



Cercon[®] ceram Kiss

Zirconia Veneering Porcelain

Craft meets creativity

Brochure for the dental laboratory



Dentsply
Sirona
Prosthetics

General notes

Last modified: September 2014

Cercon ceram Kiss



Indications

- Cercon ceram Kiss is a ceramic veneering material developed specifically and exclusively for veneering zirconia (Y-TZP) crowns and bridges with a CTE of 10.5 $\mu\text{m}/\text{m}\cdot\text{K}$ (25–500°C), preferably made of Cercon base or Cercon base ht.
- For dental use only.

Contraindications

- Cercon ceram Kiss is not suitable for veneering titanium or other metal frameworks.
- Cercon ceram Kiss is not compatible with any other veneering ceramics.
- Cercon ceram Kiss is contraindicated in bruxism or other types of parafunction.
- In addition, Cercon ceram Kiss is contraindicated in situations where the interocclusal distance is insufficient.

Precautionary notes for medical devices

If properly processed and used, adverse effects of these medical products are highly unlikely. However, reactions of the immune system (such as allergies) or localized paraesthesia (such as an irritating taste or irritation of the oral mucosa) cannot be completely ruled out as a matter of principle. Should you hear or receive information about any adverse effects – even when doubtful – we would like to request notification.

In patient hypersensitivity to Cercon ceram Kiss veneering ceramics or one of its ingredients, this medical product may not be used or only under the particular scrutiny of the dentist or physician in charge. Known cross-reactions or interactions of this medical product with other medical products or material already present in the oral environment must be taken into consideration by the dentist or physician in charge when selecting this medical product.

Notify the dentist or physician in charge of all factors described above if you use this medical product for a custom construction.

Safety instructions

- Do not inhale dust particles during grinding.
- When working with these materials, make sure to comply with the Instructions for Use and the pertinent Material Safety Data Sheets (MSDS).
- For professional use only.

Adverse reactions/interactions

We are not aware of any risks or adverse effects related to Cercon ceram Kiss veneering ceramics.

Technical specifications

- CTE Dentine (25–500 °C) 9.2 $\mu\text{m}/\text{m}\cdot\text{K}$
- Type 1 dental ceramic material, Class 1 according to DIN EN ISO 6872

Transport and storage

- Liquids: Keep containers tightly closed.
- Protect others and pastes from moisture.
- Symbols on product labels:

REF	Product code
LOT	Batch or lot number
	Use before
	Follow Instructions for Use
	Keep dry
	Do not reuse

Combinable liquids

- Paste liner:
Paste liner liquid
- Shoulders:
Ducera® Liquid Quick
- Dentines/incisals etc.:
Ducera® Liquid SD
Ducera® Liquid Form
Ducera® Liquid Blend
- Stains/glazes:
Ducera® Liquid Stain improved
- Isolation:
Ducera® Sep Isolating Fluid
Ducera® High Temp Isolating Fluid

Ceramic oven

For best results, make sure that the required firing temperatures and times are observed strictly. If necessary, adjust the firing parameters of the ceramic oven as required.

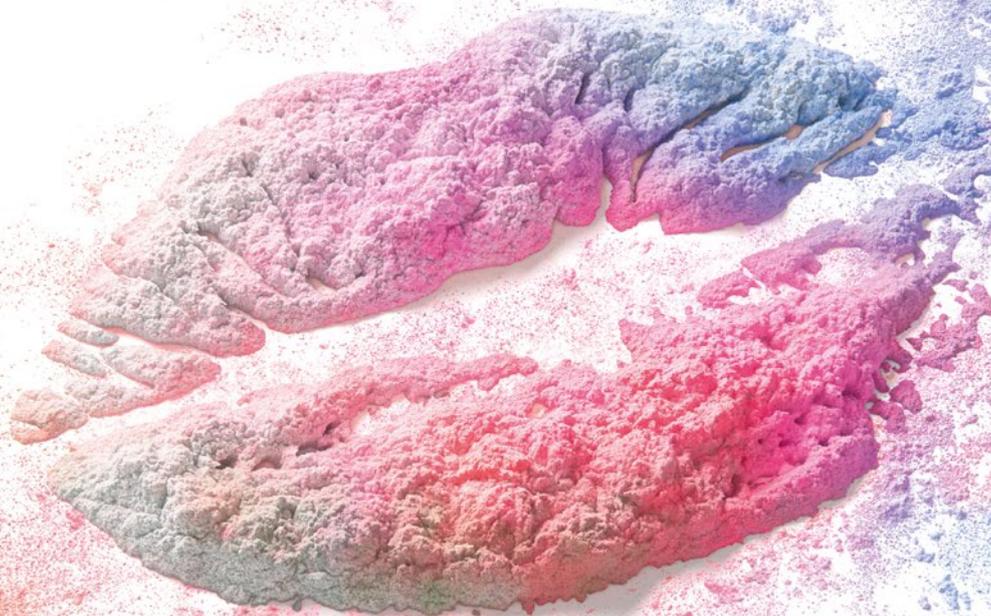
Market launch: February 2005

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Keep it simple and safe

Kiss veneering ceramics



Reduced number of masses

+ Fewer materials without sacrificing quality

The accurate categorization of the initial and intensive masses, the new tinted liners and dentines and the universal mixing scheme makes for high aesthetic veneers without any quality loss: Use only 73 materials to do 100% of all jobs.

+ Economic advantage

The reduced number of materials benefits your bottom line.

Perfect aesthetics

+ More shade fidelity

Optimized shade pigments enhance the shade fidelity of Kiss, similar to the V-shades. This also largely eliminates the problem of differences in shade appearance under different lighting conditions.

+ Opalescent effect remains intact

In the classic high-fusing veneering ceramics, the opalescent effect can get lost after a number of firing cycles. With Kiss, this effect – and with it the natural dynamic appearance – remains intact thanks to the patented manufacturing process used for the Kiss opalescent.

Simple and safe

+ Simple and safe shade production and reproduction

Secure processing using a simple system for basic and custom build-ups.

