

DRAFT FOR REVIEW — Not Doctor-approved for training. VERIFY items must be cleared before competency use.



IN-HOUSE LABORATORY

Cypress & Katy, TX

Document ID: SOP-LAB-090

Version 0.1 DRAFT | Target effective 09/10/2026

Printed Denture

SprintRay Apex Base / High Impact + teeth — Lab Manufacturing Procedure

Smile Avenue Family Dentistry — In-House Laboratory

SprintRay Apex Base / High Impact Denture Base + Apex Teeth / High Impact Teeth — Lab Manufacturing Procedure

Document ID	SOP-LAB-090
Version	0.1 DRAFT
Effective (target)	09/10/2026
Owner	Lab Technician (process owner)
Status	DRAFT FOR REVIEW

Start: Case received in Medit Lab

End: Denture bagged and logged in SEAZONA for outbound delivery

1. Purpose

This procedure standardizes in-house manufacturing of SprintRay **rigid** printed removable dentures (base + teeth) using Apex Base or High Impact Denture Base with matching teeth resins, so every case meets the same quality, safety, and traceability standard before leaving the lab.

2. Scope

In scope: Medit Lab intake → scan QC → design (VERIFY path) → RayWare / Pro 2 (± Duo Kit) → ProWash S → assemble & NanoCure → finish & polish → lab clean → bag & SEAZONA.

Out of scope:

- **Apex Flex RPD** flexible partials → **SOP-LAB-030** (different resin, NanoCure **Apex Flex Denture**, clasp workflow)
- **OnX Tough 2** fixed hybrids / monolithic tooth-shade prosthetics → **SOP-LAB-040** (not a separate pink base)

+ teeth assemble path)

- Chairside try-in delivery; Try-In 2 interim → **SOP-LAB-120**; clinical disinfection; non-SprintRay printers

Contrast (use the correct SOP)

Path	Resin concept	Typical use	NanoCure (known)
SOP-LAB-090 (this)	Pink rigid base (Apex Base or High Impact Base) + printed teeth	Removable full/partial denture baseplates	Conventional Denture (MWG Removable Dentures)
SOP-LAB-030	Apex Flex flexible base + Apex Teeth	Flexible RPD / clasps	Apex Flex Denture
SOP-LAB-040	OnX Tough 2 ceramic-hybrid tooth shade	Fixed hybrids / related OnX indications	OnX Tough 2 profiles (e.g. Max Strength per hybrid MWG) — not this assemble path

3. Roles

Role	Responsibility
Clinical Assistant / Office	Sends case via Medit Lab; receives bagged denture
Lab Technician	Scan QC; design approve; Duo/print; wash; assemble; cure; finish; bag; SEAZONA
Trainer / Lead Lab Technician	Competency observation and sign-off
Doctor	Indication, shade Rx, try-in, remake authorization

4. Practice Configuration

#	Item	Smile Avenue setting
1	Printer	Pro 2 (Duo Kit preferred when available)
2	Base resin default	VERIFY Apex Base vs High Impact Denture Base per Rx / stock
3	Teeth resin	Apex Teeth (default A2 unless Rx) or High Impact Denture Teeth per Rx pairing
4	Cure unit	NanoCure — Conventional Denture (MWG Removable Dentures for assembled Apex path); if on-screen name differs for High Impact pairing, VERIFY exact profile name — never invent minutes
5	Case intake	Medit Lab
6	Design	VERIFY — outside CAD or SprintRay Cloud Design per IFU
7	Wash	ProWash S — IPA ≥ 91% — standard / multi-cycle per IFU
8	Bond	Use denture base resin in sockets; roughen as needed; tack-cure before final NanoCure
9	Design approval before print	Lab Technician
10	Case log	SEAZONA

Apex Base thickness minima (IFU-021)

Area	Max / Mand
Palatal / lingual	≥ 2.0 mm
Facial / buccal	≥ 2.0 mm
Implant overdenture area	≥ 2.5 mm

High Impact Base thickness minima (IFU-013)

Area	Max / Mand
Lingual ridge	≥ 2.5 mm
Palatal / lingual	≥ 2.0 mm
Facial / buccal	≥ 2.0 mm
Implant overdenture area	≥ 2.5 mm

Teeth minimum thickness: ≥ 0.5 mm (Apex Teeth / HI Teeth IFUs).

5. Safety

- Treat uncured base and teeth resins as sensitizers. PPE + ventilation.
- Do not bag under-cured dentures. Do not substitute non-validated stack.
- Cure waste resin fully. Do not use expired resin.

6. Materials & Equipment

Resins (select per Rx)

Component	Options
Base	Apex Base (Light Pink, Original Pink, Dark reddish Pink, Opaque Original Pink) or High Impact Denture Base (Original Pink, Dark Pink, Original Meharry, Dark Meharry, Bubblegum Pink)
Teeth	Apex Teeth (Bleach, A1, A2, B1) or High Impact Denture Teeth (Bleach, A1, A2, B1)
Bond	Matching denture base resin into sockets

Equipment stack

Step	System
Intake	Medit Lab
Design	VERIFY
Nest / print	RayWare → Pro 2 + Duo Kit (preferred)
Wash	ProWash S (+ Duo wash adapter if Duo)
Cure	NanoCure — Conventional Denture (VERIFY if HI pairing differs)
Case log	SEAZONA

Polish (IFU / MWG)

Scotch-Brite / Fuzzies → pumice + compound + muslin → optional pink compound + cotton buff; MWG also references Resilience polish sequence for removable dentures — follow practice polish kit.

