



Now your smile comes with a lifetime warranty.



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## OWN THAT SMILE

Today Zirconia dental restoratives are considered luxury for those in need because of their steep price. While metal and other ceramic coated restoratives come as alternatives to the expensive ceramic processes, they also have their own set backs in terms of quality, longevity and aesthetics.

Jyoti Ceramic, a world leader in advanced ceramics, has forayed into the world of bio-ceramics with an aim of making ceramic dental restoratives available to everyone. ZIECON is a boon to patients, dentists and dental-labs in providing a quality alternative to the expensive Zirconia Ceramic Dental Crowns and Restoratives. With its global certifications on unsurpassed quality, promising warranty and a whole lot of other features, everyone can now 'Own That Smile.'

Natural smile – now for all.

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#### FIRST IN INDIA

The first-of-its-kind in India, ZIECON Blanks are suitable for manufacturing high-quality dental crowns, bridges, abutments, implants and other dental restoratives. ZIECON Blanks are Y-TZP  $ZrO_2$  Ytria stabilized Zirconium Oxide, pre-sintered, chalk-hardened and most gentle in smooth milling of eminent quality dental restoratives. ZIECON Blanks are compatible with MOM (Manually Operated copy Milling machines) and CNC CAD/CAM Milling systems.

ZIECON will alter the way dental care is perceived, in possessing several eminent characteristics such as non-metallic, bio-compatible, tissue-friendly, non-allergic, naturally aesthetic, steel strong and durable with impeccable accuracy. CAD/CAM manufactured ZIECON Restoratives can be matched with the colour shade of natural teeth. With its translucent nature, ZIECON Restoratives are indistinguishable from any natural dentine.

ZIECON. An all-new future for dentistry.

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## ZIRCONIA

ZIECON Ceramic is manufactured from an eminent quality Zirconium Oxide called Zirconia ( $ZrSiO_4$ ) - a mineral belonging to the mineral class of Silicates, partially stabilized by Yttrium and enriched with Aluminium. Zirconia possesses high bending strength, hardness and toughness. With its unique combination of excellent physical, mechanical and chemical properties, Zirconia becomes an ideal bio-material.

Zirconia is being used in prosthetic dentistry for around two decades. Being highly resistant, Zirconia is fully bio-compatible and hence is increasingly used in the medical field for prostheses, as well as in dentistry for crowns, implants and other dental restorations. Zirconia has other advantages like its basic white colour, the possibility of colouring in dentine colours and its bio-compatible characteristics.

### Chemical Properties

$ZrO_2 + HfO_2 + Y_2O_3 + Al_2O_3$	Wt%	> 99.9
$Y_2O_3$	Wt%	5.15 ( $\pm 0.20$ )
$Al_2O_3$	Wt%	0.25 ( $\pm 0.10$ )
$SiO_2$	Wt%	$\leq 0.02$
$Fe_2O_3$	Wt%	$\leq 0.01$
$Na_2O$	Wt%	$\leq 0.04$
Loss on ignition (1000°C)	Wt%	5.5 ( $\pm 1.0$ )

Optimum aesthetics. High compatibility.

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### ADVANTAGE:

#### Ceramic Blanks

- Uniform shrinkage upon sintering
- Insignificant radioactive traces
- Chipping-free easy machinability
- Easily compatible with MOM (Manually Operated copy Milling machines) and Open CAD-CAM Milling systems
- Suitable for single crowns, bridges and other dental restoratives
- Uniform hardness, density and dimensional accuracy
- Available in wide range of sizes and patterns

#### ZIECON Blank sizes

<b>ZIECON BLOCK SIZES</b>	
Blank Dimension (LxWxH)	Unit/Carton
40mm x 20mm x 16mm	5Pcs.
40mm x 20mm x 16mm	3Pcs.
40mm x 20mm x 16mm	2Pcs.
<b>ZIECON Arch (D Shape)</b>	
Blank Dimension (LxWxH)	Unit/Carton
88mm x 57mm x 16mm	1Pc.
94mm x 75mm x 16mm	1Pc.
<b>ZIECON DISC SIZES</b>	
Blank Dimension	Unit/Carton
Dia(ø) 98mm-100mm & Ht 10-25mm* ask for detailed drawing	1Pc.

### ZIECON CERAMIC BLANKS

At Jyoti Ceramic's hi-tech bio-ceramic division, ZIECON is manufactured from Japanese TOSOH or equivalent grade spray dried, homogeneous Y-TZP powder. It is bisque fired to chalk hardness in the most advanced, temperature controlled sensitive kilns, ensuring uniform hardness, chipping-free smooth machinability and uniform shrinkage for final ceramic dental restoratives. Superior grade Y-TZP powder ensures insignificant radioactive traces in ZIECON Blanks, a fact certified by most esteemed organisation-BARC (Bhabha Atomic Research Centre, India).

