CERAMAN

# Dental Zirconia Block
# User Manual



CE 0197

# EN Instructions for use

## Product Name
Dental Zirconia Block

## Organization Structure
Model White:
The main ingredients include zirconia, yttrium oxide other oxides.
$ZrO_2+HfO_2+Y_2O_3 \geqq 99\%$
$Y_2O_3$:4.5%~6.0%
$Al_2O_3 \leqq 0.5\%$
Other Oxides $\leqq$ 0.5%
Model Color and Multilayer:
The main ingredients include zirconia, ferric oxide, Erbium oxideand and other oxides.
$ZrO_2+HfO_2+Y_2O_3 \geqq 98.2\%$
Erbium oxide $\leqq$ 1.0%
Ferric oxide $\leqq$ 0.3%
Other Oxides $\leqq$ 0.5%

## Service Life
5 years

## Application method
Open the bag take out porcelain pieces, placed in special dental processing equipment for processing, after dyeing,high temperature (1450~ 1600℃).
After sintering and crystallization ,the finished product will be made after dressing. overlaying decorative porcelain or glazing and other processes. Finally, it will be used by professional doctors for the repair, installation and wearing of human denture.

## Intended Use
The Dental Zirconia Block is used for making crowns, Bridges, inlays and veneers of fixed denture.

## Physicochemical property
Density (post sintering): ≧ 6.0g/cm³
Class:5: Flexural strength (post sintering)≧800MPa
Class:4: Flexural strength (post sintering)≧600MPa
Chemical solubility: < 100μg.cm$^{-2}$
Radioactivity (uranium-238)≦ 1.0Bq/g
coefficient of linear thermal expansion: (10.5±0.5) x10$^{-6}$K$^{-1}$
Type: II, supplied in block
Class:5: White ST/White SHT/White HT/Color ST/Color SHT/Multilayer SHT/Multilayer ST.
Class:4: White UT/Color UT/Multilayer 3D/Multilayer 4D/Multilayer UT.

## Notice
1. Please check well the package and inside product, if any damage, forbid to use.
2. Don't press and collide during store, transit and processing.
3. Unburned porcelain should not be directly used in human denture or oral repair.
4. This product needs to be made by professional technicians and used by professional doctors.
5. Expired product is forbidden to reuse.
6. Any serious incident that has occurred in relation to the device should be reported to the manufacturer and the competent authority of the Member State in which the user and/or patient is established.
7.Single use products，do not reuse.

## Package
Carton packaging.

## Disposal
Abandon directly, the products do not pollute the environment after waste.

## Biological Properties
1. No cytotoxicity
2. No sensitization
3. No acute oral stimulation
4. No acute systemic toxicity
5. No chronic systemic toxicity
6. AMES test: negative

## Storage
Storage at indoor temperature (generally 5 -50℃), ventilated and dry conditions.

## Contraindication
In the event that there is an insufficient occlusal clearance and/or vertical prep wall, making the preparation unsuitable for an all-ceramic restoration, an alternative material must be chosen. Inlay bridges, endosseous implants and root posts are other contraindications.

## Suggusted sintering curve
Sintering can take place in all common dental sintering furnaces which are approved for the sintering of restorations made of zirconium dioxide. Since zirconium dioxide is known to be a poor thermal conductor, it is recommended that you slowly heat the mounts to the required temperature (see sintering graph) and cool them down equally slowly.

# Sintering Curve

## SHT/SST/SST Color/SST Multylayer Sintering Curve (1-5)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 130 | 7.5 |
| step 2 | 1000 | 1530 | 156 | 3.4 |
| step 3 | 1530 | 1530 | 120 | 0 |
| step 4 | 1530 | 800 | 104 | -7 |
| step 5 | 800 | natural cooling 20 | / | / |

## SHT/SST/SST Color/SST Multylayer Sintering Curve (6-10)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 245 | 4 |
| step 2 | 1000 | 1530 | 177 | 3 |
| step 3 | 1530 | 1530 | 120 | 0 |
| step 4 | 1530 | 800 | 146 | -5 |
| step 5 | 800 | natural cooling 20 | / | / |

