

Clinical Cases & Chairside Protocol

Dentist Protocol

Clinical results, case planning,
bonding & aftercare.

DENTIST TRAINING EDITION 4.0 / 2026



ICO Veneer Ultra Series

Anterior spacing and tooth form

Contents

01	Case Planning Treatment goals, suitability & case review	03-04
02	Scanning Gingival management, scan path & quality review	05-09
03	Photography & Case Records Photographs, shade, submission & design approval	10-16
04	Try-In & Bonding Fit, color, surface treatment & cementation	17-30
05	Delivery & Aftercare Final checks, patient advice & maintenance	31-32
06	Clinical Results Shade, spacing & anterior form	33-62
	Chairside Quick Reference	63

Plan the Clinical Result

Agree the desired result.

Review shade, tooth form and spacing.

Agree the treatment goals with the patient.

Confirm suitability before design approval.

CLINICAL COMPARISON

BEFORE



AFTER



Upper central spacing is reduced in the after photograph. Full case: page 34.

Agree the proposed result and confirm clinical suitability before accepting the case.

Three Checks Before Acceptance

01

Case suitability

Review tooth condition, gingival health, occlusion and expectations. Confirm suitability for treatment.

02

Complete information

Complete the required order fields. Provide photographs, shade details and the agreed treatment goals.

03

Scan quality

Confirm both arches and the bite record are complete and accurate. Check against the clinical photos.

All three checks must be confirmed before fabrication.

Before Scanning

Patient readiness

Check for healthy, settled gingiva. Arrange cleaning in advance when needed. Remove removable appliances and confirm the patient record.

Moisture control

Prepare retraction, suction and air drying. Keep the teeth and gingiva in the scan path dry throughout capture.

Scanner readiness

Confirm calibration, a clean undamaged scanning window, adequate warm-up and correct patient details. Follow the scanner's operating instructions.

Capture environment

Keep the field visible and free from saliva. Avoid strong direct sunlight and interfering treatment light. Recheck the field as the scan progresses.

This workflow uses gingival retraction paste. Do not use retraction cord.

Gingival Retraction Before Scanning

01 Rinse & dry

Rinse the gingival sulcus with water and gently air dry. Isolate the field.

02 Apply the paste

Move the capsule tip slowly around the tooth, filling the sulcus evenly according to the paste instructions.

03 Maintain isolation

Allow the paste to remain for the prescribed contact time. Allow at least 2 minutes of contact time.

04 Remove completely

Rinse with air and water under suction. Confirm there is no residual paste on the tooth or in the sulcus.



Complete the target-tooth scan within 5 minutes after paste removal where possible.

Scanning Sequence

Dry, stable and continuous.

Maintain clear surfaces, steady movement and sufficient overlap. Adjust the viewing angle to capture proximal and incisal detail.

01 Upper arch

Scan from the distal molar occlusal surface across the arch to the opposite side.

02 Lingual & buccal surfaces

Continue around the arch, changing the viewing angle to capture all tooth surfaces.

03 Critical detail

Capture incisal edges, cervical margins and proximal areas. Inspect the live image during capture.

04 Lower arch & bite

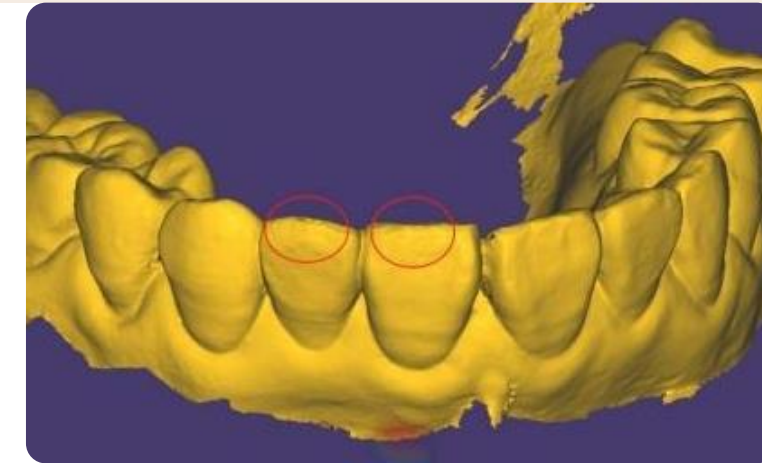
Repeat for the lower arch. Capture the bite on both sides in the confirmed intercuspal position.

Follow the scan path validated for the scanner in use. Review the complete data before export.

Coverage & Occlusal Review



Complete coverage



Incomplete coverage



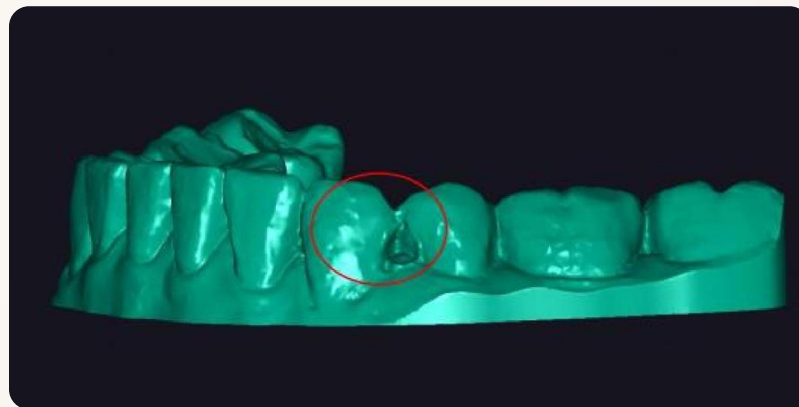
Occlusal relationship error



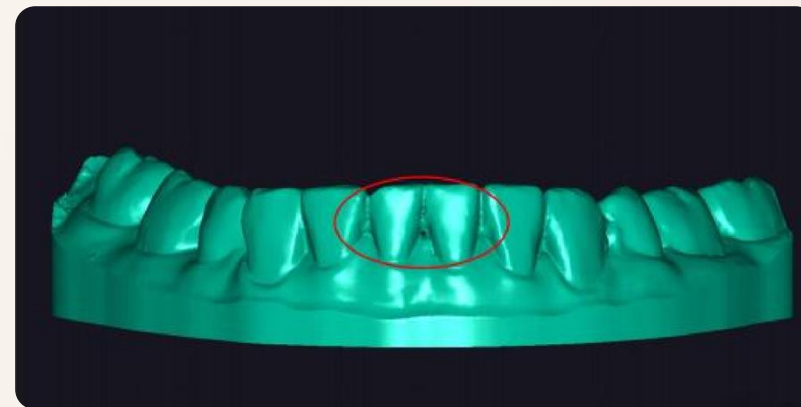
Occlusal relationship error

Confirm both arches and the bite relationship. Dry and rescan incomplete or distorted areas before submitting the case.

