



Biting the cherry stone: the toughest
test for teeth

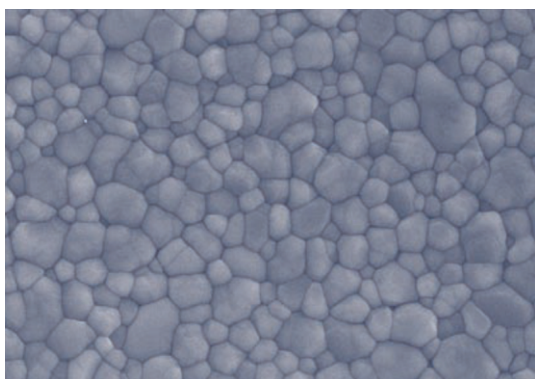
Zircon ROCK[®]

High-performance Zirconia ceramics
that withstand stresses of up to
1500 MPa with ease.

Zircon ROCK[®]



An 80 Year Old Trusted Global Brand



SEM Image of a Sintered Zircon ROCK Framework



TOSOH TZP-3YSB-E:

3 principles that assure premium quality.

1. Transformation toughening through spontaneous phase transformation in the case of local stress peaks.
2. Resistance to hydrothermal ageing by means of special doping elements.
3. High strength based on the finest microstructures and avoidance of process defects.

Premium High Quality Zirconia

Zirconia powder from the world leader: **TOSOH**. Quality of Zirconia prosthesis directly depends on the quality of Zirconia powder used to make Zirconia blanks. TOSOH is world-wide leader in Medical Zirconia & is the largest producer of Zirconia Powder for Medical applications. TOSOH Zirconia Powder is regarded as the best in the world.

TOSOH uses a very special production process to produce Zirconia Powder: it is produced by chemical synthesis & is the purest and most Bio-Compatible Zirconia Powder available with absolutely no radioactive or harmful elements. The particle size distribution of the powder is so homogenous and uniform resulting in high fracture toughness and high mechanical properties of the sintered frameworks. The powder is so pure, there is no other impurity which causes low translucency and mechanical properties.

In addition, TOSOH uses special binder and lubricant for better pressing ability of the powders. Therefore, after CIP (Cold Isostatic Pressing) compaction is so good. Primary particles are so close to each other. Therefore, after Sintering of frameworks at 1500°C, there is no porosity between Zirconia particles. Porosity causes opaqueness and low mechanical strength.

Yttrium-stabilized zirconium oxide (TZP-3YSB-E)

The outstanding mechanical properties of TZP-3YSB-E are the result of the extremely fine composite and are above all caused by partial stabilization, the potential for spontaneous local phase transformation from tetragonal to monocline. The associated increase in volume causes local compression stress, which in turn leads to a strengthening of the composite under tensile load.

High strength, toughness and reliability are combined with biocompatibility and hydrothermal resistance.

Translucent Zirconium Oxide by Nano-Technology

The use of nanoscalar powder lends this material both its outstanding strength and, first and foremost, exceptional optical transparency – a combination that makes it an ideal Zirconium prosthesis.

Japanese Passion for Quality + Swiss Precision

Grain sizes of 0.2 μm for outstanding mechanical and optical properties.

Quality criterion for blanks: consistent shrinkage.

Uniform distribution of the white density in the blank plays a decisive role in uniform shrinkage. The processability of the blank however also depends on this criterion. Precisely this quality is assured by Zircon Rock.

Consistent shrinkage, good processability and edge stability are the criteria for optimum quality. Zircon Rock achieves this through a combination of the purest raw materials, special manufacturing processes, exceptionally fine microstructures and appropriate transformation toughening. With the help of special typical ceramic forming processes, unfinished components are produced for subsequent sintering. Due to optimum preparation processes only relatively low sintering temperatures are required.

The result: particularly fine microstructures with medium grain sizes of 0.2 μm .

Cutting edge production technology for products of outstanding quality.

Advanced production plants are implemented at every processing stage. All satisfy the high standards that apply for the manufacture of medical products. A central test and analysis laboratory with the latest high-tech equipment affords extensive support in the development, production and quality assurance sectors.



Pressing the blank



Lathe-turning a tooth implant

Key process stages

Raw material
Quality assurance



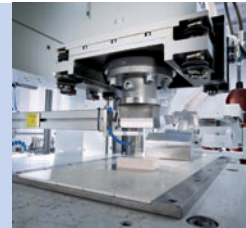
01

Powder preparation
Grinding, mixing,
spray drying,
plastifying



02

Forming
Pressing, extruding,
injection moulding,
casting



03

Green treatment
Milling, turning,
drilling, sawing,
grinding



04

Sintering
Burning,
Hot-isostatic
pressing



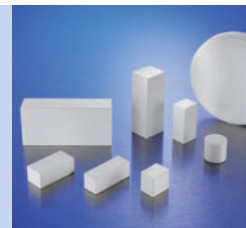
05

Final processing
Grinding, lapping,
polishing



06

Ceramics
Testing, packaging



07

Only the best is good enough, because Zirconia restorations should last a lifetime!

Zircon ROCK Zirconia Blanks are made with 100 % **TOSOH** Zirconia Powder and are Isostatically Pressed for homogenous density. They have High Bending Strength 1400-1500 MPa and Superior Mechanical Properties with High Translucency. Excellent quality of TOSOH Zirconia Powder + Special Swiss Production Process of Zircon ROCK Blanks leads to exceptionally High Bending Strength. Cold Isostatic Pressing (CIP) of the Blocks is done with up to 8000 bar pressure for Better compaction.



Features:

- **High Bending Strength 1400-1500 Mpa**
- High Translucency, Natural looking
- High Fracture Toughness
- 100% Bio-Compatible & Safe
- Excellent Marginal Fit



Indications:

All Posterior and Anterior Crown and Bridge Frameworks with and without Ceramic veneering (**Monolith**)

Zircon ROCK Zirconia Blanks and Frameworks are available in 3 types:

High Translucent

Ultra Translucent

Pre-Colored Ultra Translucent (16 Colors: A1-D4)



For higher esthetic results, we recommend veneering the hard-Sintered Zirconia Frameworks with **inspire ZR Zirconia Layering 100% Glass Ceramic**. Zirconia Blanks, coloring liquids & Zirconia layering Ceramics - all the products are made in Switzerland and are well co-ordinated to produce high end results.

Zircon Rock Zirconia Blanks and **inspire ZR Zirconia layering Ceramics** are imported and marketed in India by "Advance Healthcare Systems". Milling services and laboratory support is provided by our authorized lab partners all over India.

TOSOH: Established in 1935. TOSOH is a Japanese Conglomerate with 11,000 employees world-wide and annual sales of 8 Billion US Dollars. TOSOH offers free testing of materials for authenticity. We encourage our customers to use this service. www.tosoh.com



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