## STT Multylayer/3D Plus Multilayer/UT Multilayer 3DS8 Multilayer Sintering Curve (1-5)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 130 | 7.5 |
| step 2 | 1000 | 1500 | 147 | 3.4 |
| step 3 | 1500 | 1500 | 120 | 0 |
| step 4 | 1500 | 800 | 100 | -7 |
| step 5 | 800 | natural cooling 20 | / | / |

## STT Multylayer/3D Plus Multilayer/UT Multilayer 3DS8 Multilayer Sintering Curve (6-10)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 245 | 4 |
| step 2 | 1000 | 1500 | 167 | 3 |
| step 3 | 1500 | 1500 | 120 | 0 |
| step 4 | 1500 | 800 | 140 | -5 |
| step 5 | 800 | natural cooling 20 | / | / |

## SHT/SST/SST Color/SST Multylayer Sintering Curve (11-14)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 326 | 3 |
| step 2 | 1000 | 1530 | 265 | 2 |
| step 3 | 1530 | 1530 | 120 | 0 |
| step 4 | 1530 | 800 | 183 | -4 |
| step 5 | 800 | natural cooling 20 | / | / |

## UT Sintering Curve (1-5)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 130 | 7.5 |
| step 2 | 1000 | 1450 | 132 | 3.4 |
| step 3 | 1450 | 1450 | 120 | 0 |
| step 4 | 1450 | 800 | 93 | -7 |
| step 5 | 800 | natural cooling 20 | / | / |

## STT Multylayer/3DS8 Multilayer Sintering Curve (11-14)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 326 | 3 |
| step 2 | 1000 | 1500 | 250 | 2 |
| step 3 | 1500 | 1500 | 120 | 0 |
| step 4 | 1500 | 800 | 175 | -4 |
| step 5 | 800 | natural cooling 20 | / | / |

## Wall and edge thickness

| Type | Anterior | | Posterior | |
|---|---|---|---|---|
| | Thickness | Connector cross section | Thickness | Connector cross section |
| Single crown | ≥0.9mm | ≥9mm² | ≥1.0mm | ≥12mm² |
| 3 unit bridges | ≥0.9mm | | | |
| Long bridges | ≥0.9mm | | | |

# RO Instrucțiuni de utilizare

## Denumirea produsului:
Bloc de zirconiu dentar

## Structura de organizare
Model alb:
Principalele ingrediente includ zirconiu, oxid de ytriu și alți oxizi.
ZrO2+HfO2+Y2O3^99%
Y2O3:4.5%~6.0%
AhO3 = 0.50/o Alți oxizi= 0.5%
Model colorat și multistrat:
Principalele ingrediente includ zirconiu, oxid de fier, oxid de erbiu și alți oxizi.
ZrO2+HfO2+Y2O3^98.2%
Oxid de erbiu = 1,0%
Oxid de fier = 0,3%
Alți oxizi=0,5%

## Durata de viata: 5 ani

## Metoda de aplicare
Deschideți punga și scoateți piesele de porțelan, plasate în echipamente speciale de prelucrare dentară, după pigmentare, la temperaturi ridicate (1450~ 1600 °C). După sinterizare și cristalizare, produsul finit va fi realizat după ce se va aplica porțelan decorativ sau glazurare și alte procese. În fine, va fi utilizat de către medici profesioniști pentru repararea, instalarea și purtarea protezelor dentare umane.

## Utilizare preconizată
Blocul de zirconiu dentar este utilizat pentru realizarea de coroane, punți, inlay-uri și fațete pentru proteze fixe.

## Proprietăți fizico-chimice
Densitate (după sinterizare): = 6.0g/cm3 Clasa:5: Rezistența la flexiune
(după sinterizare) = 800MPa Clasa: 4 Rezistența la flexiune (după sinterizare) =
600MPa Solubilitate chimică: < 100pg.cm^
Radioactivitate (uraniu-238) = 1,0Bq/g
coeficient de dilatare termică liniară: (10.5±0.5) x10'6
Tip: II, livrat în bloc
Clasa:5: Alb ST/Alb SHT/Alb HT/Color ST/Color SHT/Multistrat SHT/Multistrat ST.
Clasa:4: Alb UT/Color UT/Multistrat 3D/Multistrat 4D/Multistrat UT.

