

# Standard Denture Base

## Instructions for Use

### Indications for Use

SprintRay Standard Denture Base resin is a light-curable polymerizable resin intended to be used for the fabrication and repair of full and partial removable dentures and baseplates. The material is an alternative to traditional denture base material.

Fabrication of dental prosthetics with SprintRay Standard Denture Base resin requires computer-aided design and manufacturing system that includes the following components not part of the device: oral casting impression, digital denture base file created in an optical impression system, 3D printer, and curing light equipment.

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### Contraindications

SprintRay Standard Denture Base is contraindicated when:

- a patient is known to be allergic to any of the ingredients
- there is direct intraoral contact with resin that is not fully cured
- it is used for any purpose other than its indications for use

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### Device Description

SprintRay Standard Denture Base is an alternative to traditional materials used to fabricate denture bases. It is intended exclusively for professional dental work. It is available in various shades, such as: Original Pink, Dark Pink, Original Meharry.

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### Printing and Hardware Parameters

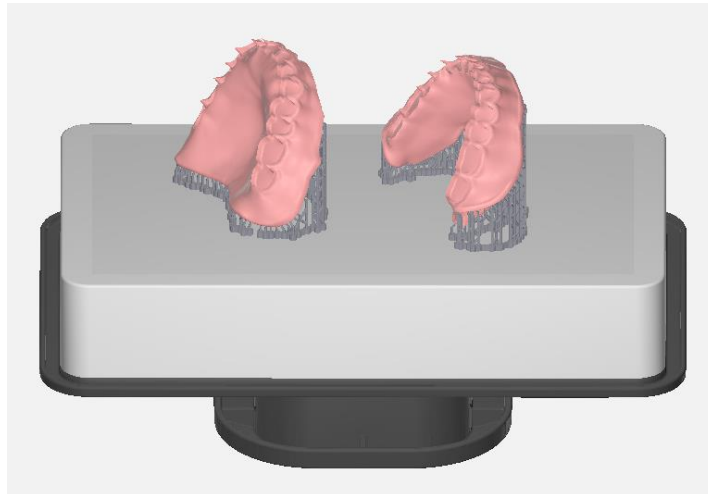
These device specifications have been validated using the following manufacturing products. Any products or processes not specified in this document are outside of the device specifications.

- a. **CAD File:** CAD file of treatment device in STL file format with the following thickness:

Area	Maxillary	Mandibular
Lingual ridge	≥ 2.5 mm	≥ 2.5 mm
Palatal/lingual	≥3 mm	≥ 2 mm

Facial/buccal	≥ 2 mm	≥ 2 mm
Implant Overdenture area	≥ 2.5 mm	≥ 2.5 mm

- b. Printer:** SprintRay Pro or Pro S or Pro 2 3D printer
  - i. Pro or Pro S: 55 or 95 micron XY resolution
  - ii. Pro 2: 35 micron XY resolution
- c. Software:** RayWare Desktop or RayWare Cloud
  - i. STL file import
  - ii. Manual/automatic orientation
- d. Printing Parameters**
  - i. Intaglio surface facing towards build platform
  - ii. 60 degrees angulation, while the posterior is closer to build platform.
  - iii. 100 micron layer thickness
  - iv. Default support structures



- e. Wash Device:** SprintRay ProWash S or SprintRay Pro Wash/Dry
  - i. 91% or higher IPA
  - ii. Standard preprogrammed wash cycle
- f. Cure Device:** SprintRay ProCure 2 or ProCure
  - i. Use manufacturer recommended curing times

## Warning and Precautions

SprintRay Standard Denture Base is non-toxic in processed, cured form, and is classified as a biocompatible material. In uncured form, Standard Denture Base is classified as a sensitizer. When washing with solvent or grinding the device, do so in a well-ventilated area with proper protective equipment. Wear protective gloves, clothing, eyewear, and face protection when

handling.

- **Skin Contact:** May cause skin irritation. If unprocessed resin contacts skin, wash thoroughly with soap and water. May cause an allergic skin reaction. If skin sensitization occurs, stop using. If dermatitis or other symptoms persist, seek medical assistance.
- **Inhalation:** High vapor concentration may cause headache, irritation of eyes and/or respiratory system. If exposed to a high concentration of vapor or mist, move to fresh air. Use oxygen or artificial respiration as required.
- **Eye Contact:** Wash the contacted area thoroughly with soap and water.
- **Ingestion:** Contact your regional poison control center immediately.
- **Use of Incompatible Components:** Do not substitute any of the components of the device system, i.e., device photopolymer materials, bonding systems, scanners, 3D printers, post-curing units, CAD/CAM software, templates, and tools. Use only those specifically identified in this labeling. Unauthorized changes may result in a device that is outside of specification. Contact the manufacturer for compatible components.
- Maintain and calibrate equipment according to manufacturer instructions.
- **Minor Color Differences:** Shade variance may occur due to inadequate shaking and mixing of the original packaging before use; inadequate stirring in the resin tank before use; and/or insufficient post-curing

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## Storage

- **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.
- Store Standard Denture Base at 15-25°C (60-77°F) and avoid direct sunlight
- Keep the bottle closed and/or the tank lid securely attached when not in use
- Do not use Standard Denture Base after the expiration date printed on the bottle
- Resin must be protected from exposure to light, as spontaneous polymerization is possible. The bottle must be tightly closed after every usage.



