



CEREC MTL™ Zirconia
Multi Transitional Layer Zirconia

Zirconia – Strong as ever. Beautiful like never before.

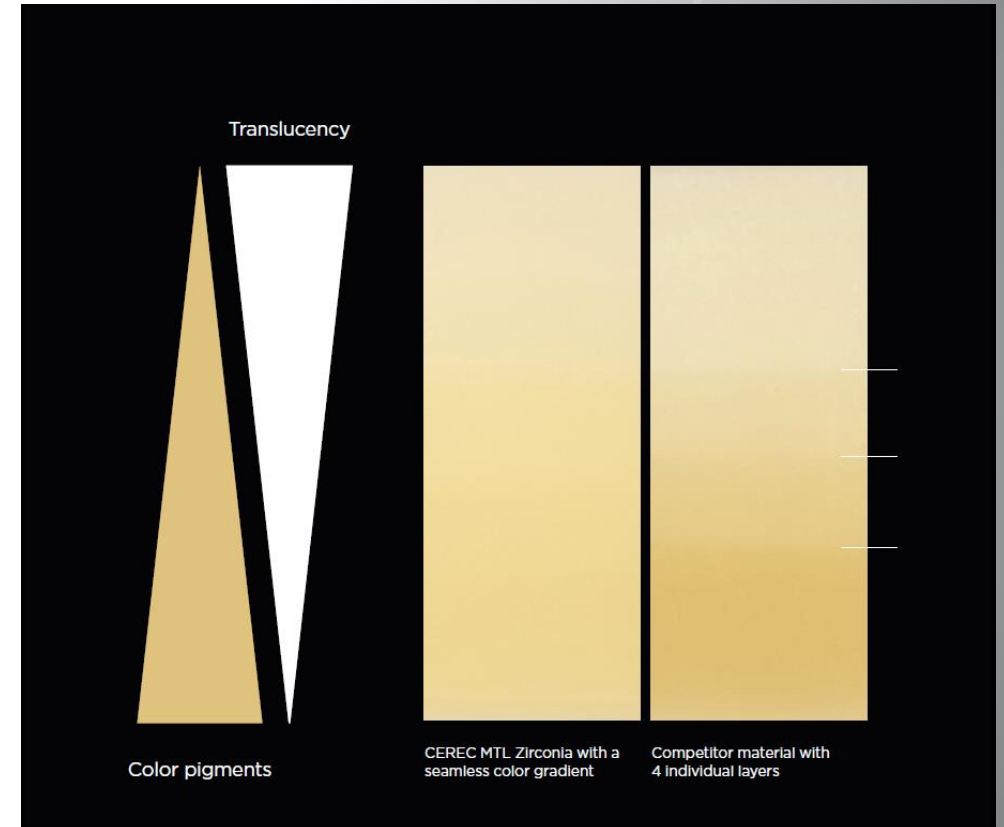
CEREC MTL Zirconia is the solution that provides you with strong, precise restorations that are highly esthetic and natural looking:

- **High Esthetics** – natural multitransitional layer and high shade match.
- **High Strength** – greater than 850 MPa¹ enables less reduction of the natural tooth.
- **Fast Zirconia Workflow** – most efficient when using the CEREC Primemill & CEREC SpeedFire.
- **Easy Workflow** – time saving and efficient.