+ Exactly matched shades across ceramic lines

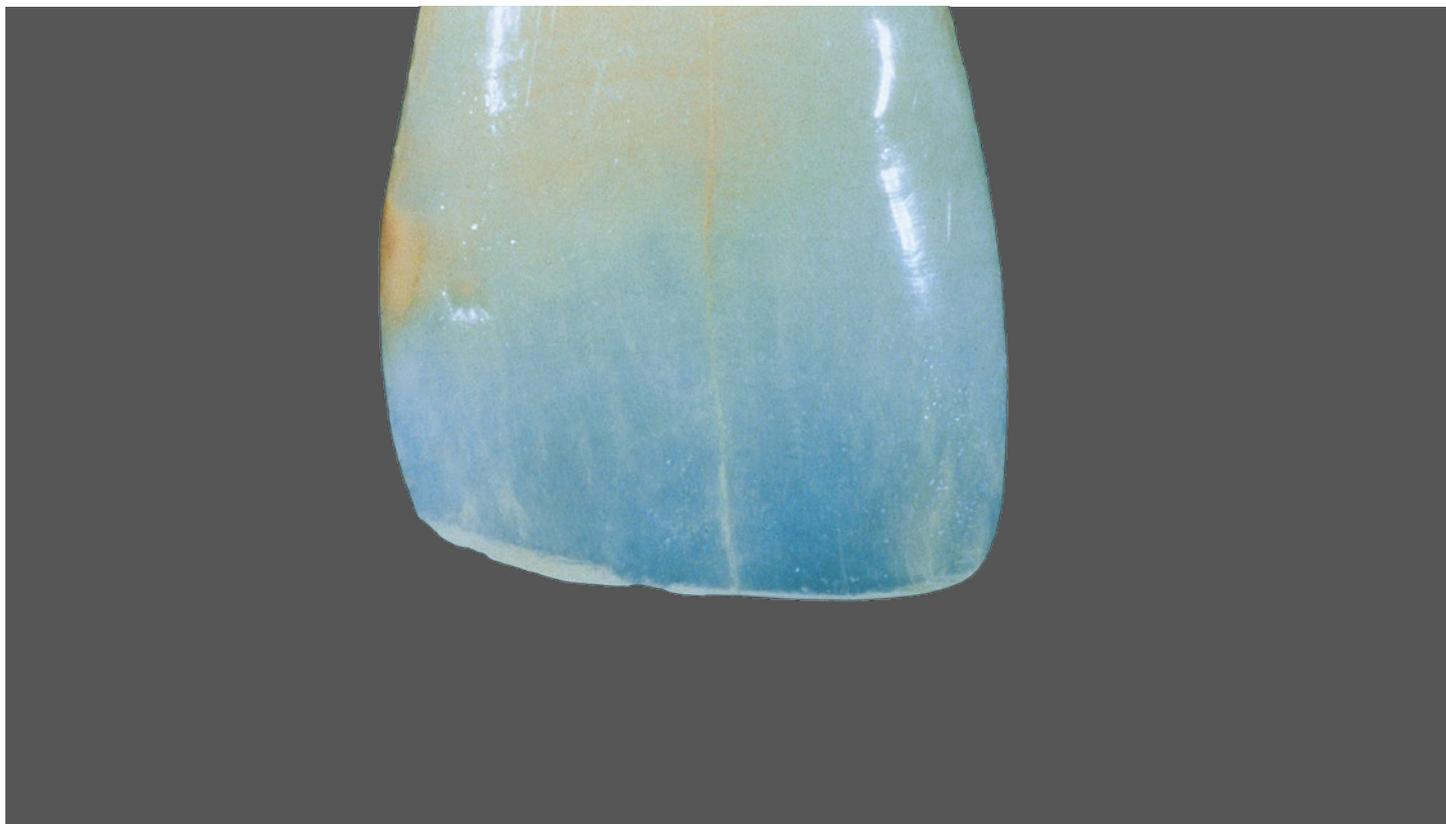
Easy processing of different framework materials possible in the same patient case.

+ Uniform build-up system for all framework materials

No extra training cost or learning curve when switching from one framework material to another.

The ceramic line for zirconia

Cercon ceram Kiss



Cercon ceram Kiss
– specifically designed
for zirconia

Choosing Cercon ceram Kiss gives you a ceramic veneering material developed specifically for zirconia frameworks. Cercon ceram Kiss is equally well suited for use on frameworks made of Cercon base and Cercon ht. Use of the liner is at your discretion.

It serves exclusively to prime the framework. Leaving it off has no negative effect on the bond between the framework and the veneering ceramics. Especially for Cercon ht, no liner is needed: the ht dentines are special materials that optimally highlight to the excellent translucency of the material.

The Kiss veneering concept

Materials and shades

Economical 3-mass build-up

Basic build-up by V shades

Intelligent mixing for highly varied shades

Power Chroma share recognition

100% of jobs with only 40 materials

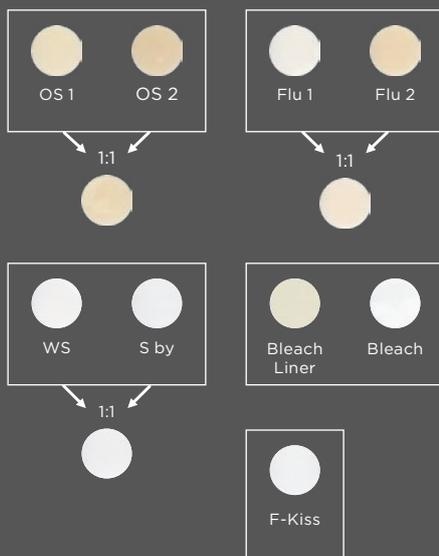
All V shades can be produced with the 40 materials shown here, without any mixing at all. Our six incisals allows a better representation of the V shades in the incisal area. All liners are precisely adjusted to the respective basic shade. Their fluorescence levels are adapted to the different shade intensities and, consequently, to the natural tooth model. A superb base for your daily work - effortless success for almost everything you attempt.

Fluorescent Power Chromas

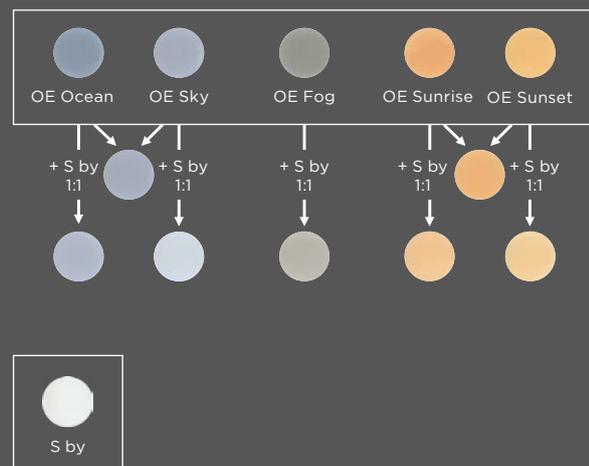
The six fluorescent Power Chromas can reproduce the bulk of all cervical and mamelon effects as well as increases in chroma. Simple 1:1 mixtures between these Power Chromas results in an additional 15 intermediate shades.

Natural opalescent and fluorescence effects

Incisals for individual value control



Opal effects + multifunctional Stand by materials



Shades in the printed material may differ from reality for technical reasons.

Custom incisals, opal effects and multifunctional Stand by

The individual incisals within the Kiss system allow the emulation of all natural opalescent and fluorescent effects. Opal incisals 1 and 2 are intended for lighter (OS 1) and darker (OS 2) shades. For intermediate shades, the two materials are simply mixed at a 1:1 ratio.

The same principle holds for Flu Inside 1 and 2. These highly fluorescent materials are designed for the inner layers, covering the liner even where space is at a premium, while at the same time increasing value in the incisal area.

