Aidite®

Aizir Material Information

Instructions For Use - Aizir (Anterior 3-3)

■ Everyone with a healthy and beautiful smile

CONTENTS

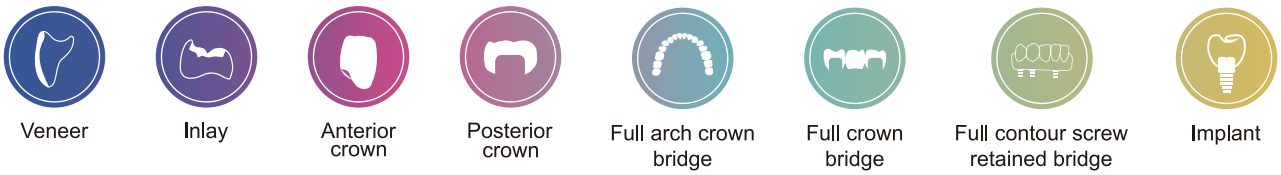
1 Advantages

Aizir represents Aidite most advanced R&D and production level, integrating several patented technologies in one. While meeting the full range of indications, it has a more systematic processingg, a wider sintering temperature range, and a more stable three-dimensional gradient effect. Aizir will uphold the vision of "making people healthier and more beautiful" and redefifine all-ceramic prosthetic materials.

2 Material Properties

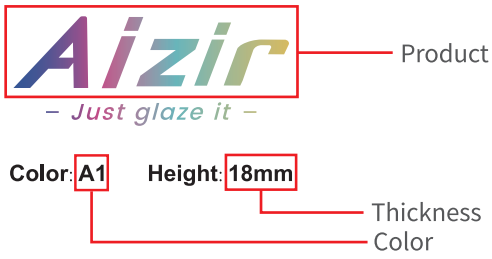
Color	Vita 16 colors/OM1/OM2/OM3
Aesthetic	Super high translucency
Sintered density	⩾6.0g/cm3
Bending strength	Cervical part 1050MPa
Fracture toughness	5Mpam0.5
Hardness (Hv10)	1250

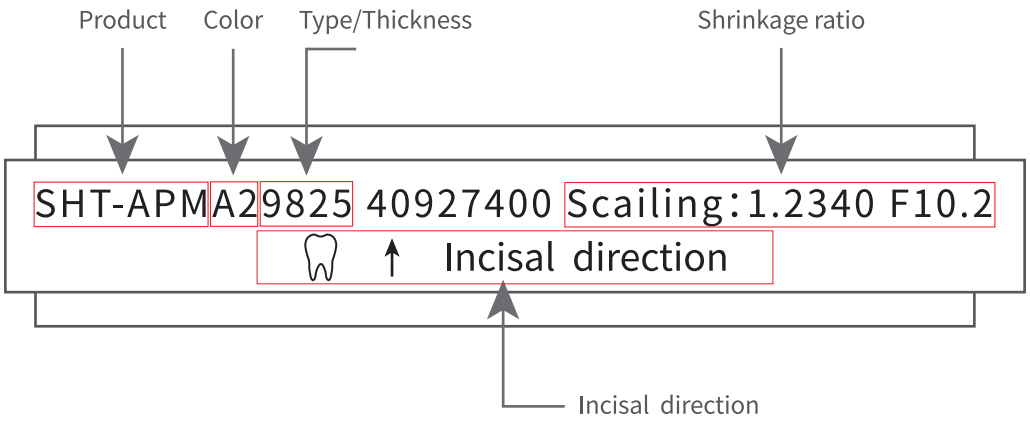
3 Indications for Use



4 Colors

5 Introduction to Zirconia disc





Remarks:

Please refer to the outer packing box for the batch number of the porcelain block.

Cases requirement

- The preparation should be retentive with no sharp points.
- Restricted to 2 consecutive pontics surrounding abutments.
- Restorations are less than 8mm in height.
- No cantilevered pontics.
- Retentive preparations with no undercuts.
- Make sure the radian of arch in jaw-gingival direction is not oversized.

Preparation parameters

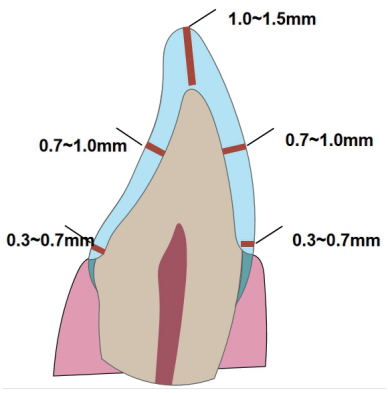
Minimum requirements for high-translucent zirconia

	Anterior crown	
	Single crown	Below 3units bridge
Incisal/ Occlusal surface(mm)	1.0-1.5	1.0-1.5
Lip side/Buccal(mm)	0.7-1.0	0.8-1.0
Adjacent(mm)	0.6-0.8	0.6-0.8
Lingual/Palatal(mm)	0.7-1.0	0.8-1.0
Shoulder(mm)	0.3-0.7	0.3-0.7

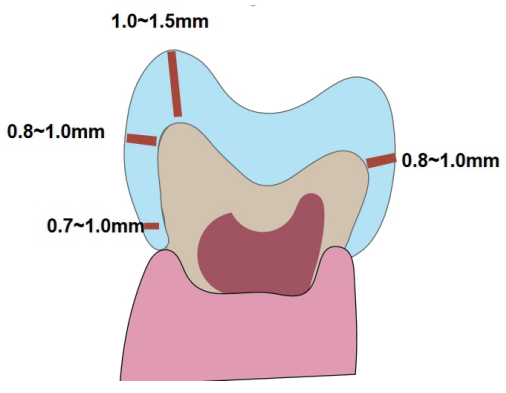
	Posterior crown	
	Single crown	Below 3units bridge
Occlusal surface(mm)	1.0-1.5	1.0-1.5
Buccal(mm)	0.8-1.0	1.0-1.5
Adjacent(mm)	0.6-0.8	1.0-1.5
Palatal(mm)	0.8-1.0	1.0-1.5
Shoulder(mm)	0.7-1.0	0.7-1.0

Remarks:

The preparation should be designed by dentist according to the requirements for esthetics and function. The data in the above table are the minimum values to maintain strength of the material.



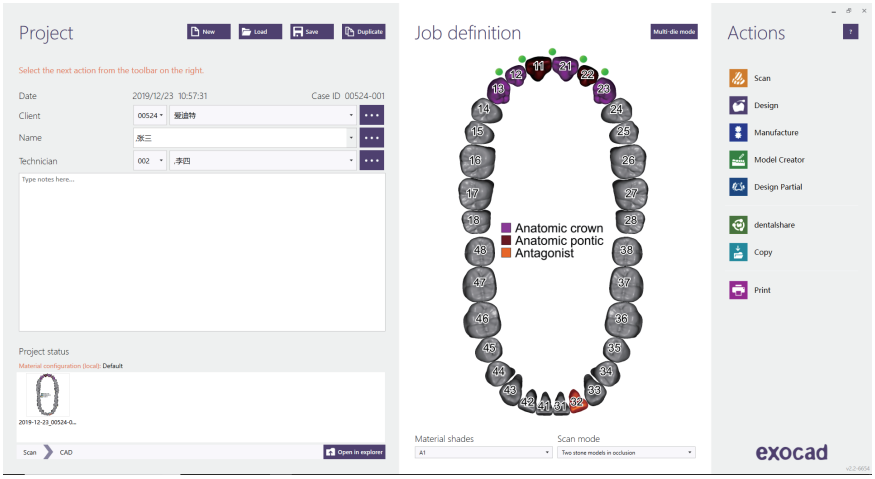
Minimum preparation guidelines for single anterior crown

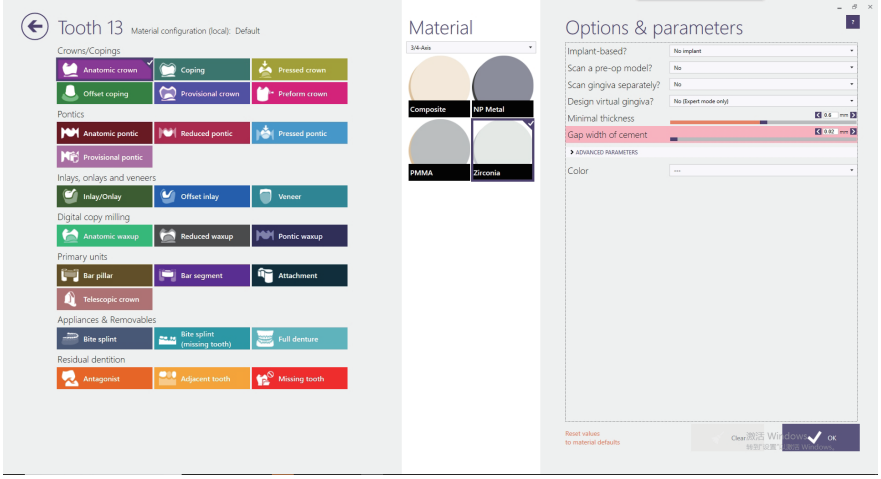


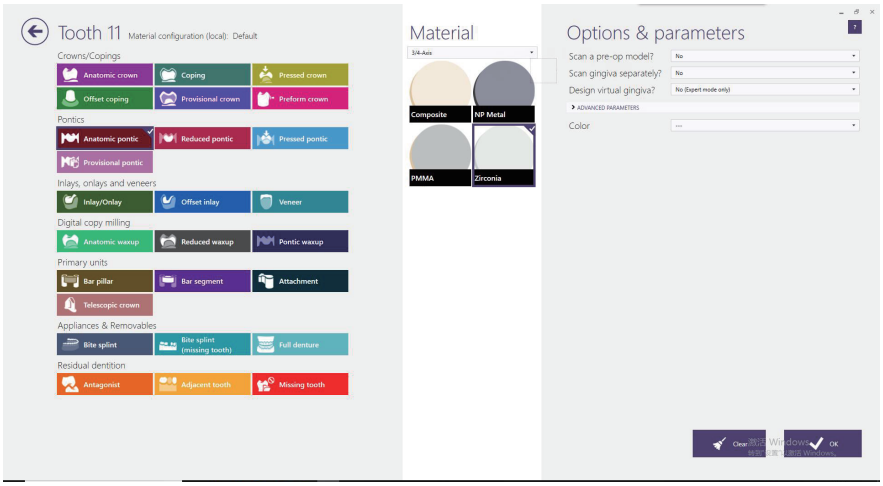
Minimum preparation guidelines for single posterior crown

Opening order digitally

Input name of client, patient and technician and other pertinent information. Click targeted teeth and choose the information such as like type of the restoration, then save it.







