CEREC Cercon 4D™ Abutment Block

Multidimensional Zirconia

Dentsply Sirona

Processing Guide **Meso Structure**
for CEREC® Software 5.2.9 or higher

dentsplysirona.com/cerec-cercon4d

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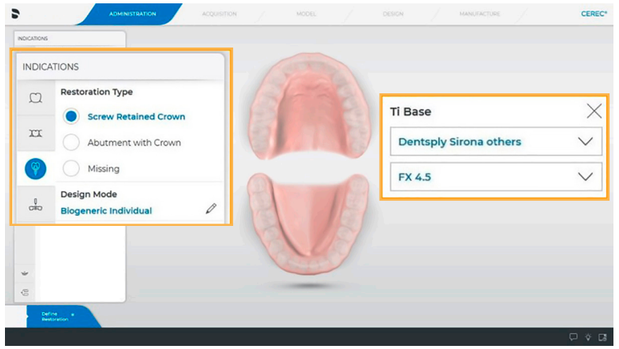
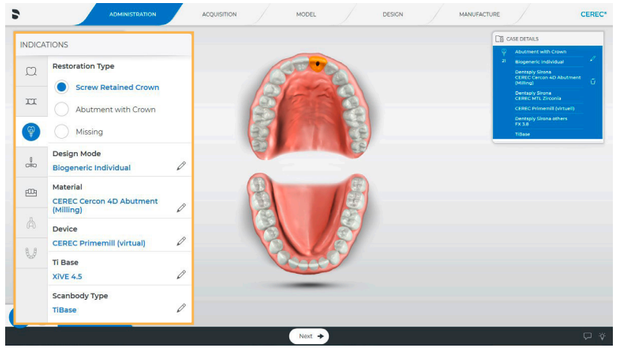
Administration | Scan

Note: This Processing Guide describes the CEREC workflow using a Xive® TiBase system with CEREC Primemill® as an example. If other implant systems are used, the selection must be made in the Administration page.

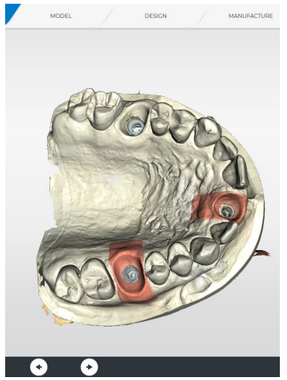


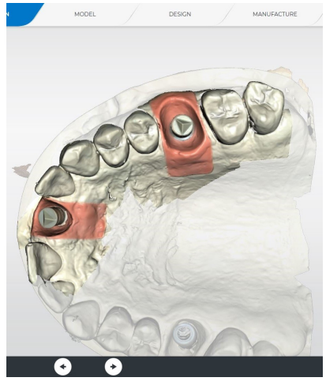
- Create a new case in the CEREC Software and select the restoration type.



- Select the missing tooth.
- Select the design mode, the material, and the milling unit.
- Select the manufacturer and the TiBase configuration.
- Select TiBase or ScanPost as scanbody type.

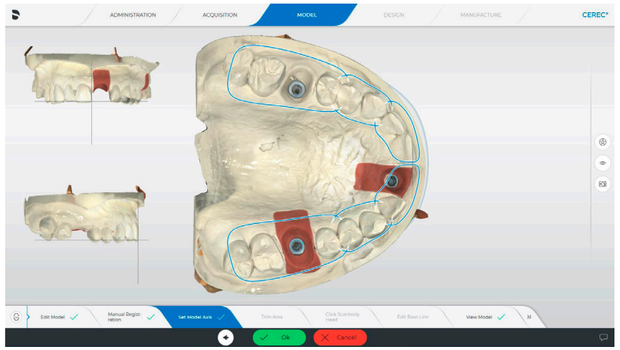
Note: Use the latest software version for optimal results. Not all blocks are available in all markets. Consult local Dentsply Sirona support teams for additional assistance, if needed.





- Remove the gingiva former and scan the jaw to be restored.
- Then, as usual, scan the opposing jaw and buccally the final bite.
- Select the scanbody image catalog and scan the inserted scanbody.
- Make sure the scanbody is in correct position.

