When Esthetics Are Essential

Crystal zirconia™
for a bright and natural smile
“Great material, handles and mills easily, a beautiful finished product.”

Kip Estep, President
Fuji Ceramics Dental Lab
Rockwell, Texas

“HUGE SAVINGS! We are saving 40% compared to OEM zirconia for our Cercon system, and this is a better material.”

Gregory Gray, President
Southern Gray Dental Lab
Stafford, Virginia

“Wow! The lifetime guarantee gives us a major competitive advantage over other labs (and outsourcing).”

Charles Moreno, President
Excel Dental Studios
Encino, California

“We have milled 1000s of CRYSTAL restorations with outstanding results. We are 100% satisfied!”

Kevin Hud, Senior VP
Knight Dental Group
Oldsmar, Florida

www.CrystalZirconia.com
Now choose from HIGH STRENGTH or HIGH TRANSLUCENCY Formulas

Crystal zirconia™
for a bright and natural smile

♦ All Ceramic Esthetics
♦ High Strength Formula (1250 MPa)
♦ High Translucency (3.6 x 10³ Lux)
♦ Conventional Cementation
♦ 100% Biocompatibility
♦ Lifetime Warranty
♦ Made in the USA

comparison of major zirconia brands
safety, reliability, quality and warranty
the brand that patients prefer
**Sirona inLab** Compatible Blocks

Our S-Series blocks are designed for use with Sirona’s inLab and MC XL milling systems. For ultimate compatibility, our S-series blocks all have a type B mandrel, and are marked with a bar code and a *z-number on the block which is read by the Sirona milling equipment to indicate precise material density.

<table>
<thead>
<tr>
<th>S-Series Blocks</th>
<th></th>
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<tbody>
<tr>
<td>HT 20 x 15 mm</td>
<td></td>
</tr>
<tr>
<td>HT 20 x 19 mm</td>
<td></td>
</tr>
<tr>
<td>HT 40 x 15 mm</td>
<td></td>
</tr>
<tr>
<td>HT 40 x 19 mm</td>
<td></td>
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<tr>
<td>HS 55 mm</td>
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</tbody>
</table>

**KaVo Everest** Compatible Blocks

Our K-Series blocks are designed for use in KaVo Everest milling systems. Included are cuboids for bridges and cylinders for single crowns. Use of cylinders for crowns insures the least possible amount of waste material.

<table>
<thead>
<tr>
<th>K-Series Blocks</th>
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<tbody>
<tr>
<td>HT 16 x 16 mm cyl</td>
<td></td>
</tr>
<tr>
<td>HT 20 x 20 mm cyl</td>
<td></td>
</tr>
<tr>
<td>HS 42 x 20 x 16 mm</td>
<td></td>
</tr>
<tr>
<td>HS 42 x 20 x 20 mm</td>
<td></td>
</tr>
<tr>
<td>HS 60 x 20 x 25 mm</td>
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</tbody>
</table>

**Cercon Base** Compatible Blocks

Our C-Series cylinders and blocks are 100% compatible with Cercon milling systems. All cylindrical C-Series blanks meet or exceed all Cercon standards and include everything you will need to use the blanks in your Cercon milling equipment.

<table>
<thead>
<tr>
<th>C-Series Blocks</th>
<th></th>
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<tbody>
<tr>
<td>HT 12 x 26 mm</td>
<td></td>
</tr>
<tr>
<td>HT 30 x 50 mm</td>
<td></td>
</tr>
<tr>
<td>HT 38 x 60 mm</td>
<td></td>
</tr>
<tr>
<td>HT 40 x 72 mm</td>
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</tbody>
</table>

**Weiland Zeno** Compatible Disks

Our W-Series disks are designed for use in the Weiland Zeno Tec or AG Ceramill milling systems. All disks are 100% HIGH STRENGTH Zirconia material and are available in a variety of thicknesses between 10 and 25 mm.

<table>
<thead>
<tr>
<th>W-Series Disks</th>
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<tbody>
<tr>
<td>HS 98 x 10 mm</td>
<td></td>
</tr>
<tr>
<td>HS 98 x 14 mm</td>
<td></td>
</tr>
<tr>
<td>HS 98 x 18 mm</td>
<td></td>
</tr>
<tr>
<td>HS 98 x 20 mm</td>
<td></td>
</tr>
<tr>
<td>HS 98 x 25 mm</td>
<td></td>
</tr>
</tbody>
</table>

**Digital Dental** Compatible Disks

Our D-Series disks include frames and are designed for the Digital Dental Labs milling system and other open disk oriented systems. Disks under 16 mm thick are made from HIGH TRANSLUCENCY Zirconia, and those 16 mm and thicker are HIGH STRENGTH.