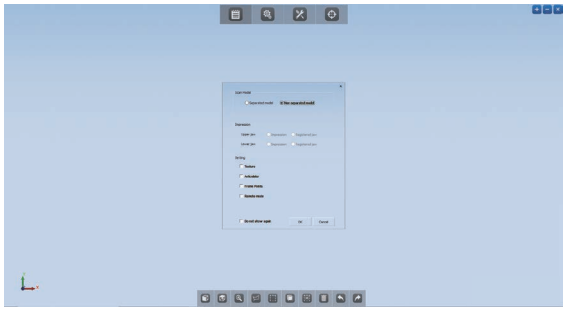
Scanning

Check scanner accuracy:

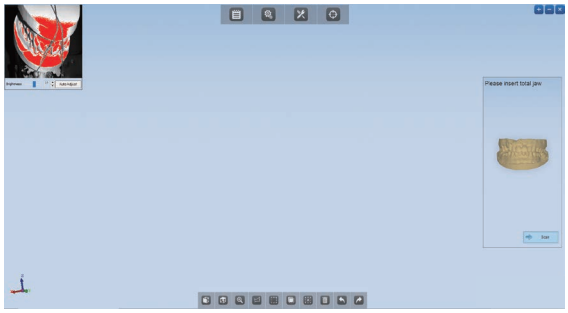
Calibrate the scanner periodically for accuracy.

Scanning process:

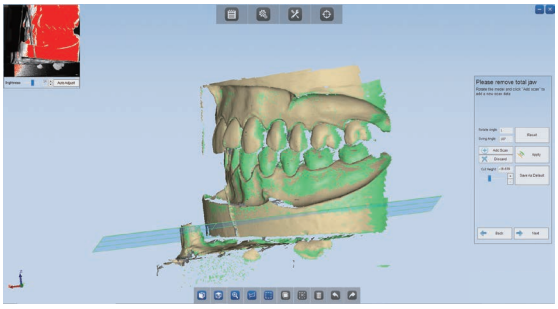
1.Click scan .Choose the type of model(separate or integrated)and click ok.



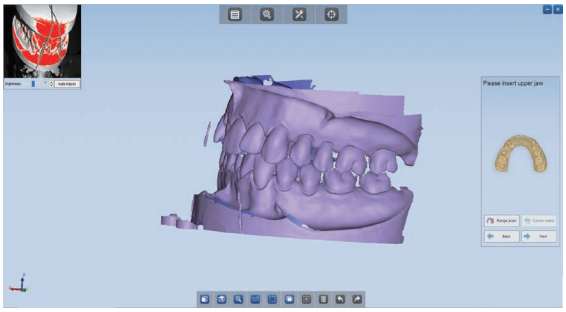
2.Place the model on the scanner following the indications on the right side and click scanning button.



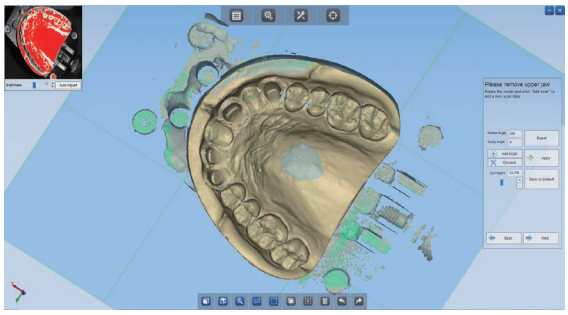
3.This process is to confirm the occlusal relation-ship. After the full-occlusion scan is finished, remove the model according to the indication on the right side.



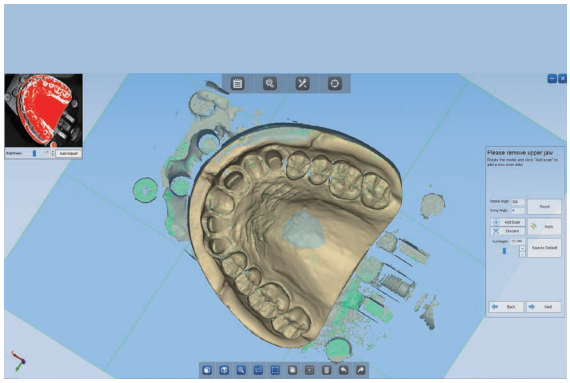
4.Place the upper model on the scanner and click next step.



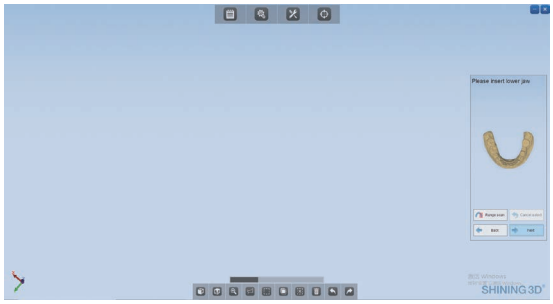
5.Work order is to restore the anterior3-3, so the abutment must be scanned clearly in this step. Click right-key of mouse ,holding it will rotate the model, and conduct additional scanning to add the missing data at the accurate positions.



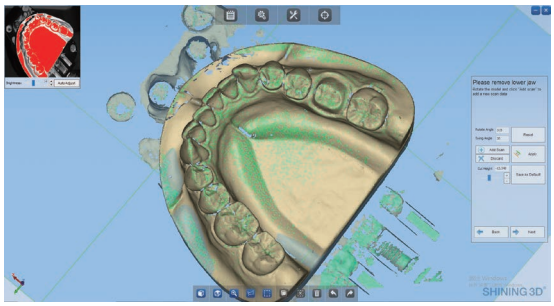
6.Remove the model of upper occlusal and click next step.



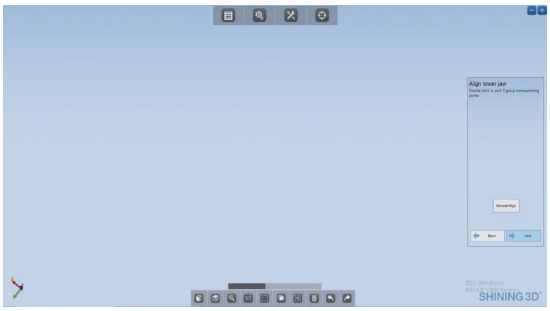
7.Place the lower model on the scanner and click next step.



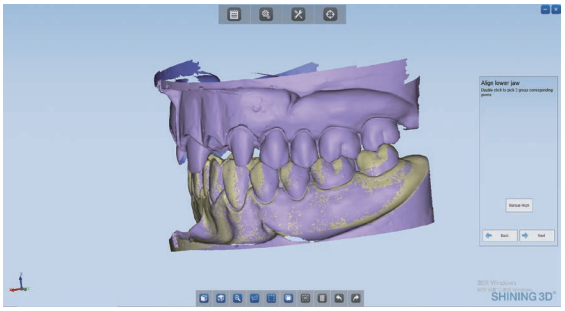
8.Focus on key position like occlusal surface and cusp . Additional scanning is necessary if the effect is not perfect. Click next if scanning is done.



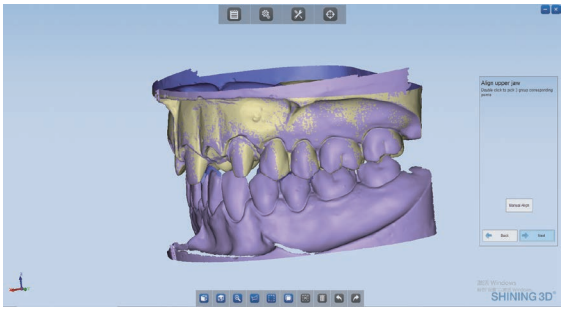
9.The software starts to splice the model of lower Jaw automatically.



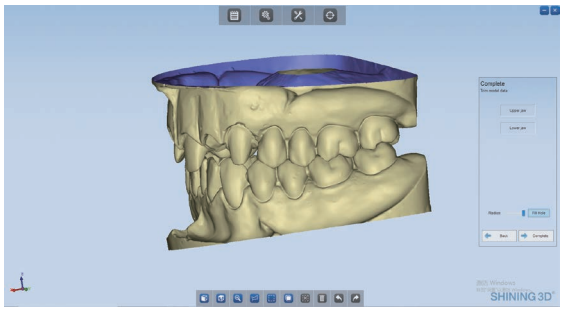
10.Once the purple and yellow color shows uniformly with an overlap distribution, the split joint is done. Click next step.



11.Split joint of Upper jaw is done. Click next step.