Model

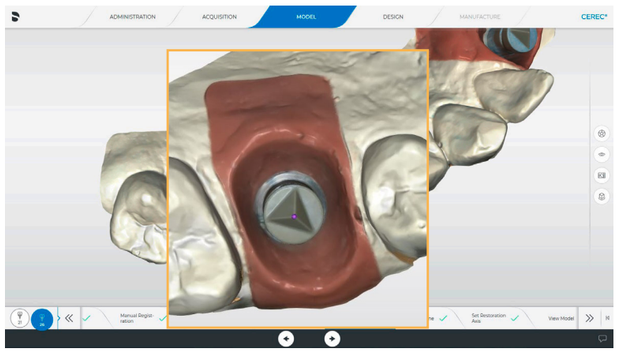


Set Model Axis

Check the model axis and optimize it, if necessary.

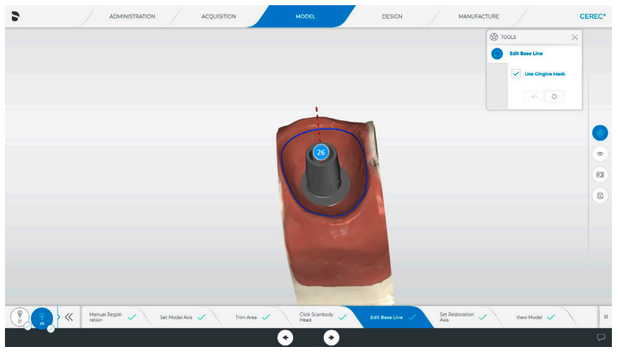
Trim Area (optional)

Trim the area around the TiBase, if necessary.



Check Scanbody Head

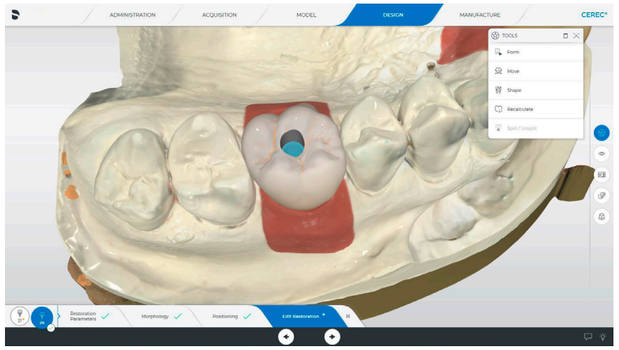
Check scanbody head. If necessary, place the purple dot to the top of the triangle of the scanbody by using a double click.



Edit Base Line

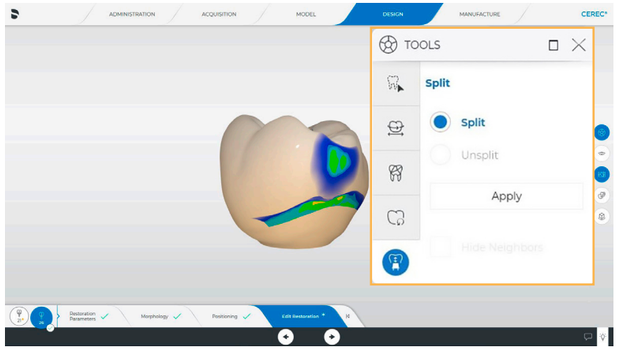
- Select TOOLS.
- Edit the base line by selecting “Use Gingiva Mask”.

Design



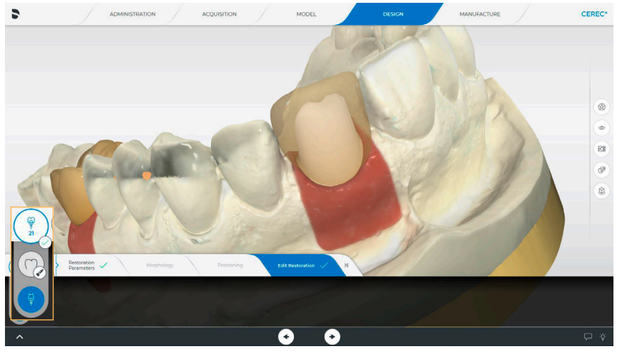
Design Restoration (optional)

Design a restoration based on the intitial proposal of the software according to your design standards.

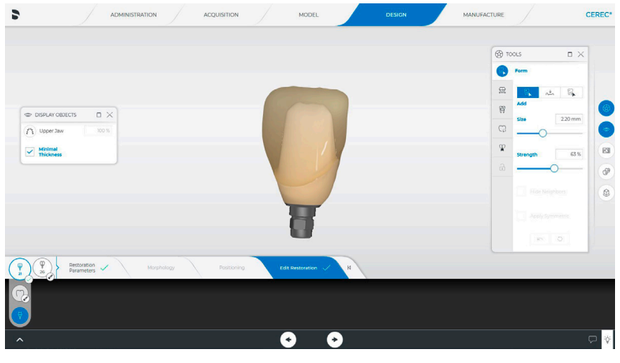


Split the Restoration

- Select TOOLS.
- Select “Split” to split the restoration into two files, abutment and crown.



