KULZER
MITSUI CHEMICALS GROUP

HeraCeram®
Simply Perfect.


Let
your
talent
shine.

WELCOME

Optical and technical perfection is all that you need to place the power of your creativity into your own hands. That is HeraCeram; a range of dental ceramics perfectly engineered and designed with you the technician in mind. Easy, simple, reliable, no worries! Whether it's for your everyday A to D restorations or for the creation of a high end masterpiece, HeraCeram has it covered.
Visually stunning yet strong consistent and predictable with all that it achieves.
Simply perfect.


HeraCeram
KULZER
HeraCeram
Saphir
KULZER
HeraCeram
Zirkonia 750
KULZER
HeraCeram
KULZER
HeraCeram
Zirkonia
KULZER

CONTENTS

AESTHETICS AND EFFICIENCY –

IT'S EASY WITH HERACERAM®.

HOUSE OF CERAMICS®

FOR ALL THAT YOU DO

Natural looking restorations on any framework. A range of ceramics matched with identical optical and technical properties. That means easy, reliable and time saving processing with optimised aesthetic results. All components within the HeraCeram range are ideally matched to their specific framework material. HeraCeram and HeraCeram Saphir for traditional metal bonding alloys, HeraCeram Zirkonia and HeraCeram Zirkonia 750 for zirconia and lithium disilicate frames. **The benefit: Standard firing programmes and processes, identical aesthetics irrespective of the framework. Simple. Easy. Perfect.**

Simply perfect: HeraCeram Zirkonia 750 and dima Mill Zirconia. Dental Showcase: DT Thomas Backscheider

Perfect match: HeraCeram Zirkonia 750 and HeraCeram Saphir. Dental Showcase: MDT Michael Schreyer

OPTICAL AND TECHNICAL PERFECTION

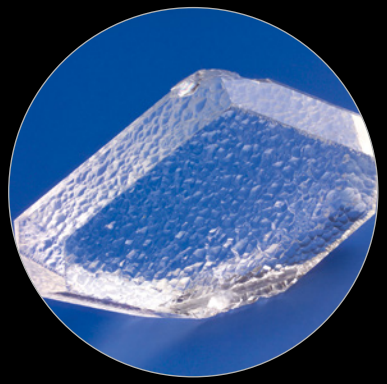
HIGH PURITY SYNTHETIC QUARTZ GLASS

Quartz glass (SiO_2) is an integral part of all dental ceramics and plays a functional role. However, the purer the quartz glass, the better the optical properties. Our specialised quartz glass is totally unique within dentistry. Indeed the very same glass made by Kulzer is used to construct fibre optic and data cables. That means faultless design and performance. Synthetic manufacture ensures that HeraCeram ceramics provide not only perfect and consistent high quality, but also identical aesthetics.
The purity of synthetic quartz glass provides unique, internal true opalescence and fluorescence. This ensures that every HeraCeram restoration achieves a natural and fully dynamic appearance.

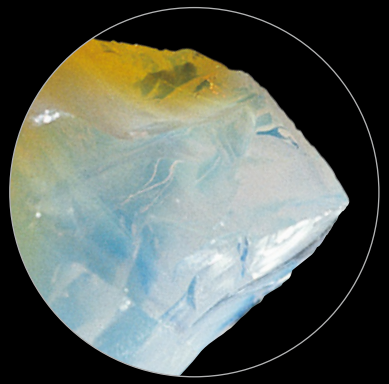
Natural Quartz Crystal

Take a look at the natural quartz crystal. See how the light is dispersed. Pure synthetic glass by Kulzer is completely different. See how synthetic glass appears transparent and pure. Optically perfect!

Synthetic Quartz Glass



Synthetic Quartz Glass.
Purity of translucency and opalescence.



TECHNICALLY PERFECT

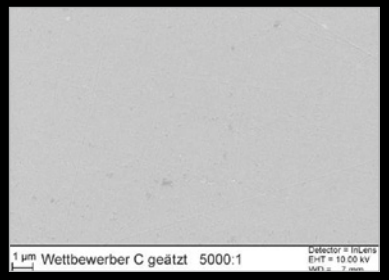
WITH STABILISED LEUCITE STRUCTURE (SLS)

All HeraCeram ceramics are able to combine time saving processes with the highest levels of stress resistance. This is due to what we term as Stabilised Leucite Structure or (SLS). All ranges of HeraCeram including Zirkonia contain micro-fine Leucite particles which substantially reduce the susceptibility of chipping and fracture. So less stress in the restoration and also less stress for you! The secret behind our SLS formula is its composition combined with a specialised production process. The combination of balanced Leucite crystals and specialised manufacturing prevents an uncontrollable rise in the coefficient of thermal expansion during firing. So no matter if the ceramic is bonded to metal or to zirconia there will be less stress meaning less failures.

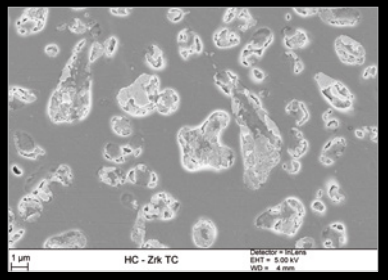
Because of the SLS formula, HeraCeram ceramics are extremely robust and can be fired quickly, efficiently, reliably and consistently. A huge range of benefits that should satisfy every dental technician.

- Extremely short firing cycles as the starting temperature is 600°C
- High heating rate (100°C/min)*
- Low firing end temperature (880°C max.)
- No special cooling phase required **
- Reduced firing shrinkage
- Stabilised coefficient of thermal expansion, even after multiple firings
- Protection against chipping and cracks

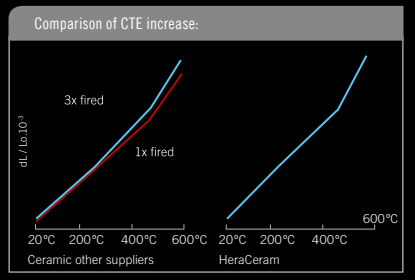
* Our recommendation is 100°C/min but if you prefer a longer heating cycle, no problem.
** Follow technical guidelines and instructions by your preferred alloy manufacturer.



This shows a typical zirconia veneering ceramic without the inclusion of Leucite.



See the difference – Heraceram Zirkonia with its crack inhibiting Stabilised Leucite Structure. Technically perfect!



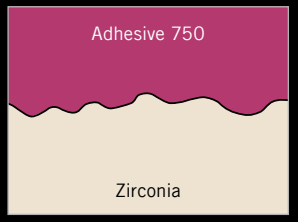
Comparison of CTE. Unstable CTE of other dental ceramic after multiple firing (left). Stabilised CTE of HeraCeram after multiple firing (right).

TECHNICALLY PERFECT

THE PERFECT BOND – SECURE BONDING FOR YOUR FRAMEWORK

Adhesive 750

Adhesive 750 guarantees best-in-class bonding even at lower temperatures. One bonding solution for lithium disilicate and zirconia frameworks! Its ultrafine grain size improves handling and firing properties, while offering smoother consistency and increasing the wettability of the framework surface. The unique single bonding strategy creates adhesive bonds to zirconia and cohesive bonds to lithium disilicate. Adhesive 750 has built-in fluorescence which is seen at the deepest part of the restoration. Exactly as nature intended!



Adhesive bonding with zirconia

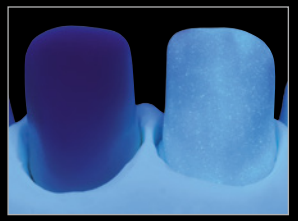
Cohesive bonding with lithium disilicate

Zr-Adhesive

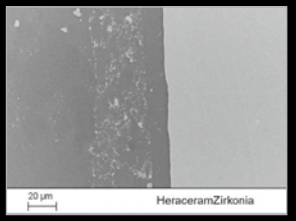
HeraCeram Zirkonia Paste Adhesive is specifically developed for zirconia veneering. It will ensure a maximum bond between the veneering ceramic and the zirconia framework. No need for risky sandblasting of the sensitive zirconium oxide surface.

