spatula (to remove object from printer's build plate)
- Tongs/forceps (to hold/move object)
- Isopropyl alcohol

Safety Precautions

- The improper use of Trusana resin and failure to follow these outlined steps can have detrimental effects on the quality of objects produced.
- Nitrile gloves, safety goggles and a lab coat must be worn as a means of protection when handling the resin and object that has not been post cured. Conventional medical gloves do not offer any lasting protection against the sensitizing effect of components in Trusana. A dust mask must be worn as well due to potential dust formation while printed objects are being processed.
- Take care not to touch object during the process. Use forceps to hold bottom supports.
- It is best to leave the supports in place on the object if possible during the UV curing step.

Pre-Print Material Instructions

- Trusana resin must be stored in a sealed bottle at room temperature (~22°C) in a dark, dry place.
- Before each print, check for air bubbles as they can negatively affect the print result. If the bubbles are visible in the resin bottle, the bottle can be kept for 10–15 mins in the heated oven (100–120°F or 37–48°C) to get rid of bubbles.
- Vigorously shake the resin for five minutes or longer prior to printing. This will ensure shade accuracy and advertised mechanical properties.

Tips

- The slicing software is different for different printers.
- For best performance, print all models on an angle.
- All models should have appropriate amount of support.
- Build plate must be clean, secure, and undamaged.
- Resin tank must be clean and secure. Clean the resin tank with delicate wipers (Kimwipes) to not scratch film.
- If there is excess resin after a print, it should be filtered before adding it to the original bottle.

Settings

Printer Settings

Print layer thickness: 50 microns

Print layer time: 8 seconds

Initial attachment layers: 4

Attachment layer thickness: 20 microns

Attachment layer time: 20 seconds

SprintRay Pro Wash Settings

Cycle Type: Multi-Cycle Wash

Time (Wash 1): 3 mins

Time (Wash 2): 3 mins

Time (Dry): 3 mins

SprintRay ProCure Settings

Cure Profile: Custom

Time: 8 mins

Temperature: 20°C

Post-Print Process Steps

- 1 Upon completion of printing, the printed objects are kept on the print platform as they are removed from the printer.
- 2 Confirm the magnet is on the side of the print platform, per the set up instructions. Next, place the print platform in the SprintRay Pro Wash.
- 3 Use the custom wash settings and begin the multi-cycle wash in the isopropyl alcohol.
- 4 Once the cycle is complete, remove the print platform from the wash unit and use a bottle filled with isopropyl alcohol (as needed) to clean any residual resin or to clean hard to reach places.
- 5 Remove printed objects from the build plate using a stainless steel spatula. Be careful not to break any supports or damage the object. Avoid touching the printed object with hands and fingers as much as possible. Instead use tongs and grip the supports to move the object.
- 6 Place the object in the SprintRay ProCure and use the custom settings profile. The object needs to be placed base down in the center of the unit with the tongs, then press start.
- 7 After curing once, turn the object in the curing unit and repeat the curing again with the same custom profile.
- 8 Remove the object from the curing unit, still using the tongs, and place the object in the clear plastic bag and seal tight.
- 9 Place the plastic bag (containing the cured object) in the preheated water bath at 80°C for 10 minutes. Allow the plastic bag to be completely submerged in the water bath.
- 10 Remove the plastic bag from the water bath and allow it to cool at room temperature before opening. Once cooled, the supports can be gently removed.