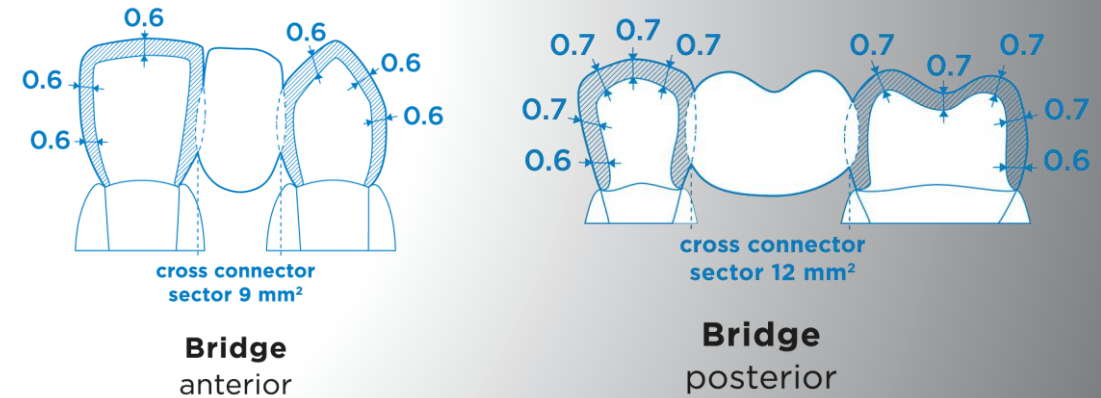
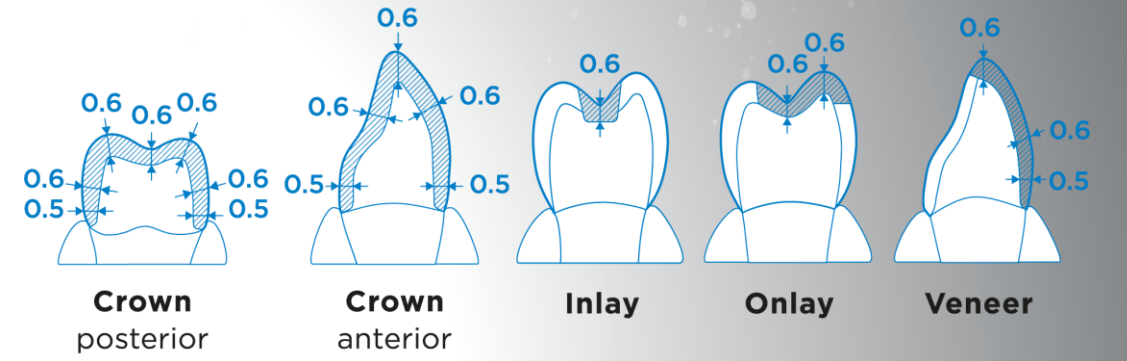
Natural Gradient for great Esthetics

- Due to its high translucency and high color matching characteristics, CEREC MTL Zirconia meets all esthetic needs.
- The excellent shade match with the most commonly used VITA classical shades enables for convenient color selection.
- Natural Gradient: due to the Multitransitional Layer of CEREC MTL Zirconia no layers are visible.



Strength for more Confidence

- The high strength of > 850 MPa benefits both dentist and patient. Restorative treatment is even possible in areas with limited space.
- CEREC MTL Zirconia is indicated for:
 - fully anatomical anterior and posterior crowns
 - fully anatomical 3-unit anterior and posterior bridges
 - Onlays
 - Inlays
 - Veneers



Up to **40% lower** wall thickness and thus less natural tooth removal compared to competition for crowns allows for a more conservative preparation design and also provides greater flexibility on the restoration.³

NOTE: For Super Fast Milling it is recommended to increase the minimum wall thickness to 0.7mm.

Fast Chairside Zirconia Workflow

- CEREC Primemill and CEREC SpeedFire for a fast CEREC MTL Zirconia workflow.



With CEREC Primemill, excellent CEREC MTL Zirconia crowns can be milled in around 5 minutes in the Super Fast milling mode¹.



With CEREC SpeedFire, a crown can be sintered in 18 min². The optional glaze firing will take 9 min.

The Workflow of CEREC MTL Zirconia



The Workflow CEREC MTL Zirconia



Design



Mill



Sinter



Polish



Glaze (optional)



Cement

Design

CEREC SW 5

Workflow with CEREC MTL Zirconia



Use CEREC SW
5.1.3 Material
Pack or higher

Compatible Milling machines

Milling Machines compatible with CEREC MTL Zirconia

Machine	SW Version Needed	Processing Mode	Dry/Wet
CEREC Primemill	CEREC SW 5.1.3. Material Pack	Super Fast, Fast, Fine, Extra Fine	Dry
CEREC Primemill	CEREC SW 5.2.2. or inLab CAM 22.0 ¹	Super Fast (dry only), Fast, Fine, Extra Fine	Dry & Wet
CEREC MC XL	CEREC SW 5.1.3. Material Pack	Fast, Fine	Dry
CEREC MC XL	CEREC SW 5.2.2. or inLab CAM 22.0 ¹	Fast, Fine	Dry & Wet
CEREC MC X	CEREC SW 5.1.3. Material Pack	Fast, Fine	Dry
CEREC MC X	CEREC SW 5.2.2. or inLab CAM 22.0 ¹	Fast, Fine	Dry & Wet
inLab MC XL	CEREC SW 5.2.2. or inLab CAM 22.0 ¹	Fast, Fine	Wet

Milling Burs

Prior to Milling, the right milling burs need to be installed:

