



When  
**Esthetics**  
Are  
**Essential**



**Crystal**<sup>®</sup>  
ZIRCONIA

*for a bright and natural smile*

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**Try Our NEW  
Crystal "Diamond"  
for One-Piece SOLID  
Zirconia Restorations.  
Most Translucent  
No Porcelain**

Available in THREE Formulations:

- ◆ TD Translithic™ Diamond (850 MPa)
- ◆ HT High Translucency (950 MPa)
- ◆ HS High Strength (1400 MPa)

Made in the USA ◆ Lifetime Warranty

*the brand that patients prefer*

*safety, reliability, quality and warranty*

*comparison of major zirconia brands*

*types and benefits of crystal zirconia*

## Sirona inLab Compatible Blocks

Our S-Series blocks are designed for use with Sirona's inLab and MC XL milling systems. The blocks have either type B or MCXL mandrels, and are marked with a bar code and a \*z-number to indicate shrink density.



### S-Series

20 x 15 mm  
20 x 19 mm  
40 x 15 mm  
40 x 19 mm  
55 x 19 mm  
55 MC XL  
65 MC XL

## 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.



### K-Series

16 x 16 mm cyl  
20 x 20 mm cyl  
42 x 20 x 16 mm  
42 x 20 x 20 mm  
60 x 20 x 25 mm

## Cercon Base Compatible Blocks

Our C-Series cylinders and blocks are compatible with Cercon milling systems. All cylindrical C-Series blanks meet or exceed all standards for use in your Cercon milling equipment.



### C-Series

12 x 26 mm  
30 x 50 mm  
38 x 60 mm  
40 x 72 mm

## Wieland Zeno Compatible Disks

Our W-Series disks are designed for use in the Wieland Zeno Tec or AG Ceramill milling systems plus other open systems that use 98 mm discs. Discs are available in a variety of thicknesses from 10 to 25 mm.



### W-Series

98 x 10 mm  
98 x 14 mm  
98 x 18 mm  
98 x 20 mm  
98 x 25 mm

## Digital Dental Compatible Disks

Our D-Series disks include frames for use in the Digital Dental Labs milling system and are available in 100 mm standard diameters and all manufacturer-specified thicknesses from 10 to 20 mm.



### D-Series

100 x 10 mm  
100 x 12 mm  
100 x 14 mm  
100 x 16 mm  
100 x 18 mm  
100 x 20 mm

## ZirkonZahn Compatible Blocks

Our Z-Series blocks and cylinders are designed for use in Zirkon Zahn milling systems and are available in a variety of shapes and thicknesses as specified by Zirkon Zahn.



### Z-Series

Z1 x 16 mm  
Z3 x 16 mm  
Z5 x 16 mm  
Z7 x 16 mm  
Z9 x 20 mm  
Z12 x 20 mm  
Z16 x 20 mm

# Crystal **DIAMOND** Solid Zirconia



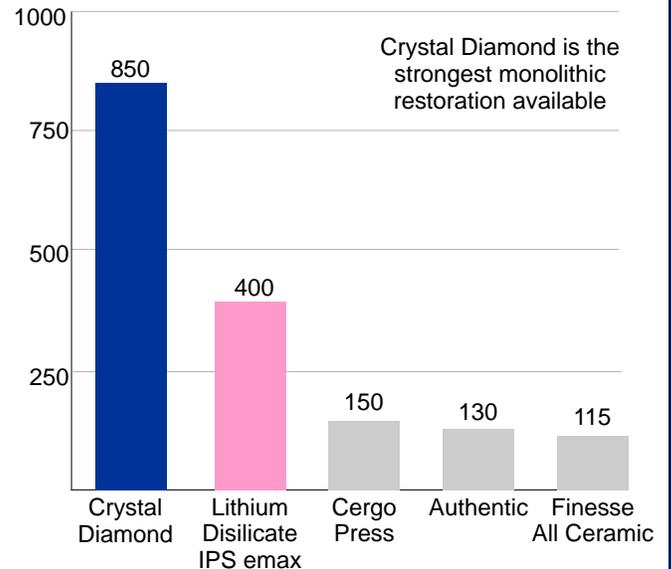
Crystal "DIAMOND" Zirconia restorations, with no porcelain layering, are the strongest restorations available, stronger than porcelain fused to any material, and stronger than any other all-ceramic material.