## Notă
1. Vă rugăm să verificați bine ambalajul și interiorul produsului, iar dacă există
deteriorări nu permiteți utilizarea.
2. Nu apăsați și nu loviți în timpul depozitării, tranzitului și prelucrării.
3. Porțelanul neans nu trebuie utilizat direct în proteze umane sau pentru
reparații orale.
4. Acest produs trebuie să fie realizat de tehnicieni profesioniști și utilizat de
medici profesioniști.
5. Este interzisă reutilizarea produselor expirate.
6. Orice incident grav produs în legătură cu dispozitivul trebuie raportat
producătorului și autorității competente din Statul Membru în care este
stabilit utilizatorul și/sau pacientul.
7. Produse de unică folosință, nu se refolosesc.

## Ambalaj
Ambalaj din carton.

## Eliminare
Aruncați direct, produsele nu polueaza mediul înconjurător după eliminare

## Proprietăți biologice
1. Fără citotoxicitate
2. Fără sensibilizare
3. Fără stimulare orală acută
4. Fără toxicitate sistemică acută
5. Fără toxicitate sistemică cronică
6. Test AMES: negativ

## Depozitare
Depozitare la temperaturi de interior (în general 5 -50C), în spații aerisite și uscate.

## Contraindicație
În cazul în care există insuficient spațiu ocluzal și/sau un perete de pregătire vertical,
ceea ce face ca preparatul să nu fie adecvat pentru o restaurare integral ceramică,
trebuie ales un material alternativ. Punțile de inlay, implanturile endosteale și barele radiculare sunt alte contraindicații.

## Curba de sinterizare recomandată
Sinterizarea se poate realiza în toate cuptoarele obișnuite de sinterizare dentară care
sunt aprobate pentru sinterizarea restaurărilor din dioxid de zirconiu.
Deoarece se știe că dioxidul de zirconiu este un conductor termic slab,
se recomandă să încălziți lent monturile până la temperatura necesară
(a se vedea graficul de sinterizare) și să le răciți la fel de lent.

# Sintering Curve

## SHT/SST/SST Color/SST Multylayer Sintering Curve (1-5)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 130 | 7.5 |
| step 2 | 1000 | 1530 | 156 | 3.4 |
| step 3 | 1530 | 1530 | 120 | 0 |
| step 4 | 1530 | 800 | 104 | -7 |
| step 5 | 800 | natural cooling 20 | / | / |

## SHT/SST/SST Color/SST Multylayer Sintering Curve (6-10)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 245 | 4 |
| step 2 | 1000 | 1530 | 177 | 3 |
| step 3 | 1530 | 1530 | 120 | 0 |
| step 4 | 1530 | 800 | 146 | -5 |
| step 5 | 800 | natural cooling 20 | / | / |

## STT Multylayer/3D Plus Multilayer/UT Multilayer 3DS8 Multilayer Sintering Curve (1-5)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 130 | 7.5 |
| step 2 | 1000 | 1500 | 147 | 3.4 |
| step 3 | 1500 | 1500 | 120 | 0 |
| step 4 | 1500 | 800 | 100 | -7 |
| step 5 | 800 | natural cooling 20 | / | / |

## STT Multylayer/3D Plus Multilayer/UT Multilayer 3DS8 Multilayer Sintering Curve (6-10)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 245 | 4 |
| step 2 | 1000 | 1500 | 167 | 3 |
| step 3 | 1500 | 1500 | 120 | 0 |
| step 4 | 1500 | 800 | 140 | -5 |
| step 5 | 800 | natural cooling 20 | / | / |

## SHT/SST/SST Color/SST Multylayer Sintering Curve (11-14)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 326 | 3 |
| step 2 | 1000 | 1530 | 265 | 2 |
| step 3 | 1530 | 1530 | 120 | 0 |
| step 4 | 1530 | 800 | 183 | -4 |
| step 5 | 800 | natural cooling 20 | / | / |

## UT Sintering Curve (1-5)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 130 | 7.5 |
| step 2 | 1000 | 1450 | 132 | 3.4 |
| step 3 | 1450 | 1450 | 120 | 0 |
| step 4 | 1450 | 800 | 93 | -7 |
| step 5 | 800 | natural cooling 20 | / | / |