The adhesive firing process has three functions:

- Cleansing of the zirconia framework
- Realisation of an extreme adhesive bond due to optimised wetting of the zirconia surface
- Provide internal fluorescence for a more natural appearance



The fluorescent effect of the Adhesive becomes visible in ultraviolet light.

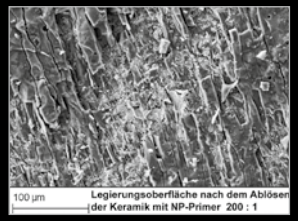


Micrograph of Adhesive on ZrO_2.

NP-Primer

The perfect foundation for safe veneering of non-precious metals. With the new HeraCeram NP-Primer, non-precious metal frameworks can be reliably conditioned for ceramic veneering with HeraCeram and HeraCeram Saphir saving you time. The NP-Primer prevents uncontrolled formation of an oxide layer on the non-precious metal alloy surface. It specifically loosens the oxide layer on the non-precious metal surface and thus enables optimal wetting of the framework surface with ceramic. Even with critical oxide behaviour, the NP-Primer ensures secure bonding between the alloy and bonding ceramic. An optimal foundation for long lasting aesthetic restorations.

*More details of the study “Verbesserung des Keramik-Legierungs-Verbundes durch Application eines Primers” (“Improving the ceramic-alloy bond by applying of a primer”) by the Hanover Medical School can be found on page 51.



In a high resolution SEM, it is clear that the ceramic has fractured, but fully adheres to the non-precious alloy surface pre-treated with NP-Primer.

In close up the varying and inferior degree of wetting of the untreated non-precious surface can clearly be seen, which explains a poor bond strength.

SIMPLY PERFECT

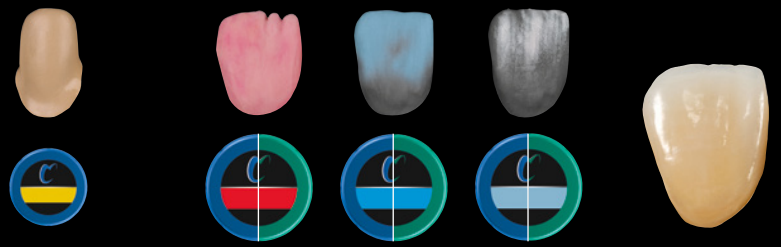
EASY HANDING – ACHIEVE NEXT LEVEL AESTHETICS

Everyday Layering A-D – to one of a kind masterpieces

The ideal solution for everyday shades (A-D). User guide videos:

HeraCeram Saphir
kulzer.com/video-hcsaphir-everyday

HeraCeram Zirconia 750
kulzer.com/video_hc750_everyday

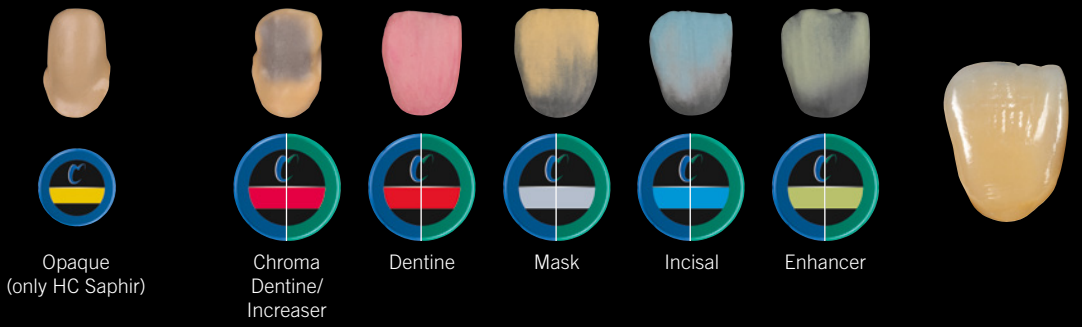


Personalised Layering – The next level with a wide range of custom materials

For patient specific shade adjustment. User guide videos:

HeraCeram Saphir
kulzer.com/video-hcsaphir-personalised

HeraCeram Zirconia 750
kulzer.com/video_hc750_personalised

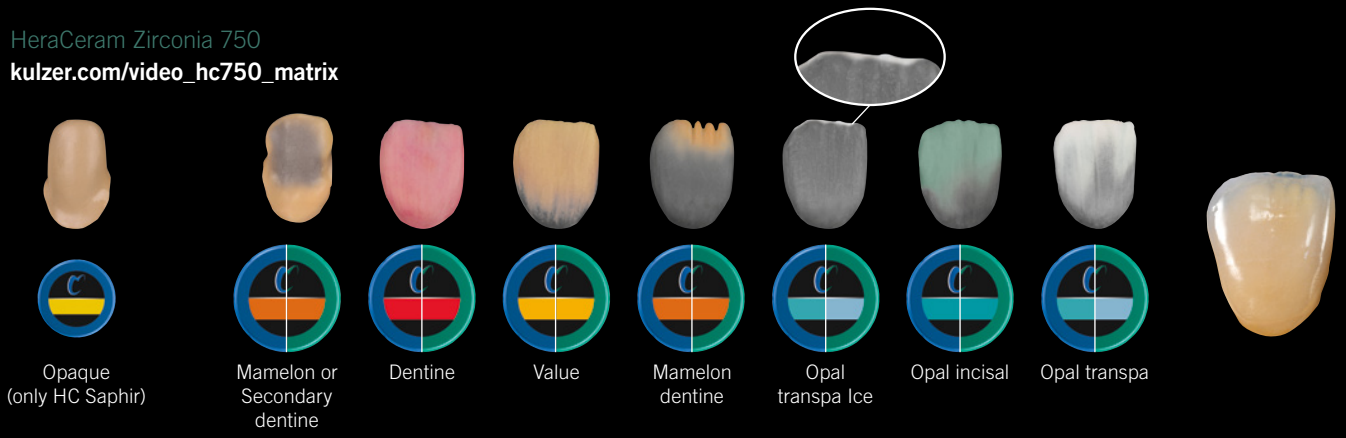


Matrix Layering – Exclusive and unique for extreme aesthetics

Truly natural results for highly individualised restorations. User guide videos:

HeraCeram Saphir
kulzer.com/video-hcsaphir-matrix

HeraCeram Zirconia 750
kulzer.com/video_hc750_matrix



Special

Special applications

- HeraCeram Margin set
- Bleach shades
- HeraCeram Press
- Gingiva set
- Stains universal set

HERACERAM SAPHIR

UNRIVALLED AESTHETICS ON METAL FRAMES

HeraCeram Saphir is the perfect choice for veneering traditional precious and non-precious metal bonding alloys in a CTE range of 13.5 – 14.9 µm/mK. With HeraCeram Saphir, dental technicians can attain their best results ever on metal ceramics. And those results are easier to achieve than ever before. HeraCeram Saphir helps dental technicians reach new heights on metal frames with “Light Booster” technology, an all new Paste Opaque and very easy handling.

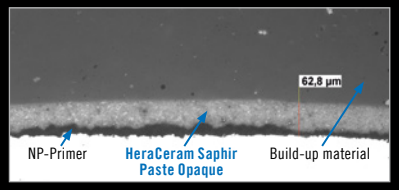
Advantages at a glance:

- “Light Booster” technology: Authentic look and true opalescence on metal frames
- Opalescent effect remains highly stable through multiple firings
- Stabilised Leucite Structure (SLS) prevents uncontrolled CTE growth
- New Paste Opaque: Impressive masking power in extremely thin layers of 60 – 100 µm
- Easy upgrade to next level aesthetics
- Extensive support for quick learning of master-level techniques

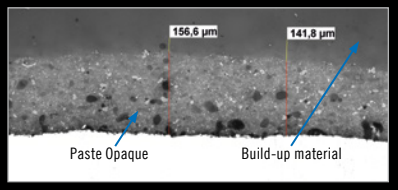
Paste Opaque – fewer layers, thinner layers, better masking and bonding

All new opaque offers impressive masking power in extremely thin layers (60 - 100 µm). Through enhanced masking and bonding properties, the new opaque is truly unique and extremely easy to work with. It can be applied much more quickly, whilst using fewer layers than with conventional opaques. This saves time and creates more space to work with.