## LOWEST COSTS AND HIGHEST STRENGTH!

One-piece Crystal Diamond restorations cost less than any all-ceramic material, and including labor costs for porcelain layering, can be even more cost-effective than PFM restorations.

*Due to low cost and strength, the #1 choice for all restorations is full contour zirconia!*

## Relative Flexural Strength of Monolithic Restorations (MPa)



# Highest **TRANSLUCENCY**

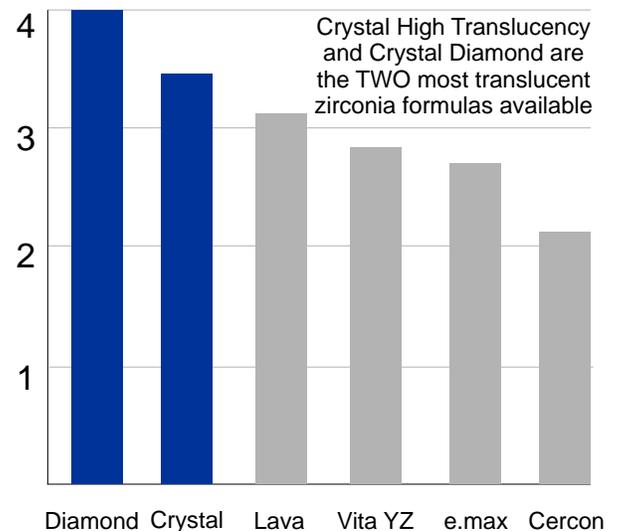
CRYSTAL High Translucency and Diamond blocks are the most translucent zirconia materials available, allowing 20-50% more light to pass through than other zirconia materials.

In recent decades, all-ceramic restorations have become increasingly popular due to their aesthetic properties. Unlike Porcelain-Fused-to-Metal (PFM) Restorations, those made with ceramic materials have a tooth-like transparent appearance and can be shaded to match the patient's natural tooth color.

Today, many dentists offer all-ceramic 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 by their manufacturers for posterior crowns and bridges.

CRYSTAL High Translucency frameworks and Diamond zirconia one-piece restorations CAN be used to create bridges that are up to FIVE TIMES STRONGER than other ceramic restorations currently available while providing life-long strength plus the aesthetic qualities patients seek.

## Relative Translucency of Zirconia Materials (X 10<sup>3</sup> Lux)



# At **1400 MPa** High Strength CRYSTAL Zirconia **is the STRONGEST!**

## High Strength and High Translucency

CRYSTAL Zirconia is available in THREE formulations, HIGH STRENGTH, HIGH TRANSLUCENCY, and the new Crystal Diamond full contour formula.

