

User Manual

CE 0197



ZIRCONIA CERAMIC DENTAL BLANKS



A Product by

Jyoti Ceramic Industries Pvt. Ltd.



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Trademark ZIECON and ZIRCO-DENT*

Description Oxide ceramic preparation in the form of blocks for the manufacture of dental frameworks.

Chemical name Zirconium Oxide ZrO_2

Material ZrO_2 Y-TZP

Yttrium (Y_2O_3) stabilized tetragonal polycrystal Zirconium Dioxide.

Everything you wanted to know about ZIECON



ZIECON blanks are Ytria stabilized, pre-sintered to chalk hardness, bio grade Zirconium Oxide (Y-TZP ZrO_2), suitable for manufacturing wide variety of dental restoratives viz. capings, crowns, bridges, abutments, etc. that possess optimum bio-compatible, technical and aesthetic features.

Ziecon blanks are most gentle in smoothly milling of restoratives on MOM (Manually Operated Machine) copy milling machines and open (non-bar coded) CNC CAD-CAM milling machines and milling centers used by dental laboratories.

Certifications: ZIECON™ possess the necessary certification - ISO 13485:2003, English version 1497:2007, ISO 13356 Second Edition 2008-0876-01 and DIN EN ISO 6872:2009-01.

Handling & Sintering Process



Handling: ZIECON blanks can be milled on any manually operated copy milling systems as well as on dental open (non bar-coded) CNC CAD/CAM, to produce single capings, crowns, bridges, implants, abutments and other frameworks.

Sintering Process: The sintering of the ZIECON ceramics frameworks take place according to the following heating program: From room temperature 35°C (95°F) to final sintering temperature 1450°C (2642°F) | Heating rate of the kiln 8°C/minute final temperature | Soaking period 120 minutes (holding time in kiln 2 hours) | Kiln cooling down time to temperature <125°C, approx. 8 hours | Open Kiln in approx. 100°C.

Lay the ZIECON frameworks on loose high purity (99.7% Al_2O_3) ceramic micro beads loaded in a refractory ceramic sagger.

Apply gentle pressure on the frameworks so that they take proper support on the loose ceramic beads.

Ensure that no ceramic beads get jammed in the internal frameworks cavities.

After sintering of ceramic (Y-TZP) restoratives, if required, the frameworks can be retouched with water-cooled, laboratory grinding tools or suitable diamond points.

After checking fitting of the frameworks accuracy, contact points and occlusion, clean the interior cavity of the ceramic frameworks.

Precautions, Storage & Safety Instructions



Precautions: To achieve accurate sintering of frameworks, ensure that the sintering kiln chamber should be of uniform heating and suitable for 1500⁰C sintering temperature.

Storage: ZIECON ceramic blanks should be stored in a well ventilated place, in its original packaging.

Safety Instructions: Use protective hand gloves, eye goggles during the working process. In case of irritation developed, rinse the affected area with water and consult doctor if required. Use protective dust mask and wear appropriate light protective clothing.

Safety Data Sheet can be downloaded from www.ziecon.in

Physical & Chemical Properties



PHYSICAL PROPERTIES

Appearance	-	White	Ignition point	-	Non flammable
Surface Finish	-	Smooth	Green Density	-	3.2 g/cc
Condition	-	Solid block	Final Sintered Density	-	6.05 g/cc
Odour	-	None	Solubility	-	Water
Melting point	-	2680°C	Radioactivity	-	< 0.003 Bq/g
Boiling point	-	5500°C	(It has passed radioactive test)		

CHEMICAL COMPOSITION

Ingredients	Percentage	CAS No.	EINECS No.
Zirconium dioxide	94 - 96%	1314-23-4	215-227-2
Yttria oxide	4 - 6%	1314-36-9	215-233-5
Hafnium oxide	1 - 2%	12055-23-1	235-013-2

ZIECON DISCS WITH 10MM COLLAR FOR CAD/CAM

Item No.	Dimension (DIA. X Ht.)	Packing Unit
ZD9810	Ø 98 x 10 mm	1 Pc.
ZD9812	Ø 98 x 12 mm	1 Pc.
ZD9814	Ø 98 x 14 mm	1 Pc.
ZD9816	Ø 98 x 16 mm	1 Pc.
ZD9818	Ø 98 x 18 mm	1 Pc.
ZD9820	Ø 98 x 20 mm	1 Pc.
ZD9822	Ø 98 x 22 mm	1 Pc.
ZD9824	Ø 98 x 24 mm	1 Pc.
ZD9826	Ø 98 x 26 mm	1 Pc.

Ziecon Blank Sizes



ZIECON BLOCKS FOR MOM

Item No.	Dimension (L X W X H)	Packing Unit
ZB763812	76 x 38 x 12 mm	2 Pcs.
ZB763814	76 x 38 x 14 mm	2 Pcs.
ZB763816	76 x 38 x 16 mm	2 Pcs.
ZB763818	76 x 38 x 18 mm	2 Pcs.
ZB763820	76 x 38 x 20 mm	2 Pcs.
ZB653012	65 x 30 x 12 mm	3 Pcs.
ZB653014	65 x 30 x 14 mm	3 Pcs.
ZB653016	65 x 30 x 16 mm	3 Pcs.
ZB653018	65 x 30 x 18 mm	3 Pcs.
ZB653020	65 x 30 x 20 mm	3 Pcs.

Ziecon Blank Sizes



Item No.	Dimension (L X W X H)	Packing Unit
ZB402012	40 x 20 x 12 mm	5 Pcs.
ZB402014	40 x 20 x 14 mm	5 Pcs.
ZB402016	40 x 20 x 16 mm	5 Pcs.
ZB402018	40 x 20 x 18 mm	5 Pcs.
ZB402020	40 x 20 x 20 mm	5 Pcs.
ZIECON ARCH (D-SHAPE) FOR MOM		
ZAR947512	94 x 75 x 12 mm	1 Pc.
ZAR947514	94 x 75 x 14 mm	1 Pc.
ZAR947516	94 x 75 x 16 mm	1 Pc.

Ziecon Blank Sizes



Item No.	Dimension (L X W X H)	Packing Unit
ZAR885712	88 x 57 x 12 mm	1 Pc.
ZAR885714	88 x 57 x 14 mm	1 Pc.
ZAR885716	88 x 57 x 16 mm	1 Pc.

ZIECON BLOCKS WITH METAL SHANKS FOR CAD/CAM

ZBS652522	65 x 25 x 22 mm	3 Pcs.
ZBS4020155	40 x 20 x 15.5 mm	5 Pcs.
ZBS201415	20 x 14 x 15 mm	10 Pcs.



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*ZIECON & ZIRCO - DENT are the registered trade names of Jyoti Ceramic Industries Pvt. Ltd.