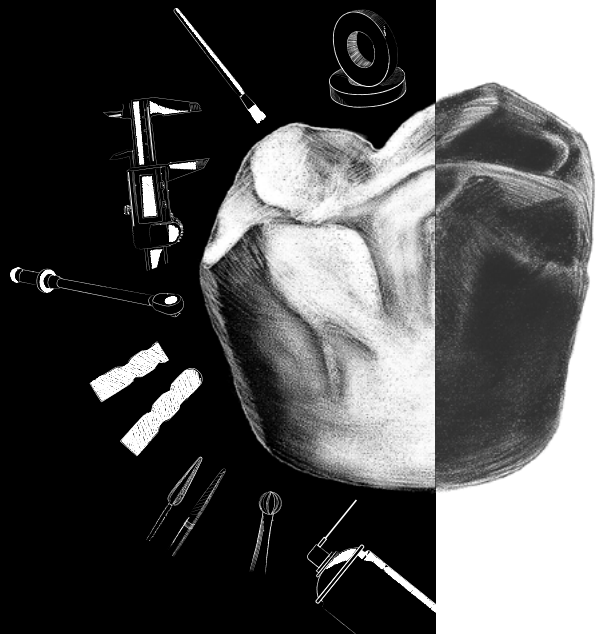
pritidenta®
MEMBER OF IMES-ICORE® GROUP

priti® TIPS



How to use
priti®multidisc ZrO_2
correctly

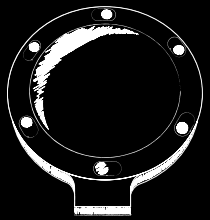
Mounting the ZrO_2 disc

Objective: Avoid chipping

WHAT YOU NEED:

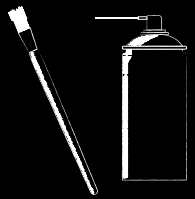
1

priti®multidisc



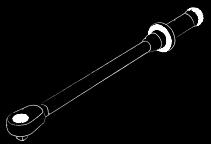
2

CNC machine quick clamping ring



3

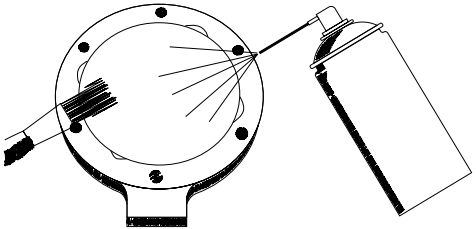
Brush or compressed air cleaner



4

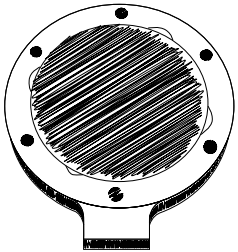
Torque wrench

1. CLEANING OF BLANK HOLDER (SUB-BASE)

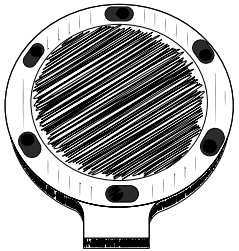


Thoroughly clean the blank holder with a brush or compressed air cleaner to avoid unevenness.

2. POSITION ZrO_2 DISC IN THE BLANK HOLDER (SUB-BASE)

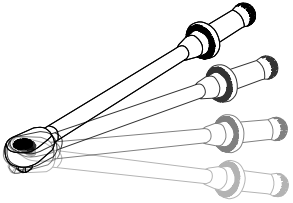


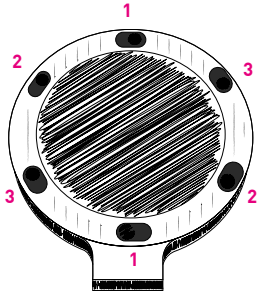
3. FIX THE ZrO_2 DISC USING THE QUICK CLAMPING RING (UPPER-PART)



4. TIGHTEN

Fastening force:
0.1–0.3 Nm (For heavily milled discs use 0.1 Nm.)





1st step:

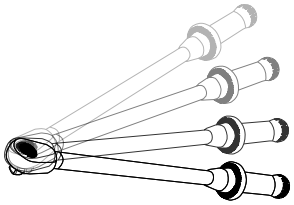
50 % 1 & 50 % 1

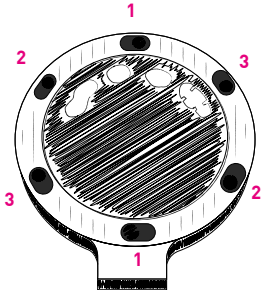
50 % 2 & 50 % 2

50 % 3 & 50 % 3

2nd step:
Repeat 1st pass and tighten.

5. LOOSENING





1st step:

50 % 1 & 50 % 1

50 % 2 & 50 % 2

50 % 3 & 50 % 3

2nd step:
Repeat 1st pass and loosen.

Assortment of disc and Positioning Guide for

priti®multidisc ZrO_2 Extra Translucent Multilayer compact
priti®multidisc ZrO_2 High Translucent Multilayer compact

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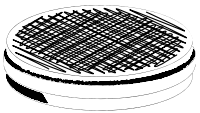
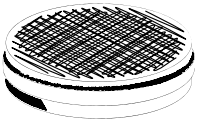
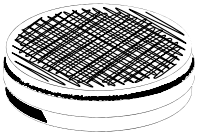
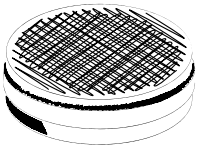
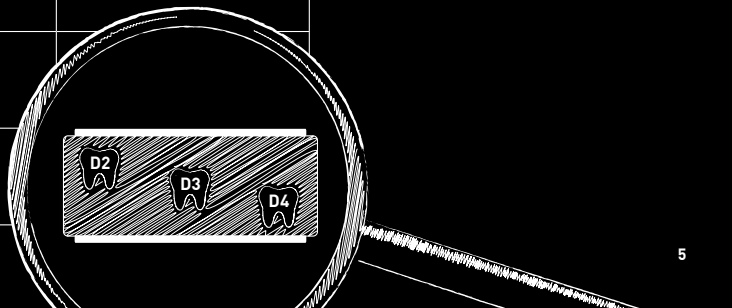
1. HEIGHT SELECTION

What is the height of your restoration?