CEREC Primemill

Tool Use Case	Color	Left Side	Right Side	Color	Possible Processing Modes
Mill ZrO ₂ Extra Fine	●	Bur 2.5 ZrO ₂ CS	Bur 1.0 CS	●	Fast, Fine, Extra Fine Milling Zirconia
	○	Any tool	Bur 0.5 CS	●	
Mill ZrO ₂ Super-Fast	●	Bur 2.5 ZrO ₂ CS	Bur 2.5 ZrO ₂ CS	●	Super-Fast Milling Zirconia
	●	Bur 1.0 CS	Bur 1.0 CS	●	

Burs for CEREC MC XL, CEREC MC X

Motor Set	Left	Right	Combination
Set 1	Shaper 25	Finisher 10	Dry Milling

Mill

- The data matrix code is printed on CEREC MTL Zirconia Blocks. The data matrix code contains information about the material, such as block size, color, batch number and the magnification factor of the block. The block scanner in the CEREC Primemill quickly scans the data matrix code on the blocks with a compatible code, speeding up the workflow.



Preparation for Sintering

- The surfaces of the crown must be clean and dust-free before sintering.
- Use the large dusting brush or compressed air to thoroughly remove any material residue that may have settled on the restoration during the milling process.



- After the milling process and prior to sintering, a diamond or a tungsten carbide milling tool has to be used to remove the sprue prior to sintering.

Sintering

- When sintering CEREC MTL Zirconia restorations in the CEREC SpeedFire, the CEREC software automatically transfers the job to the CEREC SpeedFire if the milling machine and the CEREC SpeedFire are connected.
- Place the restoration with the occlusal surface facing down directly on the top door insulation.
- Additional Sintering programs for the inLab ProFire (DS), VITA ZYRCOMAT 6000 MS (VITA), Programat CS4 (Ivoclar Vivadent) can be found here:



Sintering

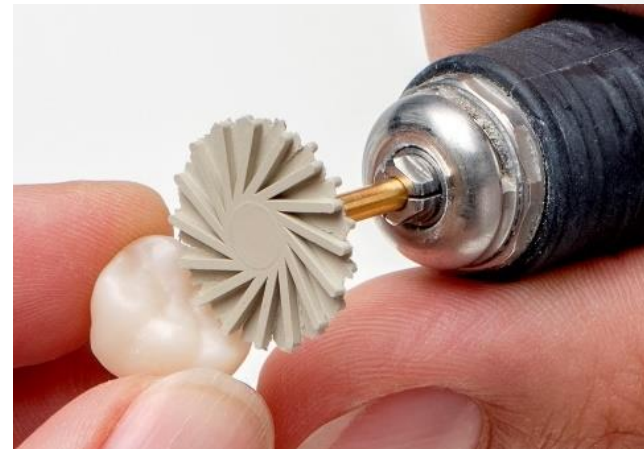
- The furnace opens automatically following successful heat treatment. The process is not yet complete, as a cooling-off phase occurs in an open condition. There will be a signal tone once the cooling process has completed. When the unit's LED status display is green, the furnace can be unloaded.



- The restoration and parts of the door insulation may still be hot when the unit's LED status display is green.
- Always use tweezers to remove the restoration from the furnace.
- Allow the restoration to cool down for another five minutes.

Polishing

- CEREC MTL Zirconia can be finished by polishing or through a combination of polishing and glazing.
- Ensure the restoration is properly polished, including the occlusal surface, especially the areas that are in direct contact with the antagonist.
- After functional adjusting, re-polish the surfaces to achieve a high gloss. This ensures the potential of unwanted abrasion while delivering a final high quality restoration.



Preparing for Glazing (optional)

- CEREC MTL Zirconia restorations can be glazed with:
 - Dentsply Sirona Universal Stain and Glaze System or
 - DS Universal Spray Glazes (with or without Fluo)



- Use the Glazing Support Single (for crowns) /Multi Unit (for bridges) holders and the CEREC SpeedPaste to prepare the restoration for Glazing
- Fill the inside of the crown with just enough CEREC SpeedPaste to support the firing pin – do not overfill. Push the crown gently onto a firing pin.