## STT Multylayer/3DS8 Multilayer Sintering Curve (11-14)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
|---|---|---|---|---|
| step 1 | 20 | 1000 | 326 | 3 |
| step 2 | 1000 | 1500 | 250 | 2 |
| step 3 | 1500 | 1500 | 120 | 0 |
| step 4 | 1500 | 800 | 175 | -4 |
| step 5 | 800 | natural cooling 20 | / | / |

## Wall and edge thickness

| Type | Anterior | | Posterior | |
|---|---|---|---|---|
| | Thickness | Connector cross section | Thickness | Connector cross section |
| Single crown | ≥0.9mm | ≥9mm² | ≥1.0mm | ≥12mm² |
| 3 unit bridges | ≥0.9mm | | | |
| Long bridges | ≥0.9mm | | | |

## Όνομα προϊόντος:
Οδοντιατρικό μπλοκ ζιρκονίας

## Δομή οργάνωσης
Μοντέλο λευκό:
Τα κύρια συστατικά περιλαμβάνουν ζιρκονία, οξείδιο του υττρίου και άλλα οξείδια.
ZrO2+HfO2+Y2O3^99%
Y2O3:4.5%~6.0%
AhO3 = 0.50/o Άλλα οξείδια = 0.5%
Μοντέλο χρωματιστό και πολυστρωματικό:
Τα κύρια συστατικά περιλαμβάνουν ζιρκονία, οξείδιο του σιδήρου,
οξείδιο του έρβιου και άλλα οξείδια.
ZrO2+HfO2+Y2O3^98.2%
Οξείδιο του έρβιου = 1,0%
Οξείδιο του σιδήρου = 0,3%
Άλλα οξείδια=0,5%

## Διάρκεια ζωής:
5 χρόνια

## Μέθοδος εφαρμογής
Ανοίξτε τη σακούλα βγάλτε τα κομμάτια πορσελάνης, που τοποθετούνται σε ειδικό οδοντιατρικό εξοπλισμό επεξεργασίας, μετά από βαφή, υψηλή θερμοκρασία
(1450 ~ 1600 ° C).
Μετά την πυροσυσσωμάτωση και την κρυστάλλωση, το τελικό προϊόν θα κατασκευαστεί μετά την πρόσθεση επικάλυψης από διακοσμητική πορσελάνη ή υάλωση και άλλες διεργασίες. Τέλος, θα χρησιμοποιείται από επαγγελματίες γιατρούς για την επισκευή, την τοποθέτηση και τη χρήση ανθρώπινων οδοντοστοιχιών.

## Προβλεπόμενη χρήση
Το οδοντιατρικό μπλοκ ζιρκονίας χρησιμοποιείται για την κατασκευή στεφανών, γεφυρών, ενθέτων και όψεων σταθερής οδοντοστοιχίας.



## Φυσικοχημικές ιδιότητες:
Πυκνότητα (μετά την πυροσυσσωμάτωση): = 6.0g/cm3 Κατηγορία: 5: Αντοχή σε κάμψη. (μετά την πυροσυσσωμάτωση) = 800MPa Κατηγορία: 4: Αντοχή σε κάμψη. (μετά την πυροσυσσωμάτωση) = 600MPa Χημική διαλυτότητα: < 100pg.cm^. Ραδιενέργεια (ουράνιο-238) = 1,0Bq/g. συντελεστής γραμμικής θερμικής διαστολής: (10.5±0.5) x10'6. Τύπος: II, προμηθεύεται σε μπλοκ Κατηγορία:5: Λευκό ST/λευκό SHT/λευκό HT/χρωματιστό ST/χρωματιστό. SHT/πολυστρωματικό SHT/πολυστρωματικό ST.Κατηγορία:4: Λευκό UT/Χρωματιστό UT/πολυστρωματικό 3D/πολυστρωματικό. 4D/πολυστρωματικό UT.