Restoration height:	6–9 mm	9–12 mm	12–14 mm	14–18 mm
Disc height:				
	14 mm	18 mm	20 mm	25 mm

2. CORRECT COLOR MAPPING

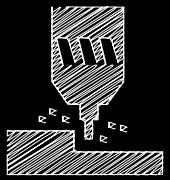
Desired color shade:	Select:	Position:
VITA classical®	*pritidenta® color*	*in the disc*
A1	A 1-3	top
A2		middle
A3		bottom
A3	A 3-4	top
A3.5		middle
A4		bottom
B1	B 1-2	top
		middle
B2		bottom
B3	B 3-4	top
		middle
B4		bottom
C1	C 1-2	top
		middle
C2		
C3	C 3-4	
C4		
D2	D 2-4	
D3		
D4		



WHAT YOU NEED:

1
priti®multidisc

2
Software



3
Milling machine for open (98.5 mm) and coordinated systems

4
High-quality milling tools ideally with diamond coating

The right CAD/CAM settings for your restoration

Objective: Perfect milling results

A. CONSTRUCTION

The correct settings in the CAD software

The following parameters must be observed when designing the systems:		Crowns	Maryland-Bridges	Bridges
Minimum framework thickness	anterior	0.4 mm	0.4 mm	0.6 mm
	posterior	0.6 mm	0.6 mm	0.6 mm
Connectors	anterior	-	6 mm²	6 mm²
	posterior	-	9 mm²	9 mm²
Framework design	Anatomical tooth shapes (veneering ceramic-supporting); fully anatomical			

Please note these parameters

B. MILLING PREPARATION

The correct settings in the CAM software

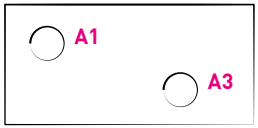
1 Select the appropriate machining strategy according to material type

2 Our machining recommendation:

Processing step	Roughing: occlusal / cavity	Roughing / finishing: occlusal / cavity + rest material
Machining tool	Rough milling cutter	Roughing/finishing cutter
Speed	19,000–23,000 U / min	23,000–27,000 U / min
Feed rate (Vf)	1,200–1,500 mm / min	800–1,200 mm / min

PRITI®TIP

3 Ideal nesting



4 If necessary, include sintering aids

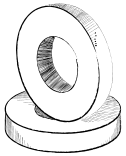
C. MILLING

We recommend dry machining.

Sintering step by step

Optimal preparation and adjustment of the sintering furnace

What you need:



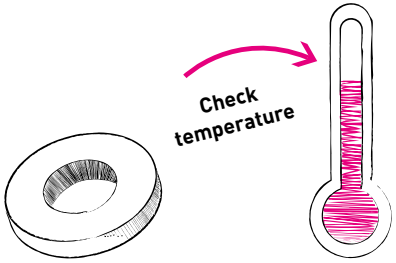
1 PTC-Ring

2 priti®clean cleaning powder

3 Sinter bowl with cover

4 priti®pearl

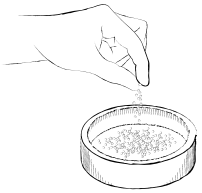
1. FURNACE CALIBRATION



2. CLEANING THE FURNACE PRITI®CLEAN

Changeover

3. PREPARING THE SINTER BOWL



If you have used dyeing liquids, please fire with priti®clean to purify the furnace. Additionally change the sintering beads.

PRITI SINTERING PROGRAMS

	Standard 7 hours	Rapid sintering 4 hours	Speed sintering 1 hour
Heat-up rate	8–10 °C / min	10 °C / min	99 °C / min
Final temp.	1,450 °C	1,500 °C	1,550 °C
Hold time	120 min	30 min	5 min
Cool down rate	8–10 °C / min	40 °C / min	40 °C / min*
Limitations	none	3-unit bridges	for single crowns only and limited to priti®multidisc ZrO_2 Extra Translucent

*Cooling down to 800 °C, open the furnace door at 750 °C

ALTERNATIVE PRE-SET SINTERING PROGRAMS

	ZIRKONZAHN 8 hours	ZIRKONZAHN 4:40 hours	Amann Girrbach 8 hours
Program	ICE Standard	ICE Speed	Program 1
Final temp.	1,500 °C	1,500 °C	1,500 °C
Hold time	120 min	60 min	120 min
Limitations	none	3-unit bridges	none

PRITI®TIP

priti likes to be alone in the furnace!

Simultaneous sintering with ZrO_2 from others can influence the coloration.

LARGE RESTORATION, HIGH CAUTION!