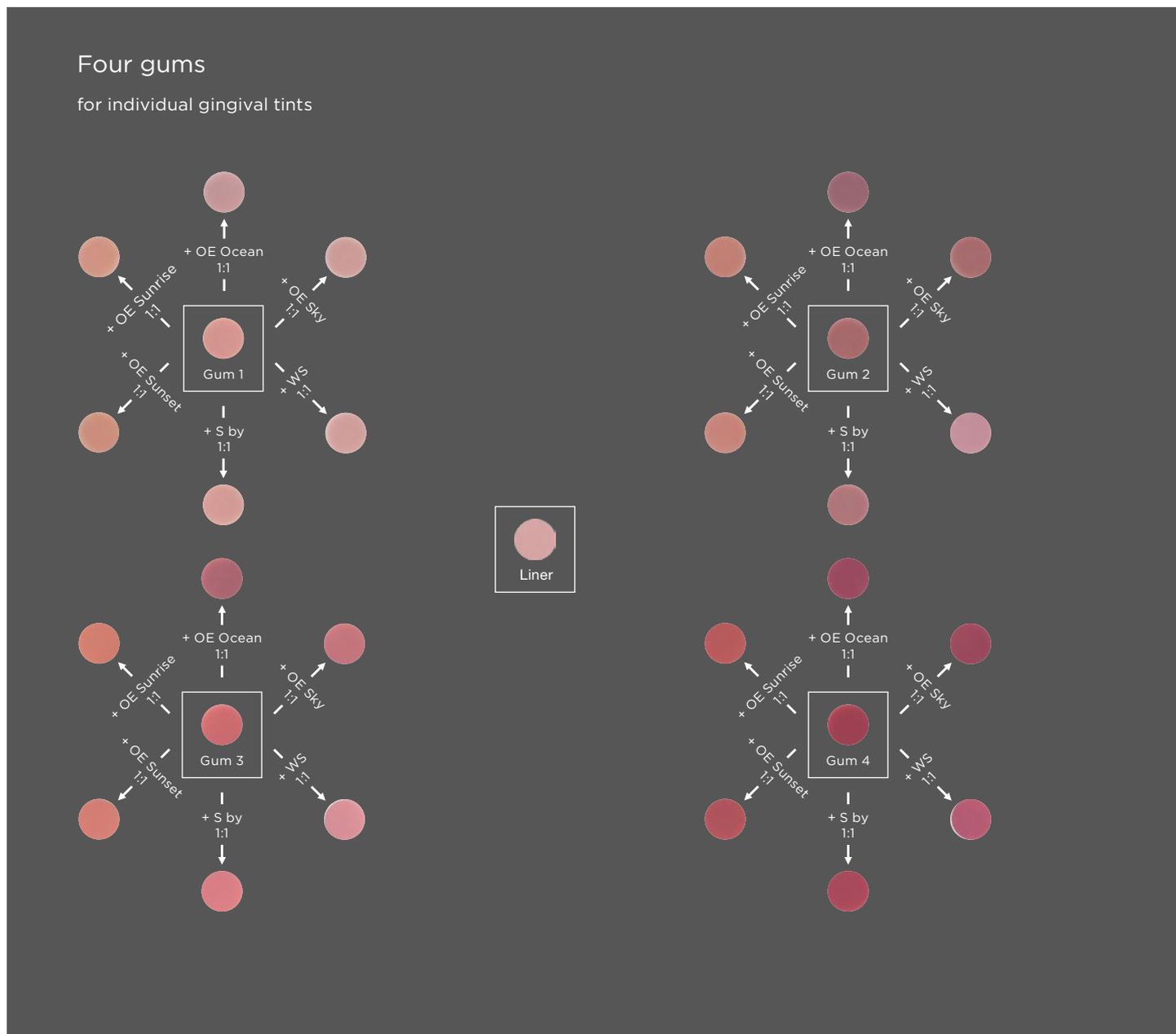
White Surface (WS) is a whitish opalescent effect used to increase surface value (brightness).

Here, too, the effect can be attenuated by 50% by adding Stand by. To reproduce the effects of teeth that have been bleached, Bleach Liner and Bleach Dentine are available. A particularly successful and versatile correction material is the transparent Final Kiss.

The **Stand by** multifunctional material is a strongly transparent opal effect that is one of the keystones of the Kiss system. It can be used by itself or mixed with any other materials. The three **opal effects**, Ocean, Sky and Fog, control value and opalescence in bluish and greyish incisal regions. Sunset and Sunrise are suitable for incisal characterization and for subdued transparent chroma gradations in the body region.

The Kiss veneering concept

Materials and shades



Shades in the printed material may differ from reality for technical reasons.

Four gingival materials

By mixing Gum 1 to Gum 4 with selected effects (see chart), natural gingival effects can be emulated very closely and simply.

The Kiss veneering concept

Aesthetics without limitations



- Chroma Power in the cervical area for customization
- Dentine build-up



- Flu Inside in the incisal third for value control
- An incisal-edge overlay with OE Ocean or Sky for a youthful, bluish incisal ridge



- In the body area, OE Sunset and Sunrise
- In the incisal region, opal incisors 1 or 2 and Transpa



The Kiss veneering concept

Shade mixing

Shade combination table

Shade	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Standard build-up																
Liner	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Dentin	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Incisal	1	2	3	3	5	1	1	4	6	1	5	5	6	2	4	4
Custom build-up																
Liner	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Shoulder SM/F SM	1	2	2 + 3	2 + 4	3 + 4	1	1 + 3	3	3 + 5	1	1 + 4	2 + 4	4	1 + 4	2 + 4	3 + 4
Dentin	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Power Chroma 1																
Power Chroma 2																
Power Chroma 3	1 + 2	2	2 + 5	3 + 5	4 + 6	1	1 + 3	2 + 3	3 + 6	1 + 6	2 + 6	3 + 6	5 + 6	1 + 6	2 + 6	3 + 6
Power Chroma 4																
Power Chroma 5																
Power Chroma 6																
Flu Inside 1	x	x				x	x			x				x		
Flu Inside 2			Mix	Mix				Mix			Mix				Mix	x
Incisal opal 1	x	x				x	x									
Incisal opal 2			Mix	Mix				Mix	x	Mix	Mix			Mix	Mix	x

Flu Inside

Fluorescent dentines (used e.g. as modifiers for dentine mamelons) are dentines characterized by pronounced fluorescence. They enhance the luminescence of the veneer. Short-wave invisible light is absorbed, long-wave visible light is emitted.

Liner Orange

For characterizing occlusal, cervical and palatal regions.

Liner Bleach

For extremely bright/bleached teeth. Normally used in connection with bleach dentines only.

Liner Gum

For gingival aspects.

Power Chroma

The Power Chromas are highly chromatic, fluorescent intensives for individual shade reproduction. All Power Chromas are used for shade support in the cervical, palatal and occlusal regions. They are used as is or mixed at a 1:1 ratio. When mixed with Stand by, they are also very appropriate for mamelons. Shade assignments are indicative only.

Stand by

Highly opalescent, almost transparent multifunctional material. Stand by can be used by itself or mixed with all other materials within the Kiss system. Stand by thus has a key function within the system.

OE Sunrise/OE Sunset

Opalescent effect for yellow incisal aspects; very well suited for increasing chroma during the second or third dentine firing. Predominantly for B colours; can be attenuated using Stand by.

OE Ocean

Opalescent effect for intense, deep blue incisal aspects; can be attenuated using Stand by.

OE Sky

Opalescent effect for delicate blue incisal aspects; can be attenuated using Stand by.