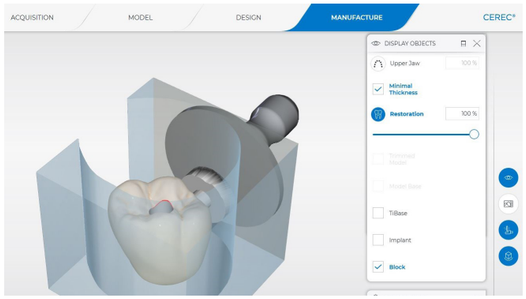
- Both crown and abutment are visible after splitting, as seen in the lower left corner of the screen.
- The crown is shown transparently.



Check Critical Areas

Avoid sharp edges in the emergence profile area.

Manufacture



Adjust Milling Position

- Adjust the milling position by rotating the crown horizontally, if necessary.
- The vertical position cannot be changed.
- Start the milling process.

Select Block

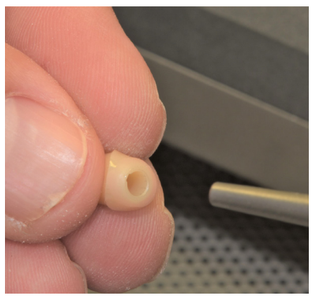
- Choose the CEREC Cercon 4D™ abutment block.
- Block sizes: mono block size S and L
- Available colors: A1–A4 according to the VITA[1] shade guide
- If working with CEREC Primemill®, scan the block's data matrix code using the device's camera. For MC XL family devices, manually enter the data matrix code value.

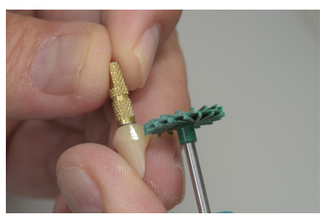
Milling

- Place the CEREC Cercon 4D™ abutment block in the CEREC Primemill® and tighten the screw with the torque wrench.
- Insert the right tools for the chosen milling mode, according to the instruction on the display of the CEREC Primemill®.
- Close the door to start the milling.
- Remove the restoration from the milling unit when complete.

1 VITA® is not a registered trademark of Dentsply Sirona.

Sinter





Detach Restoration

Detach the restoration from the block by using a thin carbide bur.

Remove Support

Remove the rest of the support with a carbide bur.

Sintering

- Clean the hole for the TiBase carefully with compressed air to remove any zirconia dust or milling residue.
- Place the restoration for sintering with the buccal or lingual side down on the firing tray of the CEREC SpeedFire®.
- Select the sintering job in the display of CEREC SpeedFire® and start the process. When the sintering has been completed, move the restoration onto the cooling fan of CEREC SpeedFire® using tweezers.

Sandblast Restoration

- Sandblast the cooled restoration interface carefully for the TiBase to remove residue from the milling process (50 µm aluminum oxide, max 2.0 bar).
- Clean the restoration with alcohol, ultrasonic, or steam. Then dry with clean, oil-free air.

Check Fit

- Check the fitting of the restoration on the TiBase.

Contour and Clean

- Individualize the shape of the restoration, if necessary, by using a stone or a water-cooled hand piece and diamond bur.
- Sandblast the restoration (50 µm aluminum oxide, max 2.0 bar) and clean it with a steamer.

Polishing

- Polish the restoration with recommended polishing agents for zirconia ceramics.

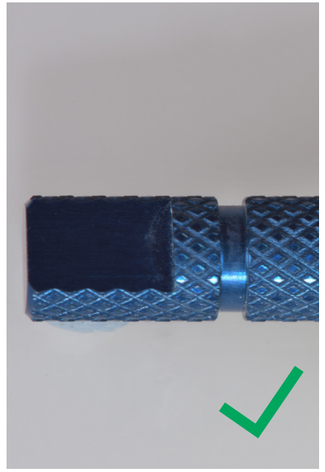
Recommended Polishing Kits by Meisinger

Dentsply Sirona Zirconia Intraoral Polishing Kit, DSZ21, or Dentsply Sirona Universal Extraoral Polishing & Shaping Kit, DSU21, are recommended for polishing the emergence profile of the restoration.