12.Adjust the radium of filling hole to the maximums,and click finish button.



Scanning notes

✓After，is scanning finished, the data must be checked for accuracy to avoid deviation from model. Be sure the split joint is done accurately.

✓Be sure the model is placed accurately and solidly on the base of the scanner every time before scanning of partial model.

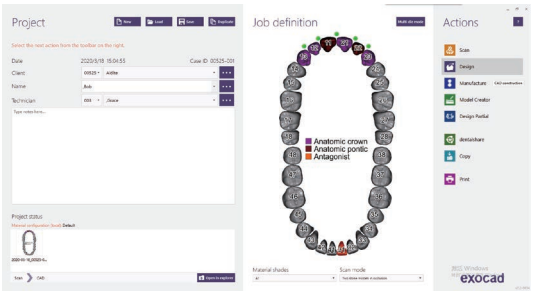
✓The main mode and the reference mode (secondary mode) must be the same.

✕The abutment must not be rotated or loose on the model.

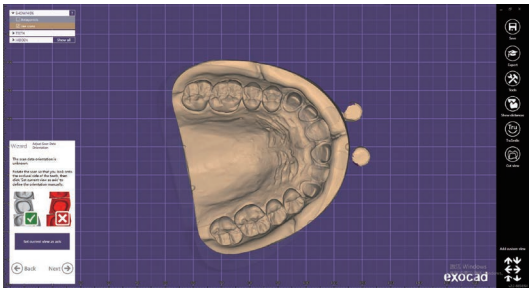
Designing

Designing process:

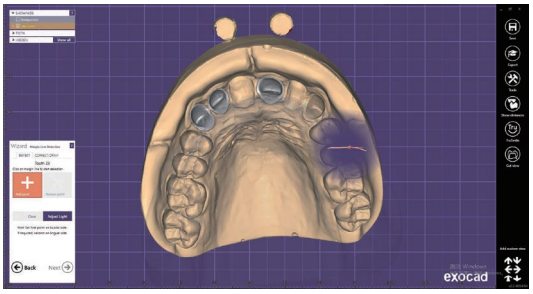
1.After scanning, return to the interface of designing and click design.



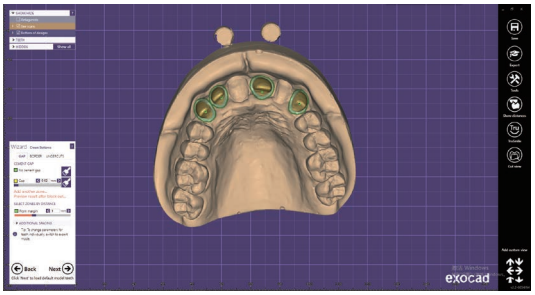
2.Set the guide of view



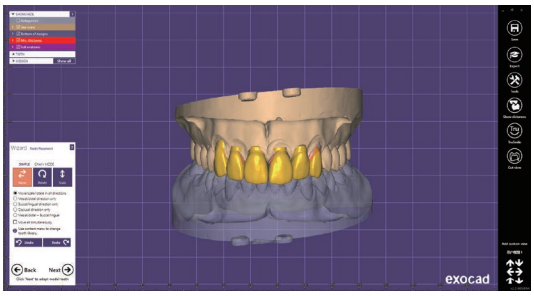
3.Draw the marginal line: It can be corrected by auto detecting or/and manual drawing.



4.Adjust the parameter of bottom of crown: The conditions of model and equipment like milling machines should be considered.



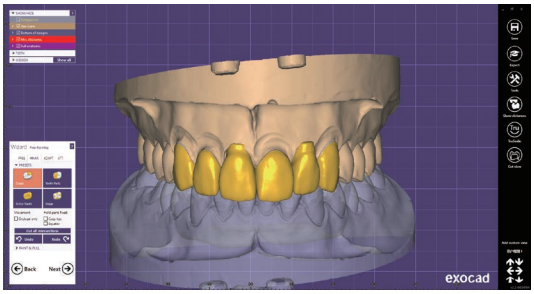
5.Type the tooth from numbering guide of view to facial/ buccal, occlusal surface, at far-center .



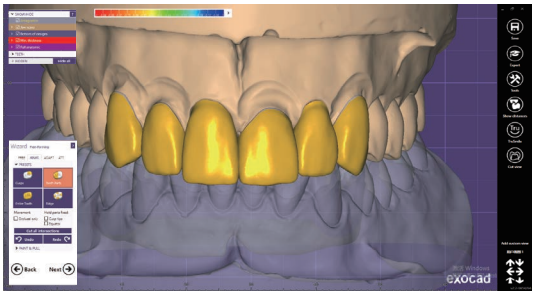
After integration, technicians can begin to design with five-step method for anterior crown.

Step 1: Outer contour treatment

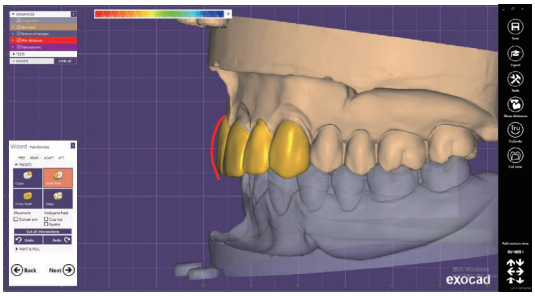
1.Outer contour includes: length, width, high points of contour, Trilateral form, tongue juga and arch radian.

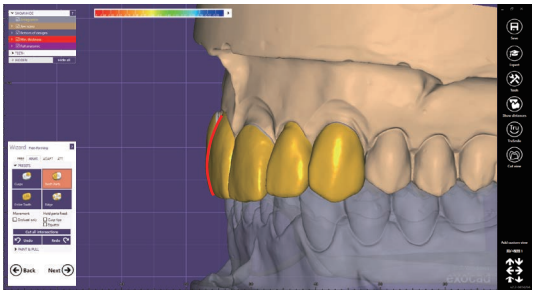


2.Adjust the length and width of facial side view as front view by dragging the image of tooth.

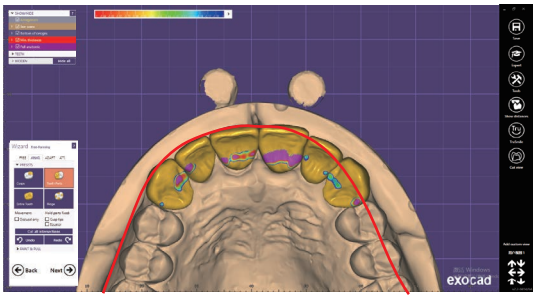


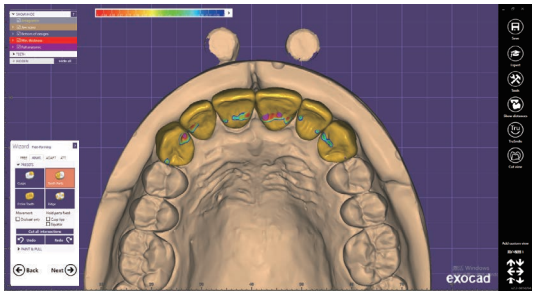
3.Adjust trilateral form and height of contour using this view this view





4.Adjust radius of arch and lingual using this view

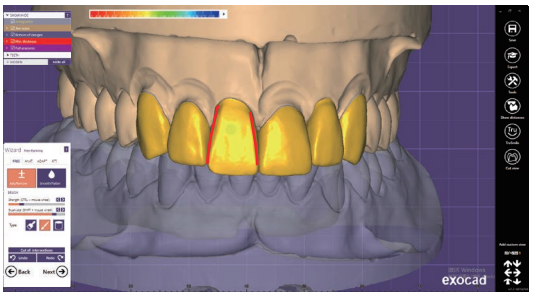


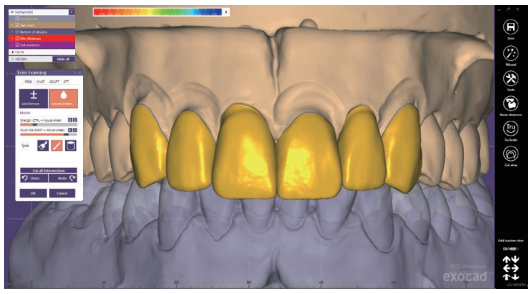


Outer contour is finished at this step.

Step 2: Drawing the outer peripheral ridge

Draw the ridge through the button of increase / decrease. The intensity and range are shown in the Chart. You can easily draw the line and angle. After adding the edge ridge, smooth and flatten them with the same intensity and range.

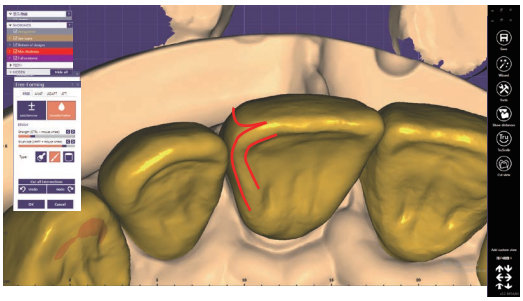




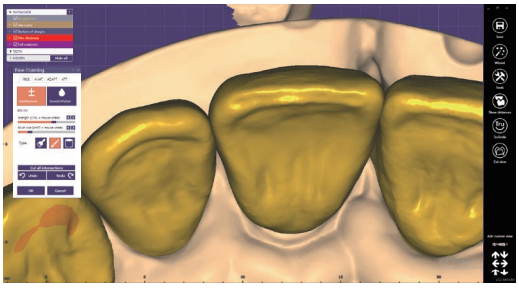
Step 3: Incisor angle and the incisal edge

The incisor angle and the incisal edge are the indicators good tooth design. Contour restorations so as to avoid bulkiness and under contour

The incisor angle is composed of three lines, the facial side edge ridge angle, the lingual side edge ridge outline, and the lingual side edge ridge outline. They are unified and coordinated through the button; increase / decrease during the production process.