Scan Errors to Identify



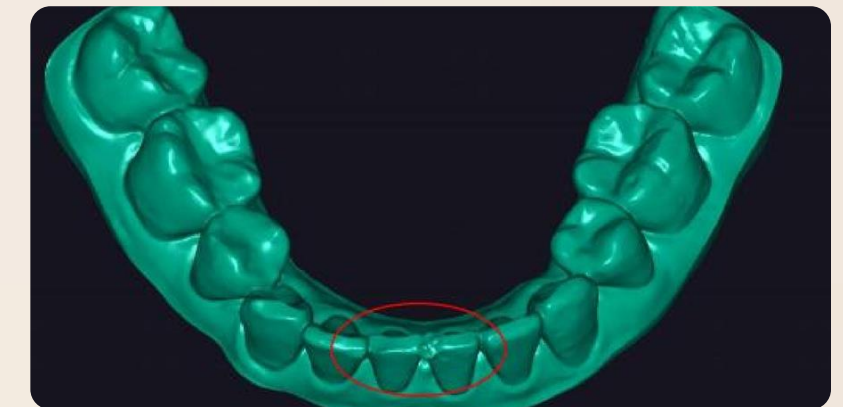
Saliva in interdental spaces



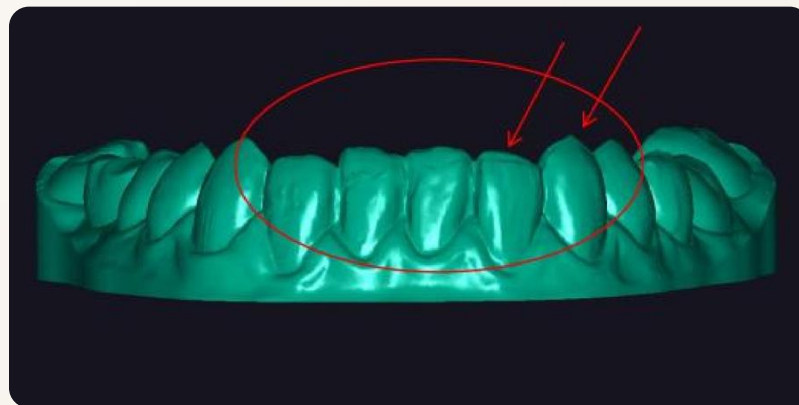
Incomplete interdental detail



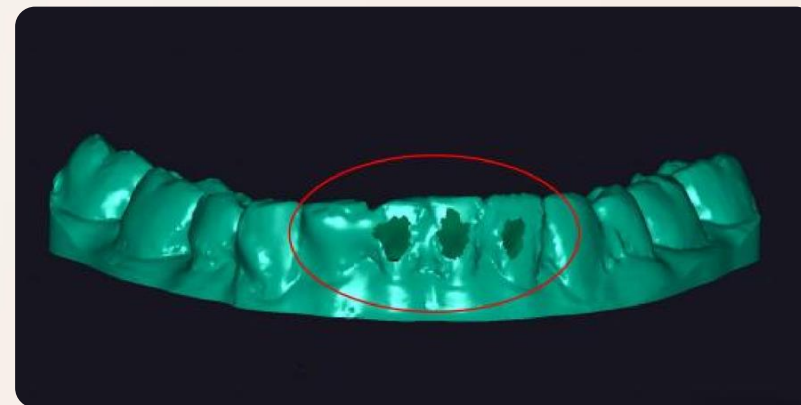
Overlapping tooth surfaces



Discontinuous surfaces or edges



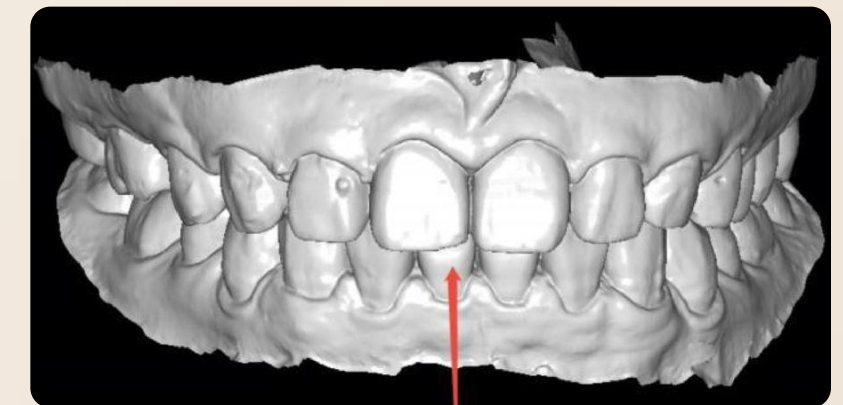
Incomplete tooth surface



Unclear cervical margins



Distorted or protruding incisal edge



Mismatch with clinical photographs

Do not submit unresolved scan errors. Delete the affected data where needed, dry the area and rescan.