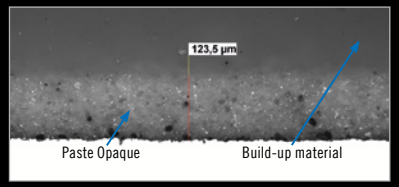
See it in action: **kulzer.com/video-hcsaphir-opaque**



HeraCeram Saphir Paste Opaque with extreme masking power in extremely thin layers (here 62,8 µm)



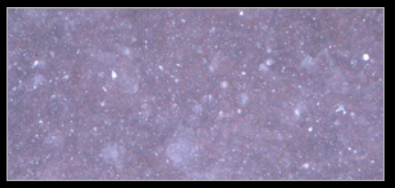
Competitor 1
(Layering thickness opaque: 141,8 – 156,6 µm)



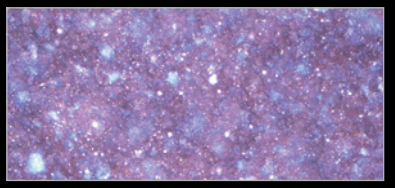
Competitor 2
(Layering thickness opaque: 123,5 µm)

The Light Booster – authentic look and true opalescence on metal frames

"Light Boosters" are highly dispersed, light enhancing crystals in a glass-ceramic system that effect internal refractions of light and produce an opalescent effect corresponding to natural enamel. Paired with HeraCeram's signature synthetic quartz glass, it's is an effect you have to see to believe. To maximise consistency, the light booster's chemical composition was re-engineered to eliminate the aesthetic problems associated with multiple firings. As a result, the brilliant opalescence and naturalness of the ceramic will not be affected by any processing conditions.



Ceramic with conventional opacious particles for opalescence



HeraCeram Saphir with Light Booster crystals

Lifelike aesthetics and opalescence effected by unique Light Booster technology of **HeraCeram Saphir.**

HERACERAM® ZIRKONIA 750

THE “COOL” SOLUTION FOR LISI AND ZIRCONIA

Why use two ceramics when all you need is one?

HeraCeram Zirkonia 750. One ceramic for every type of zirconia and lithium disilicate restoration (CTE of 10.2 to 10.5 µm/mK). HeraCeram Zirkonia 750 stands out with its unique and revolutionary adhesive, ultrafine particle size, highly extended gingival range, and increased shade selection. And it’s now more antagonist-friendly due to increased density, ensuring long-lasting and unrivalled natural looking restorations.

There are no limits!

The advantages at a glance:

- PERFECT AESTHETICS — synthetic quartz glass in its purest form provides HeraCeram Zirkonia 750 with optimised optical properties.
- RELIABLE — SLS formulation protects HeraCeram Zirkonia 750 against cracking and chipping offering maximum reliability for zirconium dioxide and lithium disilicate restorations.
- EFFICIENT — One ceramic designed for two different framework materials.

Accurate shades at low firing temperatures

HeraCeram Zirkonia 750 is specifically designed to be fired at low temperatures, which is essential when applying to lithium disilicate frames.Low temperature firing across all ceramic frames will ensure stability of the chroma as shade pigments will not go through a decomposition process.

Example of zirconia frame before and after ceramic firing at 750°C

Example of zirconia frame before and after ceramic firing at 850°C

HERACERAM®

FOR TRADITIONAL METAL BONDING ALLOYS

HeraCeram is the perfect choice for veneering traditional metal bonding alloys within a CTE range of 13.5–14.9 µm/mK due to low firing temperatures of 880 °C max. All alloys in this CTE range can be processed reliably with HeraCeram.

HERACERAM® ZIRKONIA

FOR ZIRCONIA FRAMEWORKS

Zirconia frameworks have a CTE of 10.5 µm/mK. The formula of HeraCeram Zirkonia is perfectly optimised and designed to match all zirconia frameworks achieving the highest levels of physical and mechanical strength. Our Stabilised Leucite Structure protects against crack propagation chipping and fracture, a recognised problem with some other zirconia ceramic systems.

Heraceram Zirkonia with its SLS formulation gives you proven reliability exactly when and where it's needed.

HeraCeram Zirkonia Paste Adhesive is specifically developed for zirconia veneering. It will ensure a maximum bond between the veneering ceramic and the zirconia framework. No need for risky sandblasting of the sensitive zirconia surface.


Everyday restoration
Matrix restoration

AESTHETIC CHOICE

Made for you and perfectly suited to realise your aesthetic needs. Aesthetics are yours to achieve following the guidelines of needs and expectations for client and patient. No matter how or where you work you need the assurance that for every aesthetic situation you will have the answer. Whether producing A–D shaded restorations using standardised layering techniques or producing sophisticated high level customised shades for the most demanding of patients, it's all at your fingertips with HeraCeram ceramic. **Optical perfection.**

Stunning aesthetics easily.

Everyday restoration A-D:
Final stage in reflected light ...

... and in transmitted light.

EVERYDAY RESTORATION A-D SHADES

It's so easy. Within every dental laboratory strict routine becomes more and more important especially when you need to produce classic A-D shades reliably, quickly and in a more efficient way. With HeraCeram it's easy to reach your ideal standard consistently time after time. **Reach your goal, exceed expectation.**

SIMPLIFIED LAYERING A-D SHADES

EASY AND ECONOMICAL

Dentine and Incisal

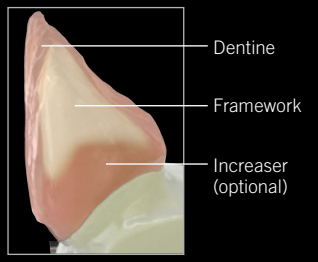
Following simplified guidelines for layering you are able to achieve a consistent reproduction of classic A-D shades. The ceramic is modelled using two or three layers, depending upon your preference, offering a quick and uncomplicated procedure.

*VITA Classical is a registered trademark owned by VITA Zahnfabrik, Bad Säckingen.

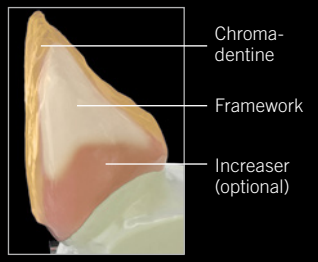
Vita Classic A3
Simplified layering
with HeraCeram

Chroma dentine

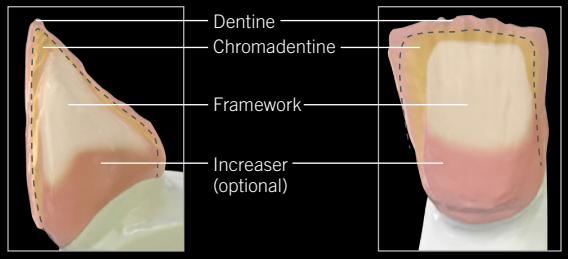
For layering of the dentine core dentine and/or chroma dentine can be used. Chroma dentine (e. g. CD A3) is the same colour as the corresponding dentine (e. g. D A3). Its high colour density conceals the framework structures better and thus it is easy to control shade accuracy even at minimum layering thickness (in case of limited space). The Chroma dentines are based on the 16 dentin shades A1 – D4 and are available in the product portfolio of HeraCeram Zirkonia 750 and HeraCeram Saphir.



In this case, the dentine core can be built up using dentine material.