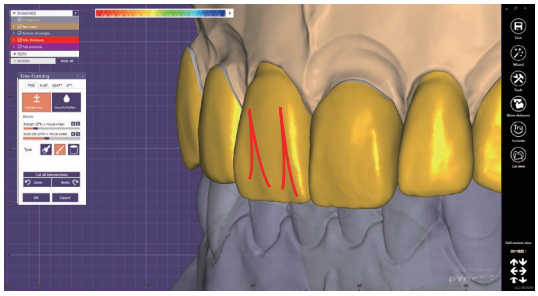


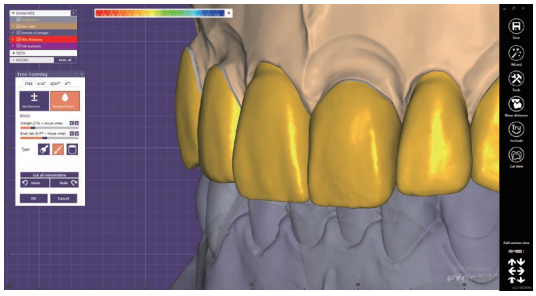
Use “Decrease” to change the incisal edge, and make it smooth and flat with the same value of strength and range.



Step 4: Developmental grooves

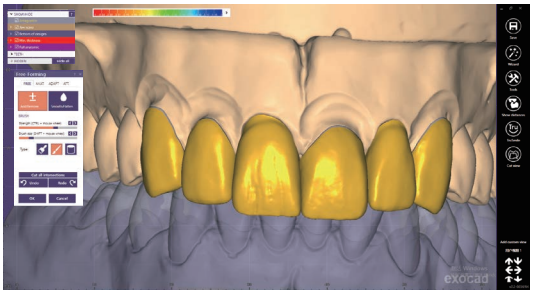
Drawing developmental grooves is easy. Use “Decrease” to carve with the strokes of “从” on the right side and remove the hollow on the grooves with smooth modifier.



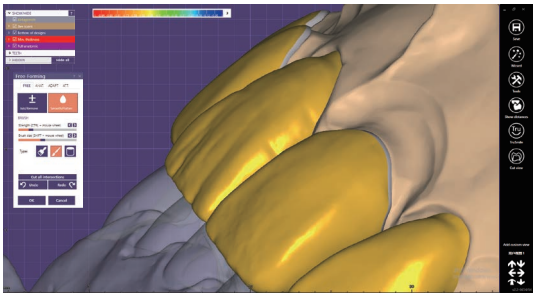


Step 5：Surface texture

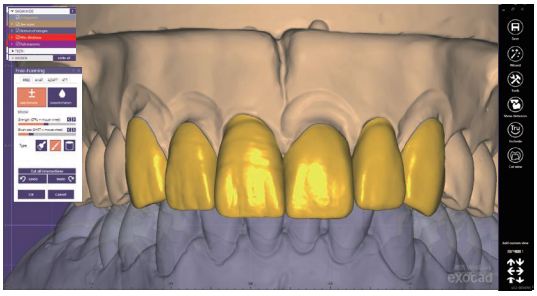
Surface texture can be defined as horizonal and vertical. Vertical grain generally has 3-4, distribution at the inner side of line and angle, like the right side chart.

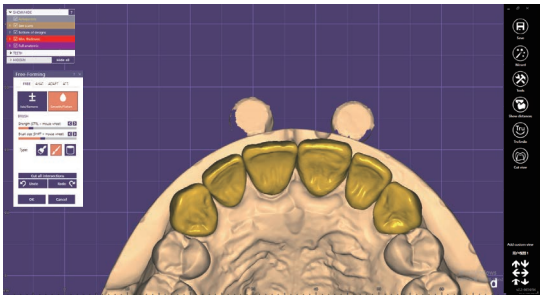


Horizonal grains is generally at 3, distribution at the vertical side with the largest and deepest one, middle side, and incisal side with a smallest one, like the chart on the right side.



Designment of Tooth 11 is done with five-step method.

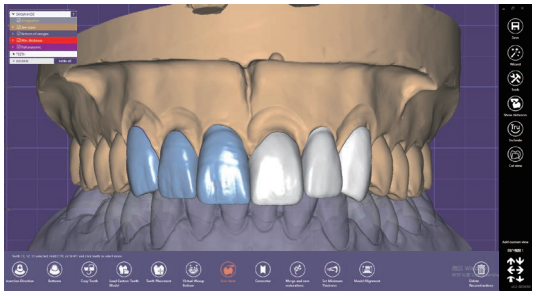




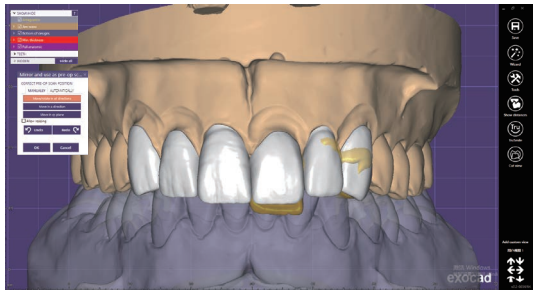
Symmetry：

For anterior teeth aesthetics, symmetry is a very important indicator. The following introduction is to create symmetry, and shape to the contralateral tooth of the same name with five-step method.

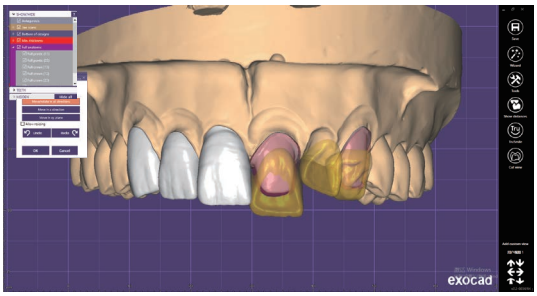
First, enter the advanced options, select 11, 12, 13 and right-click to select the mirror tooth as the preoperative model.

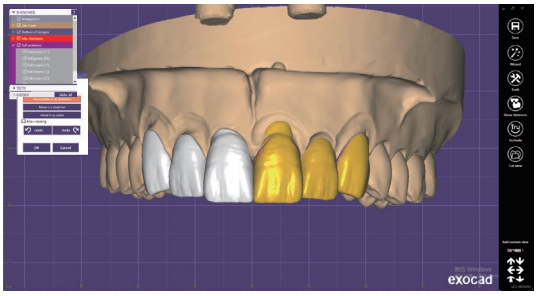


Sequencing the mirrored teeth

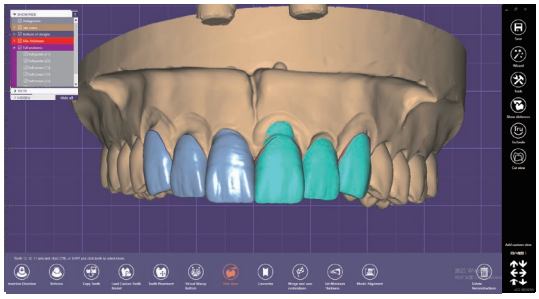


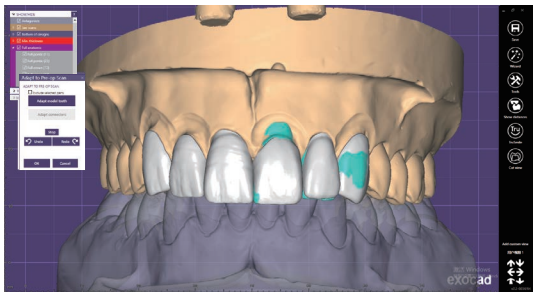
Hide the tooth 21,22,23 with the show/hide tools on the left upper side of the interface, and adjust the clarity of the preoperative model.

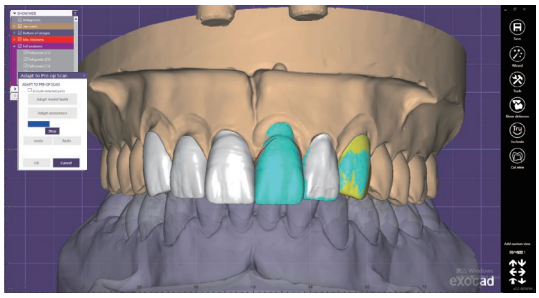


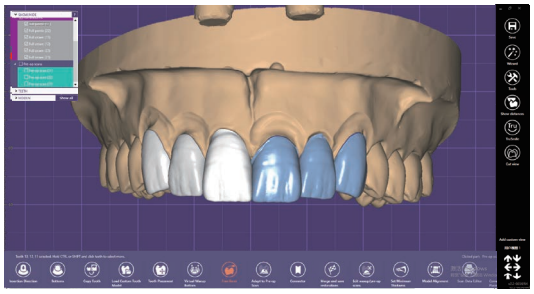


Select the three mirrored teeth, right-click on the teeth and choose the button “adjust to the pre-operative model”. (You can also directly click the button “adjust to the pre-operative model adjustment”)

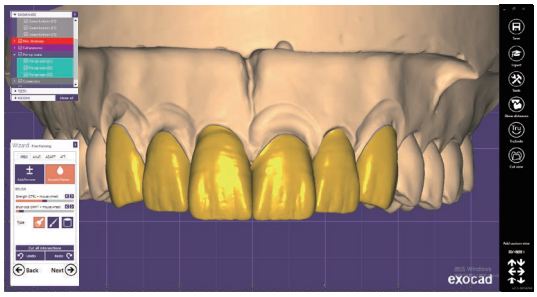




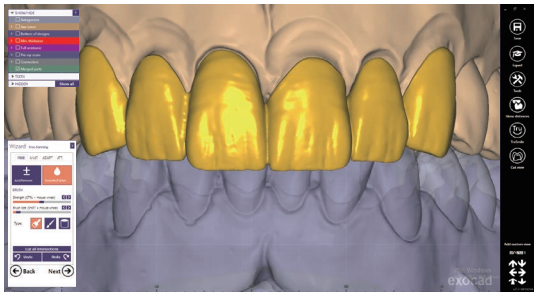




Click “ free-style model” or return to guide, simple smoothing may be necessary.

