

# SprintRay Nano Ceramic Hybrid OnX Resin

## Instructions For Use

### Indications for Use

The SprintRay Nano Ceramic Hybrid OnX resin is a light-curable polymerizable resin intended to be used for the fabrication of dental prostheses, which are used for:

- individual and fixed permanent full single crowns, permanent partial crowns in front and posterior area,
- individual and fixed single veneers,
- artificial teeth for dental prostheses, which are used for removable permanent full dentures,
- individual and removable monolithic full and partial dentures in dental offices and laboratories.

Fabrication of dental applications with SprintRay Nano Ceramic Hybrid OnX Resin requires a 3D design of the custom device designed by a qualified provider. It also requires a 3D Printer and Cure System to produce the devices.

### Device Description

- The material is an alternative to traditional restorative dental material. SprintRay Nano Ceramic Hybrid OnX resin is intended exclusively for professional dental work.
- Nano Ceramic Hybrid OnX resin is offered in the following shades: Bleach, A1, A2, A3, B1, B2, and C2.

### Requirements

#### **CAD File Format:**

Device CAD file; STL format file with the following minimum thickness of equal to or greater than 0.5mm.

**Additive Printer and its Operation Software:**

Provider	Product Name	Model Number	OS
SprintRay	Pro Printer	Pro 55	RayWare
SprintRay	Pro Printer	Pro 95	RayWare
SprintRay	Pro S Printer	Pro 55S	RayWare
SprintRay	Pro S Printer	Pro 95S	RayWare

**Curing Light Equipment:**

Provider	Product Name
SprintRay	ProCure
SprintRay	ProCure 2

## Warning

- The SprintRay Nano Ceramic Hybrid OnX resin is non-toxic in solid form, and it is classified as Biocompatible material. It is also classified as a sensitizer, which means that exposure over time can cause your body to have a mild allergic reaction. May cause skin irritation. May cause an allergic skin reaction. If contact with skin, wash thoroughly with soap and water. If skin sensitization occurs, discontinue use. If dermatitis or other symptoms persist, seek medical assistance.
- Avoid inhalation or ingestion. High vapor concentration can cause headache, irritation of eyes or respiratory system. Direct contact with eyes may cause possible corneal damage. Long-term excessive exposure to the material may cause more serious health effects. Monitor air quality per OSHA standards.
- Eye Contact: Immediately flush eyes with plenty of clean water for at least 20 minutes and consult a physician. Wash the contacted area thoroughly with soap and water.
- Inhalation: In case of exposure to a high concentration of vapor or mist, remove person to fresh air. Give oxygen or artificial respiration as required.
- Ingestion: Contact your regional poison control center immediately.

## Precautions

- When washing the printed provisional restoration with solvent or grinding the provisional restoration, it should be in a properly ventilated environment with proper protective masks and gloves.
- Material Reuse: The remaining resin in the Resin Tank can be reused. You may use a filter to ensure the resin is free from any cured particles to avoid print failures. The remaining material in the tank can be poured back into the resin bottle upon filtration. This process can be repeated until the material in the bottle is fully consumed. Please note that in the case of reuse, the resin must be filtered and poured back into the same bottle.
- Recommended storage conditions for *unprocessed* SprintRay Nano Ceramic Hybrid OnX are at 15 – 25°C (60 - 77°F) and avoid direct sunlight.
- Keep container closed when it is not in use.
- Expired or unused SprintRay Nano Ceramic Hybrid OnX should be completely cured or polymerized prior to disposal.
- Product shall not be used after expiration date.
- For *activation and complete polymerization* of the SprintRay Nano Ceramic Hybrid OnX please follow the steps involved in "Fabrication of Surgical Guide" and "Post-curing".



The use of expired resin will likely result in failed prints and/or not-meeting biocompatible properties, as the compounds required for curing break down and will not activate properly.

## Contraindication

The SprintRay Nano Ceramic Hybrid OnX resin is contraindicated in case of the following:

- If a patient is known to be allergic to any of the ingredients.
- Direct intraoral contact of uncured or partially uncured material.
- For every application that is not part of the indication (see above).

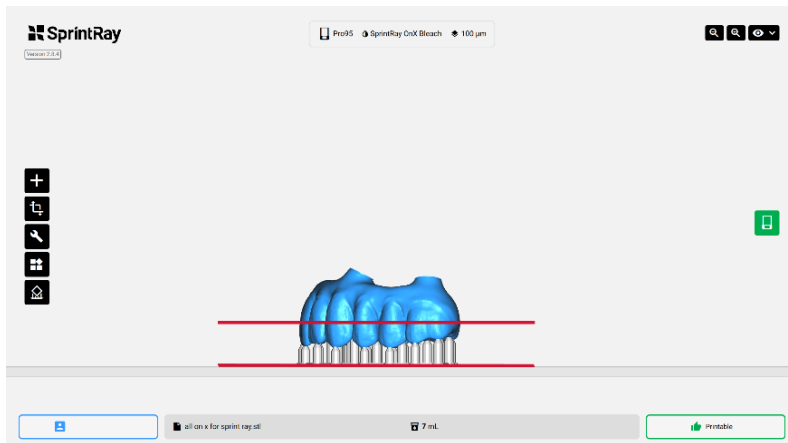
## Fabrication of Provisional Restoration