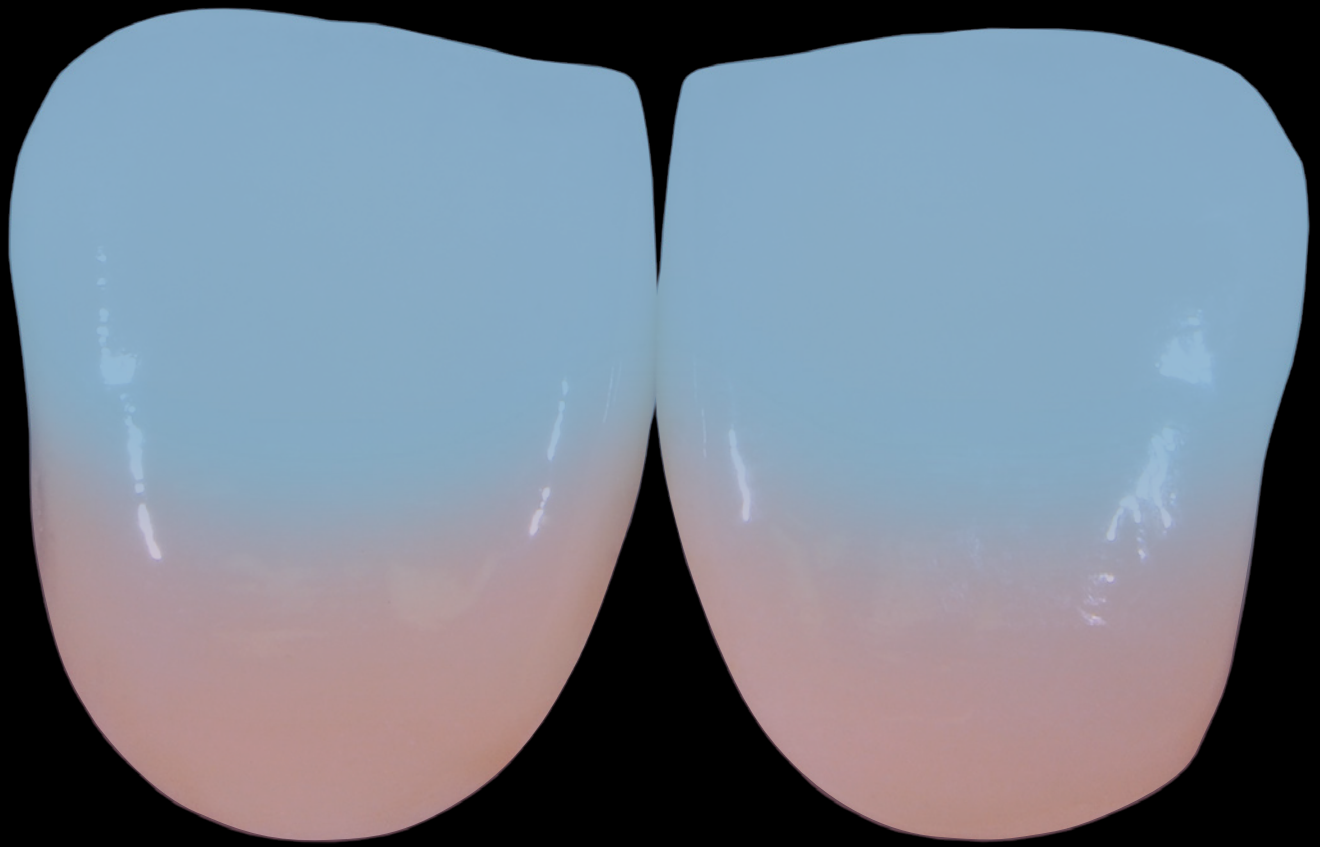


The use of chroma dentine is recommended for build up of the dentine core.



Depending on the available space, the dentine core can be shaped using a combined layering of dentine and chroma dentine.

EVERYDAY RESTORATIONS A–D – LAYER BY LAYER



With only a few and simple steps, amazingly “individual” results can be achieved.

Personalised restoration:
Final stage in reflected light ...

... and in transmitted light.

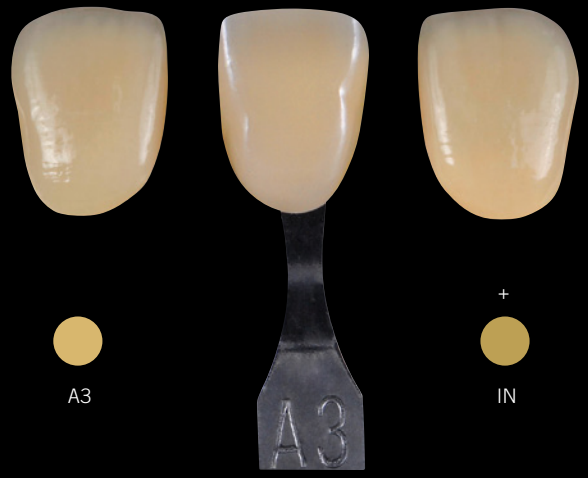
PERSONALISED

The next level. With HeraCeram ceramic there is always a solution. What can you do to create a distinct characteristic or produce a restoration where there is little room for ceramic but the shade is of paramount importance? With a ceramic system you need the flexibility to work around a problem without compromise. If the basic shade of a tooth is classic A-D but you need to change the appearance without affecting the shade there can be no room for deviation. **We provide a range of ceramic designed to help create a more personalised restoration allowing you to express your creativity but defining the expectations of the patient.**

INCREASER

BETTER COLOUR WITH LESS SPACE

HeraCeram increasers (IN) allow you to customise but control every aspect of chroma. 16 chromatised, dentines are available in shades A1-D4 which provide greater control of shades even if the available space is critically low. For example at the cervical area, or for the concealment of framework structures toward the incisal area.



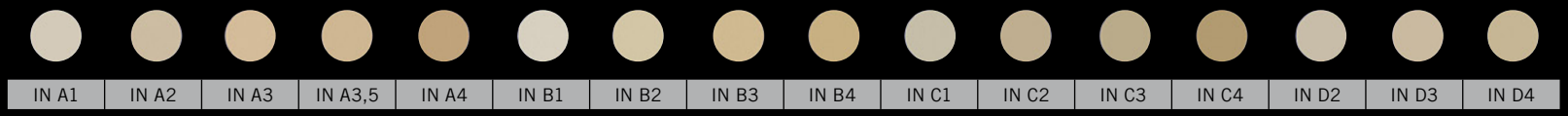
simplified layering without increaser (left) and customised with increaser (right)

HERACERAM INCREASER

to intensify the chroma in the cervical area

for intensification of the basic shade

for concealing and correction of the frame structure



For distinct characterisation and customised modification there are six other high chroma modifiers available in the following shades; Solaris (INS), Peach (INP), Mango (INM), Orange (INO), Caramel (INC) and Taiga (INT).

sample board of the individual increasers

MASK

PROVIDING DEPTH

Balancing the level of translucency whist maintaining the effect of depth within a restoration is often hard to achieve. To overcome this problem and to make life a little easier we have devised a simple but effective solution. Specialised masking materials are applied between the dentine and the incisal layer which help to conceal underlying frameworks. Depending upon the choice of Mask, you are able to customise appearance by regulating the level of fluorescence.

- MA bright has a higher level of opacity with increased fluorescence that helps to achieve a more youthful look especially with lighter shades (A1, A2, B1, B2, C1, C2)
- MA shadow has a higher level of opacity and reduced fluorescence to achieve an older look with darker shades (A3, A3,5, A4)

HERACERAM MASKING EFFECT

Samples are also shown in ultraviolet light.