The 10-Photo Record



01 Frontal occlusion



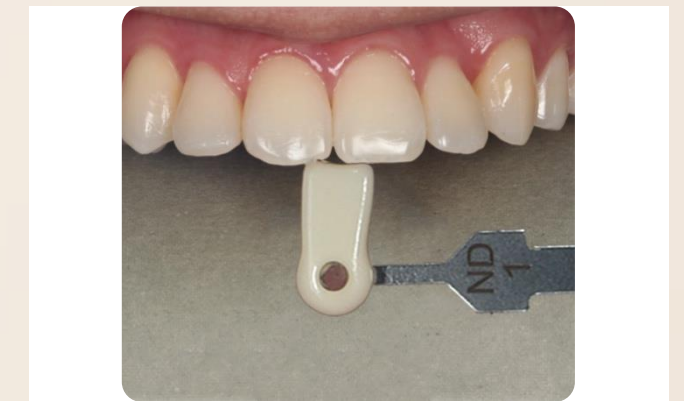
02 Frontal, open approximately 2 mm



03 Right intraoral, slightly open



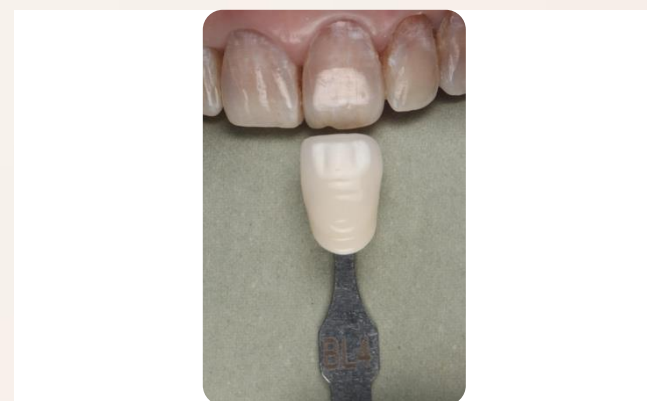
04 Left intraoral, slightly open



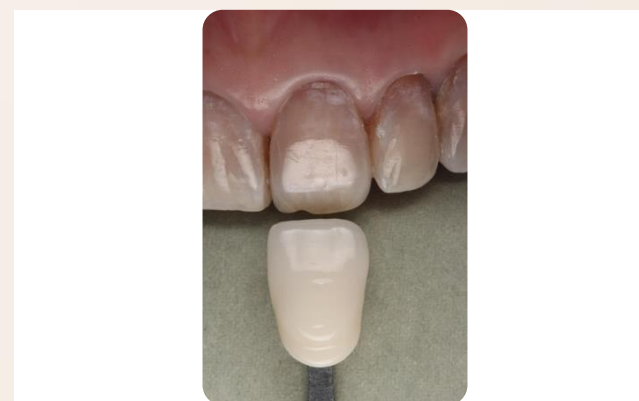
05 Upper arch, existing shade



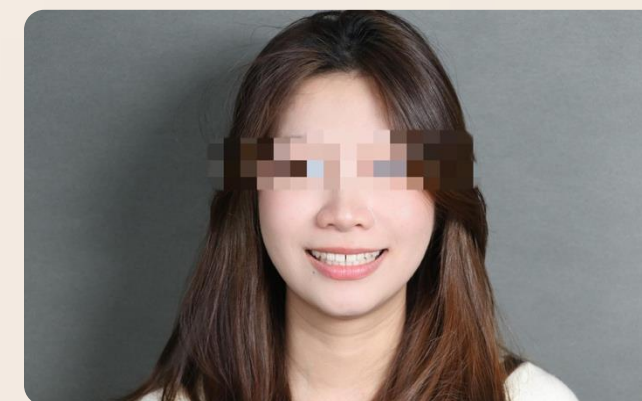
06 Lower arch, existing shade



07 Target shade reference



08 Target shade detail



09 Smiling portrait



10 Close-up smile

Include the shade tab and its identifier in comparison photographs. Capture the full planned veneer area.

Facial & Intraoral Photographs



Smile framing

Record the full smile and a closer lower-face view. Keep the teeth and lip line visible.



Frontal views

Center the midline. Keep the occlusal plane level and retract the cheeks symmetrically.

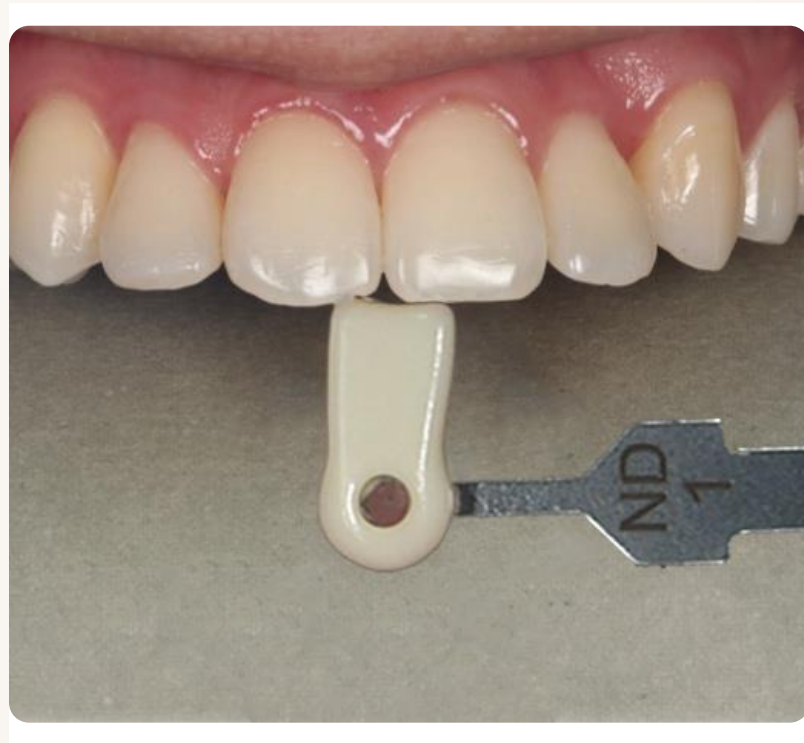


Lateral views

Center the canine area and include the full planned veneer span. Record both sides.

Take the slightly open views after the patient closes into the confirmed bite position.