TiBase Preparation

General notes:

- The diameter of the TiBase must not be reduced, e.g., by grinding. Shortening the TiBase is not permitted.
- The contact surfaces of the TiBase to the implant should not be sandblasted or otherwise processed. Only the surfaces of the TiBase and the restoration intended for cementing must be sandblasted (50 µm aluminum oxide, max. 2.0 bar) and then cleaned (with alcohol, ultrasonic, or steam).
- Observe the Instructions for Use for the materials used for the extraoral cementation process.



Prepare the TiBase

- For better handling during the cementation process, it is recommended attaching the TiBase on the implant analogue or a polishing aid using a screw.
- Cover the hex head of the abutment screw and fill the screw channel with easily removable material (e.g., soft wax, impression material, cotton. or plumber's tape).
- Ensure that the restoration can be fully seated onto the TiBase.

Tip: Mark the correct position of the restoration to the TiBase using a pen.

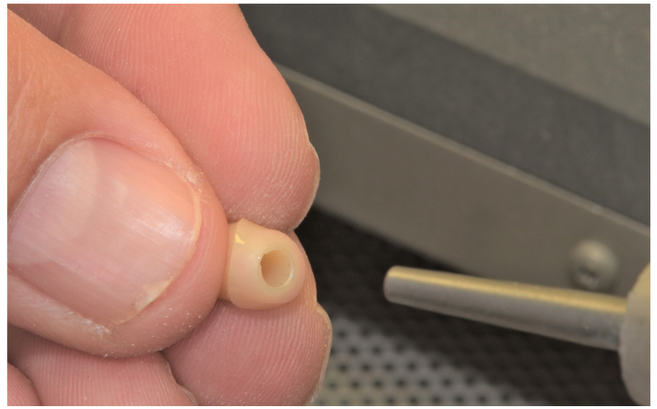
Sandblast TiBase

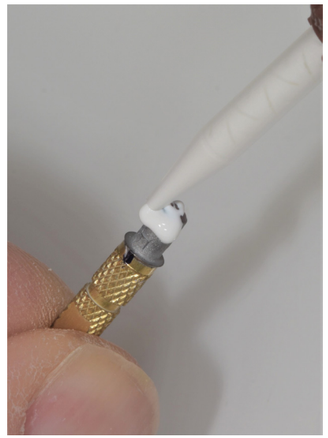
- Sandblast only the surface of the TiBase intended for cementation (50 µm aluminum oxide, max 2.0 bar).

Note: Do not sandblast the polished surface of the flange.

- Clean the TiBase with alcohol, ultrasonic, or steam. Dry with clean, oil-free air.

Cement





Sandblast Restoration

- Sandblast only the surface of the restoration intended for cementation (50 µm aluminum oxide, max 2.0 bar).

Note: Do not sandblast the polished surface of the restoration.

- Clean the restoration with alcohol, ultrasonic, or steam. Dry with clean, oil-free air.

Cement

- Proceed immediately with the cementation of the restoration per the manufacturer's Instructions for Use.
- Apply a uniform layer of the cement to the bonding surfaces of the TiBase and the restoration. Prevent the cement from entering the restoration screw channel.

Note: Cover the hex head of the abutment screw and fill the screw channel with easily removable material (e.g. soft wax).

- Seat and stabilize the restoration with gradual pressure.
- Ensure there is no cement excess in the screw channel.
- Remove excess cement during "gelled" state by using an instrument such as a rubber tip, a scaler, or an explorer.
- Protect assembly from contamination and movement until the final set of the cement.
- Apply water-soluble air barrier to the cement margin.
- Ensure margin between TiBase and restoration is closed and sealed.
- Allow cement to self-cure without movement until the final set of cement.

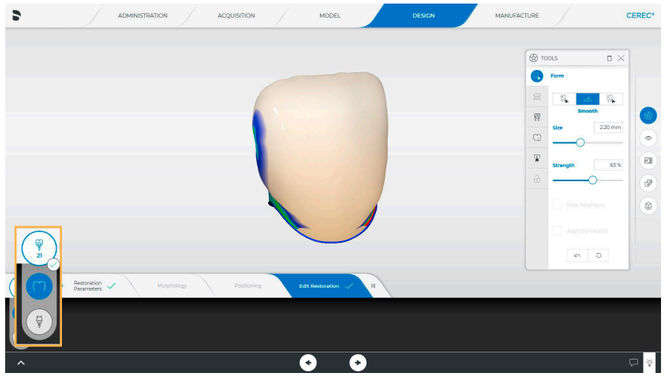
Note: Cement within the restoration has not yet set. Do not move or torque.