bright

shadow

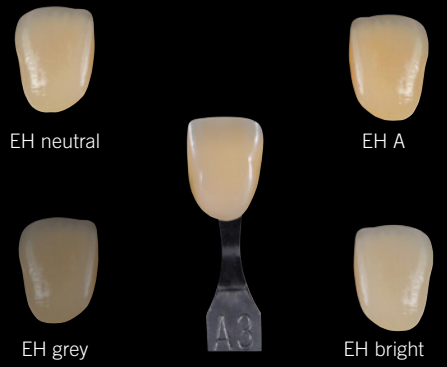
ENHANCER

CUSTOMISED VALUE AND BRIGHTNESS

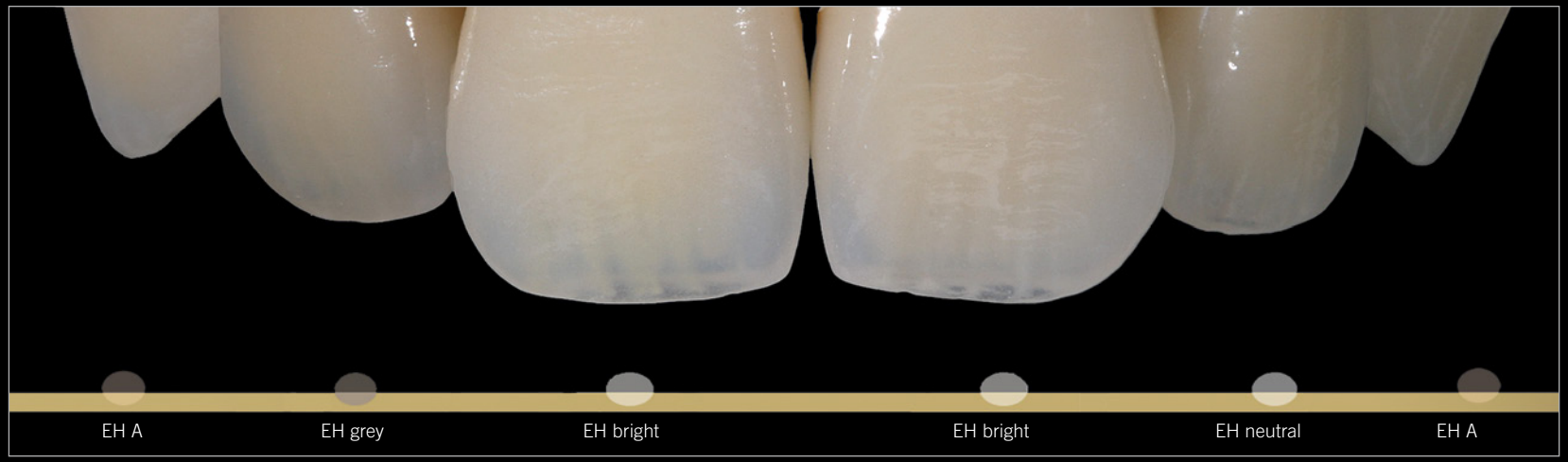
With HeraCeram enhancer components (EH) it's possible to adjust the value or brightness of the restoration whilst the nature of the required shade remains unaffected. Correct application during the layering process means that the shade stays intact.

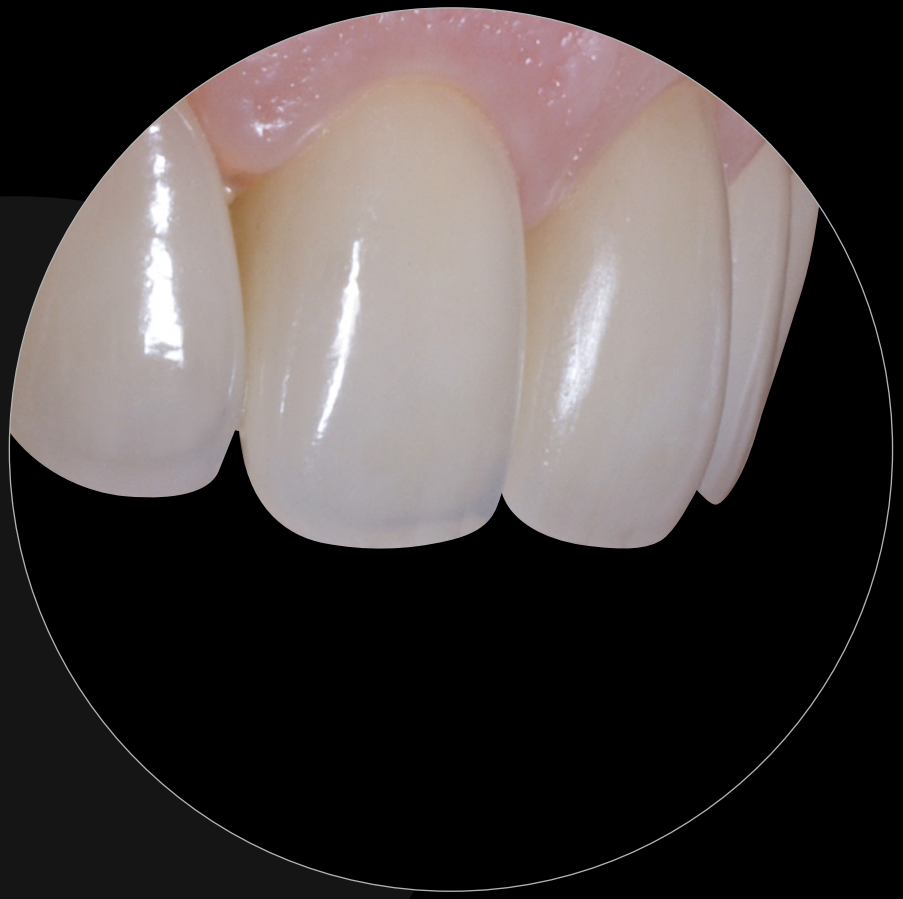
- EH A-C enhances the required shade.
- EH neutral compliments areas without influencing the shade. For example at contact areas or vestibular additions.
- EH bright adjusts the taint of the basic shade to create lighter areas.
- EH grey adjusts the taint of the basic shade to make it more grey whilst reducing its brightness.

You have the capability to take full control of any shade deviation. Its so easy.



EXAMPLE OF USE

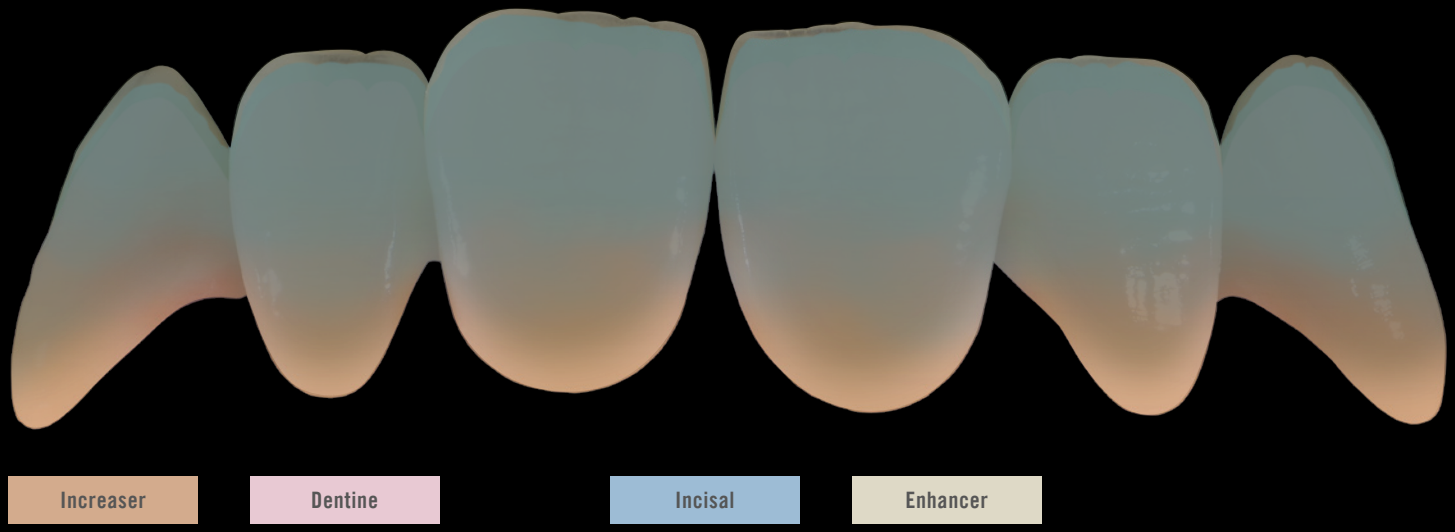




Dental surgeon and photo by
Ulf Krueger-Janson, Germany
Restoration by MDT Paul A. Fiechter,
Germany

Dental surgeon and photo by
Ulf Krueger-Janson, Germany
Restoration by MDT Paul A. Fiechter,
Germany

PERSONALISED RESTORATIONS – LAYER BY LAYER



Dental surgeon and photo by
Ulf Krueger-Janson, Germany
Restoration by MDT Paul A.
Fiechter, Germany

Matrix restoration:
Final stage in reflected light ...

... and in transmitted light.