### 1. Design of the Provisional Restoration

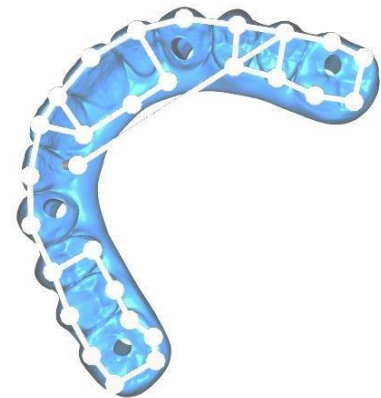
Once the intraoral scans of the patient are submitted to a dental-design service/lab, the Provisional Restoration is designed and provided in STL file format by the dental-design service/lab.

## 2. Printing

- Bring the designed STL files to RayWare. Position the Provisional Restoration design with teeth facing the print platform (teeth facing down) and the occlusal plane parallel to the print platform. (Fig. 1)
- Add supports.
- Remove those supports that fall on the edges or inside the screw holes. (Fig. 2)
- Select “OnX” resin setting for print-setting (make sure to choose the correct shade) and use 100-micron thickness.
- Make sure Resin Tank is fully secured and filled to the recommended Resin Level.
- Ensure the Print Platform is clean, dry, securely placed, and locked on the platform-arm.



(Fig. 1 )



(Fig. 2 )

## 3. Support Removal

After your Provisional Restoration has been printed successfully, you need to remove it from the print platform using the Part-Removal-Tool, followed by removing all the supports using a flush cutter or round diamond disc. Try to cut as close as possible to the Provisional Restoration to minimize the smoothing and polishing procedure.

## 4. Washing and Drying

- Next step is to clean and wash the Provisional Restoration from excess uncured-resin residue. Unlike other resins, this resin should NOT be washed/immersed in Isopropyl Alcohol (IPA); otherwise, the polishing process will be tedious.
- Follow these steps to clean the resin residue before post-curing:
  - Use a shop towel to wipe off and remove excess material.
  - Use a spray bottle with >91% IPA to lightly spray the Provisional Restoration.
  - Immediately blast with compressed air after spraying to dislodge as much resin as possible.
  - Repeat the above cycle 6-7 times.
  - Pay extra attention to screw holes to ensure resin residue is completely removed. You may use a microbrush/applicator to clean the inside of the screw channels.
- Make sure IPA does not stand more than 30 seconds on the printed Provisional Restoration. If any residue remains, you may repeat the cleaning cycle.
- Remember: IPA is highly flammable! Please keep it away from heat sources, sparks, and flames.
- Ensure that your prints are completely dry before the next step; if not, use compressed air to dry your parts rapidly.

## 5. Post Curing

- Once your Provisional Restoration has been fully dried, it needs to be properly post-cured to maximize strength and accuracy and comply with required standards.
- You need to post-cure the Provisional Restoration for 60 minutes at 60°C.
  - All the post-curing settings are preset in ProCure 1 and ProCure 2 units.
- OPTIONAL: Once post-curing is completed, use the ProWash/Dry unit to get a cleaner surface. Use only a single cycle wash and then dry (3 min washing followed by 3 min drying).

## Finishing and Polishing

### 1. Polishing


Remove any excess support-nubs by using a lab carbide bur.

### 2. Characterization

- The printed Provisional Restoration is mono color. Characterization helps to give the Provisional Restoration a better and more natural look by staining and glazing it, which allows to change shades, shift value, characterize, create effects and glaze to achieve a more beautiful and esthetic restoration.
- You may use the Gradia gum composite and OptiGlaze™ kit by GC for a better cosmetic effect. Light cure the OptiGlaze colors and stains on the Provisional Restoration. You may combine multiple colors to make the desired color. Use clear glaze to give the restoration a final glaze.
- Wash and clean the device with a brush using soap and warm water.

## Additional Help & Support

We are here to support you throughout the implementation period of your new technology and throughout the life of your product. Our experienced support technicians are available M-F from 7 am – 5 pm PST at 800-914-8004 (EXT 2).

 <p><b>SprintRay Inc.</b> 2705 Media Center Drive Suite #100A</p>	<p><b>Contact information</b> For product assistance, please review help information at <a href="https://sprinray.com/digital-dentistry">https://sprinray.com/digital-dentistry</a></p> <p>To report product issues, please contact SprintRay at: <a href="https://support.sprinray.com/hc/en-us/requests/new">https://support.sprinray.com/hc/en-us/requests/new</a> Phone: 1-800-914-8004</p>
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