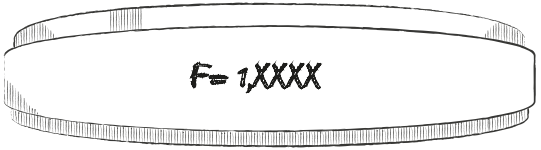
1. 8 °C / min heating up and cooling down rate
2. Do not open the furnace before 300 °C
3. Do not remove the cover of the bowl until you can do it by hand
4. Do not place the restoration on metal
5. Do not touch with metal (tweezers)

Nesting

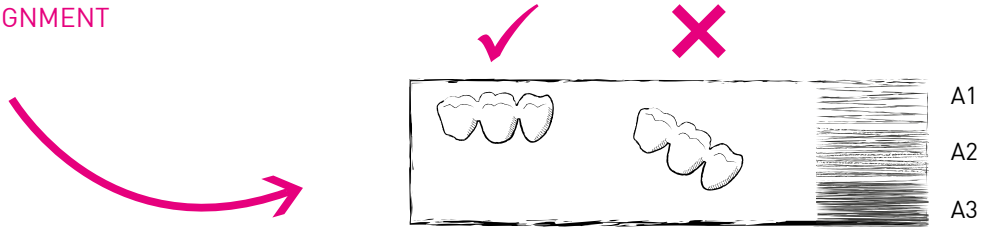
Objective: Smooth manufacturing process

1. DETERMINING THE MAGNIFICATION FACTOR

An individual magnification factor is printed on each blank.
This value is entered into the CAM software.



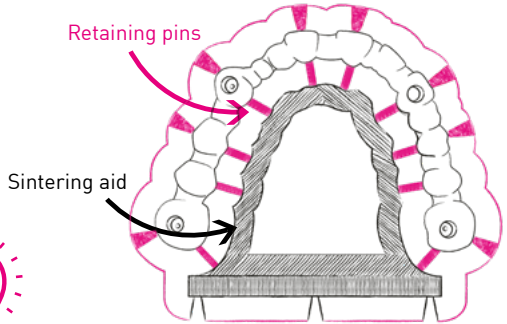
2. ALIGNMENT



How large is the bridge?

3a. For more than 4 units: CREATE A SINTERING AID

- Align the retaining pins in a line.
- Adapt the cross-section of the retaining pins to the mass to be supported.
- For sintering, place the restoration on the back of the sintering body.

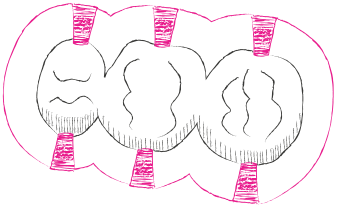


PRITI®TIP

Volume of the sintering aid should be between 90 % and 100 % of the object volume.

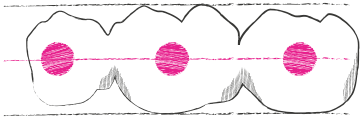
3b. For less than 4 units: FIXATION OF THE BLANK

2 retaining pins per unit.



Top view

Position retaining pins centrally at the equatorial height.

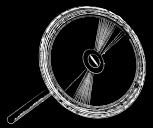


Side view

Finishing – before and after sintering

Objective: No cracks and fractures in the workpiece

WE RECOMMEND THESE GRINDERS:



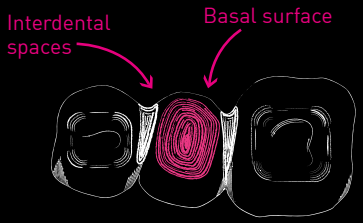
Diamond-coated cutting disc

Small round burr

Diamond grinder

Rubber

PRIOR TO SINTERING – FINISH AS MUCH AS POSSIBLE!



View from bottom

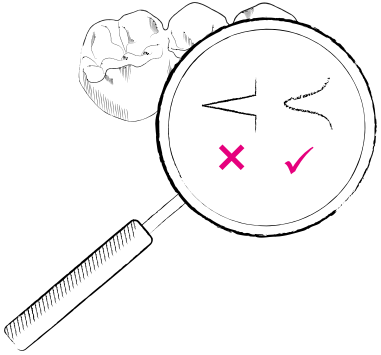
Ensure that the basal surfaces and interdental spaces are rounded off.

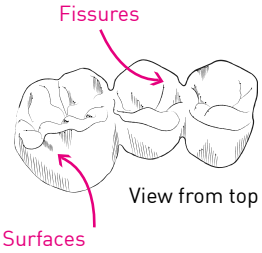
PRITI®TIP

Increase efficiency:

- Finish as much as possible in the white state.
- All areas should be finished to a level which allows them to be smoothed and polished with suitable instruments after sintering.

DO NOT INCORPORATE SHARP EDGES

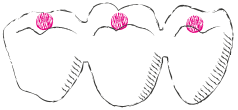




! Smooth and round off surfaces as far as possible. As required, the surface structure can be worked on before sintering.

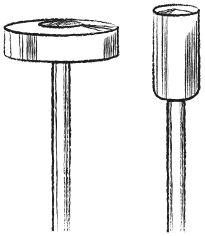
REMOVE RESIDUES OR DISCOLORATION

Remove markings or grinding residues with a brush (or paintbrush)

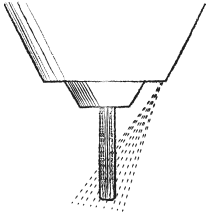


Please only work with tools expressly recommended for zirconium!

AFTER SINTERING – FINISH AS LITTLE AS POSSIBLE!