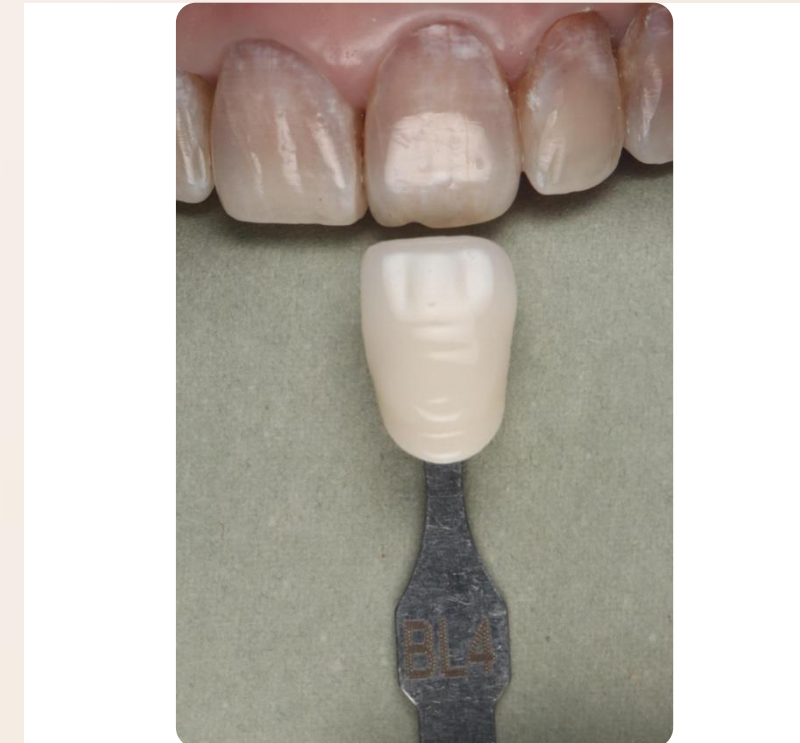
Existing Shade & Target Shade



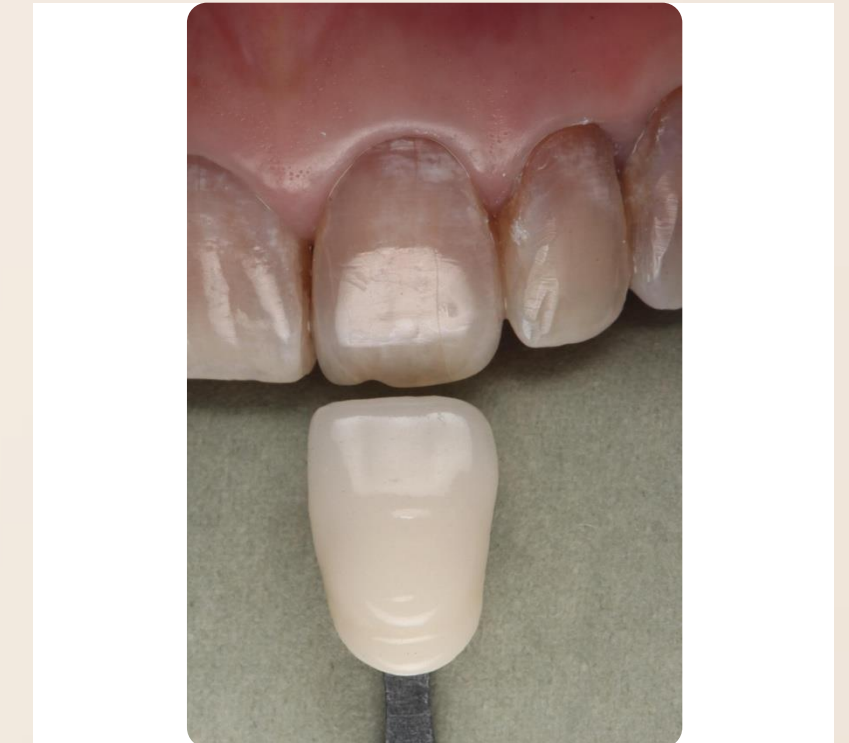
Existing upper shade



Existing lower shade



Target shade reference



Target shade detail

Record the shade guide used, the current tooth shade and the requested final shade. Keep the shade tab at the same distance from the camera as the target tooth.

A target shade photograph is a design reference, not a postoperative result.

Reliable Shade Photography



Multiple shade tabs provide a useful color reference in the same photograph.

Tooth condition

Record shade while the teeth retain natural moisture. Avoid dehydration before shade assessment.

Lighting & background

Use color-correct lighting and a neutral background. Avoid mixed light, glare and strong reflected colors.

Camera & shade tab

Keep focus and exposure consistent. Place the tab beside the target tooth at the same distance.

Detail & identification

Capture incisal, middle and cervical areas. Show the tab code and record the shade guide name.

Case Submission Checklist

01	Patient & treatment plan	Patient record, treating clinician, planned teeth and clinical objectives.
02	Clinical suitability	Tooth condition, gingival health, occlusion and patient expectations reviewed.
03	Digital records	Upper and lower arch scans plus the bite record. Export accurate data in the accepted format, including STL where required.
04	Photographs & shade	Complete photo record, current shade, target shade and the shade guide used.
05	Design instructions	Requested shape, length and other relevant patient or design information.
06	Required order fields	Every mandatory field completed before submitting the case for acceptance review.

A submitted case is not yet an accepted order. All three acceptance checks must pass.

Digital Design Approval

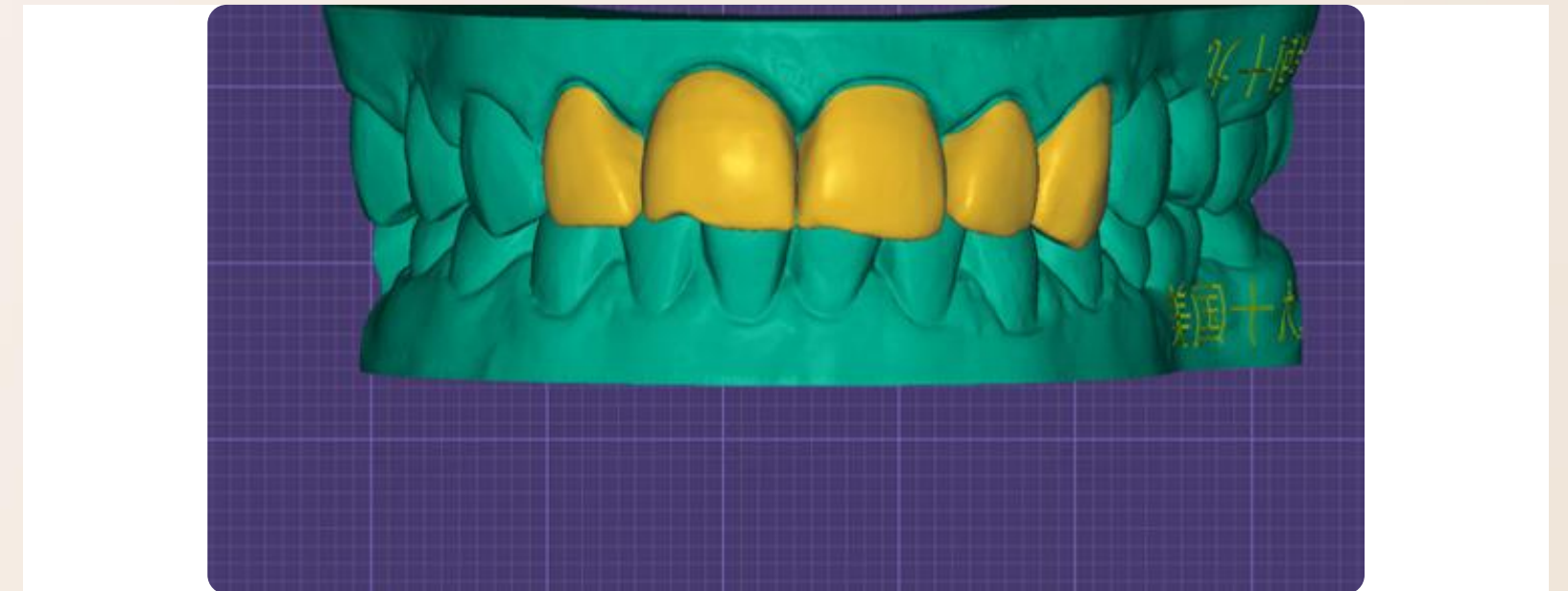
Review the proposed result

Confirm the tooth span, shape, incisal length, proximal relationships and requested shade against the clinical records.