Glazing (optional)

DS Universal Stain and Glaze System

- Apply a thin layer of the glaze material all over the crown surface by using a brush (e.g. Pinelo by Dentsply Sirona)
- If a more intensive shade effect is desired, DS Universal Stains can be used



DS Universal Spray Glazes (with or w/o Fluo)

- Prior to use, shake the spray can and then apply a uniform layer glaze to the surface of the restoration
- Keep the spray at a distance of 6 – 10 cm (2.5 – 4.0 in)



Glazing (optional)

Glazing CEREC MTL Zirconia in the CEREC SpeedFire

- Position the support with the restoration centrally on the top door insulation
- Select the “GLAZE” program on the CEREC SpeedFire control panel and allow the unit to cycle



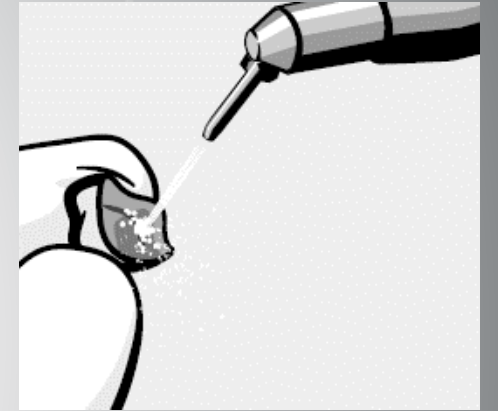
■ Glazing CEREC MTL Zirconia with other furnaces

Drying [min]	Closing [min]	Pre-heating temperature [°C]	Pre-heating [min]	Heating rate [°C/min]	Final temperature [°C]	Vacuum [min]	Holding time [min]	Cooling [min]
0	2	400	0			0	2:00	0

Cementation

Cementation pre-treatment

- Prior to cementation of the crown, sandblast the internal surfaces in the one-way blasting process with maximum 50µm corundum (Aluminiumoxide) at a pressure less than 2.5 bar.
- Do not touch the sandblasted surface



Final Cementation

- For final cementation, apply Calibra Universal or Calibra Bio Cement
- If adhesive luting is required use Calibra Ceram



Key Facts



Key facts

Fact	CEREC MTL Zirconia
# of shades available	7 shades available (A1, A2, A3, A3.5, B2, C2, D2)
Sizes available	mono (crowns, inlays, onlays & veneers) & medi (3-unit bridges)
Dimensions mono bloc	w: 19.2, h: 16.7, l: 20.2
Dimensions medi bloc	w: 19.2, h: 16.7, l: 39.2
Type	4Y-TZP
CTE (20-500°C)	ca. $10,3 \cdot 10^{-6} \cdot K^{-1}$
3-Point Bending Strength	>850 MPa
Translucency (1mm, white)	46%

Competitor



KATANA™ Zirconia Block (Kuraray Noritake)



- **Indications:** Crowns, bridges, veneers, inlays and onlays
- **Strength:** 763 MPa (3-Point)
- **# of Layers:** 4 Layers (Enamel Layer, Transition Layer 1 & 2, Body Layer)
- **Minimal wall Thickness:**
 - Anterior crown: 0.8 mm
 - Posterior crown: 1.0 mm
 - Cross connector anterior: 12mm²
 - Cross connector posterior: 16mm²
- **Milling:** Dry milling is recommended (Wet milling also possible)
- **Sintering Times (CEREC SpeedFire):** < 6mm → 18:39 min, >6mm → 30:41min
- **Glazing:** 08:40 min

Chairside Zirconia (3M)



- **Indications:** Crowns & bridges
- **Strength:** 1000 MPa (3-Point)
- **# of Layers:** Not a multilayer
- **Minimal wall Thickness:**
 - Anterior & posterior crown: 0.8 mm
 - Cross connector anterior: 12mm²
 - Cross connector posterior: 14mm²
- **Milling:** Dry milling is recommended (Wet milling also possible)
- **Sintering Times (CEREC SpeedFire):** < 1.2mm → 19:36min, <5mm → 22.2min
- **Glazing:** 9:00 min

IPS e.max ZirCAD MT Multi (Ivoclar Vivadent)



- **Indications:** Crowns & bridges
- **Strength:** 850 MPa (biaxial!)
- **# of Layers:** 3 Layers (20% incisal zone, 20% transition zone, 60% dentin zone)
- **Minimal wall Thickness:**
 - Anterior crown: 0.8mm
 - Posterior crown: 1.0mm
 - Cross connector anterior: 12mm²
 - Cross connector posterior: 14mm²
- **Milling:** Dry & wet milling
- **Sintering Times (CEREC SpeedFire):** < 3mm → 49:02min, <5mm → 1:38:17 min
- **Glazing:** 16:45 min