Heatless stones



Water flush cooled grinders

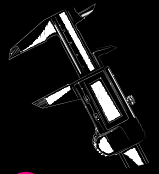
Rubbers

Furnace calibration with PTC-rings MTH

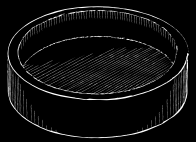
Objective: Optimum sintering results for translucency, colour and strength

WHAT YOU NEED:

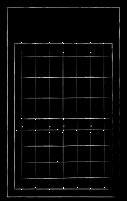
1 PTC-Ring



2 Caliper gauge



3 Sintering bowl



4 Reference temperature table

MODE OF OPERATION:

The PTC rings indicate the furnace temperature reached by their shrinkage during sintering.

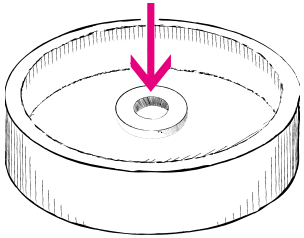
Thus, the PTC rings react to the amount of heat applied (temperature/time).
The reference temperature table is enclosed with the PTC rings.
It indicates the amount of heat per hour of dwell time.

... FOR OUR PRITIDENTA SINTERING PROGRAMS THIS MEANS THE FOLLOWING:

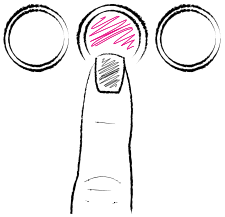
priti® sintering programm	Furnace input: final temperature/dwell time	Temperature tolerance range of shrinkage of the PTC ring in the reference temperature table
Speed sintering (4 h)	1,500 °C / 30 min	1,480–1,500 °C
Standard sintering (7 h)	1,450 °C / 120 min	1,450–1,470 °C

This is how it's done:

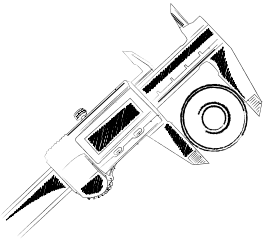
1. PLACE THE PTC RING IN THE SINTERING BOWL (TOGETHER WITH RESTORATIONS IF SO DESIRED)



2. SELECT AND START THE SINTERING PROGRAM

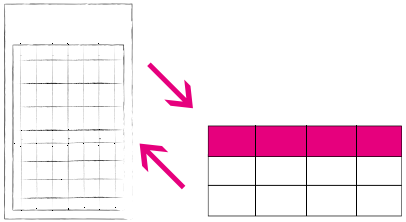


3. MEASURE PTC RING WITH CALIPER GAUGE AFTER SINTERING



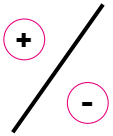
4. COMPARE THE TABLE

Find the diameter of the ring on the enclosed reference temperature table and compare the corresponding temperature value with the temperature tolerance from the table above.



5. CONTROL THE INPUT

If the value lies outside the temperature tolerance, correct the furnace input up or down depending on the deviation.



6. REPEAT THE PROCESS

Check your adjustment again with a PTC ring at the next sintering operation (see 1.-5.).

We recommend a monthly calibration of the furnace.

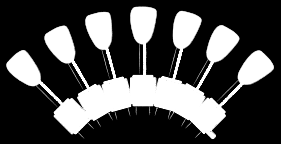
PRITI®TIP

The Correct Shade Selection for Zirconium Dioxide

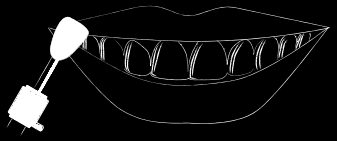
Objective: To achieve perfect shade at the first try-in

1. DETERMINING THE PATIENT'S CORRECT SHADE

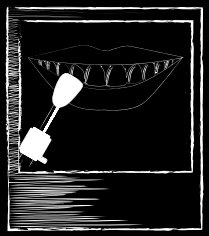
a Use the shade guide provided by your ZrO_2 manufacturer



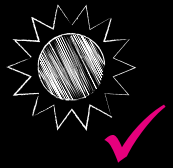
b Compare the shade guide sample to the patient's tooth



c Photograph the selected shade sample together with the patient's tooth



d Reduce the possibility of shade error

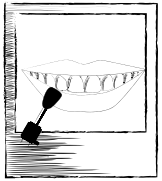


Take the photo during daylight

Ensure that the patient is not wearing bright lipstick

Has the patient undergone recent tooth-bleaching?

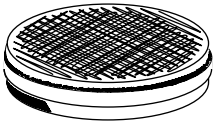
2. SEND THE DATA TO THE DENTAL LABORATORY



→ Dental technician

3. SELECT THE APPROPRIATE DISC

- ✓ Shade
- ✓ Translucency
- ✓ Properties
- ✓ Flexural strength



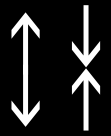
4. FINISHING

Check the finished restoration in the patient's mouth. If the shade match is correct, the restoration can be permanently inserted.

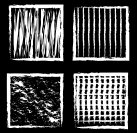
Finish!

! IMPORTANT NOTE

This guide is not a guarantee that the shade will match exactly first time. The following factors can have an adverse effect on the color perception:



A thin shade guide sample compared to a large voluminous restoration



Dominant ambient colors (dark, light, patterned backgrounds, etc.)

Different surface conditions (matt, polished, glazed, etc.)

Whether the object is viewed in the shade, when held up to the light, in bright sunlight, twilight etc.