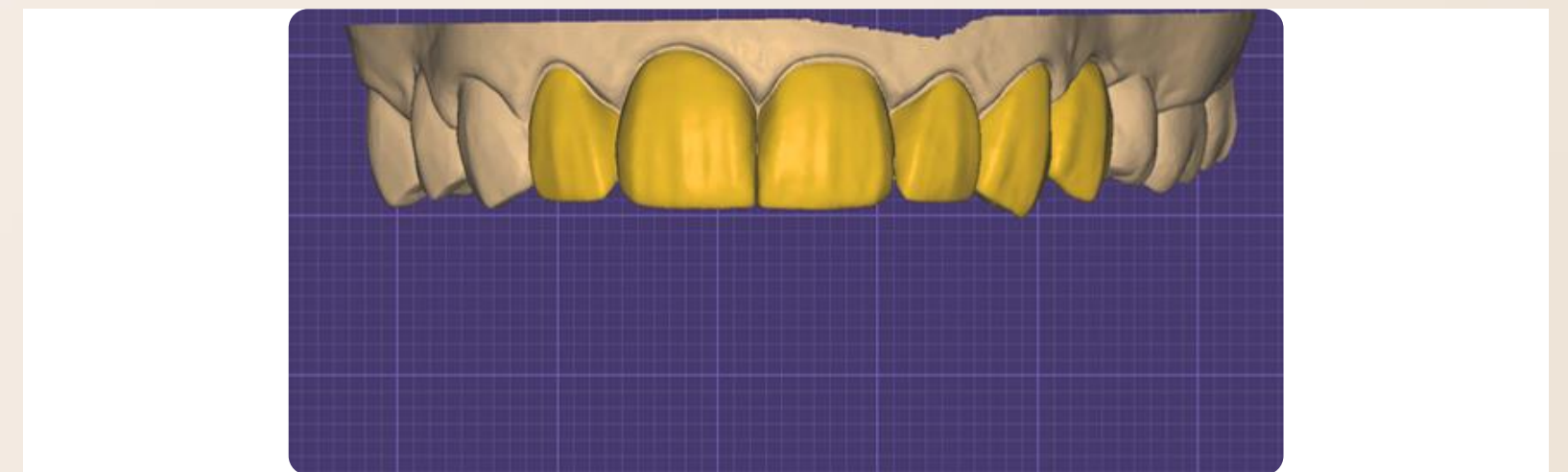
Confirm the treatment plan

Check the planned insertion path and occlusal compatibility. Resolve requested changes before approving the final design.

Fabrication starts after acceptance checks and the final design approval are complete.



ZIRCONIA SHELL DESIGN



PORCELAIN LAYERING INCLUDED IN THE DESIGN

Preoperative Occlusal Records

01 Record protrusive contacts

With the patient upright, use blue 100 μ m articulating paper while guiding the lower jaw to an edge-to-edge incisal position.

02 Record lateral contacts

From the edge-to-edge position, record lateral movements with blue 100 μ m paper.

03 Record intercuspation

Use red 40 μ m paper with repeated closure into the intercuspal position.

04 Document the findings

Recheck comfort in the reclined position. Take occlusal photographs of the upper and lower arches for later comparison.



Try-In: Fit & Handling



Seat before bonding

Test fit each veneer on the tooth. Check margins, orientation, seating direction and complete seating.

Keep the mouth slightly open

Ask the patient to avoid biting during try-in. Handle the veneer gently and keep the units in order.

Resolve a fit discrepancy

Do not modify the veneer before bonding. Pause and review the fit against the approved design.



Use rounded-tip tweezers wrapped in PTFE tape to protect the veneer surface.

Try-In: Color Confirmation

Use the matching try-in paste

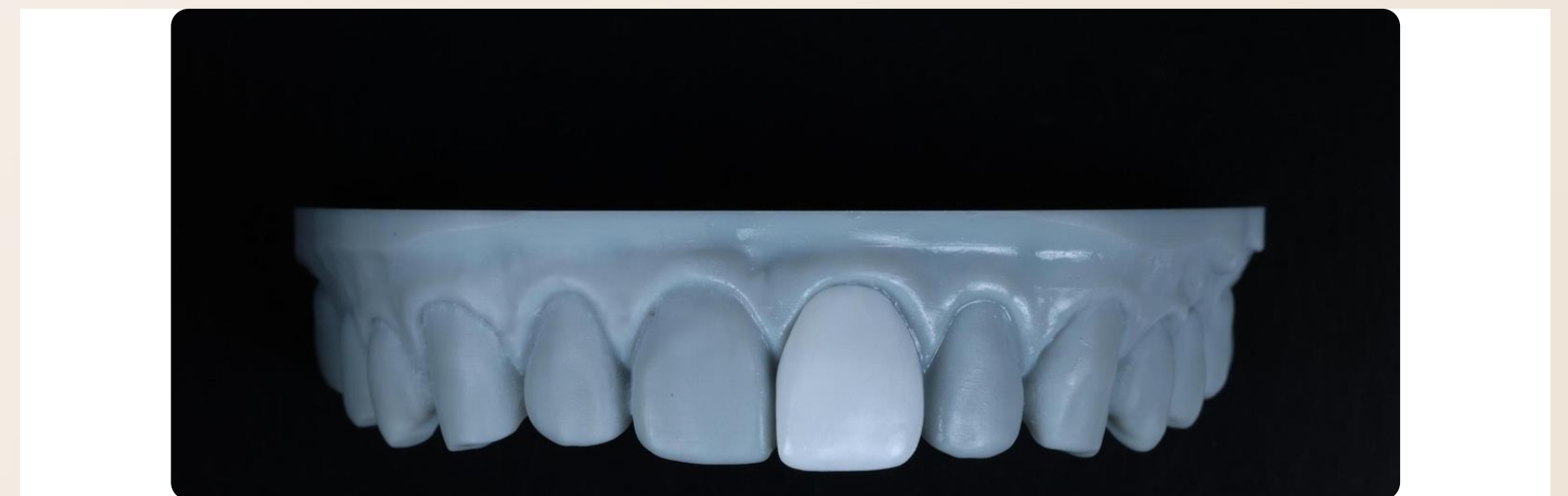
Select the try-in paste corresponding to the intended cement shade. Compare the appearance under appropriate clinical lighting.

Evaluate the complete combination

The final appearance reflects the veneer, underlying tooth and cement shade. Try alternative paste shades when necessary, then record the agreed result.



AIR IN THE BONDING GAP



TRANSPARENT TRY-IN PASTE

Required Bonding Materials

VENEER SURFACE

Restoration cleaner

ZirClean / B-7351P

Silane coupling agent

Porcelain Primer / B-2221P

Porcelain bonding resin

B-3110P

TOOTH SURFACE

Fluoride-free cleaning paste

RDA 36

Phosphoric acid etchant

32% or 35%

Universal adhesive

All-Bond Universal / B-7202P

TRY-IN & CEMENTATION

Matching try-in paste

Choice 2 / C-412 series

Light-cured veneer cement

Choice 2 / C-411 series

Oxygen inhibitor

As specified for the cement system

Use a confirmed, compatible material sequence. Apply each product according to its current instructions for use.