MATRIX

EXCLUSIVE AND UNIQUE. Unlock your potential and create a restoration like no other. Understanding the interaction of light within natural teeth catching its essence and translating what was found into dental ceramic inspired our Matrix concept. To understand optical dynamics and light play specifically related to highly individualised characterisation has again been simplified. Every effect can be achieved using minimum layering and adopting techniques using specialised powders. **Fluorescence, opalescence, transparency and brightness are adjusted on a patient specific basis to capture nature perfectly.**

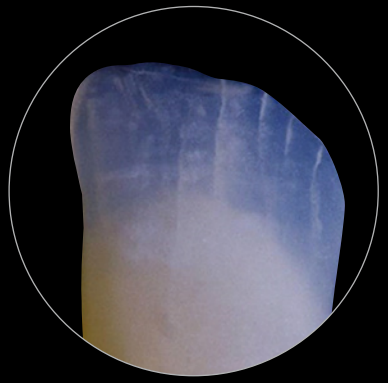
MATRIX-PHILOSOPHY

THE DEFINITIVE UNDERSTANDING OF AESTHETICS

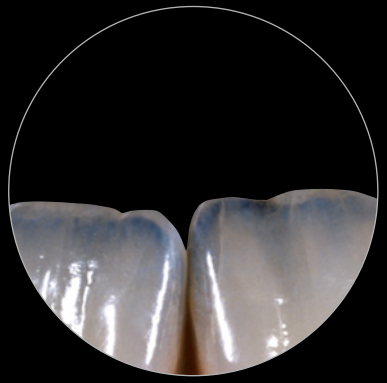
Only a complex interaction of translucency, opalescence, fluorescence and brightness gives the natural tooth such a dynamic appearance. These four optical properties depend on the structure of the tooth. Their dynamic play of light varies within the tooth. The path of light is even directed by minute imperfections within enamel and dentine. With HeraCeram matrix every dental technician can reproduce this dynamic appearance in a lifelike manner, down to the smallest of detail.

Close collaboration with Paul A. Fiechter, Master Dental Technician, has enabled Kulzer to analyse the complex dynamic play of light within a tooth and discovered that the aesthetic principle has an impressively simple blueprint: Matrix powders are like a set of instructions designed to achieve natural behavior with light and colour. Natural teeth are true wonders of nature. They adapt within their environment to ever changing light conditions. That's exactly what happens to matrix ceramic as it reacts to conquer every optical challenge.

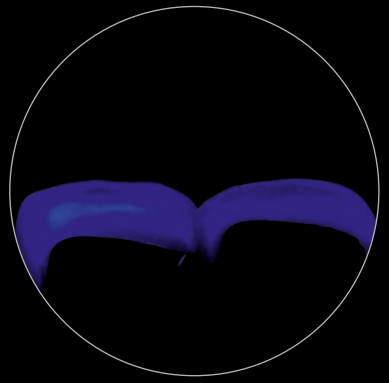
With HeraCeram matrix ceramic individualised natural aesthetics are no longer a rare work of art. Every aspect related to true aesthetics is now fully achievable for everyone.



Opalescent transpa material
by reflecting light



Dynamic light effects of the natural enamel



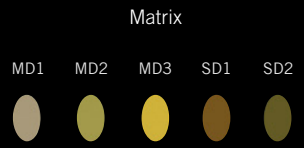
Individual creation of the fluorescence
within the Matrix layering structure following
natures guide

MAMELON AND SECONDARY DENTINE

BALANCED CHROMA AND FLUORESCENCE

Mamelon (MD) and secondary dentine (SD) optimally balance out chroma and fluorescence. As with natural teeth, opacity is controlled by fluorescence. Intensity and luminosity can be altered to control shades internally including the cervical area.

SAMPLE BOARD MAMELON AND SECONDARY DENTINE

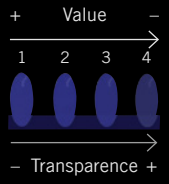


VALUE

BRIGHTNESS UNDER CONTROL

With high fluorescence value (VL) ceramic you are able to take full control of the brightness in relation to the chroma of the individual shades.

DESCRIPTION OF THE VALUE MATERIALS



Influence of the fluorescence on the transparency

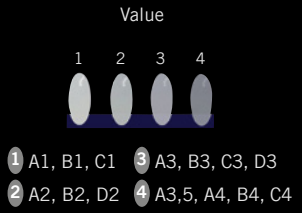
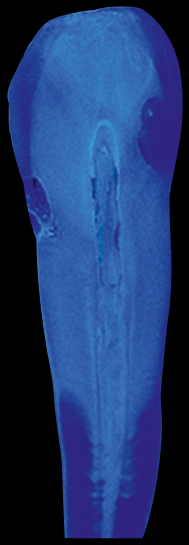


Illustration of the correlation between the transparency and the brightness of the Value materials

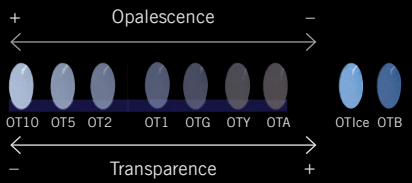


OPAL

TRUE NATURAL INCISAL

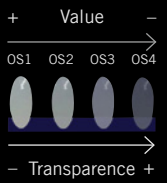
As light travels through natural teeth we can detect its interaction especially at the Incisal area. It is here that we see opal and its effect alongside transparency. To create opal effects opal incisal or opal transpa material is added when nearing completion of the anatomical shape. To cover every situation opal transpa is available with ten different degrees of transparency.

INTERACTION BETWEEN OPALESCENCE AND TRANSPARENCY

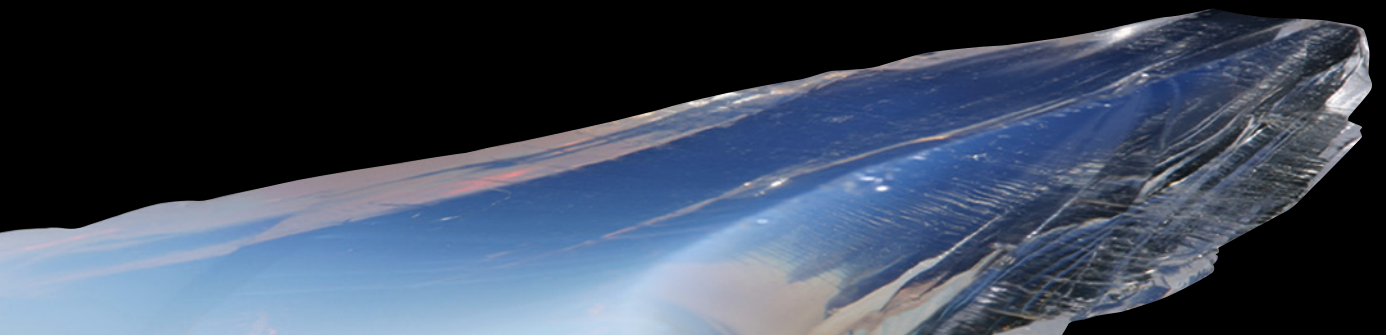


OT1–OT10: the higher the intensity of the opalescence the lower is the transparency. All coloured OTs (OTY; OTA; OTG; OTB; OTIce) have the same degree of transparency

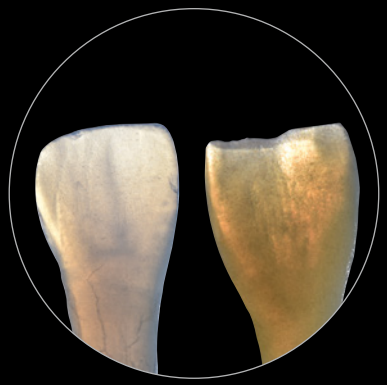
INTERACTION BETWEEN TRANSPARENCY AND VALUE

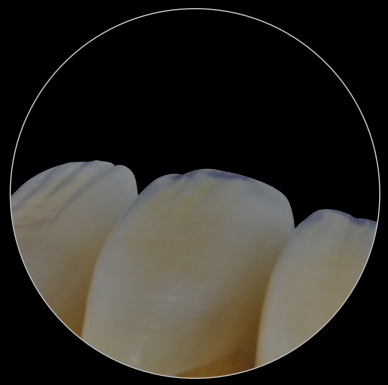


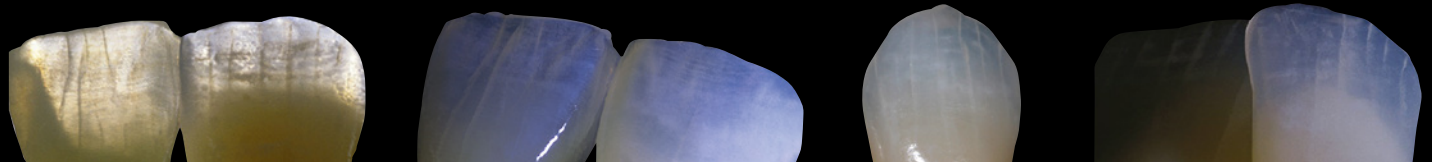
OS1–OS4: the higher the value of the opalescent incisal the lower is the transparency