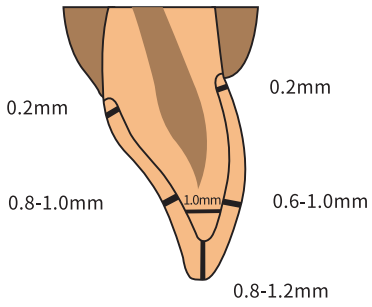


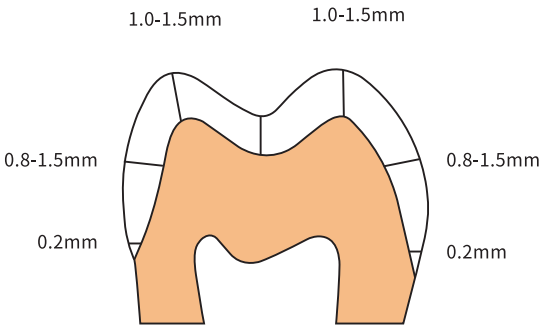
Design finished.



Designing notes

★ ✓Please design according to the following minimum thickness requirements:





✓Minimize gaps to create adequate contact area and strength.

✓The cross-sectional area of the anterior connector should be at least 9mm^{2}and the cross-sectional area of the posterior connector should be at least 12mm^2.

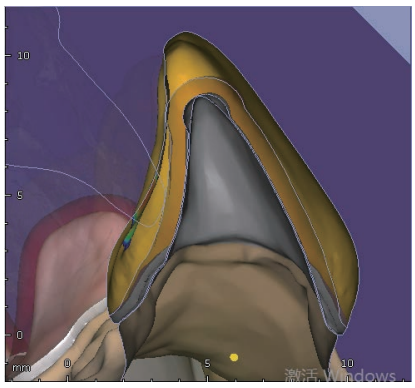
✓The maximum number of pontics between two abutments (teeth) should not exceed two.

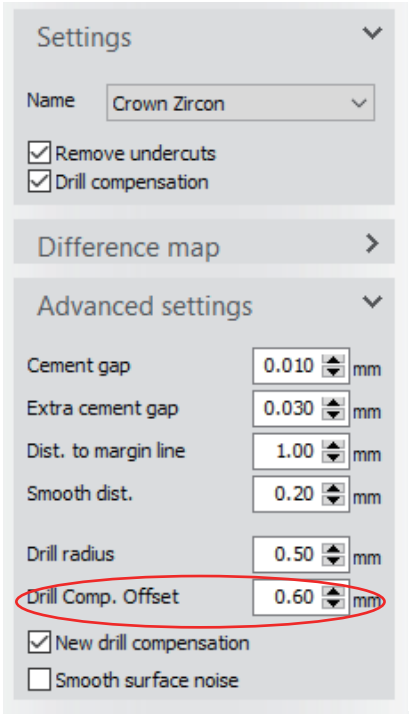
✓The length of pontic span ⩽18mm.

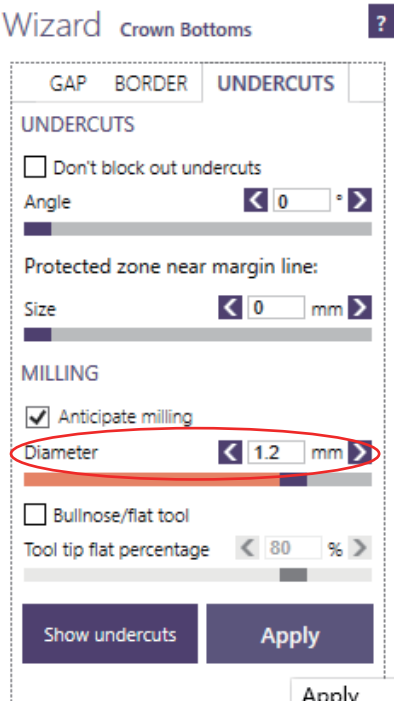
✓Can be used for long bridges within 14 or 14 units.

★ ✓Follow the operation below if the incisal areas of abutment have sharp edges.

Fill with wax at the sharp edges before scanning, or increase the compensation value of burs.

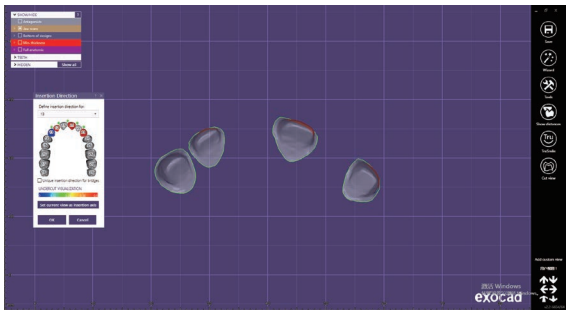


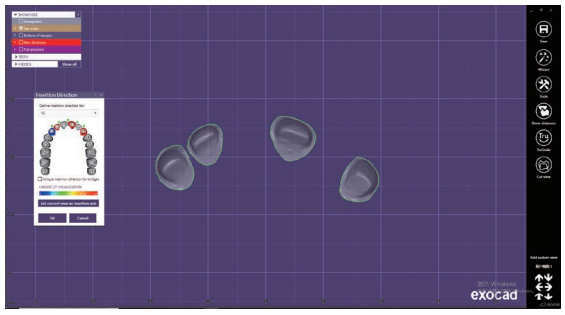




★ ✓If the automatically recognized margin line does not conform to the model, technician must check carefully and draw it by hand.

★ ✓The common seating path of the dental bridge must be checked to avoid irregular seating.



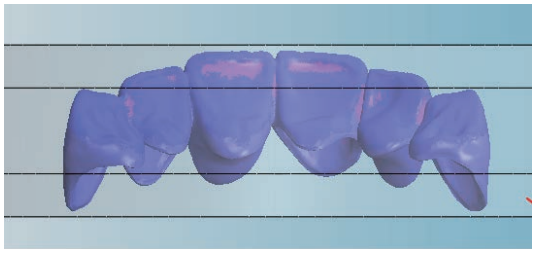


Nesting

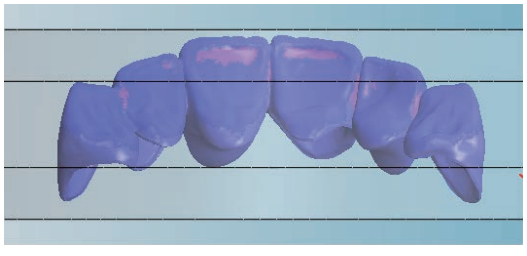
Notes:

★ ✓Be sure to choose a zirconium block with a thickness that is basically consistent with the height of the teeth. After typesetting, it is best to leave about 0.5mm left on the top and bottom of the zirconium plate, which can ensure multiple comprehensive properties such as color, transparency, and strength. When making anterior teeth, to ensure good color and transparency effects, please place them as close to the incisal as possible.

For example: The tooth height is 17.8mm. You need to choose a zirconium puck with a thickness of 20mm . Do not choose 22mm or greater.

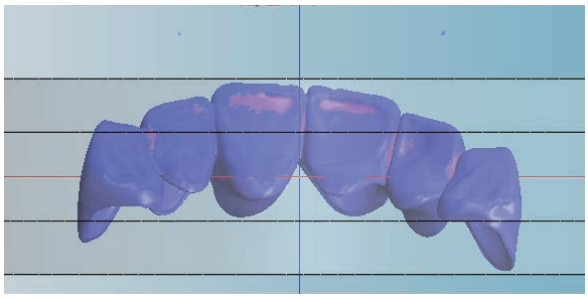


✓Puck 20mm

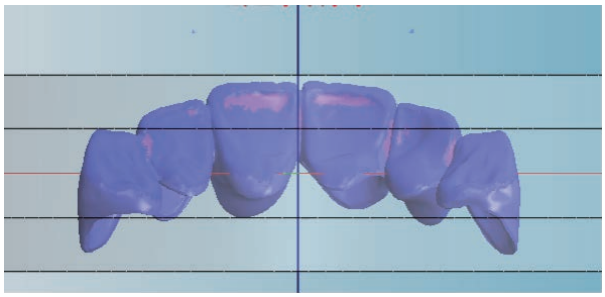


×Puck 22mm

✓If the long span bridge radius is large and the incisal is not on the same horizontal line, you can make rotation adjustments as much as possible within the movable range of the nesting software.