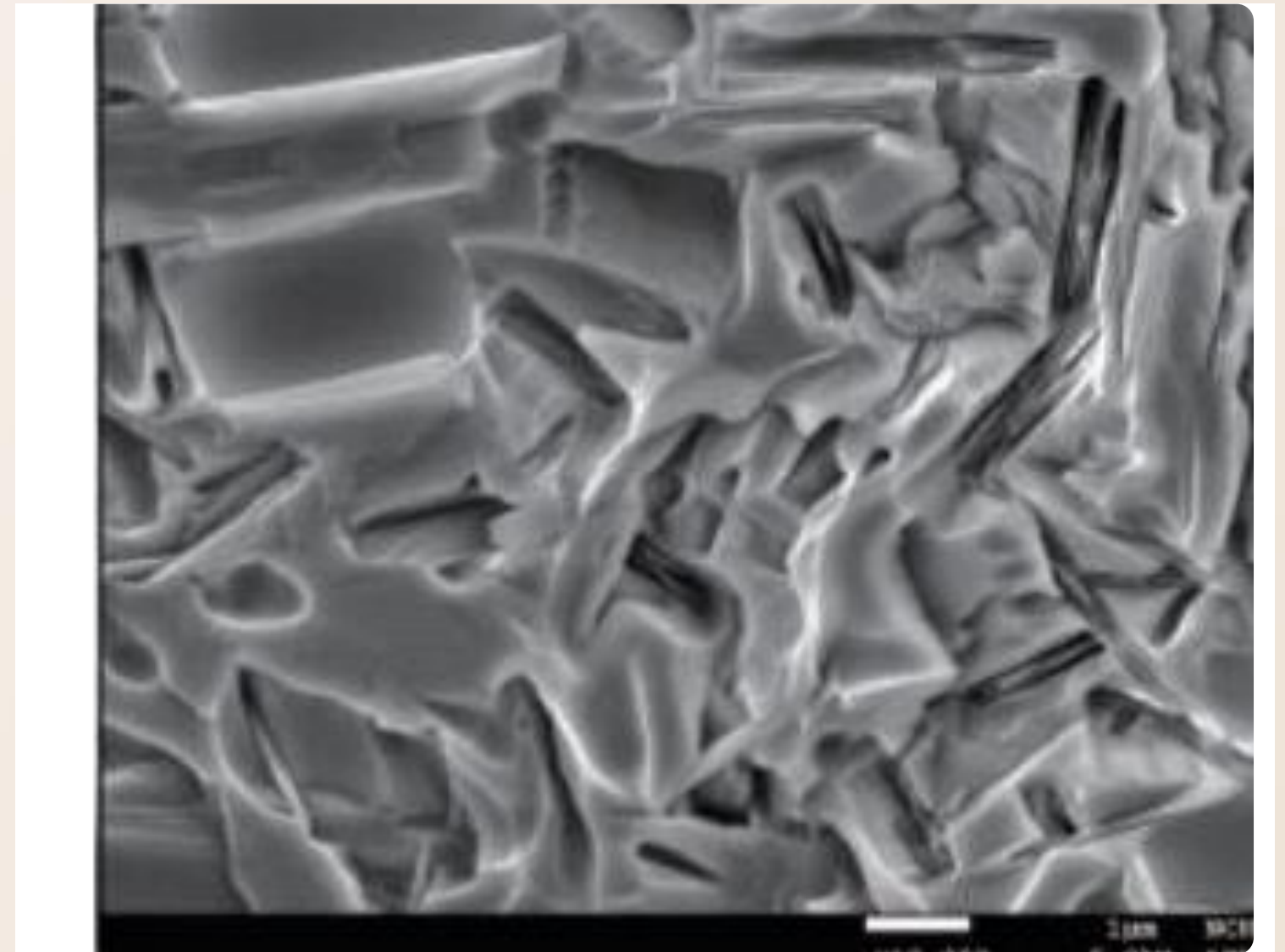
The surface-treatment sequence in this chapter corresponds to the listed BISCO materials.

Preparing the Veneers for Bonding

PRE-ETCHED BONDING SURFACE

**Do not etch
the veneers again.**

ICO Veneer Ultra Series
veneers are delivered pre-etched for this protocol.
Confirm the surface-treatment status before starting.



BONDING SURFACE AFTER ETCHING

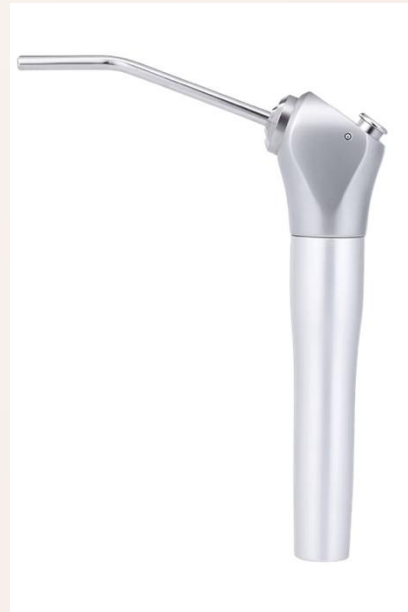
SEM image

Veneer Surface: Rinse & Clean



01 RINSE WITH WATER

After try-in, rinse the veneers thoroughly with water and air dry completely. Keep the bonding surface clean during handling.



20 seconds

02 RESTORATION CLEANER

Apply ZirClean to the dry bonding surface and leave for 20 seconds. Rinse thoroughly with water, then air dry again.

Clean the bonding surface after try-in before progressing to silane and bonding resin.

Veneer Surface: Silane & Resin

03 SILANE COUPLING AGENT



5 min

Then gently air dry
for 30 seconds.

Apply a layer to the bonding surface in horizontal and vertical directions. For a two-part silane, follow the specified mixing instructions.

04 PORCELAIN BONDING RESIN



Apply a thin layer of porcelain bonding resin to the veneer bonding surface.

Do not light-cure the porcelain bonding resin at this stage.

Tooth Surface: Isolation & Cleaning



Clean the bonding surface

Use a rubber dam or equivalent moisture isolation.
Clean with a polishing cup and fluoride-free paste, then
rinse thoroughly.



Isolate the adjacent teeth

Apply PTFE strips over the proximal surfaces and incisal
edges of adjacent teeth to protect them during etching
and bonding.

Tooth Surface: Etching & Adhesive



Phosphoric acid

Use the specified 32% or 35% etchant. Follow its instructions for the enamel substrate and application time.



Rinse thoroughly

Remove all etchant and air dry as directed for the bonding system.



Apply the adhesive

Use a microbrush to apply the specified adhesive. Follow its instructions for coat application, solvent evaporation and light curing.

Confirm isolation and the adhesive surface condition before placing the veneer.

Cement Handling & Application



APPLY THE VENEER CEMENT

Apply an even layer to the bonding surface. Avoid under-application, air bubbles and contact that may contaminate the surface.

Control ambient light

Protect the cement from sunlight and strong overhead light. Keep unused material in a shaded work area during delivery.

Work efficiently

Distribute the cement with a clean applicator. Limit unnecessary exposure and proceed to seating without delay.

Follow the specified cement instructions for handling and curing.