## Σημείωση:
1. Ελέγξτε καλά τη συσκευασία και το εσωτερικό του προϊόντος,
εάν υπάρχει οποιαδήποτε ζημιά, μην επιτρέπετε τη χρήση.
2. Μην πιέζετε και χτυπάτε κατά την αποθήκευση, τη διαμετακόμιση και
την επεξεργασία.
3. Η άκαυστη πορσελάνη δεν πρέπει να χρησιμοποιείται άμεσα σε ανθρώπινες
οδοντοστοιχίες ή σε στοματικές επισκευές.
4. Αυτό το προϊόν πρέπει να παρασκευάζεται από επαγγελματίες τεχνικούς και να χρησιμοποιείται από επαγγελματίες γιατρούς.
5. Απαγορεύεται η επαναχρησιμοποίηση ληγμένων προϊόντων.
6. Κάθε σοβαρό περιστατικό που συμβεί σε σχέση με τη συσκευή πρέπει να αναφέρεται στον κατασκευαστή και στην αρμόδια αρχή του κράτους μέλους στο οποίο είναι εγκατεστημένος ο χρήστης ή/και ο ασθενής.
7. Προϊόντα μίας χρήσης, δεν επαναχρησιμοποιούνται.

## Συσκευασία:
Συσκευασία σε χαρτοκιβώτιο.

## Διάθεση:
Εγκαταλείψτε ως έχουν, τα προϊόντα δεν μολύνουν το περιβάλλον μετά την απόρριψη.

## Βιολογικές ιδιότητες
1. Χωρίς κυτταροτοξικότητα
2. Χωρίς ευαισθητοποίηση
3. Χωρίς οξεία στοματική διέγερση
4. Χωρίς οξεία συστηματική τοξικότητα
5. Χωρίς χρόνια συστηματική τοξικότητα
6. Δοκιμή AMES: αρνητική

## Αποθήκευση:
Αποθήκευση σε θερμοκρασίες εσωτερικών χώρων (γενικά 5 -50C), αεριζόμενες και στεγνές συνθήκες.

## Αντένδειξη:
Σε περίπτωση που υπάρχει ανεπαρκής αποφρακτική απόσταση και/ή κάθετο τοίχωμα προετοιμασίας, που καθιστά το παρασκεύασμα ακατάλληλο για ολοκεραμική αποκατάσταση, πρέπει να επιλεγεί εναλλακτικό υλικό.
Άλλες αντενδείξεις είναι οι γέφυρες με ένθετα, τα ενδοοστικά εμφυτεύματα και οι ριζικοί στύλοι.

## Προτεινόμενη καμπύλη πυροσυσσωμάτωσης
Η πυροσυσσωμάτωση μπορεί να πραγματοποιηθεί σε όλους τους συνήθεις οδοντιατρικούς κλιβάνους πυροσυσσωμάτωσης που είναι εγκεκριμένοι για τη πυροσυσσωμάτωση αποκαταστάσεων από διοξείδιο του ζιρκονίου. Δεδομένου ότι είναι γνωστό ότι το διοξείδιο του ζιρκονίου είναι κακός θερμικός αγωγός, συνιστάται να θερμαίνετε αργά τις βάσεις στην απαιτούμενη θερμοκρασία (βλέπε γράφημα πυροσυσσωμάτωσης) και να τις ψύχετε εξίσου αργά.

# Sintering Curve

### SHT/SST/SST Color/SST Multylayer Sintering Curve (1-5)

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| step 3 | 1530 | 1530 | 120 | 0 |
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| step 5 | 800 | natural cooling 20 | / | / |

### SHT/SST/SST Color/SST Multylayer Sintering Curve (6-10)

| Sintering step | Start Temperature(℃) | End Temperature(℃) | Time(Min) | Rate(℃/Min) |
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### STT Multylayer/3D Plus Multilayer/UT Multilayer 3DS8 Multilayer Sintering Curve (1-5)

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| step 2 | 1000 | 1530 | 265 | 2 |
| step 3 | 1530 | 1530 | 120 | 0 |
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| step 5 | 800 | natural cooling 20 | / | / |

### Wall and edge thickness

| Type | Anterior | | Posterior | |
|---|---|---|---|---|
| | Thickness | Connector cross section | Thickness | Connector cross section |
| Single crown | ≥0.9mm | ≥9mm² | ≥1.0mm | ≥12mm² |
| 3 unit bridges | ≥0.9mm | | | |
| Long bridges | ≥0.9mm | | | |