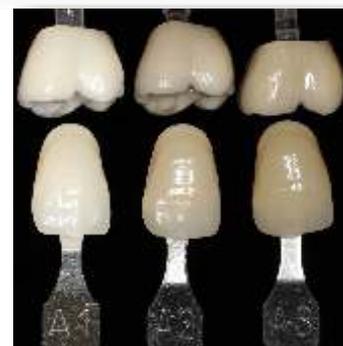
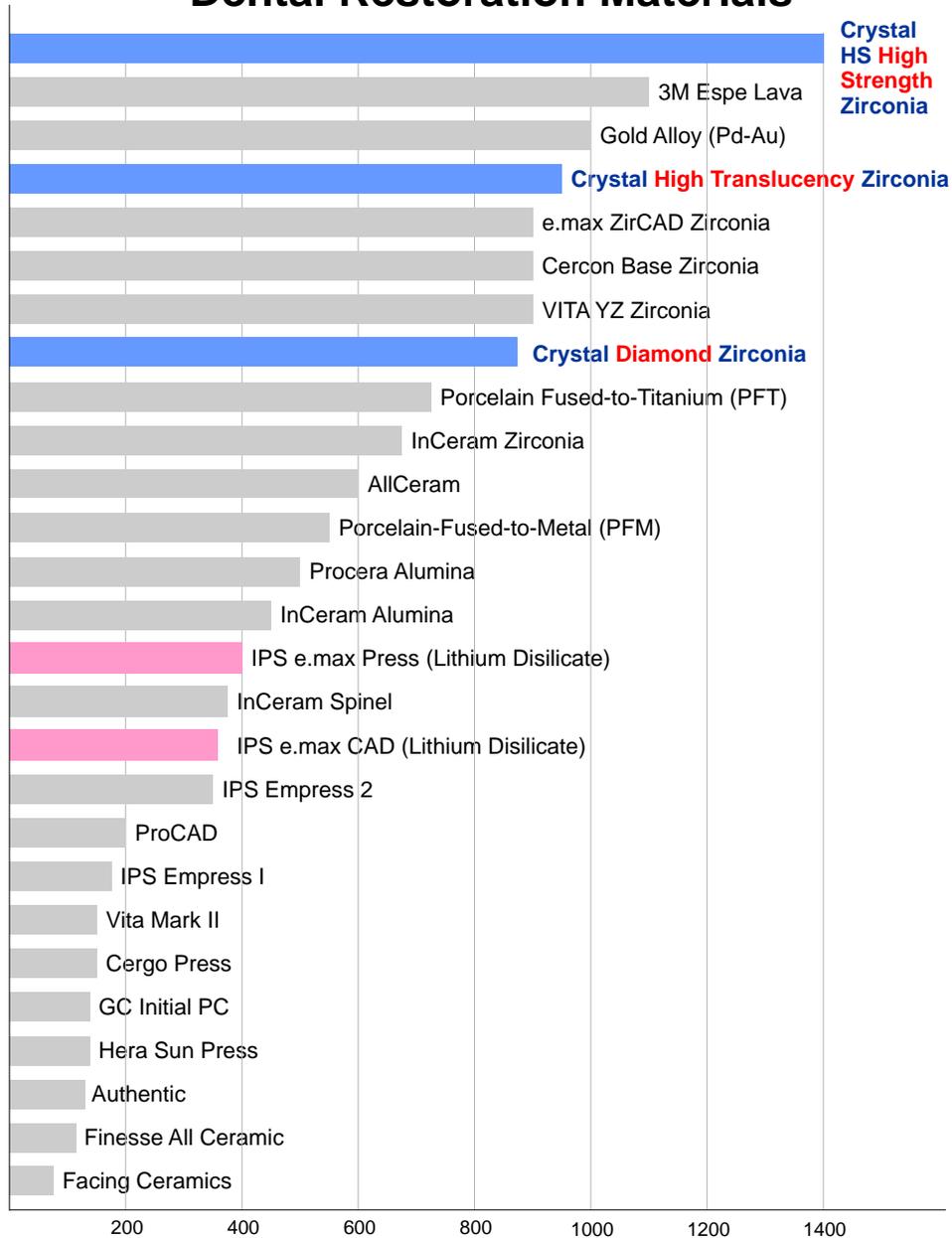
CRYSTAL High Strength blanks are rated at 1400 MPa (the highest in the industry), and are ideally suited for posterior crowns and bridges and other restorations that demand the strongest possible materials.

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.

## Crystal Diamond is Strongest Monolithic

At 850 MPa, Crystal's new Diamond Zirconia material is stronger than any all-ceramic or porcelain-fused restoration available today. Crystal Diamond bridges and crowns are translucent like natural teeth and can be easily stain-matched to exact natural tooth colors.

## Comparative Flexural Strength of Dental Restoration Materials



# Strong, Durable and **Gentle**

## Best in Class **Wear Characteristics**

Fine-grained CRYSTAL zirconia is the most durable and least abrasive dental material manufactured today. Polished zirconia is 1000 times less abrasive than standard veneer porcelain, making it kinder to the opposing dentition than ANY other restorative ceramic material, and therefore the PERFECT choice for dentists who want to offer lifetime trouble-free monolithic (one-piece) restorations. Additionally, CRYSTAL "Diamond" zirconia is the only monolithic material which can be used to create natural looking one-piece lifetime bridges.

## Cold **Isostatic** Press Block Formation

CRYSTAL blocks and disks 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 blank 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.

## Tested with **Microwave** Sintering

Crystal has been the subject of some of the most extensive strength testing ever completed with dental zirconia materials. According to a 2009 study at Arizona State University, Crystal HS Zirconia sinters to 1500 MPa using microwave sintering, and due to the extra density and consistency associated with microwave sintering, Crystal HS retains 40% more strength than traditionally sintered zirconia over 10 years of simulated use.