HOW IT WORKS:

1 Calibrate your sintering furnace monthly with PTC rings

2 Sintering aid with 4 or more units

1,450 °C

- 7 hours
- 120 min holding time

3 Standard pritidenta sintering program

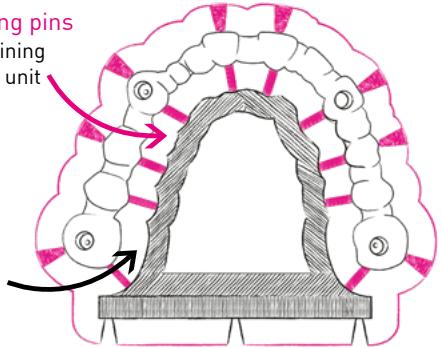
The perfect fit

Objective: Perfectly fitting zirconium dioxide bridge

NESTING:

Retaining pins
1–2 retaining pins per unit

Adapt the cross-section of the retaining pins to the size and shape of the restoration and sintering aid to be supported

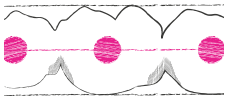


No sintering pillars/sintering stops necessary

PRITI®TIP

The volume of the sintering aid should be between 90 % and 100 % of the object volume.

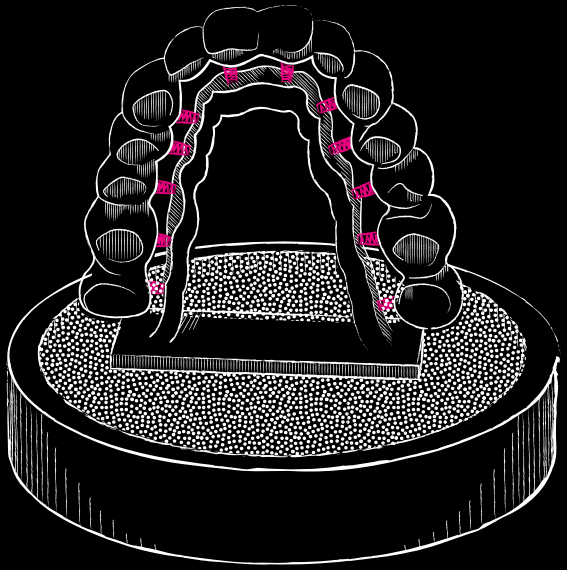
Align retaining pins centrally at the equatorial height

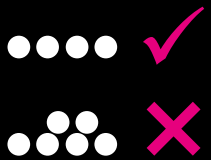


Side view

PREPARATION OF SINTERING

- Make sure that the restoration stands securely and stable on the sintering tray
- Make sure that the beads are straight



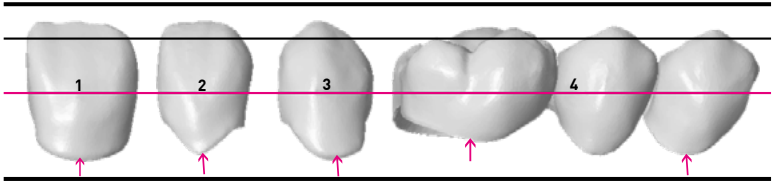


Positioning Guide for

priti®multidisc ZrO_2 Multi Translucent (MT)

The following instructions are our recommendations for best final results of dental constructions when using **Multi Translucent** zirconium dioxide. The indicated restorations heights refer to the original size without magnification factor.

16 MM BLANK



In principle, it is possible to position restorations that deviate from these recommendations if other proportions of dentin and incisal are desired.

Restoration height	< 11 mm
Anterior teeth	1.5 mm distance from the top edge
Posterior teeth	2 mm distance from the top edge
Recommended indications	Veneers, crowns and bridges with a height of max. 11 mm ✓

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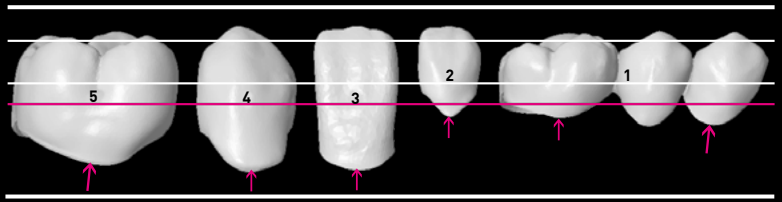
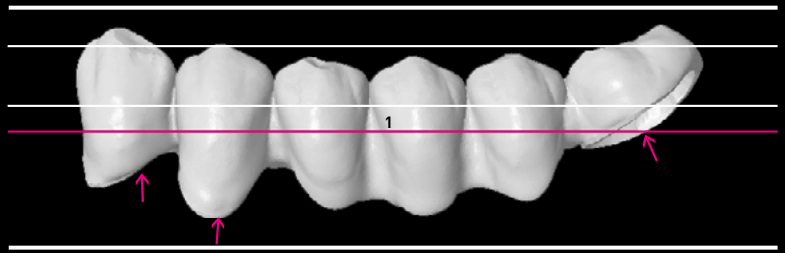


Example No. 1

In principle, it is possible to position restorations that deviate from this recommendation if other proportions of the dentin and incisal portions are desired.
Crown No. 1 and bridge No. 4 (restoration height < 11 mm) show that the restoration heights are too low and still show the cervical dentin color.



Example No. 2

This example shows a clearer Spee curve. To achieve a more even shade distribution throughout the entire restoration, it is recommended that the first and last tooth be positioned at approximately the same height from the top edge. In this position, the color gradient of the bridge is more even.
If the teeth are too light or too dark, they can be color-matched after sintering using stains, texture pastes or dental ceramic powders.