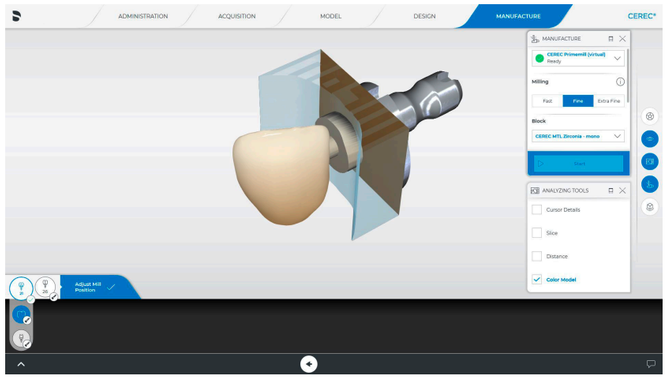
Clean

- Rinse air barrier material under running water.
- Remove wax or other sealing material and any residual cement from the screw channel. Remove any cement at the margin.
- Finish and polish the margin using rubber rotary tools.

Note: Clean, disinfect, and sterilize the final restoration before delivery.

Manufacture the Crown





Check Critical Areas

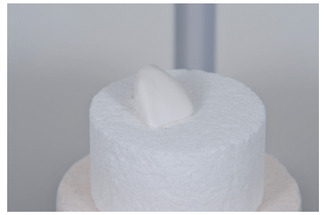
- Click on the crown icon in the left lower corner of the screen.
- Avoid sharp edges at the crown margin in the area of the emergence profile.
- Check and adjust the approximal contact points.

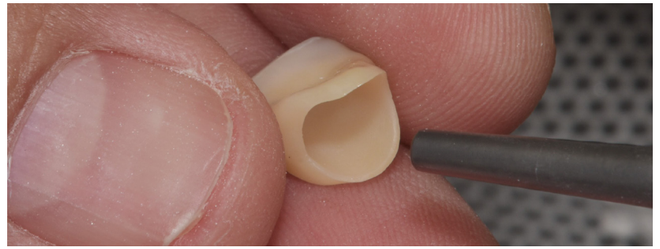
Adjust Milling Position

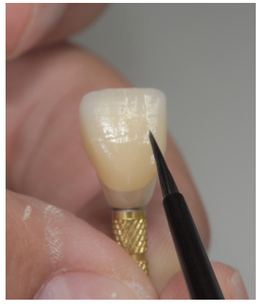
- Adjust the milling position, if necessary.
- Start the milling.

Milling

- Use the block scanner of the CEREC Primemill® to select the block and place the block in the CEREC Primemill®. Tighten the screw with the torque wrench.
- Insert the right tools for the chosen milling mode according to the instruction on the display of the CEREC Primemill®.
- Close the door to start the milling.
- Remove the restoration from the milling unit when complete.







Detach Restoration

- Detach the restoration from the block by using a thin carbide bur.
- Remove the rest of the sprue with a carbide bur.

Sintering

- Clean the intaglio area of the crown carefully with compressed air to remove residue from the milling.
- Place the restoration for sintering with the labial or palatinal side down on the firing tray of the CEREC SpeedFire®.
- Select the sintering job in the display of CEREC SpeedFire® and start the process. When the sintering has been completed, move the restoration onto the cooling fan of CEREC SpeedFire® using tweezers.

Sandblast Restoration

- Sandblast the restoration intended for cementation (50 µm aluminum oxide, max 2.0 bar).
- Clean the restoration with alcohol, ultrasonic, or steam. Dry with clean, oil-free air.

Check Fit

- Check the fit of the restoration on the meso structure.
- Adapt the margin of the crown to the meso structure by using a stone or a diamond bur.

Stain and Glazing

- Apply the stains on the surface as usual.
- Fix the stains with a first firing cycle in the CEREC SpeedFire.
- Apply the glaze material evenly across the surface in a usual way.
- Fix the Glaze with a second fire cycle in the CEREC SpeedFire.
- Consult full Instructions for Use of the Stain and Glazing material, if stains are to be applied at the same time as glaze.

Cementing

- Cement the crown intra-orally using Calibra® Universal or Calibra® Ceram cement.
- Prime&Bond Universal Adhesive[1] may be used as zirconia primer (for details see full Instruction for Use).

1 Universal adhesive brands depend on the geographic region: Prime&Bond active® or Prime&Bond universal®.

For more information, contact your Dentsply Sirona representative or visit www.dentsplysirona.com.

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