OE Fog

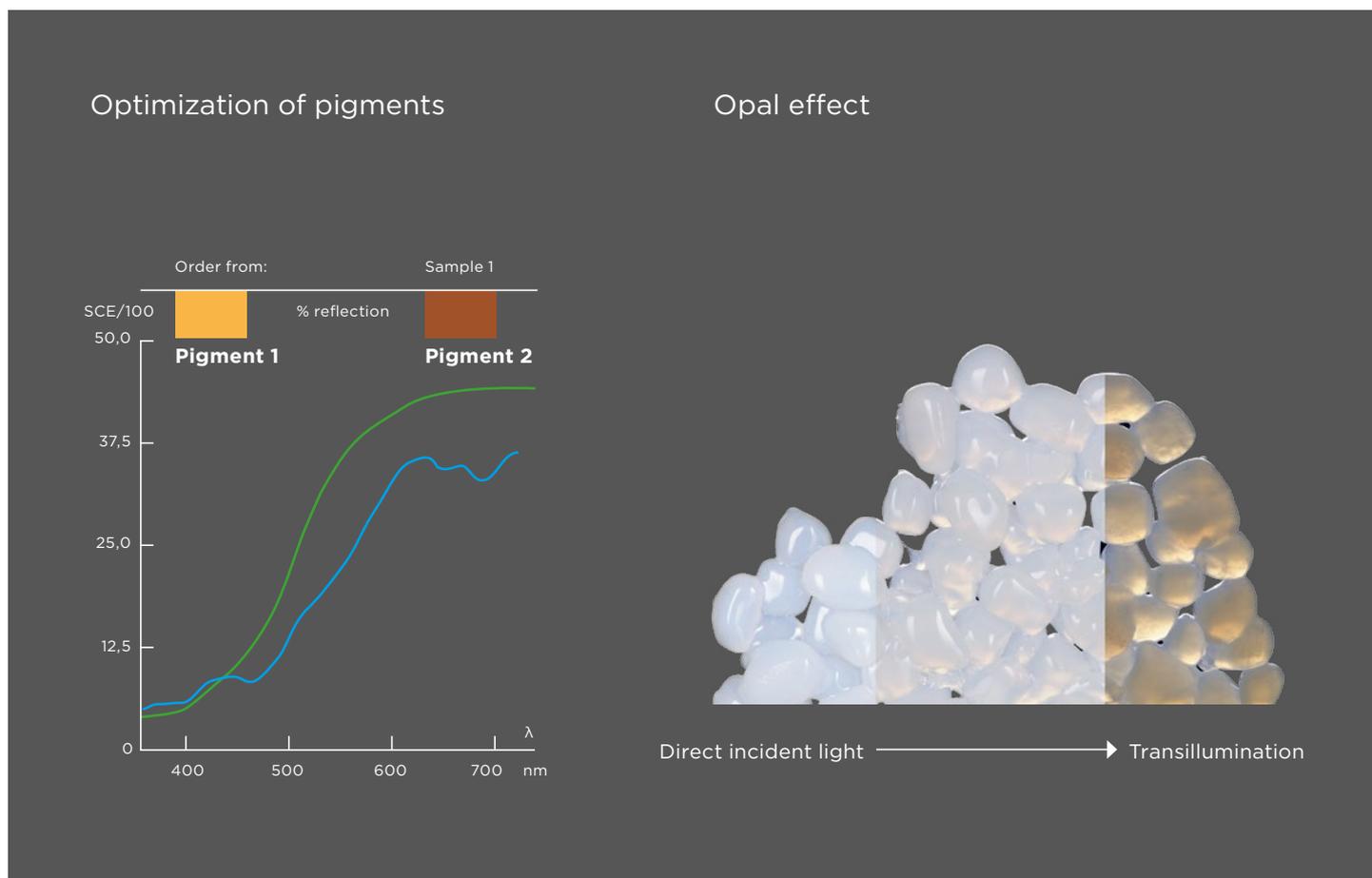
Opalescent effect for grey incisal aspects; can be attenuated using Stand by.

White Surface

Whitish opalescent effect for emphasizing posterior cusps and anterior palatal/lingual ridges; can be attenuated using Stand by.

Kiss

Continuing development



Shade fidelity

By optimizing the percentage of pigments in the ceramic material, Kiss marks another success in terms of increasing shade fidelity in relation to the V shades.

Optimizing the percentage of pigments is also a major part of the solution to the problem of metamerism (where the appearance of the shade varies depending on the various sources of light such as typical indoor lighting or outdoor daylight).

Aesthetics

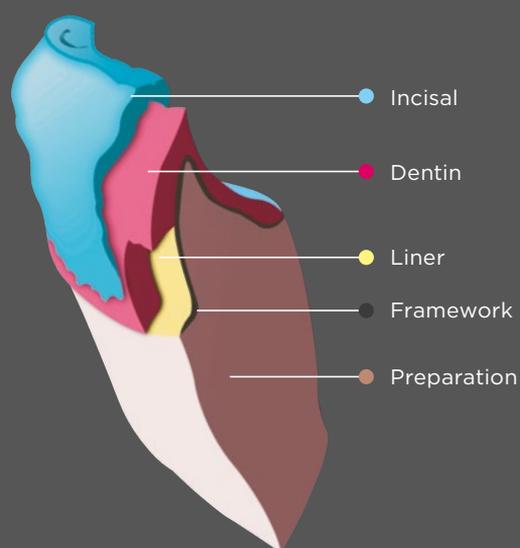
When it comes to high-end restorations, Kiss will allow you to achieve a top-quality veneer in a manner that is both faster and simpler.

The opalescent material - which is one of the aspects responsible for the natural and light-dynamic appearance of the restoration - has been significantly optimized using a patented production process.

Processing technique

Build-up technique

Basic build-up technique in the anterior region



The simpler, the safer.
That's Kiss.

01

Aesthetic Line Basic

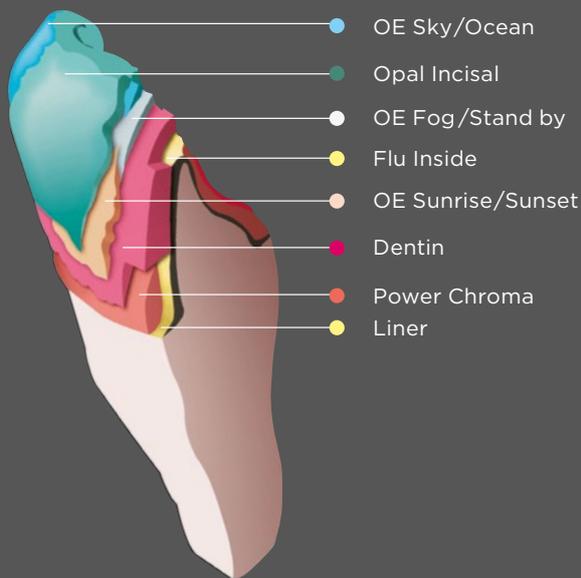
Simple

All V shades can be produced with the 40 materials shown here, without any mixing at all. Our six incisals allows a better representation of the V shades in the incisal area.

Safe

All liners are precisely adjusted to the respective basic shade. Their fluorescence levels are adapted to the different shade intensities and, consequently, to the natural tooth model. A superb base for your daily work - effortless success for almost everything you attempt.

Custom build-up technique in the anterior region



The Kiss concept takes you yet another step closer to nature - in a powerful yet simple way.

02

Aesthetic Line Custom

The difference between a basic build-up technique and a custom build-up technique should be recognizable, yet easy to achieve. The systematic Kiss approach was designed to help you aspire to - and reach! - the ultimate level of quality in dental technology. The Kiss concept offers a variety of nuanced shades to reproduce natural-looking teeth, as already described in detail in the previous pages. The **liner** already gives you the option to apply nature-like characterizations. In subsequent steps, the 21 **Power Chroma** options in the cervical and occlusal care regions the necessary vitality and depth due to an excellent balance of chroma and fluorescence.