Restoration height	< 14 mm
Anterior teeth	1.5 mm distance from the top edge
Posterior teeth	2 mm distance from the top edge
Recommended indications	Veneers, crowns and bridges with a height of max. 14 mm ✓

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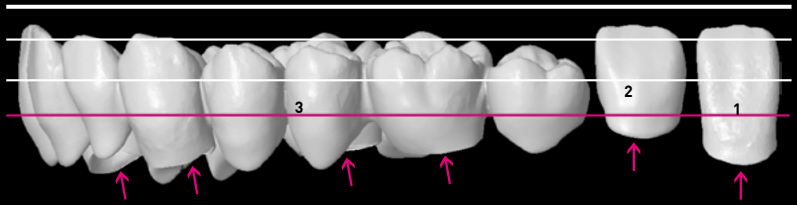

Example No. 1

In this case, we see a 14-unit bridge with a restoration height of 14 mm and a crown No. 4 (16 mm) with our positioning recommendation and a nice shade gradient over the entire surface. Crown No. 2 (restoration height 11 mm) shows that the crown is too small and still contain the same cervical dentin color.

Restoration height	< 19 mm
Anterior teeth	1.5 mm distance from the top edge
Posterior teeth	2 mm distance from the top edge
Recommended indications	Veneers, Crowns and Bridges with a height of max. 19 mm ✓

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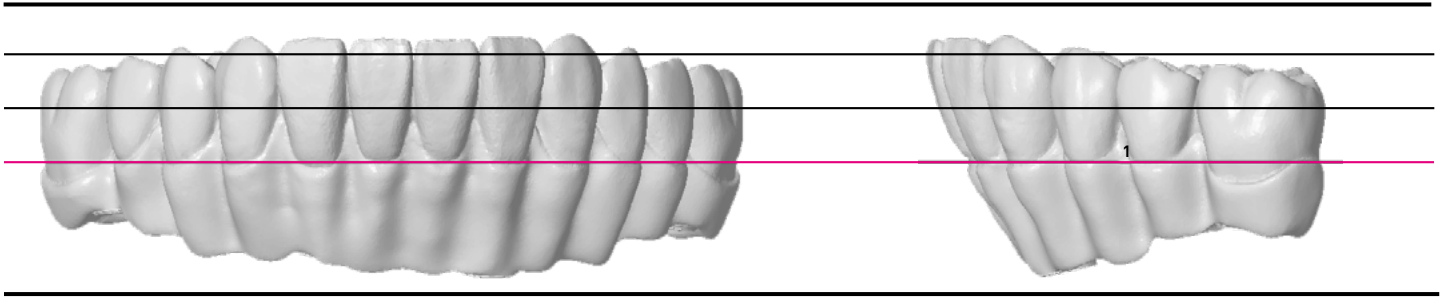
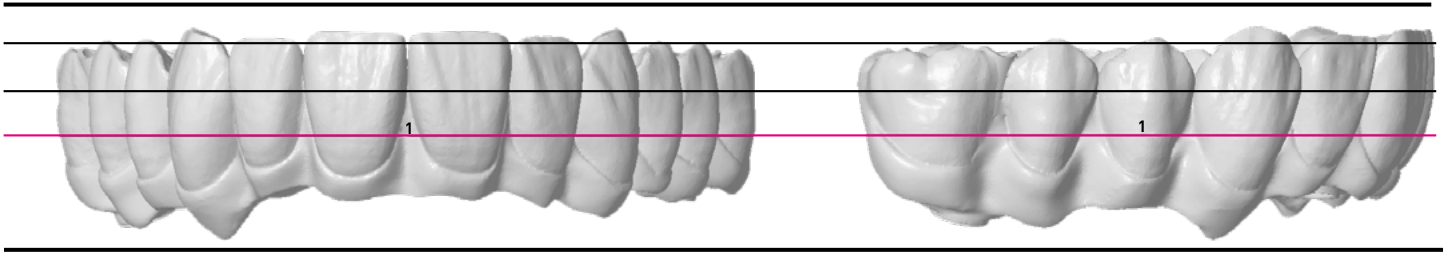


Example No. 2

Due to the direction of insertion and the large volume of gingiva, we recommend optimal positioning of the anteriors and lowering of the posteriors in this case (restoration height < 18 mm). The anteriors will be slightly lighter than the posteriors after sintering.
This can be color-matched by applying stains, texture pastes or dental ceramic powders.



Example No. 3

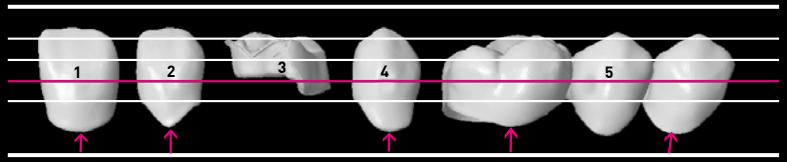
The images show an example of an "All on 6" in the upper jaw (restoration height < 19 mm). Due to the insertion direction, it is recommended to optimally position the anteriors and lower the posteriors. The anteriors will be slightly lighter than the posteriors after sintering.
There is still some room for the user to position the restoration to obtain more incisal or dentin color.
If the teeth are too light or too dark, they can be color-matched after sintering using stains, texture pastes or dental ceramic powders.

Positioning Guide for

priti®multidisc ZrO_2 Multi Translucent PLUS

In the following we would like to give you our recommendations for the positioning of your dental constructions in our new **Multi Translucent PLUS** zirconia blanks. The indicated restorations heights refer to the original size without magnification factor.