7. Process Controls

Gate	Do not proceed if	Proceed when
Wrong product family	Flex or OnX Tough 2 Rx on this SOP	Route to SOP-LAB-030 or 040
Design	Below thickness minima; not approved	QC-A pass
Printer	Base not on Pro 2	Pro 2
Pre-assemble	Wet parts	Fully dry
Cure	Wrong profile / invented times	Conventional Denture (or VERIFY HI) complete
Outbound	Failed QC-E	Bagged + SEAZONA

8. Procedure

A. Intake & scan QC

1. Open **Medit Lab**; verify ID, arch, base resin family, shades, due date. Confirm **not** Flex RPD or OnX hybrid unless misrouted.
2. Scan QC; **QC-SCAN**.

B. Design (VERIFY)

3. Design/receive separate base + teeth STLs meeting thickness minima.
4. Lab Technician **approves**. **QC-A**: minima met; shades correct; STLs labeled.

C. Nest (RayWare + Duo preferred)

5. Duo Mode on Pro 2 when available:
 - Base: intaglio **toward** platform; ~**60°**; posterior closer; **100 µm**.
 - Teeth: occlusal toward/parallel platform; intaglio away; **100 µm**.
6. Fallback: sequential base then teeth jobs — document in SEAZONA.

D. Print

7. Shake each resin **1 minute**; pour; assign tanks; print; log lots.
QC-B: Complete geometry for base and teeth.

E. Wash & dry

8. ProWash S with Duo adapter if used; IPA ≥ 91%; standard/multi-cycle per IFU.
9. Dry fully — especially sockets.
QC-C: Clean + dry.

F. Assemble & post-cure

- .0. Roughen sockets/tooth bases if needed.
1. Place drop of **base resin** in each socket; seat teeth; press firmly; tack-cure until stable.

- .2. Place assembled denture (dry) in NanoCure; select **Conventional Denture**; follow on-screen prompts. If mixing resin **lines**, MWG directs Conventional Denture path. Do not invent times.

QC-D: Bonded + fully cured.

G. Finish, clean, bag

- .3. Remove supports; smooth; polish per kit; soap/steamer clean; dry.

- .4. Bag + SEAZONA.

QC-E: Required for release.

End of SOP-LAB-090. Clinical try-in/delivery outside this SOP (see also SOP-LAB-120 for Try-In 2).

9. Case Log (SEAZONA)

Field	Entry
Date	
Patient / case ID	
Base resin + shade + lot	☐ Apex Base ☐ High Impact Base
Teeth resin + shade + lot	☐ Apex Teeth ☐ HI Teeth
Duo used	☐ Yes ☐ Sequential fallback
NanoCure profile	Conventional Denture ☐ / other VERIFY: ____
Design approved by (Lab Technician)	
QC-SCAN + A-E	☐ Yes
Bagged for outbound	☐ Yes — time __

10. Quality Checkpoints

ID	When	Pass	Fail action
QC-SCAN	Intake	Usable	Return
QC-A	Pre-print	Minima + approved	Redesign
QC-B	Post-print	Complete	Remake
QC-C	Post-wash	Clean + dry	Re-wash/dry
QC-D	Post-cure	Bonded + cured	Remake / re-bond
QC-E	Outbound	Finish + bag + SEAZONA	Hold

11. Remake Criteria

Finding	Action
Flex/OnX misroute	Stop; correct SOP
Incomplete print / delamination	Remake
Teeth debond	Re-bond + re-cure if appropriate; else remake
Under-cured / wrong profile	Hold; correct or remake
Below thickness minima printed	Remake from corrected design
Unsure	Escalate

12. Competency

Requirement	Sign-off
Read SOP-LAB-090; distinguish vs 030 and 040	Tech _ Date ____
Demonstrates Duo assemble + Conventional Denture cure	Trainer _ Date ____
3 observed cases to bagged outbound	1. ____ 2. ____ 3. ____
Unsupervised authorization	_ Date ____

13. Troubleshooting & Escalation

Problem	Action
Soft after cure	Confirm dry + Conventional Denture profile
Debond	Re-bond with base resin / remake
Wrong pink family used	Doctor; remake if required

SprintRay Support: 1-800-914-8004.

14. References

- SprintRay Apex Base IFU-021_4 (effective 06/25/2024)
- SprintRay High Impact Denture Base IFU-013_9 (effective 06/25/2024)
- SprintRay Apex Teeth IFU-022_4 (effective 06/25/2024)
- SprintRay High Impact Denture Teeth IFU-017_6 (effective 06/25/2024)
- SprintRay Master Workflow Guide — Removable Dentures (Apex) (effective 09/09/2025) — NanoCure **Conventional Denture**
- Contrast: Apex Flex IFU-029 / SOP-LAB-030; OnX Tough 2 IFU-020 / SOP-LAB-040

Smile Avenue Family Dentistry — In-House Laboratory · Internal use only
SOP-LAB-090 DRAFT FOR REVIEW · Target effective 09/10/2026 · Supersedes prior draft revisions
Review annually or when SprintRay IFU / equipment changes. Confirm all VERIFY items before training use.

Smile Avenue Family Dentistry — In-House Lab · SOP-LAB-090 · DRAFT FOR REVIEW · Internal use · Target effective 09/10/2026