<table>
<thead>
<tr>
<th>D-Series Disks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HT 100 x 10 mm</td>
<td></td>
</tr>
<tr>
<td>HT 100 x 12 mm</td>
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</tr>
<tr>
<td>HT 100 x 14 mm</td>
<td></td>
</tr>
<tr>
<td>HS 100 x 16 mm</td>
<td></td>
</tr>
<tr>
<td>HS 100 x 18 mm</td>
<td></td>
</tr>
<tr>
<td>HS 100 x 20 mm</td>
<td></td>
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</tbody>
</table>
PRECISION Zirconia Blanks

CRYSTAL Zirconia blanks are available for an ever-growing variety of modern dental laboratory milling systems, including the newest 4 axis and 5 axis systems. Due to our Isostatic manufacturing process, CRYSTAL can offer consistent material density in almost any block shape or size.

With our larger denser disks, labs can confidently create very strong and precise full-arch restorations.

Highest TRANSLUCENCY

CRYSTAL High Translucency blocks are the most translucent zirconia materials available, allowing 20-30% more light to pass though than other zirconia materials.

In recent decades, full ceramic restorations have become increasingly popular due to their aesthetic properties. Ceramic materials have a tooth-like transparent appearance and can be shaded to match the patient’s natural tooth color.

Today, many dentists use all-porcelain crowns, especially for anterior teeth. The problem with these materials, however, is their potential to fracture under stress, which is why they are not recommended for posterior crowns and bridges.

CRYSTAL High Translucency zirconia blocks are up to FIVE TIMES STRONGER than all-porcelain materials, and provide life-long strength plus the aesthetic qualities patients seek.

For long lasting patient solutions, CRYSTAL recommends zirconia frameworks for all crowns and bridges, fabricated with a super-strong 0.5 mm wall thickness for posterior crowns, and optionally, a thinner and more translucent 0.3 mm wall thickness for anterior restorations.

Relative Translucency of Zirconia Materials (X 10^3 Lux)

- **Crystal**
- **Lava**
- **Vita YZ**
- **e.max**
- **Cercon**
At 1250 MPa High Strength CRYSTAL Zirconia is the STRONGEST!

<table>
<thead>
<tr>
<th></th>
<th>CRYSTAL™</th>
<th>e.max</th>
<th>VITA YZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexural Strength</td>
<td>1250 MPa</td>
<td>&gt;900 MPa</td>
<td>&gt;900 MPa</td>
</tr>
<tr>
<td>Flexural Toughness</td>
<td>7.0 MPa-m²</td>
<td>6.0 MPa-m²</td>
<td>5.9 MPa-m²</td>
</tr>
<tr>
<td>Grain Density</td>
<td>6.00 g/cm²</td>
<td>6.00 g/cm²</td>
<td>n/a</td>
</tr>
<tr>
<td>Sintering Temp</td>
<td>1500 ºC</td>
<td>1500 ºC</td>
<td>1530 ºC</td>
</tr>
<tr>
<td>Thermal Expansion</td>
<td>10.5 CTE</td>
<td>10.8 CTE</td>
<td>10.5 CTE</td>
</tr>
</tbody>
</table>

Comparison of TOP Brands of YZ Zirconia

☆ CRYSTAL has the HIGHEST Flexural Strength of 1250 MPa
☆ CRYSTAL has the HIGHEST Fracture Toughness of 7.0
☆ CRYSTAL has the HIGHEST Grain Density of 6.00
☆ CRYSTAL has the IDEAL Thermal Expansion of 10.5

High Strength and High Translucency

CRystal Zirconia comes in scientifically formulated HIGH STRENGTH and HIGH TRANSLUCENCY formulas.

CRystal High Strength blanks are rated at 1250 MPa (the highest in the industry), and are ideally suited for posterior crowns and bridges and other restorations that demand the strongest possible materials.

At 950 MPa, CRystal’s High Translucency Zirconia exceeds the strength of most commercially available dental zirconia, but provides added light transparency for a more esthetic look, best suited for anterior crowns and bridges.

Both High Strength and High Translucency formulas are backed by the best warranty in the dental materials business.

Relative Flexural Strength (MPa) of Dental Restoration Materials
Long Term Stability and Strength

Start with Quality Ingredients
CRystal brand zirconia is manufactured in the United States based on medical grade zirconia from TOSOH, the world’s leader in dental zirconia compounds. TOSOH provides more than 70% of all zirconia powder used by dental milling block manufacturers. CRystal Zirconia utilizes the highest grade yttrium stabilized zirconia powders that TOSOH manufacturers.

State of the Art in Block Formation
For large blocks, a special bonding agent is added to the zirconia powder to achieve the most uniform material distribution possible. CRystal blocks are pressed using an advanced Cold Isostatic Pressing technology where the block is formed under pressure from all sides in a special high-tech semi-rigid mold. Isostatic pressing assures that the resulting block is of a single uniform density. After forming, the blocks are pre-sintered and additional density measurements are taken and printed on the package and/or bar-coded on the material.

Porcelain Veneering & Pressing
CRystal Zirconia is carefully formulated to match normal thermal expansion standards for zirconia, so any porcelain designed for use with 10.5 CTE zirconia can be used with CRystal, including...