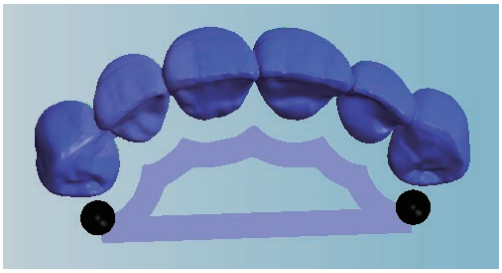


Before rotation

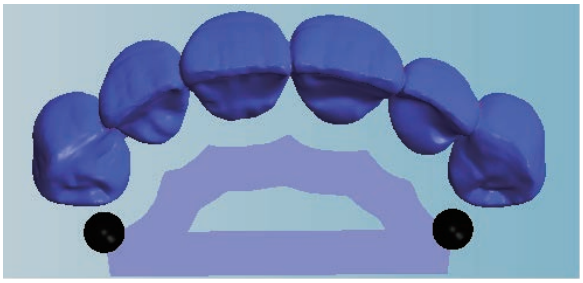


After rotation

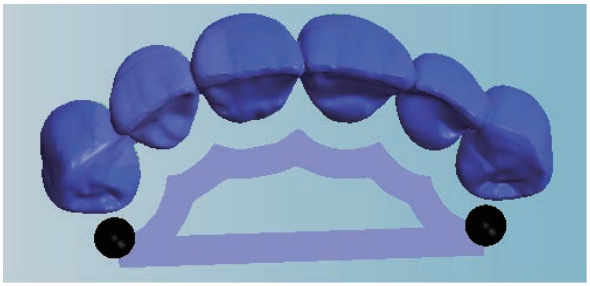
✓It is recommended that a palatal support be added to bridge for longer spanned bridges. It is best to use a hollow design to minimize the deformation probability.



✓Be sure to select a palatal frame that is equivalent to the mass of the long span bridge. The height and thickness of the sintering frame can be adjusted in the software.



×Too thick

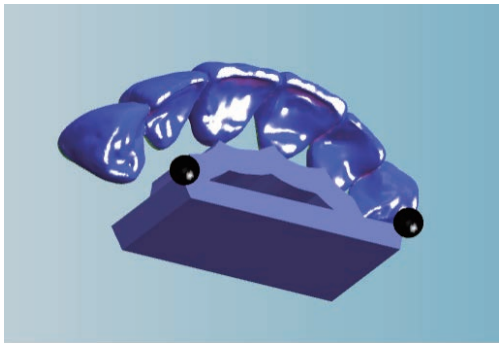


✓Normal thickness

The mass of the palatal support can be adjusted:

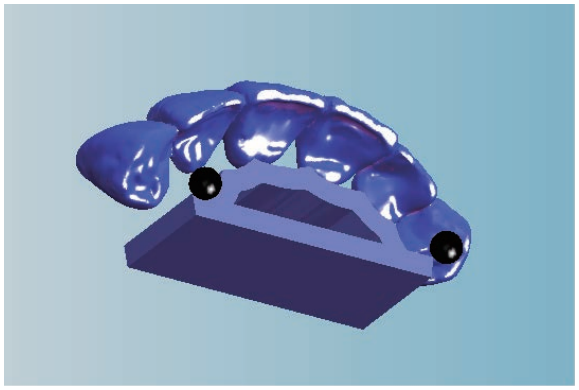
Adjust mass of palatal support

×Side support plate height is too high



✓Side support plate height is normal

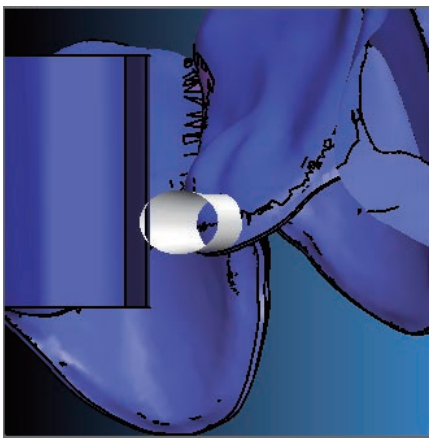
Adjust base plate thickness



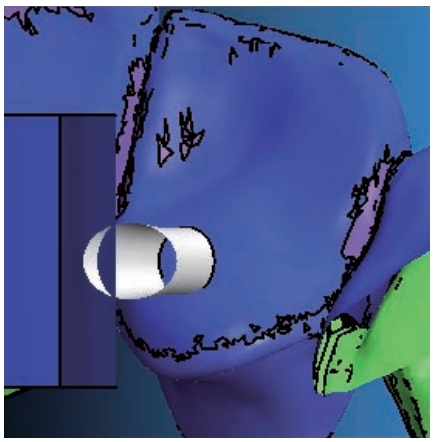
×Base support plate height is too high

✓Base support plate height is normal

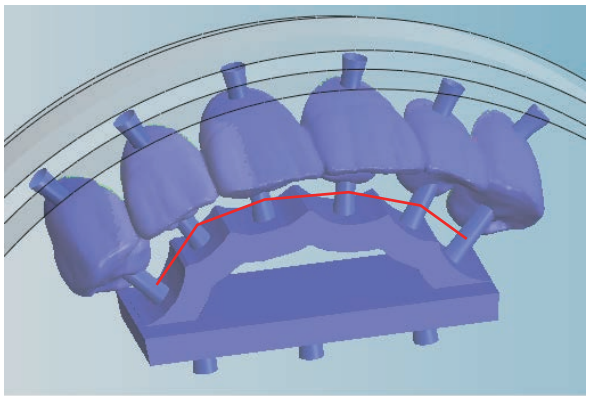
★ ×The distance between the connecting rod and the margin should not be too close, which may easily cause chipping when removing teeth from the disc. Add the connecting rod to the raised position of the tooth



×The connecting rod is too close to the margin



✓Right positioning of connecting rod



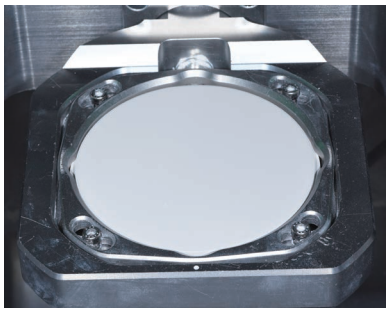
×The connecting rod and the zirconium puck must not be inclined nor on the same horizontal line, especially between the long bridge and the palatal support frame. If it is inclined or not on the same horizontal line, it will easily cause shrinkage deformation or sintering fracture

Milling

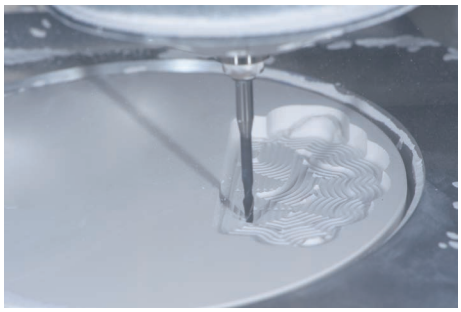
Check milling machine

- ✓ The maintenance of equipment should include regular calibration, cleaning and lubrication. No vibrations abnormal noise during milling should be present. If there is a problem with the accessory, replace it in time.
- ✓ Be sure to record the number of restorations being milled. Examine the milling tools for wear according to usage per sets of milled restorations. Replace accordingly.
- ✓ 3D pro Zir puck needs to be milled with 5axis equipment.
- × Do not place the mill on an unstable table or shelf.
- × Do not use wet milling method, otherwise the shade and translucency may be affected.
- × Do not mill without vacuum.

Milling:



1.When securing the puck in the holder, tighten the screws in a diagonal order, after the first turn is fixed, then reinforce in the second turn. Finally, check by hand if the zirconium puck is positioned correctly. It should be firmly secured, but not over tightened.
Check to be sure that the incisal of disc is at the correct position and not backwards.



2.Confirm that all requirements are met before processing can begin

3.Milling finished.

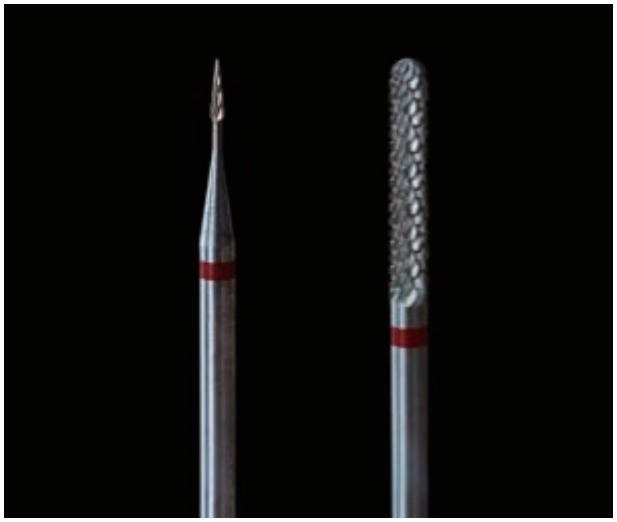
- Milling notes:

✓Loading requirement: The side of the puck is marked with an arrow, and the arrow points to the incisal.

- × Do not use too much force when loading the puck. Do not overtighten the screws. Otherwise, the zirconium puck will be pinched or the milled restoration may crack.

Separation and cleaning

Check tools:

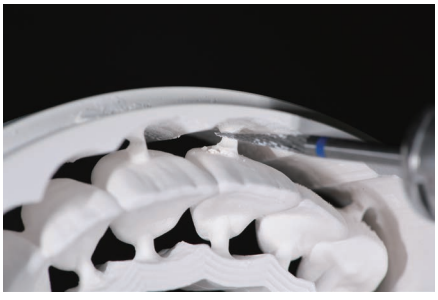


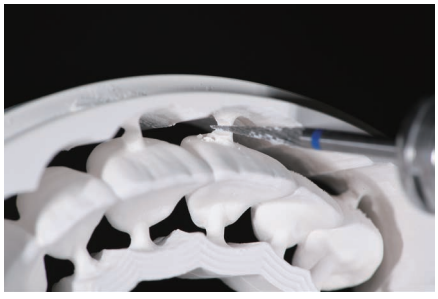
- ★ ✓ Hand piece is stable and vibration-free.
- ★ ✓ A soft towel or sponge pad needs to be placed on the table to prevent the teeth being damaged.
- ★ ✓ Use fluted tungsten steel burs to separate the connecting rod.
- ★ ✕ The grinding environment must be clean of debris. Burrs, table tops, and the surrounding environment should be clean. Adequate ventilation and dust vacuum is required. Do not breath dust particles, use a qualified mask while performing any grinding
- ★ ✕ The brush must not be contaminated by water, oil or metal debris.
- ★ ✕ The burrs should not be bent, otherwise it will cause vibration.