If very thin layers must be used or in aesthetically challenging cases, the framework can be covered with the highly fluorescent Flu Inside. As shown in the build-up graph, it is simply applied to the framework or coping, lengthening the incisal edge. **Gray Inside** is a fluorescent dentine that can be used to compensate for high-value framework aspects in the incisal region. This will scatter and reflect the light in the critical transition area from the

framework/coping to the ceramic veneer and optically conceal the incisal edge of the coping. Additional dentine layers are built up as usual. It is always recommended to build up to full contour, followed by a precise and well-defined cutback. Power Chroma can be used again to achieve mamelon effects; they can be attenuated as needed with the multifunctional **Stand by**.

A comprehensive selection of **incisals, opalescents and opal effects** is available for building up of the incisal edge of the crown. Pronounced yellowish or orange-coloured opals can be used to effectively support the basic shades used. At the same time, they give the tooth a nature-like sense of depth and transparency. **Transpa Red** is a transparent effect allowing additional customization of reddish tooth shades. Older teeth can also be easily reproduced naturally using the greyish transparent material **OE Fog**. For the second dentine firing, ridges and cusp inclines can be optically enhanced by simulating decalcification areas, using **White Surface**.

Aesthetic Line Basic

Build-Up



01

Framework on the uncut control cast.



02

Building up to reduced contour using base-shade dentine. Smooth Chroma can be used to compensate for basal aspects or to cover the incisal framework structure.



03



07

Completing the shape with incisal. A mamelon edge may be created where the incisal build-up meets the dentine.



08

Result after the first correction firing. The surface is flawless and slightly textured. The surface is finished with clean diamonds.



09

After sandblasting with 50-µm aluminium oxide and steam cleaning, the surface is wetted with a thin layer of glaze.



04

The ceramic surface must be glossy after firing. Only this shiny and non-porous surface confirms correct firing.



05

Completing the shape with incisal. A mamelon edge may be created where the incisal build-up meets the dentine.



06



10

The bridge after glaze firing. The shade was matched perfectly, as the shade tab shows.



11

Completed bridge on the cast.

The youthful tooth



01

Baseline situation: Insufficient bridge spanning teeth 11 to 22.



02

The prepared teeth.



03

Completed framework ready for ceramic veneering.



07

Applying Sky/Ocean strengthens the impression of youthful incisal edges. The Corn effect supports the mamelon structures. In the cervical interproximal areas, some gingival tissue is imitated with G3/G4 + Stand by.



08

The incisal edge is built up with alternating layers of opal incisal I (OS1), incisal S2 and Stand by, imitating the natural tooth.



09

For completion Opal Incisal, Stand by or Transpa Neutral can be used.



04

Placing Smooth Chroma on the basal aspects of the pontic and on the incisal portions of the framework.



05

Applying A1 and Bleach dentine in the cervical third.



06

The palatal concavities are also covered with dentine. The chroma can be increased by applying Power Chroma.



10

Impressions of the completed bridge. Cercon ceram Kiss exhibits natural reflective properties and a natural appearance.



11

The final restoration, inconspicuously integrated into the natural dentition.

Characteristic elderly tooth



01

Baseline situation: Insufficient crowns on teeth 11 to 22.



02

Preparation following the general rules for all-ceramic restorations (Clinical Guide/DeguDent).



03

Framework on the uncut control cast.



07

Designing the incisal edge.



08

Internal characteristics enhance the natural three-dimensional effect of the veneer. They can also be used to adjust the chroma.



09

Impressions of the ceramic veneer after the first firing. The ceramic veneer is completely free of pores and has a fine lustre.



04



05



06

Applying Smooth Chroma on the basal aspect of the pontic to achieve a seamless transition. Applying Gray Inside GI in the incisal third increases the visual depth effect.

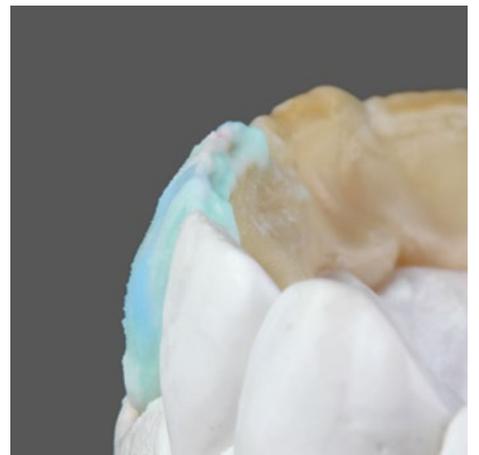
Building up to reduced contour using dentine and starting on the incisal edge.



10



11



12

The Opal Effect materials Sunset/Sunrise are used to proceed with the build-up. Opal Incisal OS2 or Stand by is used in the body area. In the incisal area, Fog, Ocean, White Surface or the original incisal material can be used to create very interesting shade effects, replicating the natural model.

Aesthetic Line Custom

Characteristic elderly tooth



13



14



15

The incisal aspects must be reproduced exactly. Any Opal Incisal may be used for this purpose. The appearance of secondary dentine is created by Power Chroma or Power Chroma + dentine. The build-up is completed with Stand by.



19



20



21

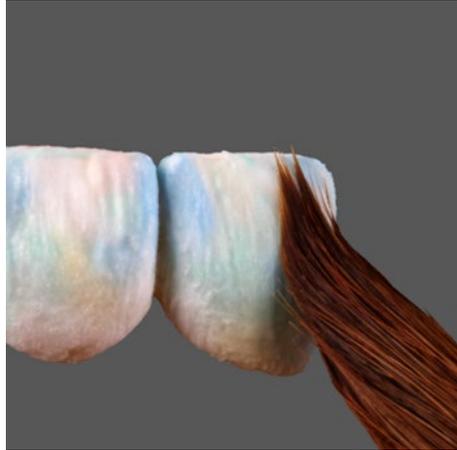
Completing the shape with Stand by and Transpa.

Cercon ceram body stains dienen der lokalen Akzentuierung von Effekten und reproduzieren Merkmale, die nur durch die Maltechnik genau platziert werden können.



16

Adding minimal volume interdentally before firing.



17

A flat ceramic brush can be used to create a natural surface texture already at this early stage.



18

Result after the second firing, Cercon ceram Kiss impresses with a homogeneous structure and natural light reflection even after multiple firings.



22

Finished ceramic bridge, brilliantly expressive with natural shades.

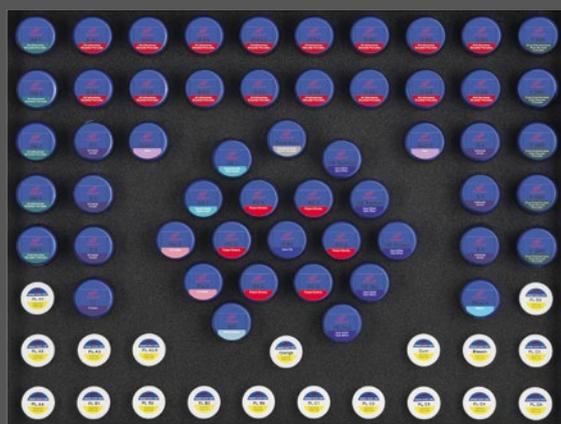


23

Ceramic restoration in the oral environment on the day of delivery.

