IPS e.max® ZirCAD

All ceramic, all you need.

General information

IPS e.max ZirCAD **MT Multi blocks** and the monochromatic, pre-shaded **LT blocks** are available in **7 A–D shades** (A1, A2, A3, B1, B2, C2, D2) as well as **1 Bleach shade (BL1 or BL)** and in **block sizes C17 and B45**.

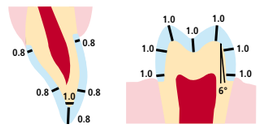
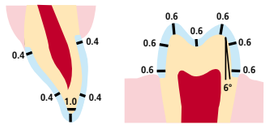
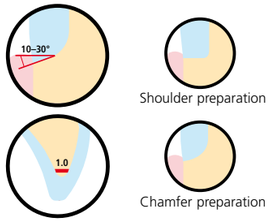
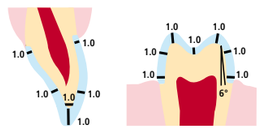
Indications

– Crowns
– 3-unit bridges

Processing techniques

After sintering, the restorations can be
– glazed and fired
– stained (optional), glazed and fired
– polished

Preparation guidelines

	IPS e.max ZirCAD MT Multi Medium Translucency Multi	IPS e.max ZirCAD LT Low Translucency	General information
Single crowns			
3-unit bridges			

– Evenly reduce the anatomical shape while observing the stipulated minimum wall thicknesses.
– For conventional and/or self-adhesive cementation, the preparation must demonstrate retentive surfaces (preparation height at least 4 mm).
– Preparation angles: 4 – 8° for conventional and self-adhesive cementation, > 6° for adhesive cementation

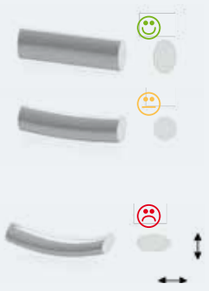
Minimal wall thicknesses and connector dimensions

Wall thicknesses / connector dimensions of the sintered restoration

IPS e.max ZirCAD MT Multi (sintered)	Anterior region		Posterior region		Design type
	Minimum wall thickness in mm	Connector dimensions in mm²	Minimum wall thickness in mm	Connector dimensions in mm²	
Crowns	0.8	–	1.0	–	Supporting the tooth shape and/or the gingiva (incisal, occlusal and/ or basal)
3-unit bridges	1.0	12[a, b]	1.0	16[b]	

a) Height: 4 mm, Width: 3 mm
b) The indicated minimum connector dimensions must be positioned in the dentin area of the block.

IPS e.max ZirCAD LT (sintered)	Anterior region		Posterior region		Design type
	Minimum wall thickness in mm	Connector dimensions in mm²	Minimum wall thickness in mm	Connector dimensions in mm²	
Crowns	0.4	–	0.6	–	Supporting the tooth shape and/or the gingiva (incisal, occlusal and/ or basal)
3-unit bridges	0.6	7	0.6	12	



– Aim for the largest possible dimensions when designing the connectors.
– The height of the connector is more important for the stability than the width. Doubling the width only results in double the stability, while doubling the height results in up to four times the stability.
– The greater the distance between the abutment teeth, the higher the mechanical stress on the construction and the exerted masticatory forces are going to be.

CAD/CAM processing

– Since IPS e.max ZirCAD shrinks by approximately 20-25% during sintering, the shrinkage factor of the respective batch, which is included in the code on the material block, must be read into the software or manually entered. The shrinkage factor then ensures that the milled IPS e.max ZirCAD restorations demonstrate optimum accuracy of fit after sintering.
– **For the wet processing** of IPS e.max ZirCAD, a dedicated milling fluid container should be used to avoid cross-contamination (e.g. milling dust). Do not exceed the maximum amount of milling fluid for wet processing. Contamination may result in discolouration of the restorations during sintering.
– **For dry processing,** make sure that the chamber of the CAM unit is clean and dry.
– To ensure that restorations made of **IPS e.max ZirCAD MT Multi** show a clearly visible enamel area, they must be positioned as highly as possible in the block in the CAD software. For single-tooth restorations, it is recommended to place the restoration approximately 1 mm below the top edge of the block to obtain a clearly visible incisal portion. Bridge restorations must be placed in such a way that the connectors are largely positioned below the auxiliary line or in the dentin area.

Marking recess in the block: The dentin area is marked by a recess in the block, i.e. the MT layer. The incisal area is located on the opposite side, i.e. the translucent HT layer.

Finishing after the fabrication process

It is of critical importance to use the correct grinding instruments for adjusting and finishing IPS e.max ZirCAD restorations. This applies to non-sintered as well as sintered objects. If unsuitable grinding instruments are used, chipping of the edges and local overheating may occur.