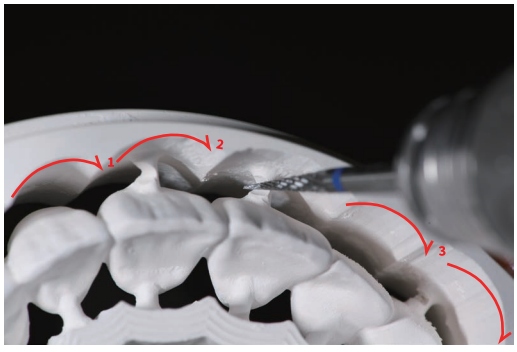
Process:

Step 1: Remove teeth

Grind the connecting rod with medium pressure.As shown in the figure, move the bur clockwise to slowly grind the connecting rod horizontally.







Grind out the connecting rod of the outer ring in half, and then polish the remaining connecting rods one by one to avoid the last connecting rod breaking directly, which may cause cracking or damage.

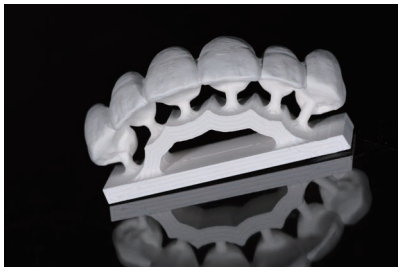
Step 2: Remove excess connecting rods

After separating the restoration from the zirconia puck, continue to use a thicker tungsten steel bur or rubber wheel to remove the excess connecting rod.


Step 3: Clean up the powder

Use a brush or porcelain brush to thoroughly clean the powder on the surface of the restoration and inside the crown. If the cleaning is not complete, the powder will adhere to the surface of the restoration and the crown after sintering at high temperature, forming white spots and cause fit issues. This will affect the quality of restoration.





★ Notes for tooth removal:

✓ The speed of grinding the connecting rod is 15000r / min-20000r / min.

✓ The speed of removing the excess connecting rod is 15000r / min-20000r / min.

✓ You can use an oil-free and water-free air gun to gently spray the powder off the surface of the restoration. The air gun should not be set at high pressure.

✕ It is not recommended to remove the connecting using sharp discs. Use gentle pressure when working with green-state zirconia.

Sintering

Check the Sintering equipment and tools::

Sintering furnace:

★ ✓The sintering furnace must use a voltage regulator to ensure stable operating voltage.

★ ✓The sintering furnace must be cleaned regularly(once a week) and kept dry.

Cleaning method:

scrape off the impurities in the furnace.

Place green-state scrap zirconia scraps into the furnace and sinter them according to the normal zirconia sintering curve.

★ ✓If furnace has not been used for more than a week, it must be decontaminated before used.

★ ✓When the equipment is not in use, the furnace should be closed to ensure a dry environment inside the furnace. Please keep the operation room of the sintering equipment clean and free of dust and debris. Do not place sintering furnace in a dusty environment. Metal shavings or dust, can adversely affect the heating elements.

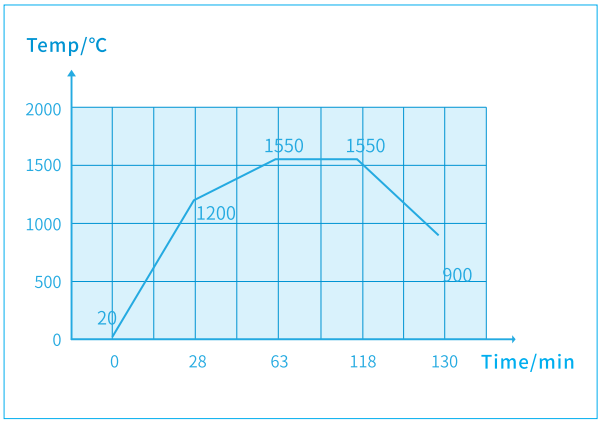
- ✓The heating elements of the sintering furnace must not show damage. If there is a small amount of peeling on the surface of the heating rod (silicon-molybdenum rod), the leftover material can be burned and the sintering furnace will back to normal.
- ✓Check the furnace temperature regularly (every 3 months) to ensure the stability of the furnace temperature.
- ✓Be sure to sinter in strict accordance with Aidite standard curve.
- ✓If there is a power outage or shutdown of the sintering furnace during the sintering process, it is possible to observe whether the restoration crystallizes (shrinks). If crystallization has not occurred, it can be re sintered. If crystallization has already occurred, it needs to be remake.
- ✓If the sintering furnace temperature is not accurate, it may lead to poor sintering effect. The specific situation is as follows: 1. Low furnace temperature may cause low transparency, deep color, and poor glossiness of the repair body, and it is necessary to calibrate the furnace temperature; 2. If the furnace temperature is too high, it may lead to light color, increased or decreased transparency (material burning), and the furnace temperature needs to be calibrated.

Sintering Program:

Below 3 units bridge (2h)

Start temp	Phase 1 heating rate	Phase 1 maximum temp	Phase 2 heating rate	Phase 2 maximum temp	Holding time	Cooling rate	Cooling to
20°C	43°C/min	1200°C	10°C/min	1550°C	55min	55°C/min	900°C

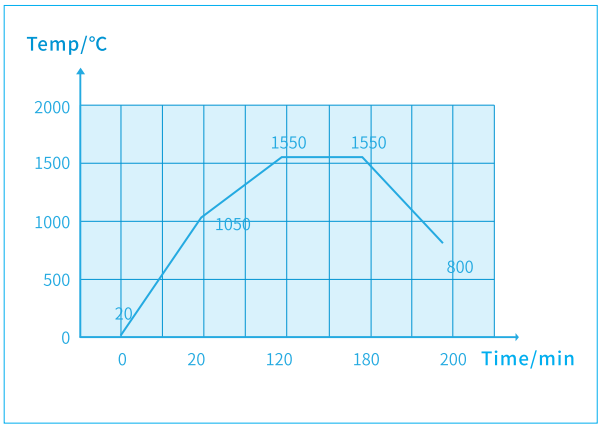
Phase	Time/min	Temp/°C
1	20	28
2	1200	35
3	1550	55
4	1550	12
5	900	-121



Below 6 units bridge (3.4h)

Start temp	Phase 1 heating rate	Phase 1 maximum temp	Phase 2 heating rate	Phase 2 maximum temp	Holding time	Cooling rate	Cooling to
20°C	51.5°C/min	1050°C	5°C/min	1550°C	60min	37.5°C/min	800°C

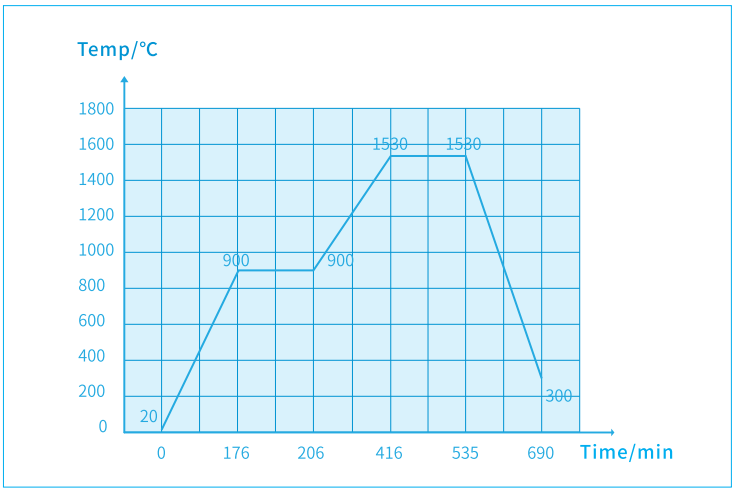
Phase	Time/min	Temp/°C
1	20	20
2	1050	100
3	1550	60
4	1550	20
5	800	-121



Above 7 units bridge (11.5h)

Start temp	Phase 1 heating rate	Phase 1 maximum temp	Holding time	Phase 2 maximum temp	Phase 2 maximum temp	Holding time	Cooling rate	Cooling to
20°C	5°C/min	900°C	30min	3°C/min	1530°C	120min	8°C/min	300°C

Phase	Temp/°C	Time/min
1	20	176
2	900	30
3	900	210
4	1530	120
5	1530	154
6	300	-121



Zirconium beads:

- ✓When the zirconium beads are severely discolored, the shape is broken or damaged, , it must be replaced immediately.
- ✓If the zirconium beads are stuck together, be sure to break them apart to ensure proper bead function.
- ✓The amount of zirconium beads should completely cover the bottom of the box (2 - 3 layers).
- ✓When replacing zirconium beads, first sinter the zirconium beads with remnants of green state zirconia and conduct a normal sintering cycle.
- ✓Use Aidite Zirconium Beads and it is recommended to use zirconium beads with a diameter less than or equal to 1.0mm to sinter long bridges, and use zirconium beads with a diameter greater than 1.2mm to sinter single crown.