Comparison



	CEREC MTL Zirconia	KATANA™ Zirconia Block (Kuraray Noritake)	Chairside Zirconia (3M)	IPS e.max ZirCAD MT Multi (Ivoclar Vivadent)
Indications	Crowns, bridges, veneers, inlays and onlays	Crowns, bridges, veneers, inlays and onlays	Crowns, bridges	Crowns, bridges
Strength (3-Point)	>850 MPa	763 MPa	1000 MPa	n.a. (850 MPa biaxial strength)
# of Layers	Multitransitional Layers	4 Layers	None (monocromatic)	3 Layers
Minimal wall Thickness • Anterior crown • Posterior crown: Cross con. Anterior • Cross con. Posterior	Anterior crown: 0.6 mm Posterior crown: 0.6 mm Cross con. Ant.: 9mm ² Cross con. Post.: 12mm ²	Anterior crown: 0.8 mm Posterior crown: 1.0 mm Cross con. Ant.: 12mm ² Cross con. Post.: 14mm ²	Anterior crown: 0.8 mm Posterior crown: 0.8 mm Cross con. Ant.: 12mm ² Cross con. Post.: 14mm ²	Anterior crown: 0.8mm Posterior crown: 1.0mm Cross con. Ant.: 12mm ² Cross con. Post.: 14mm ²
Milling	Dry Wet (Nov 2021)	Dry & Wet	Dry & Wet	Dry & Wet
Sintering Times (CEREC SpeedFire):	< 4.01mm A1, A3.5: 18:48 min < 4.01mm A2,C2: 19:58 min < 4.01mm A3, B2, D2: 20:48 min > 4.0 mm all: 25.22 min	< 6mm → 18:39 min >6mm → 30:41min	< 1.2mm → 19:36min <5mm → 22.2min	< 3mm → 49:02min <5mm → 1:38:17 min
Glazing	09:00 min	08:40 min	09:00 min	16:45 min

SKU Overview & Accessories



SKU Overview



SKU	CEREC MTL Zirconia mono (4 PC)
5365450001	CEREC MTL Zirconia A1 mono
5365450002	CEREC MTL Zirconia A2 mono
5365450003	CEREC MTL Zirconia A3 mono
5365450004	CEREC MTL Zirconia A3.5 mono
5365450007	CEREC MTL Zirconia B2 mono
5365450011	CEREC MTL Zirconia C2 mono
5365450014	CEREC MTL Zirconia D2 mono



SKU	CEREC MTL Zirconia medi (2 PC)
5365450021	CEREC MTL Zirconia A1 medi
5365450022	CEREC MTL Zirconia A2 medi
5365450023	CEREC MTL Zirconia A3 medi
5365450024	CEREC MTL Zirconia A3.5 medi
5365450027	CEREC MTL Zirconia B2 medi
5365450031	CEREC MTL Zirconia C2 medi
5365450034	CEREC MTL Zirconia D2 medi

Accessories

SKU	Product Description
6580067	CEREC SpeedPaste
6611870	Glazing Support Single Unit +A
6583889	Glazing Support Multi Unit
5368273100	Dentsply Sirona Universal Spray Glaze Fluo
5368273101	Dentsply Sirona Universal Spray Glaze
D605540	DS Universal Glaze
D605542	DS Universal Glaze High Fluo
D601315	DS Universal Glaze Liquid
5369001710	Ceramic brush Pinelo No. opaque/stain
5369001720	Ceramic brush Pinelo No. 2





Burs for CEREC Primemill

SKU	Burs for CEREC Primemill		
67 13 940	Bur 2.5 ZrO ₂ CS		
67 13 932	Bur 1.0 CS		
67 13 924	Bur 0.5 CS		

Tool Use Case	Color	Left Side	Right Side	Color	Possible Processing Modes
Mill ZrO ₂ Extra Fine		Bur 2.5 ZrO ₂ CS	Bur 1.0 CS		Fast, Fine, Extra Fine Milling Zirconia
		Any tool	Bur 0.5 CS		
Mill ZrO ₂ Super-Fast		Bur 2.5 ZrO ₂ CS	Bur 2.5 ZrO ₂ CS		Super-Fast Milling Zirconia
		Bur 1.0 CS	Bur 1.0 CS		

Burs for CEREC MC XL, CEREC MC X

SKU	Burs for CEREC MC XL, CEREC MC X	
62 99 395	Shaper 25	
62 99 387	Finisher 10	

Motor Set	Left	Right	Combination
Set 1	Shaper 25	Finisher 10	Dry Milling