OPALESCENT TRANSPA MATERIALS

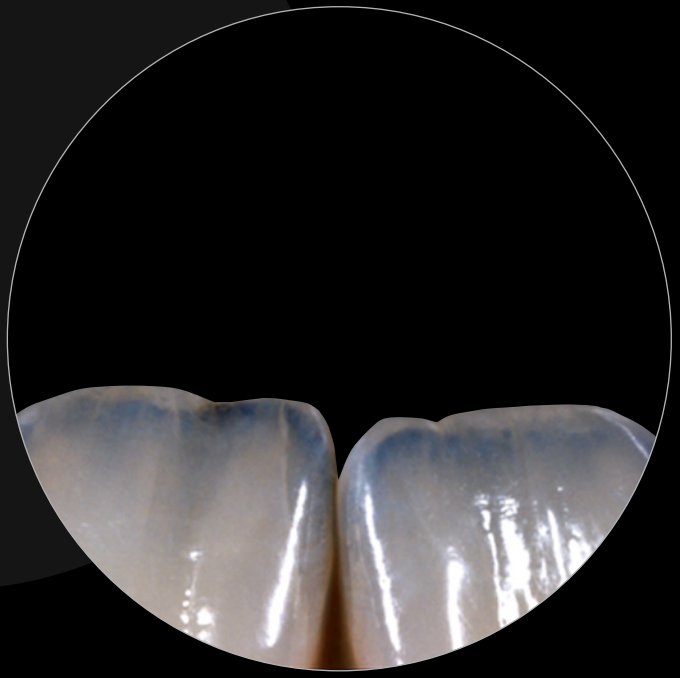


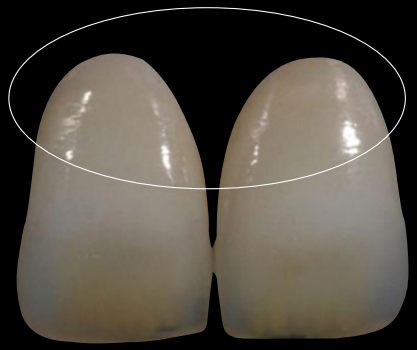




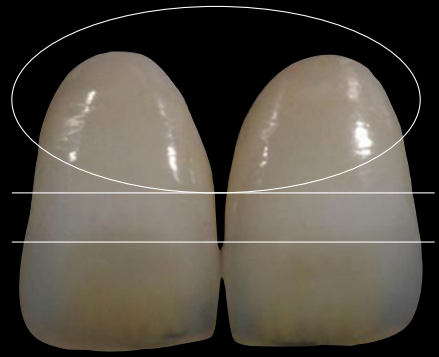
CHOOSE THE RIGHT SHADE

ACHIEVE EVERY OBJECTIVE





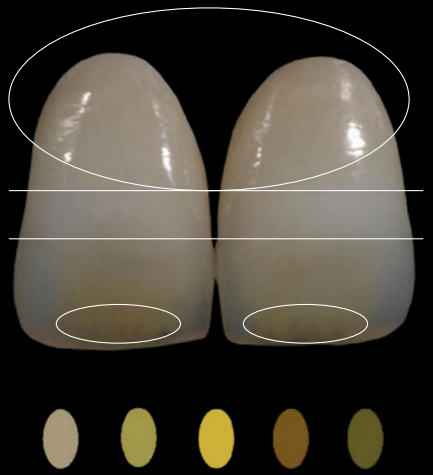
Classification of the basic shade



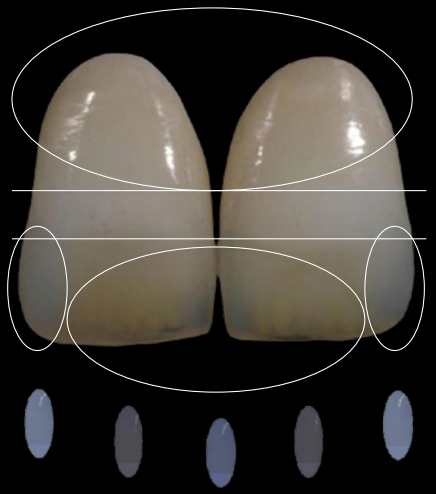
Identification of the several values. Clearly visible the bright ribbon in the middle third of the tooth. Towards the incisal the value is reduced.

CHOOSE THE RIGHT SHADE

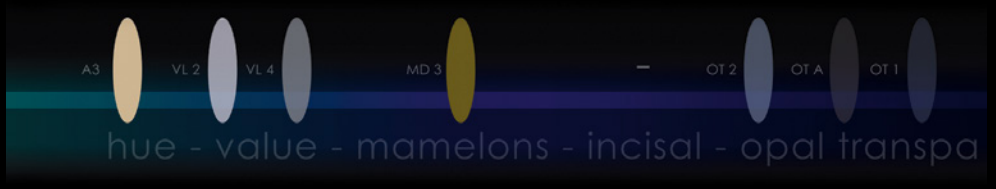
ACHIEVE EVERY OBJECTIVE



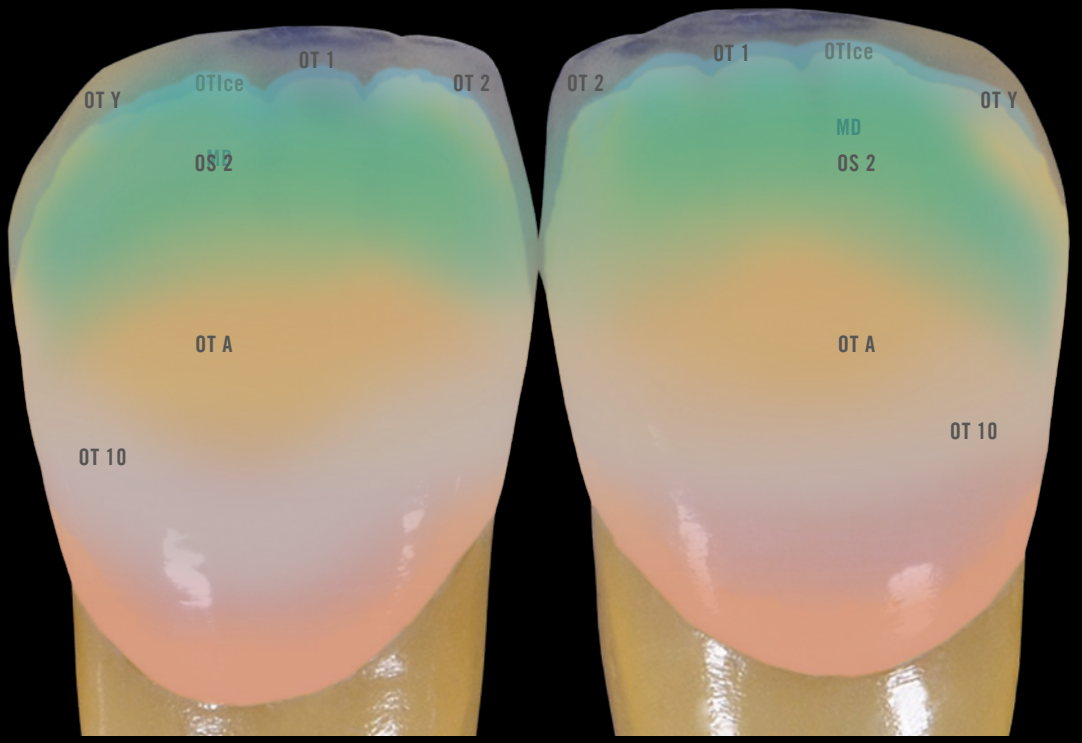
Identification of the mamelon shade and structure



The brighter semi-transparent areas in the distal region exchance into increasing semi-transparent yellowish and blueish areas in the mesial region.