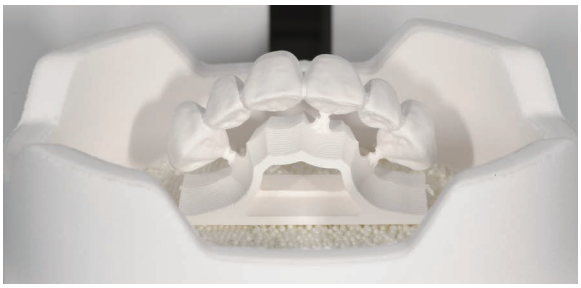
Zirconium beads

Sintering sagger:

- ✓Be sure to use a perforated sintering sagger to heat the restoration more evenly.

Sintering:

- ✓The standing sintering method is adopted to make the heating and shrinking more uniform.



Sintering finished.

Sintering notes:

- ✓Bridge above 6 units shoud be sintered with reinforcing band to ensure the shrinkage is even.
- ×A single crown or a bridge below 3 units can be sintered using the fast firing curve in an Aidite fast firing furnace.
- ×Do not sinter 3D pro Zir together with restoration dipped or brushed with coloring liquids.
- ×Furnace opening temperature shall be not more than 200°C after sintering.
- ×Avoid direct air conditioner or fans to prevent potential fracture or cracking due to fast cooling. Take the restorations out after have cooled naturally.
- ×Do not use quench cooling tools such as metal to contact high temperature restorations.

Grinding

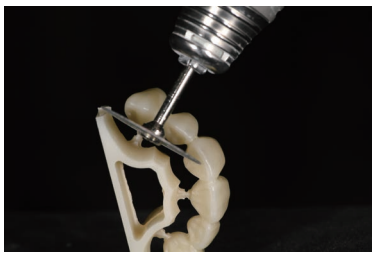
- Check the Grinding tools:

✓A special grinding bur for zirconia must be used. Use the Aidite Dental Grinding and Polishing Kit.
×Do not use diamond burs to adjust mass areas of restorations, otherwise that will cause potential fracture, cracking or white spots during glazing.

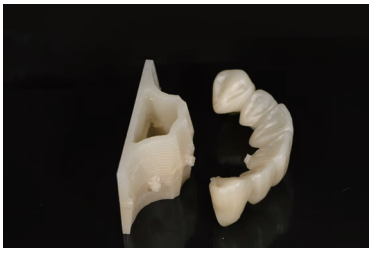
Grinding process:

Step 1: Remove connecting rods

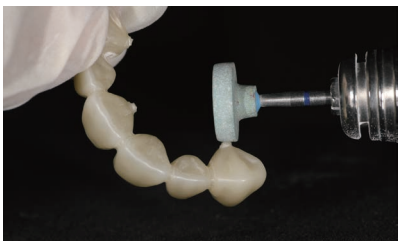
Separate restoration from sintering frame and remove the remnant connecting rods.
Use adequate water to cool during grinding. Be sure to not overheat restoration while grinding. The temperature of zirconia should not exceed 60°C. Cooling with water will ensure the temperature of zirconia will not exceed 60°C at any time.
Using correct rotation speeds grind to remove excess material. Do not grind restoration for long periods of time to avoid overheating. Grind and continuously changing position. Do not grind continuously at the same position.



Support Removal



Support removal finished



Contouring excess connecting rods

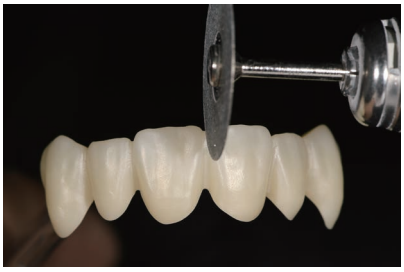
Finished

Notes of removing connecting rods:

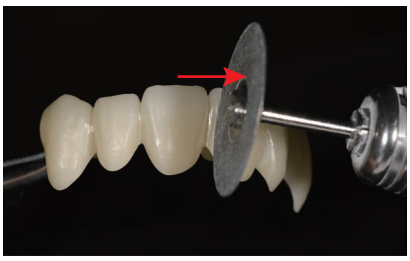
- ✓ Grinding speed of removal tools: 15000-20000r/min
- ✓ Revolving speed of rough grinding: 20000-35000r/min
- ✓ Dip in water before grinding to prevent high temperatures
- ✕ Do not grind the restoration with high pressure.
- ✕ Do not grind continuously at the same position, to avoid potential fracture or cracking caused by overheating.

Step 2: Grinding embrasure

Suggest using sintered diamond discs to grind proximal area between teeth, similar to point grinding. Do not grind zirconia more than a fews second at a time. Use edges and points to reduce overheating.



Grind outwards, to have silicon carbide particles contact incisal embrasure, and proximal area between teeth. Do not grind vertically.



Grinding direction

Notes of grinding embrasure:

- ✓ Revolving speed: 20000r/min, keep hand piece stable in hand.Do not generate large vibrations and shocks.
- ✕ Do not cut vertically which will lead to excessive pressure stress and localized overheating. Use shearing stress of sand discs to remove material.
- ✕ Do not cut continuously at the same position, to avoid potential fracture or cracking caused by overheating.

  Next, use Aidite special zirconia grinding tools to adjust restoration surface. Create restoration surface smooth by a 3 steps process: rough grinding, fine grinding, rough polishing.

Step 3: Rough grinding

This process is used for fitting and, adjusting the adjacent, occlusal surface, entire surface. As well for grinding connecting rods to remove materials.

Grind in the same direction, to make the lines fine and smooth. It is effective to grind in the right direction, wrong direction grinding will lead to low efficiency and increase wear of grinding head.

Using rotation speed of grinding head and point grinding to remove, be sure to avoid overheating or stress by concentrating in one position. Grind with minimum pressure by continuously changing positions.

Notes of rough grinding:

- ✓ Revolving speed of rough grinding: 20000-35000r/min.
- ✕ Don' t grind the restoration with high pressure.
- ✕ Don' t grind continuously at the same position, to avoid potential fracture or cracking caused by overheating.
- ✕ Don' t use rough grinding tools to grind cervical margin of restoration.

Step 4:Fine grinding

Following the rough grinding step, make the surfaces smooth, uniform and delicate. It is the same as rough grinding, grinding the surface of restoration from right to left in the same direction.

Use fine grinding head to adjust the cervical margin.

Notes of fine grinding:

- ✓Revolving speed of fine grinding: 20000-35000r/min.
- ✓Use fine grinding head to grind after rough grinding
- ×Do not grind the restoration with high pressure.
- ×Do not grind continuously at the same position, to avoid potential fracture or cracking caused by overheating.
- ×Do not use rough grinding tools to grind cervical margin of restoration.

Step 5: Rough polishing

Make the surface fine and smooth to enhance the overall effect, and reduce wear to opposing teeth.
Polish slightly from right to left in the same direction.

Rough polishing tools also can be used for cervical margin adjustment to prevent chipping problems. Cake-shaped, columnar and cone shaped tools are available in three shapes.

Sharper access tools of rough polishing are suitable for polishing some area that is not easy to access, e.g. tooth cusps or incisal embrasures.

In order to reduce the wear to opposing teeth, polishing in occlusal area is necessary. Cake-shaped, columnar and cone shaped tools are available in three shapes.

Notes of rough polishing:

- ★ ✓Revolving speed of rough polishing: 10000-16000r/min
- ★ ✓After fine grinding, use a rough polishing head to polish the neck edge
- ★ ×Don't use too much pressure during rough polishing. Roughly polishing matt polish is preferred.

Staining and Glazing

- ★ ✓Aidite Biomic stain & glaze kit is recommended to help achieve better esthetics and effects.

Preliminary preparation:

✓ After contouring and smoothing, the surface of the restoration does not be sandblasted.
✓ Sandblasting is not required inside the crown of a prosthesis with good mechanical retention, and sandblasting is required in the crown of a prosthesis with poor mechanical retention.
✓ If sandblasting is required inside the crown, use 50um white alumina oxide, sandblasting pressure of 2bars , and sandblasting distance of 10cm.
✓ Clean the surface of restoration by steam or ultrasonic cleaning machine before staining.

Staining process:

The restoration is painted with transparent glaze as a whole.

The cervical is painted with the main colors such as A shade.

Use terracotta at the neck margin and the lower part of the adjacent surface.

Use a small amount of brown at the neck edge to create a sense of hierarchy.

Use orange 2 on the upper 1/3 of the incisal edge to build mamel-on fifinger structure.

Use blue 1 on the two sides of theincisal, use blue 2 on the middle area of the incisal

Use black on the more transpar-ent area of the incisal to enhance transparency.

Use orange 1 at the incisal edge to create the halo effffect.

Final effect.

Sintering curve for stain and glaze:

	Temperature at start (°C)	Drying time (min)	Heat rate (°C/min)	Sintering temperature (°C)	Holding time (min)	Slow cooling (min)	Temperature taken out (°C)
First sintering	450	2	50	750	2	-	500
Second sintering	450	2	50	740	2	-	500
Fast sintering	450	2	99	750	2	-	500
Zirconia Long Bridge Sintering (4-7units)	450	3	40	750	2	-	300
Zirconia Long Bridge Sintering (8 units or more)	450	4	30	750	2	-	300

Please note when sintering the long bridge restoration:

1. Reduce the heating rate appropriately to improve the sintering quality.
2. Extending the holding time can compensate for poor heat conduction of zirconia.
3. Extend the cooling time to avoid stress cracks caused by rapid cooling of zirconia.
4. The maximum sintering temperature can be 720-780 °C. The operator can adjust the temperature according to the brightness effect he needs.

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