General information on IPS e.max® ZirCAD restorations

– Non-dense-sintered zirconium oxide restorations are susceptible to damage and fractures. This fact has to be kept in mind during the entire working procedure.
– If possible, any necessary post-processing procedure should be carried out while the restoration is still in its non-dense-sintered state (observe the recommendations regarding grinding instruments).
– In the non-dense-sintered state, the contact with liquids (e.g. water and/or contact media, e.g. occlusal spray) must be prevented. Use only suitable grinding instruments at low speed and light pressure to prevent delamination and chipping, particularly in the marginal area (observe the recommendations regarding grinding instruments).
– The non-sintered restoration must not be cleaned in an ultrasonic bath or with the steam jet.

Wet-milled IPS e.max® ZirCAD restorations

– Carefully separate the restoration from the holder using a separating disc or suitable grinding instruments. Smooth out the attachment points of the holding bars with suitable grinding instruments.
– After finishing, clean the restoration thoroughly. To remove any adhering zirconium oxide dust, rinse the restoration with slowly running water.
– In order to prevent damage to the restorations during sintering, the IPS e.max ZirCAD restoration must be completely dry. Moist restorations must not be sintered.

Drying times for IPS e.max® ZirCAD depending on the restoration size and temperature

	Temperature 70°C / 158°F	Temperature 140°C / 158°F	Programat CS4
Single-tooth restorations	≥ 15 min	5 – 10 min	8 –10 min (Integrated in the sintering program)
3-unit bridges	≥ 40 min	≥ 25 min	

CAD/CAM partners
IPS e.max ZirCAD has to be processed with an authorized CAD/CAM system. For questions regarding the different CAD/CAM systems, please contact the respective cooperation partners.
More information is available on the Internet from **www.ivoclarvivadent.com.**

CE 0123
Rx ONLY
For dental use only!

Manufacturer:
Ivoclar Vivadent AG, 9494 Schaan/Liechtenstein
www.ivoclarvivadent.com

see instructions

Date information prepared: 2019-01-17, Rev. 1
690978/EN

ivoclar vivadent
passion vision innovation

IPS e.max® ZirCAD

All ceramic, all you need.

Translucency level

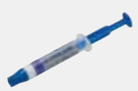
IPS e.max ZirCAD MT Multi Medium Translucency Multi		IPS e.max ZirCAD LT Low Translucency	
Time			
Speed sintering in 60 minutes*	Sintering in 1 h 54 minutes*	Speed sintering in 27 minutes*	Sintering in 47 minutes*
Restorations on the sinter tray			
 max. 3 crowns	 max. 6 units or 2 bridges	 max. 3 units or 1 bridge	 max. 6 units or 2 bridges

Sintered restoration


Pre-finishing and finishing with OptraFine

Alternatively

Processing techniques

Staining and glazing technique			Polishing technique
Glaze Fluo	Glaze	Shades / Stains / Glaze	OptraFine
			

Final situation


- Select the longer sintering program to achieve higher translucency
- With the "polishing technique", the shade effect may differ from that of the shade guide. Depending on the degree of polishing, the shade effect/intensity is increased. If necessary, it is recommended to select a block shade that is one shade brighter than the target shade.
- *The indicated time is without predrying in the Programat CS4. In general, a predrying time of 8-10 minutes is integrated in the Programat CS4 sintering program. Predyring can be skipped and sintering started immediately by closing the furnace head and pressing the start button. This applies only to dry-milled restorations. For wet-milled restorations, predrying is required.

Notes on how to position the restorations on the sinter tray

	✓ correct	ok	incorrect
Single-tooth restorations Anterior region	 Place the restorations on their labial surface.	 Place the restorations on their oral surface.	 Do **not** place the restorations on the crown margins.
Single-tooth restorations Posterior region	 Place the restorations on their occlusal surface.		 Do **not** place the restorations on the crown margins.
Three-unit anterior bridges	 Place the restorations on their labial surface and provide support to the pontic. If the restoration "tilts", select an alternative position.	 Position the restorations on the incisal edges. The pontic must also rest on the sinter tray.	 Do **not** support the restorations exclusively at the marginal edges.
Three-unit posterior bridges	 Place the restorations on their buccal or oral surfaces, depending on the curvature. Abutment crowns do not necessarily need contact to the sinter tray. The pontic must be supported.	 Do **not** support the restorations exclusively at the crown margins. The pontic must be supported on the basal side.	 If the pontic does not support the restoration, the restoration must **not** be positioned on the occlusal surface.

↑ Points of contact of the restoration with the sinter tray.

Conditioning the restoration

Indication	Crowns and bridges	
Cementation method	adhesive	self-adhesive/conventional
Blasting	Al_2O_3, 25 – 70 µm, 1 bar or Al_2O_3, 70 – 110 µm, 1.5 bar	
Cleaning after try-in	Ivoclean	
Conditioning	60 s with Monobond® Plus	–
Cementation system	Multilink® Automix	SpeedCEM® Plus, Vivaglass® CEM PL

Find your way out of the cements maze!
More information at **www.cementation-navigation.com**

ivoclar vivadent®
passion vision innovation