Place the Veneers



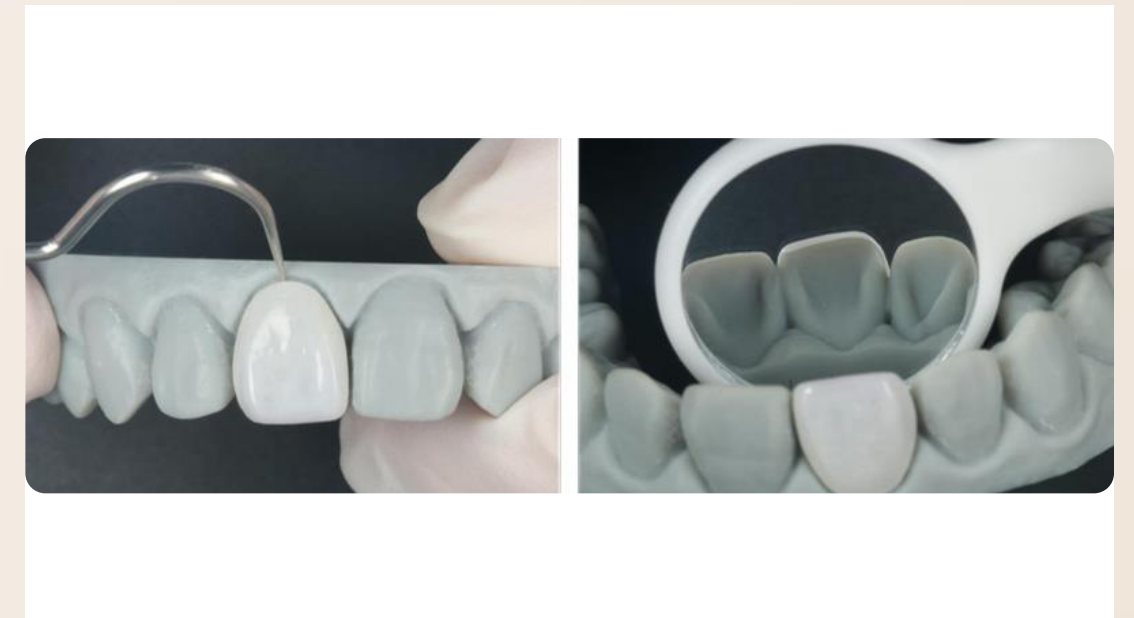
A Seat

Use PTFE-wrapped tweezers or an adhesive rod. Follow the insertion path and seat gently from incisal toward cervical.



B Clear the margins

Immediately remove visible excess cement with a cotton swab or applicator while keeping the veneer stable.

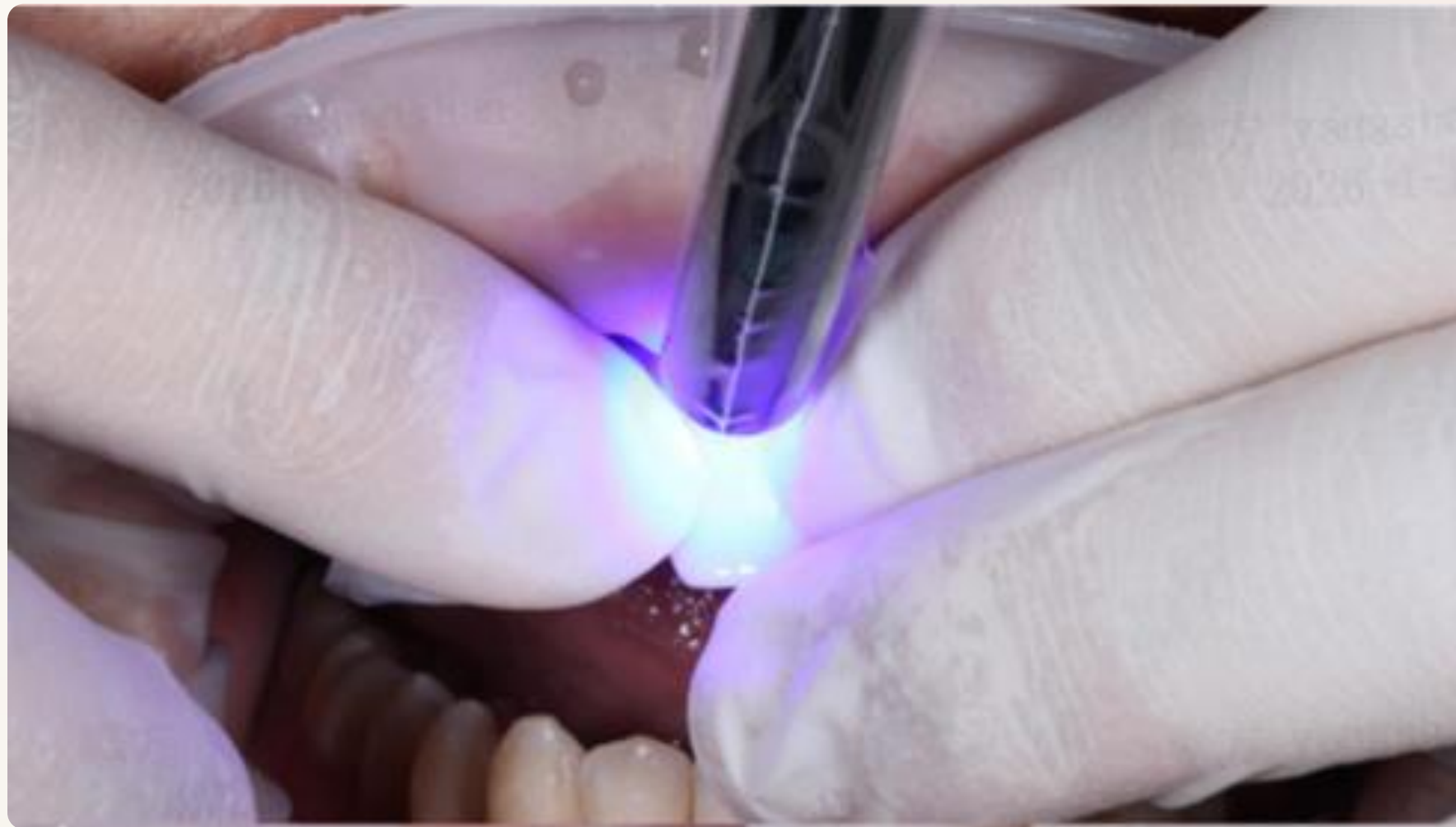


C Inspect

Check the facial surface, gingival margin and incisal edge with a mirror. Confirm complete seating before light curing.

If seating is incomplete or a visible air bubble remains, resolve the problem before curing.

Tack Cure



Hold the veneer steadily during the initial cure.

Stabilize the veneer

Maintain gentle support while tack-curing the cement at the cervical area.

Reach the clean-up stage

The excess cement should reach a gel-like consistency that allows controlled removal.

The required exposure depends on the cement and light in use. Follow the specified tack-cure instructions.