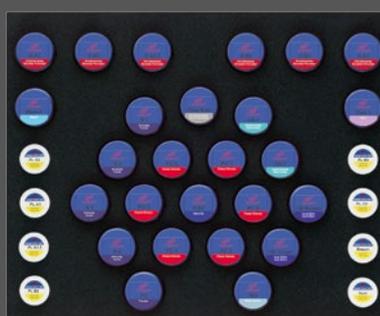
Kits

Cases



CERCON CERAM KISS
COMPLETE SET

+ With paste liner REF 5367190131



CERCON CERAM KISS
STARTER KIT

+ REF 5367190141



CERCON CERAM KISS
TESTING KIT

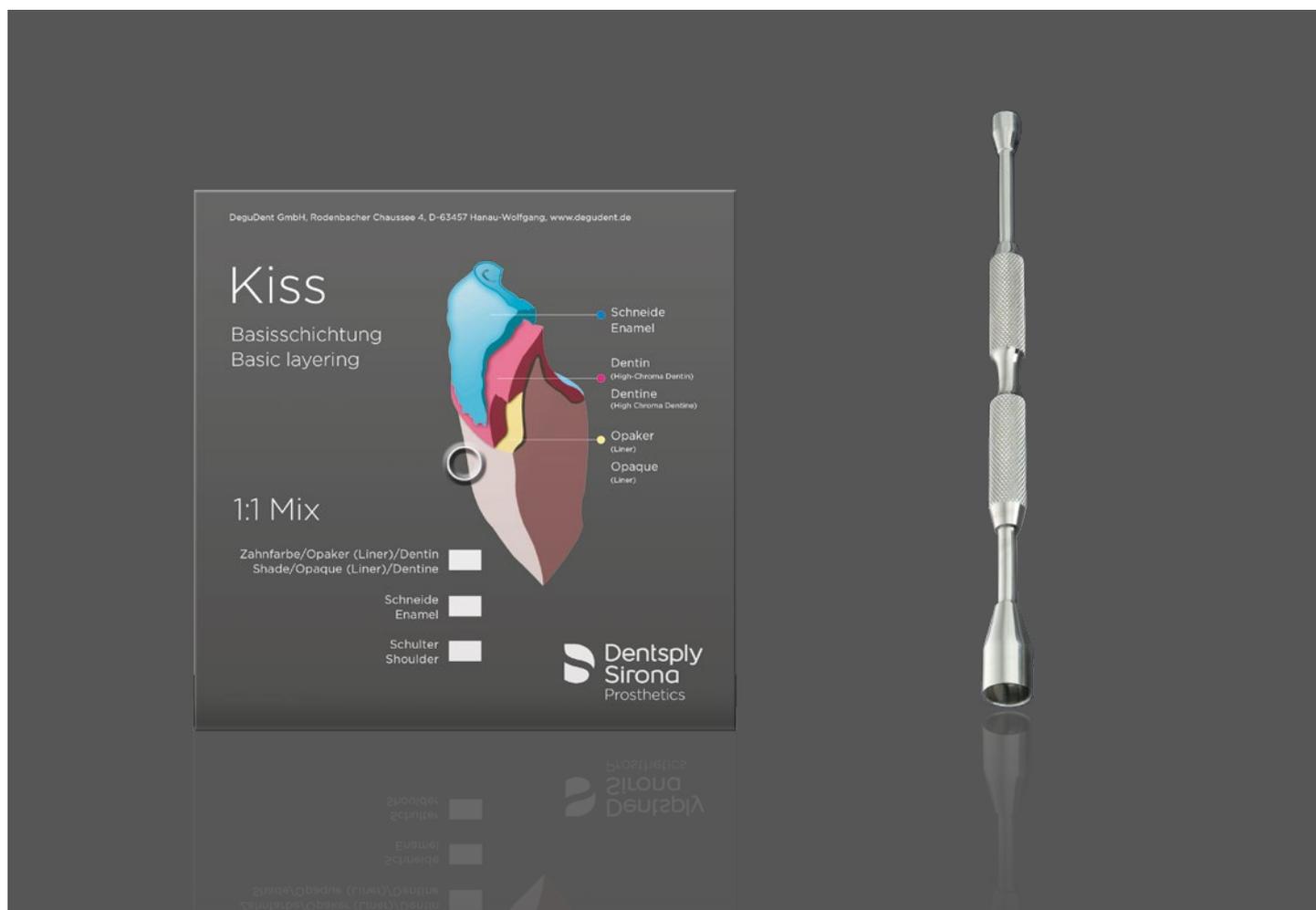
+ REF 5367190151

The complete Duceram Kiss ISS range – with its 73 materials, all colour indicators, liquids, brushes and portioners – has been assembled in an attractive case to give you the best possible starting point for your first steps.

If you wish, you can get a first idea of how the Kiss concept can work for you by ordering the starter kit with its six dentines or the testing kit with a single dentine.

Kits

Shade wheel and dosing aid



Keep it simple and safe

This is the motto that guided the development of the Kiss shade wheel. It lets you assign the respective Kiss ceramic materials, quickly and simply, by analogy with the V shades. Setting the corresponding V shade will automatically show all other shade assignments.

The Kiss portioner is the practical implementation of the colour wheel, designed for easy realization of 1:1 mixtures. Using the portioner allows absolute reproducibility when mixing two materials.

Extra

Kiss Artist Kit

Action-i Dentine



Corn

Translucent, similar to opal incisals to support D-shades, also suitable for alternating layers for mamelons.



Butter

Translucent, similar to opal incisals to support B-shades, also suitable for alternating layers for mamelons.



Honey

Translucent, similar to opal incisals to support A-shades, also suitable for alternating layers for mamelons.



Lavender

Translucent, similar to opal incisals to support C-shades, also suitable for alternating layers for mamelons.



Creme

Modifier, to be applied in the upper third of the dentine layer. Can be used pure or mixed.



Marble

Modifier, to be applied in the upper third of the dentine layer. Can be used pure or mixed.



Chocolat

Modifier for additional darkening of darker tooth shades; to be applied to the entire body, can be used pure or mixed.

Fluorescent dentine



Gray Inside (GI)

A unique fluorescent dentine that can be used to compensate for high-value framework contours in the incisal region.

Transpa effects



Transpa Red (TR)

For additional customization of reddish tooth shades.