Do not use expired resin as biocompatibility, performance, and print stability may be compromised..

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## Fabrication of Device

This resin was validated using the following workflow. Failure to follow the recommended practices may lead to undesired safety and performance implications.

Any deviation from these instructions for use may negatively affect the physical and/or chemical qualities of the resin and the biocompatibility of the end product.

If applicable, refer to the Workflow Guide for detailed best practices for producing specific appliance types with SprintRay resins.

### **Designing**

The device is designed in STL file format by a dental design service or dental CAD software using digital anatomical data from the patient. This STL file is delivered to the clinician for fabrication.

### **3D Printing**

Sign in to RayWare Cloud and select the appliance type; the algorithm will automatically orient and add supports. If using RayWare Desktop, position the Intaglio surface of the denture toward the print platform (teeth facing up), with the posterior portion of the design angled toward the platform at 60°. Add supports. However, remove any supports that rest on the intaglio surface. Leave the supports only on the flanges' perimeter. Select "SprintRay Denture Base" resin setting for print-setting and use the desired layer thickness. Queue the job to your printer.

Ensure the Print Platform is clean, dry, securely placed, and locked on the platform arm. Shake the resin bottle thoroughly for one minute, then pour into the resin tank up to at least the min fill line. From the printer touchscreen, assign the resin tank to the proper material and shade, then navigate to the printer queue. Start the print job.

### **Part and Support Removal**

After your device has been printed, remove it from the print platform using the provided Print Removal Tool. Remove all supports using a flush cutter or round diamond disc. Cut as close as possible to the device to minimize the smoothing and finishing procedure.

### **Washing and Drying**

Use  $\geq 91\%$  IPA to wash the device using the SprintRay ProWash S or SprintRay Pro Wash/Dry:

- Standard cleaning cycle

To ensure the proper function of the wash unit, always follow on-screen instructions for device cleanliness and maintenance. Dry the part completely before post curing.

### **Denture Assembly**

Use Standard Denture Base resin to adhere the teeth to the base. To obtain the optimal bonding of artificial teeth to the dental object, it may be necessary to roughen the surface of the denture/teeth sockets before assembly.

- Place a drop of the Standard Denture Base resin into each tooth socket
- Place the teeth in the sockets
- Press the teeth and base firmly together
- Use a curing light to tack cure the pieces together

### Post Curing

Use one of the following post-curing equipment and process. For both SprintRay devices, select the preprogrammed material profile.

- ProCure 2 (preprogrammed material profile)
- ProCure (60 min at 60° C)

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### Polishing

Use a Scotch-Brite™/Fuzzies™ wheel to smoothen the denture, then pumice and polishing compound and muslin wheel to polish the surface. You may use a pink compound bar and cotton buff to achieve a mirror finish.

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### Clean & Disinfect

Use a laboratory steamer to clean the denture of all debris and polishing compounds. Use dish soap and a brush with warm water.

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### Repairing Dentures and Baseplates

This process is only applicable to temporary repair cases. The whole denture should be remade using an original design file. For temp repair cases:

- Prepare a cast made of putty using the broken denture
- Grind the fracture area to open it, and roughen the outer side of the fracture area
- Place the broken denture on the cast
- Apply Standard Denture Base resin to cover the roughened and fracture areas
- Cure the areas by light curing until the resin solidified
- Place the denture, on the cast, in your post curing machine for half of the program time
- Carefully denture from the cast and cure the tissue side for half of the program time
- Grind, polish, and finish

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### Disposal Considerations

Always follow federal, state, and local regulations for hazardous waste disposal. To ensure proper classification, consult your local regulations. US guidelines can be found in 40 CFR part

261.3. Liquid resin must be cured completely before regular disposal. Simply pour it into a clear container and expose it to direct sunlight until hardened or in one of the post cure boxes. SprintRay Standard Denture Base is not an environmental hazard in its final, fully cured state. Once cured, it can be thrown away with regular trash.

## Symbol Guide

The below table provides reference for symbols that may appear on the resin bottle label.

	Keep away from sunlight		Use-by date
	Consult instructions for use		European conformity
	Lot number		SKU number
	Manufacturer		Temperature limit
	Prescription only		Medical device
	Environmental hazard		Irritation
	Unique device identifier		Importer
	Indicates the authorized representative in Switzerland		Authorized representative in the European community
	Manufacturing date		Wear gloves
	Health hazard		UK Conformity Assessed (UKCA) Marking
	UK responsible person		

## Contact Information

For product assistance, please review help information at: <https://sprinray.com/digital-dentistry/>

To report product issues, please contact SprintRay at: <https://support.sprinray.com/hc/en-us/requests/new>

Phone: 1-800-914-8004



## Manufacturer information

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