SprintRay Castable 2

Instructions For Use

Indications for Use

The SprintRay Castable 2 is a light-curable polymerizable resin intended to be used for fabricating castable parts.
This material is an alternative to traditional dental wax and castable material.

Contraindications

SprintRay Castable 2 is contraindicated when:

- There is a known allergy to any of the ingredients
- there is direct intraoral contact with resin whether cured or not cured
- it is used for any purpose other than its indications for use

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Device Description

Castable 2 is an alternative to traditional material for the fabrication of castable parts. It is intended exclusively for professional dental work.

Printing and Hardware Parameters

This 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
b. **Printer**: MoonRay, or SprintRay Pro, or Pro S or Pro 23D printer
    i. Pro and 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 away from build platform
    ii. Select the desired layer thickness (RayWare will typically default to 100 microns)
    iii. 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 NanoCure, ProCure 2 or ProCure

i. Use SprintRay-recommended curing times that are built in the device

Warning and Precautions

SprintRay Castable 2 is not a biocompatible material in cured form. In uncured form, Castable 2 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; insufficient post-curing

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 Castable 2 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 Castable 2 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.

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 final device.

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, preferably SprintRay Cloud Design, or dental CAD software using digital anatomical data from the patient. This STL file is delivered to a dental lab for fabrication.

3D Printing

Sign in to RayWare Cloud and select the appliance type “Other Print”; the algorithm will automatically orient and add supports. Make any necessary changes. Select this material and use the desired layer thickness. Queue the job to your printer.

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, 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 smoothening and finishing procedure.

Washing and Drying

Use ≥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.

Post Curing

Use one of the following post-curing equipment from SprintRay to cure the device and select the preprogrammed profile for Castable 2:

- NanoCure (preprogrammed material profile)
- ProCure 2 (preprogrammed material profile)
- ProCure (15 min at 30° C)

Finishing

Wash and clean the device with a brush using soap and warm water.

Investment and Burnout Instructions

Castable 2 is designed for casting gypsum and phosphate-bonded investments, the latter of which we find to be best for dental applications. Whichever you choose, it's important to follow the manufacturer's instructions when preparing the investment mixing ratios and allow proper full bench-set time.

Note: Because there is no liquid wax to flow out, we recommend keeping the flask horizontal in the center of the furnace rather than vertical.

Gypsum Investment Instructions

For gypsum investment, preheat the furnace to 700C, then place the investment into the furnace. Ramp up the temperature to 850C and hold this temperature for one hour per 100G investment. Once the hold is finished, allow the furnace to cool back down to 700C before removing the investment.

Phosphate-Bonded Investment

For phosphate-bonded investment, preheat the furnace to 800C, then place the investment into the furnace. Ramp up the temperature to 950C and hold for one hour for the first 100G of investment and +30 minutes for each additional 100G of investment. Once the hold is finished, allow the furnace to cool back down to 800C before removing investment.

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 Castable 2 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		

Additional Help & Support

We are here to support you throughout the implementation period of your new technology. Our experienced support technicians are available M - F from 6 AM - 5 PM PT at 800-914-8004.

Contact Information

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

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

Phone: 1-800-914-8004

Manufacturer information

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