The Y-TZP Zirconia powder is blended with selective binders and sintering supplements. The Y-TZP Zirconia powder is compacted at high pressure automatic cold uniaxial and isostatic presses in the desired size and patterns. High quality pressing technique ensures uniform density, hardness, dimensional accuracy and chipping-free smooth machining of each blank.

#### Physical Properties

Colour	-	White
Surface finish	-	Smooth
Condition	-	Solid block
Odour	-	None
Melting point	°C	2680
Boiling point	°C	5500
Ignition point	-	Non-flammable
Density	g/cc	3.0
Solubility		Not soluble in Water
Radioactivity	Bq/g	< 0.1

Excellent technology. Precision and perfection.

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#### ADVANTAGE:

##### Restoratives

- Highly bio-compatible
- Completely non-metallic, non-allergic and tissue-friendly
- Premium quality at easy price
- Steel strong & durable
- Naturally aesthetic and translucent
- Single crown to full-arch (14 unit) bridge availability



Complete Zirconia Restoratives

Porcelain Fused Metal Restoratives

#### ZIECON RESTORATIVES

To ensure ZIECON meets international quality parameters, Jyoti Ceramic has established a separate bio-ceramic division, equipped with the latest MOM (Manually Operated copy Milling machines) and CNC CAD/CAM Milling systems, state-of-the-art R & D Lab, engineering workshop and tool room to support it.

The new generation CAD/CAM Milling systems make the revolutionary ZIECON crowns and bridges. A 5-axis LASER scanner scans the dental dyes followed by milling, using a 4-axis High Precision CAD/CAM Milling Machines. The fourth axis ensures that all intricate dental curves and angles are captured; thereby creating the finest fitting crowns that allows a dentist to maintain the natural tooth anatomy. It also gives the most accurate and comfortable dental restoratives to ensure that the end product is characterised by perfect anatomy in terms of its physical properties, natural appearance and accurate dimensions.

Impressive beauty. Intricate details.

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#### ZIECON dental blanks are in compliance with the following ISO Standards

ISO 13356 Second Edition 2008-06-01 Implants for surgery –ceramic material based on Yttrium stabilized tetragonal Zirconium (Y-TZP).

ISO 6872: 2008 Dentistry- Ceramic materials, English version of DIN EN ISO 6872:2009-01.

#### ZIECON WARRANTY

Jyoti Ceramic offers a Lifetime Warranty for copings or substructures made from ZIECON. ZIECON frameworks will not break and produced by Jyoti Ceramic's milling centre.

For more details please visit [www.ziecon.in](http://www.ziecon.in).

#### QUALITY CONTROL

At Jyoti Ceramic, stringent quality control methods are employed at every stage of the manufacturing process, right from raw material to final product.

We make sure that the raw material abides by the quality parameters pertaining to the chemical and radiological standards. For bio-ceramic manufacturing, composition and purity of the ceramic powder holds utmost importance. Zirconia is a mineral that always contains some radioactive traces like Uranium and Thorium. We use only selected superior grade Japanese TOSOH or equivalent grade Y-TZP powder containing much lower than permissible radioactive traces, which is certified by the most esteemed organisation - BARC (Bhabha Atomic Research Centre – India).

The process takes place in a dust-free, very hygienic environment and stored in well protected areas. We follow stringent housekeeping procedures to maintain excellent environmental conditions. We also ensure it is stable and do not pose hazards while decomposing.

To ensure international quality standards, we are in the process of obtaining CE, FDA (Food and Drug Administration) and other required certifications.



MOM (Manually Operated copy Milling machine)



CNC CAD/CAM Milling systems

International quality. International standards.

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#### REVOLUTIONISING CERAMICS SINCE 40 YEARS

Jyoti Ceramic Industries - established in 1970 is a renowned name in Technical Ceramics with a repertoire well known for its advanced ceramic products. Based in the emerging industrial town of NASHIK, located around 180 kms northeast of Mumbai, India; the company is led by its visionary founder, Mr. Shyam Merani.

A research and innovation driven company, Jyoti Ceramic has set up two world-class ceramic manufacturing plants with state-of-the-art R & D Lab and Engineering Workshop-cum-tool room, supported by experienced engineers, technicians and staff. While meeting domestic demands, the company today exports around 70% of its production to over 52 countries worldwide.

Tested expertise. Trusted experience.

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Let the smile revolution begin with you.

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