Gums



Gum 3

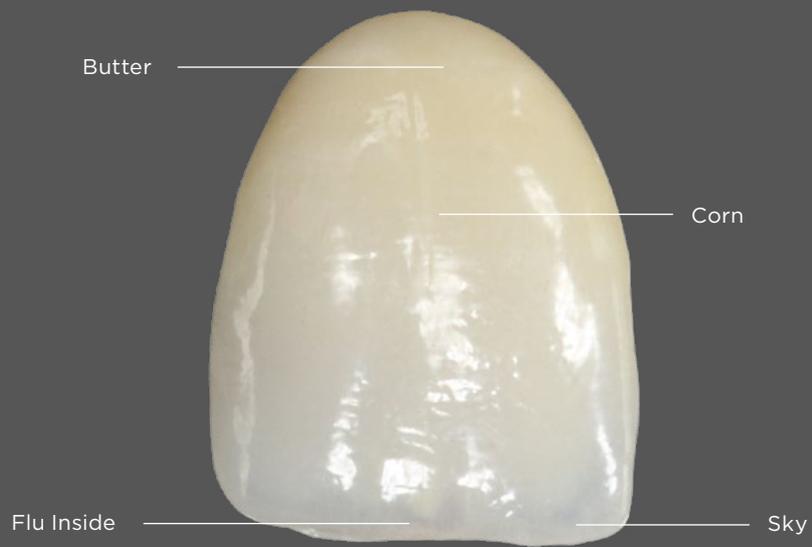
Complement to Gum 1 and Gum 2 - chromatic



Gum 4

Complement to Gum 1 and Gum 2 - highly chromatic

Kiss Action-i Dentine



Extra

ht-dentines

Cercon® ceram Kiss ht dentine shade map for V shades

V-shades	Cercon ht framework	ht-Dentin	Incisal
A1	Light	A1	1
A2	Medium	A2	2
A3	Medium	A3	3
A3,5	Medium	A3,5	3
A4	Medium	A4	5
B1	Light	B1	1
B2	Light	B2	1
B3	Medium	B3	4
B4	Medium	B4	6
C1	Light	C1	1
C2	Light	C2	5
C3	Medium	C3	5
C4	Medium	C4	6
D2	Medium	D2	2
D3	Medium	D3	4
D4	Medium	D4	4

General note

Cercon® ceram Kiss ht dentines complement the range of Cercon® ceram veneering ceramics Kiss by adding the option of veneering the highly translucent Cercon® ht framework material in a simple dentine/incisal build-up in shades A1 to D4. Follow the firing recommendations for Cercon® ceram Kiss.

Indications

Cercon® ceram Kiss ht dentines have been developed specifically for veneering crowns and bridges made of Cercon® ht light and medium. For contraindications, precautionary notes for medical devices, safety instructions and technical specification, refer to the general recommendations for the use of Cercon® ceram Kiss.

Applications

A reproducible tooth shade of the veneered Cercon® ht restoration can be achieved by combining the right framework shade (Cercon ht light, Cercon® ht medium) with the appropriate dentines and incisals (Table 1).

Notes

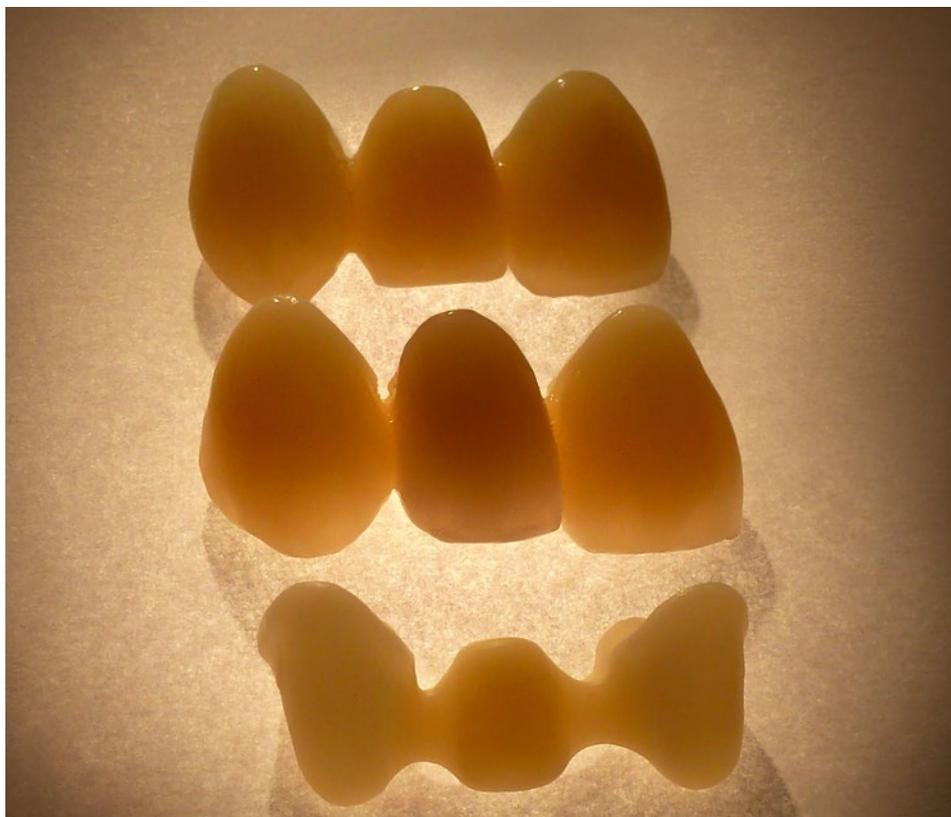
The shade effect of a highly translucent framework material is influenced by the shade of the prepared tooth. Non-vital, highly discoloured prepared teeth or coloured cements may additionally influence the shade. Highly variable cross-sections (e.g. at pontics) can also result in different shade effects. This can be compensated by using effect materials.

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in. The firing temperature must be adapted to the number of units fired in the same cycle. Five to ten units require an increase by 5°C to 10°C; more than ten units require an increase by 10°C to 20°C. The values listed here are intended for orientation only and should be regarded only as guidelines. Actual firing results may vary.

All firing results depend on the performance of the furnace used, which in turn depends on the make, model and age of the furnace. The guideline values therefore need to be adapted individually for each firing. We recommend a test firing cycle to check the performance of the furnace. We have compiled and checked all values and other data with great care. However, we cannot be liable for your results under any circumstances.

Extra

Smooth Chroma



With Smooth Chroma, a simple tool has emerged for attenuating the shade-determining chroma (shade intensity) of a restorative framework if required. Such frameworks may be necessary for pontics or for severely discoloured teeth

General firing recommendations (build-up technique)

Cycle	Pre-heating	Drying time	Heating rate	Final temperature	Holding time	Vacuum	Extended cooling
	°C	min	°C/min	°C	min	hPa	min
Dentine 1	450	5:00	55	830	1:30	50	-
Dentine 2	450	5:00	55	820	1:30	50	-
Glaze	450	3:00	55	800	1:00	-	6:00
Correction (Final Kiss)	450	5:00	55	680	1:00	50	6:00
Final-Shoulder (F SM)	450	5:00	55	680	1:00	50	6:00

Additional notes

Framework preparation

For balanced support and to ensure that uniform layers are applied, the zirconia frameworks must have been cut back to a reduced final anatomical shape. Minor corrections, such as marginal adjustments, should be performed using fine-grained diamond instruments. To avoid tension in the Cercon® ceram Kiss veneering material, any edges or corners of the frameworks must be rounded.

To avoid microcracks, any grinding or cutting of the framework should be performed using a high-speed motor and water-cooling. Keep the pressure on the framework material to a minimum in order not to overheat it.

Frameworks with cracks or holes are unsuitable for further processing. The zirconia frameworks are air-abraded with aluminium oxide (110–125 µm, 3–3.5 bar). Then the frameworks are cleaned by steam or in a clean ultrasonic bath.