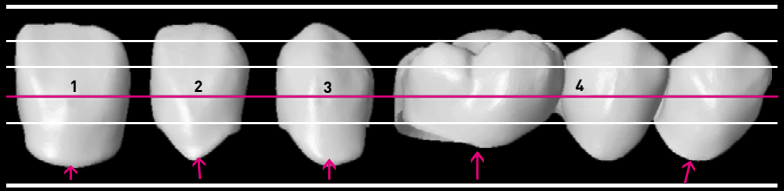
14 MM BLANK



In principle, it is possible to position restorations that deviate from these recommendations if other proportions of dentin and incisal are desired.

Restoration height	< 9 mm
Anterior teeth	1.5 mm distance from the top edge
Posterior teeth	2 mm distance from the top edge
Recommended indications	Veneers, crowns and bridges with a height of max. < 9 mm ✓

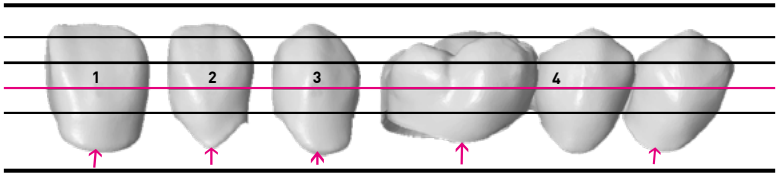
16 MM BLANK



In principle, it is possible to position restorations that deviate from these recommendations if other proportions of dentin and incisal are desired.

Restoration height	9–11 mm
Anterior teeth	1.5 mm distance from the top edge
Posterior teeth	2 mm distance from the top edge
Recommended indications	Veneers, crowns and bridges with a height of min. 9 mm and max. 11 mm ✓

18 MM BLANK



In principle, it is possible to position restorations that deviate from these recommendations if other proportions of dentin and incisal are desired.

Restoration height	11–12.5 mm
Anterior teeth	2 mm distance from the top edge
Posterior teeth	2.5 mm distance from the top edge
Recommended indications	Veneers, crowns and bridges with a height of 11 mm and max. 12.5 mm ✓

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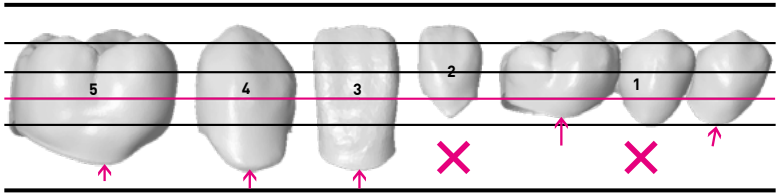

Example Nr. 1

In principle, it is possible to position restorations that deviate from this recommendation if other proportions of the dentin and incisal portions are desired.
Crown No. 2 and bridge No. 1 (restoration height < 11 mm) show that the restoration heights are too low and do not show the cervical dentin color.

Restoration height	12.5 –14 mm
Anterior teeth	2 mm distance from the top edge
Posterior teeth	2.5 mm distance from the top edge
Recommended indications	Veneers, crowns and bridges with a height of min. 12.5 mm and max. 14 mm ✓

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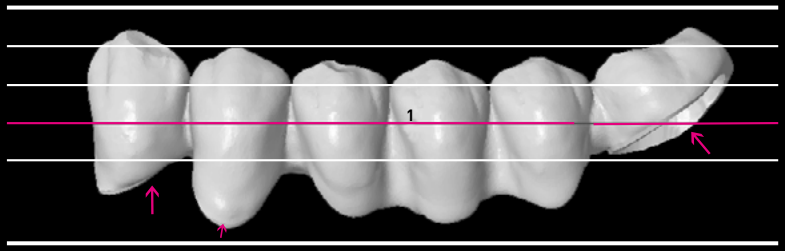

Example Nr. 2

This example shows a clearer Spee curve. To achieve a more even shade distribution throughout the entire restoration, it is recommended that the first and last tooth be positioned at approximately the same height from the top edge. In this position, the color gradient of the bridge is more even.
If the teeth are too light or too dark, they can be color-matched after sintering using stains, texture pastes or dental ceramic powders.

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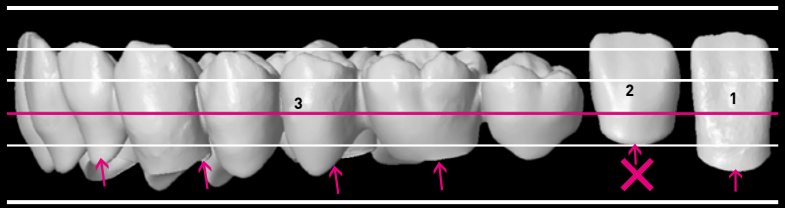

Example Nr. 1

In this case, we see a 14-unit bridge with a restoration height of 14mm and a crown No. 4 (16 mm) with our positioning recommendation and a nice shade gradient over the entire surface.
Crown No. 2 (restoration height 11 mm) shows that the crown is too small for the blank and does not contain any cervical dentin color.