- Aurident - Press-i-dent
- Degudent - Duceram KISS
- DeGussa - KISS System
- Dentsply - Ceramco Press
- Dentsply - Finesse All-Ceramic
- Dentsply - Ceramco PFZ Press
- Dentsply - Cero KISS
- Dentsply - Cercon Ceram Press
- GC America - Initial PC
- Glidewell - Prismatic CZ Press
- Glidewell - Prismatic ThinPress
- Heraeus - HeraCeramPress
- Ivoclar - IPS e.max Press
- Ivoclar - IPS e.max ZirPress
- Ivoclar - IPS Empress Esthetic
- Jensen - Authentic
- Jensen - Creation CP
- Leach & Dillon - Cepress SL
- Mirage - Fortress Pressable
- Monarch - Press-Ceram Inlay Ingots
- Monarch - Press Ceram System
- Nobel Biocare - Nobel Rondo Press
- Shofu - Vintage Press Over
- Talladium - Luminesse EZ-Press
- Vision USA - Vision Low
- Vision USA - Vision Esthetic
- Vident - VITA PM9
- Vident - VITA VMK9
- Weiland - Imagine PressX
- Weiland - PressX ZR
- Zahn - Pentron 3G OPC
- Zahn - Pentron Avente
- Zahn - Pentron Avente VCH
- Zahn - Noritake CZR Press
CRYSTAL is the ONLY brand of Zirconia to offer a LIFETIME WARRANTY!

CRYSTAL Zirconia will NOT Break

Almost unheard of in the dental materials business, CRYSTAL is the first to offer a LIFETIME Warranty on our zirconia substructures. Properly fabricated CRYSTAL copings should last a lifetime!

CRYSTAL Zirconia is made with a new FIFTH Generation medical grade zirconia powder manufactured by TOSOH of Japan. TOSOH's highly dense and consistent zirconia fibers have a grain size as low as 0.07μm.

Tested at a flexural strength of 1250 MPa, our High Strength CRYSTAL Zirconia structures can stand up to the toughest dental environments. At 950 MPa, our High Translucency formula CRYSTAL Zirconia is stronger than most zirconia materials and also carries the same lifetime warranty when used for anterior crowns and bridges.

Zirconia is a PROVEN Material

While dental applications of Zirconia have only recently become practical and affordable, the material has had long been used in medicine and industry and has demonstrated long-term viability and strength.

Because Zirconia is not only incredibly strong but also 100% biocompatible, medical grade zirconia has been used in recent decades to create hundreds of thousands of successful hip joint replacements.

Zirconia has been used by industry in the most demanding applications, including new Fuel Cell technology and even Porsche’s high performance braking system. Also, because of the material’s ability to survive high-stress G forces and vibration, you will also find Zirconia in furnace components on the Space Shuttle.

White Steel

CRYSTAL Zirconia is stronger than steel, in fact, CRYSTAL is twice as strong compared to traditional Porcelain-Fused-to-Metal (PFM) crowns or bridges, and after final sintering, even stronger than gold, titanium or other dental alloys.
Quality Assurance Guaranteed

CRYSTAL Zirconia blocks and disks are made from fully traceable FDA-Registered Yttrium Zirconia, and are manufactured from certified materials in accordance with worldwide medical grade product manufacturing standards.

IDENTCeram Certificate
An IDENTCeram certificate is included with every order of CRYSTAL Zirconia. This certificate, provided by the Identalloy Council, documents the authenticity and composition of ceramic materials used in dental restorations.

INCLUDED FREE: With each order of CRYSTAL Zirconia, you will receive a two-part IDENTCeram certificate for each case, one for your lab records and one for the prescribing dentist to place in the patient file, which is valuable for patient planning and for documenting insurance claims.

European Union CE Certified
CRYSTAL Zirconia is certified to conform to all European laws and requirements governing the manufacturing and processing of medical materials. CE Certification indicates that the product has been manufactured according to industry standards and safety practices, that it is safe and biocompatible for medical uses, and that the highest standards of technical processing, evaluation, and monitoring are used to insure consistency and reliability.

TOSOH Material Traceability
TOSOH, based in Japan, is the largest manufacturer of Yttrium Zirconia powders, and provides detailed scientific data and a certificate of analysis with each batch. CRYSTAL is manufactured using the highest-quality finest-grain medical grade zirconia powders commercially available. Upon arrival, CRYSTAL does additional testing and processing to insure the quality of source materials.
Patient Education

Dentists who offer CRYSTAL restorations to their patients are provided with brochures, posters and other materials to assist their clients in understanding the aesthetics, biological properties, and strengths of various dental restoration solutions.

Educated patients can better partner with their dentist to decide on the most appropriate cosmetic or restorative solutions for their personal goals, preferences, budgets and other factors.

In the News...

CRYSTAL is engaged in an ongoing campaign to educate the media, the public and members of the dental community about the benefits of Zirconia as a dental material.

Information about CRYSTAL Zirconia can be found on the web, in magazines, on video, and at aesthetic industry events.