MATRIX – LAYER BY LAYER



Dentine | MD / SD | Value | Mamelon dentine | Opal incisal | Opal transpa

Photos and restoration by
Spiros Chatzigeorgiou, Greece

Photos and restoration by
DT Rüdiger Neugebauer, Portugal

Photo and restoration by
DT Rüdiger Neugebauer, Portugal

TOP OF ITS CLASS

UNSURPASSED. Engineered for technicians and valued by patients. Proven over time and trusted as a material like no other. Formulated with science for optical and technical perfection. Exacting, strong, dynamic, inspiring. That is HeraCeram ceramic. **Nature is waiting to be remodelled by your expert hands so for all that you can do choose HeraCeram.**

CLINICALLY PROVEN

NATURAL RESULTS IN EVERY SITUATION

Photos and restoration by
Kazumasa Yamashita, Japan

Photos and restoration by
Vincent Stecher and
Jonathan Koning, Netherlands

Photos and restoration by
MDT Uwe Hruschka, Germany

Dental surgeon and photo by
Ulf Krueger-Janson, Germany
Restoration by MDT Paul A.
Fiechter, Germany

Photos and restoration by
DT Rüdiger Neugebauer, Portugal

Photos and restoration by
DT Rüdiger Neugebauer, Portugal

Photos and restoration by
DT Thomas Backscheider,
Germany

Restoration by Tíme Taya-Bene,
Hungary
Dental surgeon by Dr. Yusuf Taya,
Hungary
Photo by Dr. Virág Kovács,
Hungary

SCIENCE

PROVEN VENEERING FOR ZIRCONIA

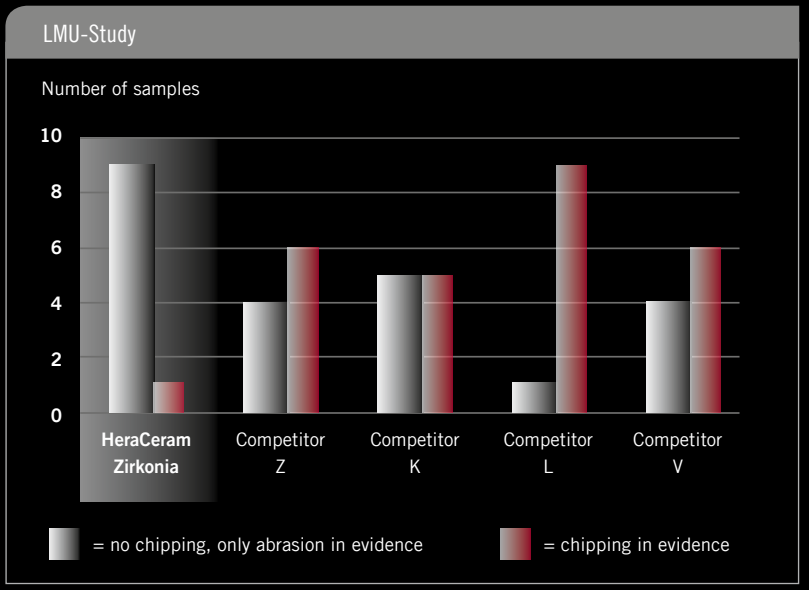
Study of the LMU Munich on the fracture behavior of zirconia veneers

Scientific investigations show that an optimised veneering ceramic combined with correct protocols at the laboratory significantly reduce the likelihood of chipping for zirconia restorations.

In a recent study on the fracture behaviour of zirconia veneers the Policlinic for Dental Prosthetics at the Ludwig Maximilians University (LMU) in Munich discovered substantial differences between various veneering materials.

Zirconia crowns were veneered with layering ceramic and examined for chipping after artificial ageing in a mastication simulator.
Of the five veneering ceramics examined, HeraCeram Zirkonia turned out to be the best all round. Zirconia crowns that had been veneered with HeraCeram Zirkonia suffered far less chipping than all rival ceramics tested.

Source: Beuer F, Schweiger J. In-vitro-Untersuchung zum Frakturverhalten von Zirkoniumdioxid-Einzelkronen. LMU München, 2012.



CHIPPING PROBLEMS ARE CLEARLY REDUCED WITH HERACERAM®.

Study carried out at the Hannover Medical School on veneering of NPM

The veneering of non-precious metals (NPM) is often a real challenge due to high oxide formation. A recent study at the Hannover Medical School has shown: the HeraCeram NP-Primer increases the wettability of the NPM surface and consequently the bond strength.
Who is veneering NPM, knows the Problem: The oxides on the framework surface influence the bonding. They reduce the wettability of the alloy surface and avoid the full utilization of the bonding parameters. Which can cause to flaws, bubbles or chipping.
The NP-Primer allow an optimal coverage of the alloy surface with ceramics. It is reliable in flaking the emerging oxides and prevent a high oxidation of the alloy surface. This ensure for a certain bonding between alloy and ceramic.

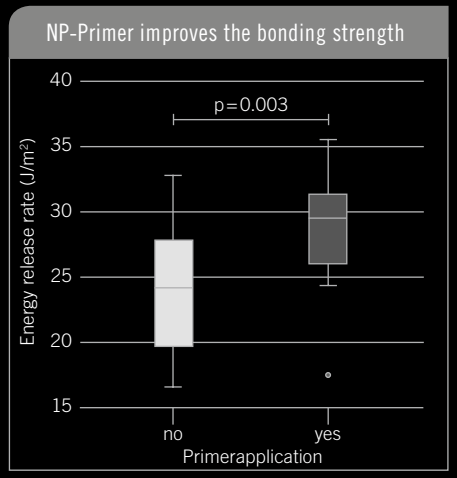


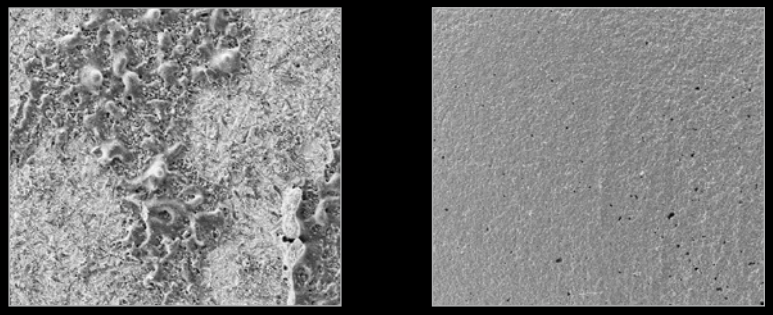
Image: Dr. Philipp Kohorst

Good wettability creates a secure bond

The Hannover Medical School has confirmed the primer's positive effect on the bond in a recent in-vitro study. The effects of the primer application were tested quantitatively in a mechanical fracturing test and qualitatively under a scanning electron microscope.

Conclusion: HeraCeram NP-Primer increases the wettability of the NPM surfaces. This makes optimal use of all the factors involved in the bond and effectively prevents problems such as fracturing, bubbling and flaking.

Source: Kohorst P, Rizeq F, Stiesch M. Verbesserung des Keramik-Legierung-Verbundes durch Applikation eines Primers [Improving the ceramic-alloy bond by applying a primer]. Hannover Medical School, Hanover 2011.



HeraCeram NP-Primer improves the wettability of the NPM surface and thus improves the bond (pictures of fracture surface left without and right with primer).

Contact in Germany
Kulzer GmbH
Leipziger Straße 2
63450 Hanau, Germany
info.lab@kulzer-dental.com

A2549 66048312 EN 03/2021 ORT

kulzer.com