Restoration height	> 14 mm
Anterior teeth	2.5 mm distance from the top edge
Posterior teeth	3 mm distance from the top edge
Recommended indications	Veneers, Crowns and Bridges with a height of min. 14 mm ✓

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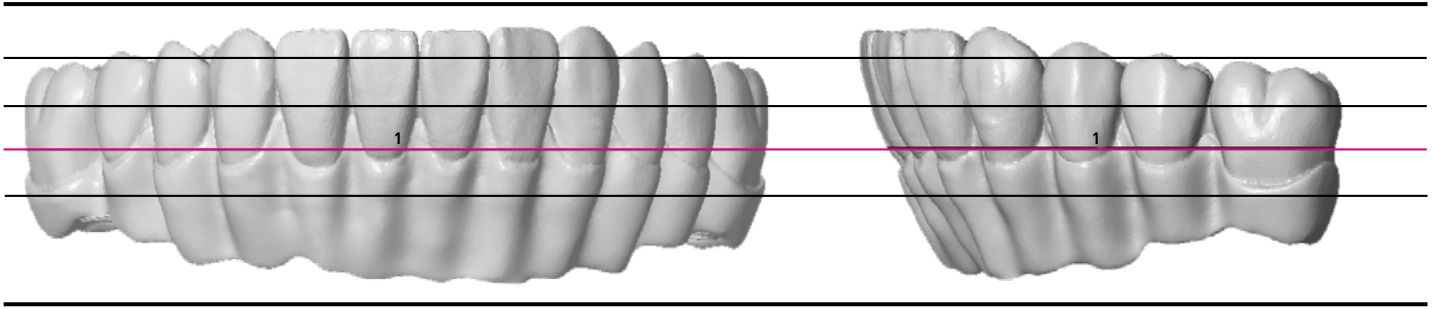
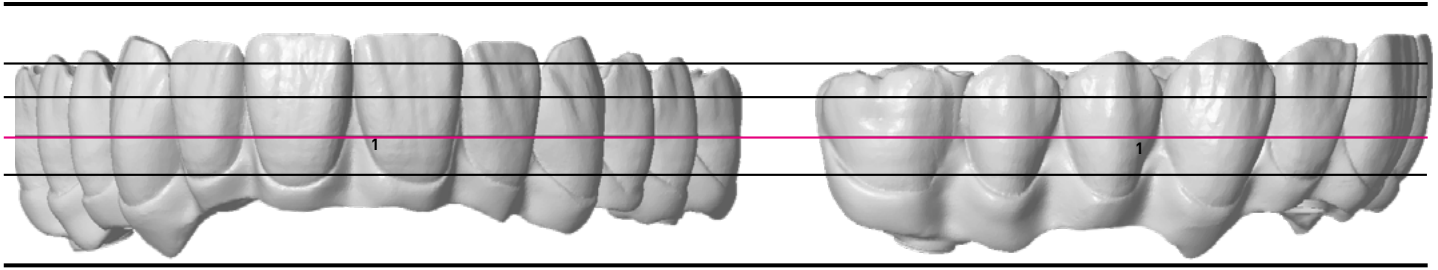


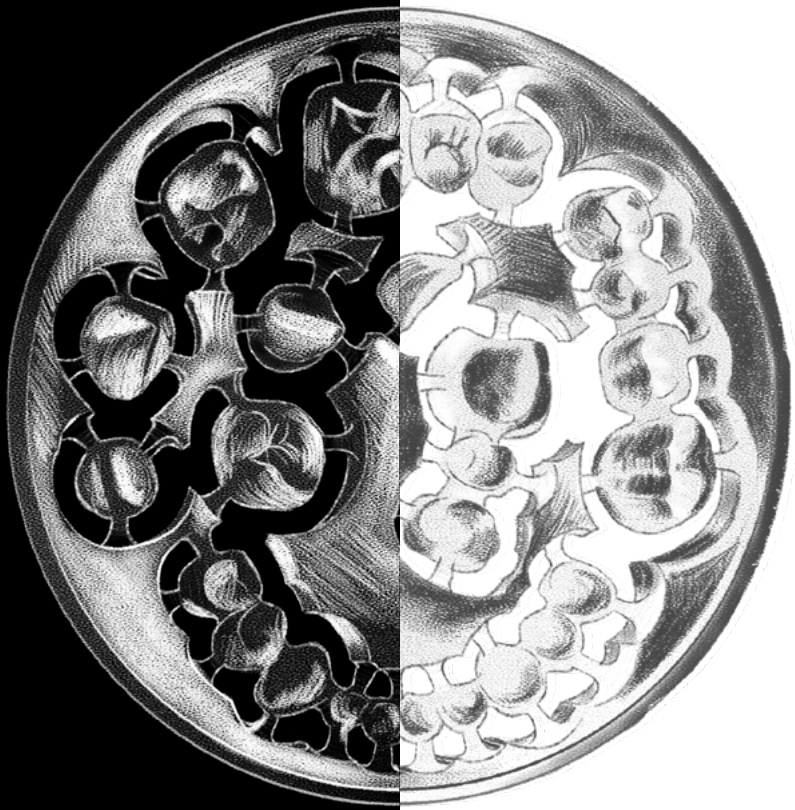
Example Nr. 2 Example Nr. 2

Due to the direction of insertion and the massive amount of gingiva, we recommend optimal positioning of the anteriors and lowering of the posteriors in this case (restoration height < 18 mm). The anteriors will be slightly lighter than the posteriors after sintering.
This can be color-matched by applying stains, texture pastes or dental ceramic powders.



Example Nr. 3 Example Nr. 3

The images show an example of an "All on 6" in the upper jaw (restoration height < 18 mm). Due to the insertion direction, it is recommended to optimally position the anteriors and lower the posteriors. The anteriors will be slightly lighter than the posteriors after sintering. There is still some room for the user to position the restoration to obtain more incisal or dentin color.
If the teeth are too light or too dark, they can be color-matched after sintering using stains, texture pastes or dental ceramic powders.



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