Excessive initial curing makes excess cement difficult to remove.

Remove Excess Cement



Clean the margins

After tack curing, remove excess cement around the margins and gingival embrasures with suitable instruments and flat floss.



Check proximal clearance

Remove all PTFE and residual cement. Confirm the contact with floss. Do not force floss through a blocked contact.

Final Cure



Complete polymerization

Cure all required surfaces according to the current cement and curing-light instructions. Confirm the appropriate exposure and light output for the material in use.

Oxygen inhibitor

Where specified for the selected system, cover the margins with oxygen inhibitor before final curing. Rinse it away after curing under suction.

Recheck the margins and proximal spaces after full polymerization.

Bonding Checkpoints

01	Fit before bonding	The veneer seats completely in the approved position. Resolve any discrepancy before continuing.
02	Stable seating	Clear excess cement so the margins remain visible. Confirm incisal and cervical seating, then stabilize during curing.
03	Uniform appearance	Check for visible bubbles or uneven cement coverage before curing. Remove and reseal if required.
04	Controlled tack cure	Excess cement reaches the removable gel stage. Avoid excessive initial exposure.
05	Clear contacts	Remove PTFE and excess cement. Recheck with floss without applying excessive force.
06	Completed cure	Follow the full curing requirements of the selected cement and light, including all required surfaces.

Delivery & Occlusal Review



01 Margins & contacts

Confirm complete seating, clean margins and comfortable floss passage.

02 Occlusion & comfort

Review intercuspal, protrusive and lateral contacts against the preoperative record. Ask the patient about comfort.

03 Postoperative record

Take photographs comparable with the preoperative views and document the final shade and appearance.

FINAL CLINICAL REVIEW

Compare the final result with the preoperative records and approved design.

If fit or function differs from the approved design, pause delivery and arrange review.

Aftercare

CLINICAL FOLLOW-UP

Provide a protective nightguard as part of the veneer care plan.

Arrange regular reviews to assess the veneers, gingival health, occlusion and oral hygiene.

FOOD & DRINK

Avoid eating for at least 2 hours after bonding. Start with softer foods and check that chewing is comfortable.

Resume the usual diet the following day as advised. Avoid very hot or cold foods initially and overly chewy foods.

HYGIENE & HABITS

Use non-abrasive toothpaste. Avoid smoking and biting hard foods or objects.

Rinse after staining foods or drinks such as coffee or tea, particularly during the first 48 hours.

Ask the patient to report discomfort, a change in the bite or a concern about the restoration.

Clinical Results: Shade

BEFORE



AFTER



The after photograph shows a brighter, more uniform anterior shade.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Spacing

BEFORE



AFTER



The upper central gap is closed, with fuller anterior contours in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Interdental Form

BEFORE



AFTER



The after photograph shows less visible interdental space and more continuous anterior contours.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Incisal Contours

BEFORE



AFTER



The upper incisal outline appears smoother and more balanced after treatment.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Central Incisor Shade

TWO-UNIT CLINICAL CASE

Before treatment

Patchy surface appearance on the two upper central incisors.

BEFORE



AFTER



After treatment

The two upper central veneers show a more even shade and smoother surface appearance.

Six-Unit Anterior Enhancement

BEFORE

AFTER



Six upper anterior veneers show greater incisal length and a brighter smile.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Yellow Teeth

BEFORE



AFTER



The yellow anterior shade is visibly lighter and more uniform in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Dental Fluorosis

BEFORE



AFTER



Visible enamel mottling is less apparent, with a more even shade in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Tetracycline Teeth

BEFORE



AFTER



The pronounced discoloration appears lighter and more uniform across the anterior teeth.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Discolored Nonvital Tooth

BEFORE



AFTER



The dark lower incisor blends more closely with adjacent teeth in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Black Triangle

BEFORE



AFTER



The dark triangular spaces between the upper anterior teeth are less visible after treatment.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Diastema

BEFORE



AFTER



The midline gap between the upper central incisors is closed in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Chipped Teeth

BEFORE



AFTER



The upper incisal edges appear smoother, with more even anterior contours after treatment.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Enamel Hypoplasia

BEFORE



AFTER



The opaque enamel patches are less apparent, with a more uniform upper anterior shade.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Anterior Shade

BEFORE



AFTER



The anterior shade is brighter, with fuller upper tooth contours in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Tooth Color & Form

BEFORE



AFTER



The after photograph shows a brighter shade and a more even anterior outline.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Smile Brightness

BEFORE



AFTER



The upper anterior teeth appear brighter and more uniform in shade after treatment.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Anterior Proportions

BEFORE



AFTER



The upper central incisors show a fuller form and a more even incisal outline.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Tooth Shade

BEFORE



AFTER



The after photograph shows a lighter, more uniform shade across the visible anterior teeth.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Upper Incisal Form

BEFORE



AFTER



The upper incisal outline appears more continuous and even in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Anterior Detail

BEFORE



AFTER



The frontal comparison shows a brighter shade and fuller anterior contours.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Tooth Contours

BEFORE



AFTER



The upper central contours appear fuller, with less visible enamel mottling after treatment.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Incisal Display

BEFORE



AFTER



The upper incisors show greater incisal length and a brighter shade in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Smile Balance

BEFORE



AFTER



The after photograph shows a more uniform anterior shade and a more even tooth outline.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Anterior Contours

BEFORE



AFTER



The upper anterior contours appear more even in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Shade & Proportion

BEFORE



AFTER



The after photograph shows a lighter shade, fuller tooth forms and a more even incisal outline.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Smile Harmony

BEFORE



AFTER



The upper anterior contours appear fuller, with less visible spacing after treatment.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Anterior Form

BEFORE



AFTER



The upper central incisors appear broader and more balanced, with a brighter anterior shade.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Tooth Proportions

BEFORE



AFTER



The upper central gap is closed, with broader central incisor contours in the after photograph.

Individual case result. Assess suitability and agree the proposed design for each patient.

Clinical Results: Anterior Smile Transformation

BEFORE



AFTER



The anterior gaps are closed, with fuller upper tooth contours and a brighter shade.

Individual case result. Assess suitability and agree the proposed design for each patient.

Chairside Quick Reference

Accept the case	Clinical suitability, complete information and scan quality must all pass.
Capture the records	Keep the scan field dry. Confirm full coverage, the bite record and the photo set.
Approve the design	Resolve shape, shade, seating and functional requirements before fabrication.
Confirm the try-in	Check fit and color. Keep the mouth slightly open and do not modify the veneer.
Treat the surfaces	Confirm pre-etched status. Follow the specified cleaner, silane and resin sequence.
Place & cure	Maintain isolation, check seating, remove excess cement and complete the full cure.
Complete delivery	Check margins, contacts and function. Take postoperative photographs.
Support aftercare	Provide the care plan, protective nightguard and follow-up arrangements.