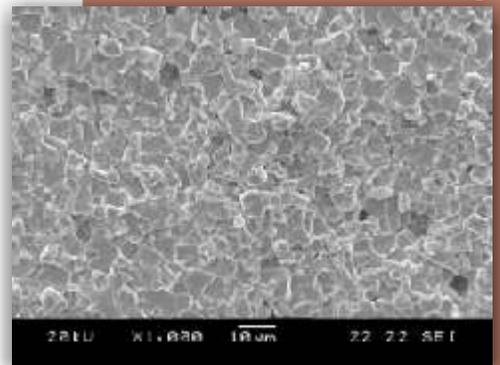
## Works with Any Porcelain **Veneer**

All 10.5 CTE zirconia porcelains are compatible with CRYSTAL:

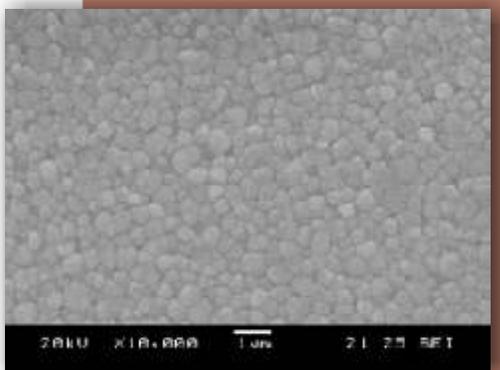
- ♦ Aurident - Press-i-dent
- ♦ Degudent - Duceram KISS
- ♦ DeGussa - KISS System
- ♦ Dentsply - Ceramco Press
- ♦ Dentsply - Finesse All-Ceramic
- ♦ Dentsply - Ceramco PFZ Press
- ♦ Dentsply - Cergo KISS
- ♦ Dentsply - Cercon Ceram Press
- ♦ GC America - Initial PC
- ♦ Glidewell - Prismatic CZ Press
- ♦ 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 - Cexpress 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
- ♦ Wieland - Imagine PressX
- ♦ Wieland - PressX ZR
- ♦ Zahn - Pentron 3G OPC
- ♦ Zahn - Pentron Avente
- ♦ Zahn - Pentron Avente VCH
- ♦ Zahn - Noritake CZR Press



## BEFORE Sintering



## AFTER Sintering



Uniform Density  
High Strength  
Low Abrasion



# CRYSTAL is the FIRST Brand of Zirconia to offer a **LIFETIME WARRANTY!**

## CRYSTAL Zirconia will NOT Break

Unheard of among dental materials, CRYSTAL is the first to offer a LIFETIME WARRANTY on all of our zirconia structures. Properly fabricated CRYSTAL dental structures are designed to last a lifetime!

Tested at a flexural strength of 1400 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.

At 850 MPa, CRYSTAL "Diamond" monolithic restorations are additionally warrantied against chipping or cracking.



## Warranty Certificate

Each box of CRYSTAL Zirconia comes with a set of LIFETIME WARRANTY stickers that the lab can either apply to the case box or to the invoice. This certificate warranties the zirconia against material defect and breakage.



## White Steel

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

## Zirconia is a PROVEN Material

While dental applications of Zirconia have only recently become practical and affordable, the material has 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.

# 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.

**CE 0546**

European Union  
CE Certified

## FDA Registered Materials

CRYSTAL Zirconia has been fully tested by major US-based independent laboratories and universities and found to meet or exceed all FDA requirements 21 CFR 807.92 for dental ceramics, including the following ISO, ANSI and American Dental Association standards:

- ISO 9693 - ANSI/ADA Spec No. 38
- ISO 6872 - ANSI/ADA Spec No. 69
- ISO 10993-1:1992 - TR 7405:1984



CRYSTAL is the brand that...

**PATIENTS DEMAND**



**Patient Brochures**

## 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.



**Dentist Office Poster**

**Internet Marketing**



## 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.



- ◆ Precision Engineering
- ◆ Made in the USA
- ◆ Proven Quality
- ◆ Guaranteed
- ◆ Affordable





**“Great material, handles and mills easily, a beautiful finished product.”**

*Kip Estep, President  
Fuji Ceramics Dental Lab  
Rockwell, Texas*

**“By switching to Crystal, we are now offering the most aesthetic restorations out there, while increasing product strength and our bottom line.”**

*Shannon Davidson, Owner  
Dental South, Inc  
Gainesville, Georgia*

**“Wow! The Lifetime Guarantee is a major competitive advantage.”**

*Charles Moreno, President  
Excel Dental Studios  
Encino, California*

**“We have milled thousands of CRYSTAL restorations with outstanding results. We are 100% satisfied.”**

*Steve Ervin, Maintenance Director  
Knight Dental Group  
Oldsmar, Florida*