Applying the liner

The Cercon base structure ceramic material is first prepared by applying the liner, which gives the crown its basic shade and matches the appropriate V-Classic shade.

Applying the liner as a two covering layer is recommended for the standard build-up technique and for an accurate reproduction of the V shades both for non-coloured frameworks (Cercon base) and for coloured frameworks (Cercon base coloured). The transparency will decrease somewhat after the second liner firing.

In the individual build-up technique, the liner can be applied in a single layer or left out completely. The liner does not influence the bond strength, which is not reduced if the liner is omitted. When working with only one layer of liner or with no liner at all, please note that the base colour will be modified by the framework colour as well as by the natural tooth structure and other materials.

Further finishing after glaze firing

If, following glaze firing, the Cercon ceram Kiss ceramic veneer needs to be adjusted (occlusion and/or contacts), the entire restoration should be subjected to another glaze firing. This will allow any structure damage to the restoration surface to be sintered closed. When finishing a cemented restoration into orally at your side, it is essential to re-polish all affected areas using a suitable rubber polishing stone or cup for ceramics.

Cementing

Before final cementing, carefully air-abrade the internal surfaces of the zirconia copings using 50–110 µm aluminium oxide at a pressure of 2.5 bar. When using an adhesive cement,

make sure to etch the parts of the restoration consisting of Cercon ceram Kiss shoulder material.

General firing notes

After the firing chamber is closed and the pre-heating time has passed, the full vacuum should take effect to avoid microporosities caused by air trapped in the ceramic material; this could restrict the transparency of the ceramic material and adversely affect its shade (paler and brighter).

The heating rate should be set to 55°C/min. Because of their low thermal conductivity, the zirconia frameworks must be placed on the special firing pins before firing.

The Cercon ceram Kiss correction material can be used for minor corrections of the final shape or for building contacts. Mix the correction material with SD modelling liquid and fired under vacuum. Thanks to its low firing temperature of 680°C, the existing shapes and contours remain intact.

- Note that the furnace should be regularly tested by using a silver wire test or by producing a firing sample

Notes on pre-drying restorations that have been tried in

Heat the objects to about 80°C to 90°C and allow to pre-dry for 30 minutes, or 90 minutes for larger objects, until the moisture and organic residue accrued during try-in have dried. Depending on the degree of contamination, steam down or sandblast lightly with 50-µm aluminium oxide to remove any organic residue.

Heat the restoration to 450°C at a rate of 5°C to 10°C per minute and pre-heat for one hour. This is followed by the normal ceramic firing.

Notes for ceramic shoulders

- Cut back the crown margin by approximately 0.5–0.8 mm above the preparation margin.
- Air-abrade the internal surfaces (especially the margins) and the external surfaces of the framework coping as described above, then clean the framework using the steam cleaner.
- Mark the preparation margin using a graphite-free pencil and seal it as usual, e.g. using an acrylic adhesive.
- Apply Ducera® Sep ceramic isolation liquid. Allow the isolation liquid to air-dry and then apply a second layer.

General firing recommendations

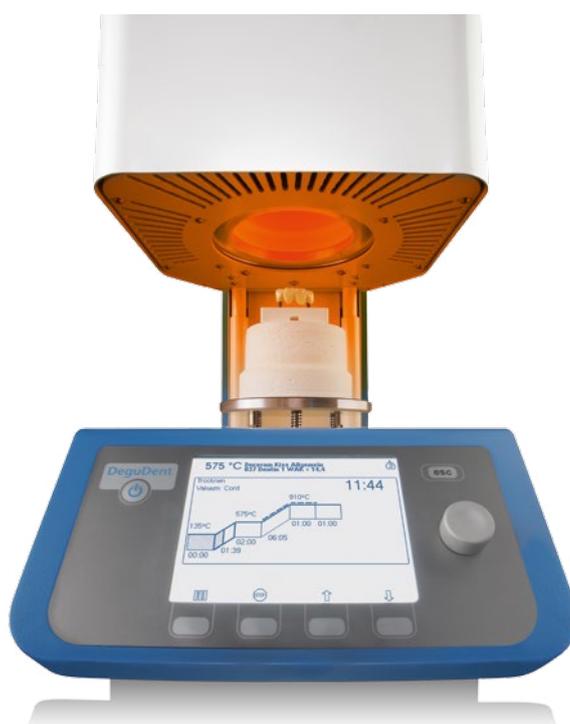
Cercon® ceram Kiss

	Pre-heating	Drying time Pre-heating	Heating rate	End temp.	Holding time	Vacuum	Extended cooling
	°C	min	°C/min	°C	min	hPa	min
Paste liner 1	575	8:00	55	970	1:00	50	-
Paste liner 2	575	8:00	55	960	1:00	50	-
Shoulder 1	450	6:00	55	850	1:00	50	-
Shoulder 2	450	6:00	55	850	2:00	50	-
Dentine 1	450	5:00	55	830	1:30	50	-
Dentine 2	450	5:00	55	820	1:30	50	-
Glaze	450	3:00	55	800	1:00	-	6:00
Correction (Final-Kiss)	450	5:00	55	680	1:00	50	6:00
Final Shoulder (F SM)	450	5:00	55	680	1:00	50	6:00

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in. The firing temperature must be adjusted to the number of units fired. Five to ten units require an increase by 5 °C to 10 °C; more than ten units require an increase by 10 °C to 20 °C.

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Last modified: September 2009



Specific firing recommendations

Cergo compact/Cergo press

Cercon[®] ceram Kiss

	Drying		Closing	Pre-heating		In-crease	Vacuum			End temp.	Holding		Tempering		Cooling
	°C	min	min	°C	min	°C/min	cont./off	on °C	off °C	°C	V min	min	min	°C	°C
Paste liner 1	135	6:00	2:00	575	3:00	55	cont	575	970	970	0	1:00	0:00	-	0:00
Paste liner 2	135	6:00	2:00	575	3:00	55	cont	575	960	960	0	1:00	0:00	-	0:00
Shoulder 1	135	3:00	3:00	450	3:00	55	cont	450	850	850	0	1:00	0:00	-	0:00
Shoulder 2	135	3:00	3:00	450	3:00	55	cont	450	850	850	0	2:00	0:00	-	0:00
Dentine 1	135	2:00	3:00	450	3:00	55	cont	450	830	830	0	1:30	0:00	-	0:00
Dentine 2	135	2:00	3:00	450	3:00	55	cont	450	820	820	0	1:30	0:00	-	0:00
Glaze	135	0:00	3:00	450	2:00	55	off	-	-	800	-	1:00	0:00	-	6:00
Correction (Final Kiss)	135	2:00	3:00	450	3:00	55	cont	450	680	680	0	1:00	0:00	-	6:00
Final Shoulder (F SM)	135	2:00	3:00	450	3:00	55	cont	450	680	680	0	1:00	0:00	-	6:00

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in.

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ProFire compact/ProFire press

Cercon[®] ceram Kiss

	Drying		Closing	Pre-heating		Vacuum			Heating rate	End temp.	Vacuum time	Holding time		Tempering		Cooling
	°C	min	min	°C	min	on/off/cont	on °C	off °C	°C/min	°C	min	min	°C	min	°C	min
Paste liner 1	135	6:00	2:00	575	3:00	cont	575	970	55	970	0:00	1:00	0	0:00	0:00	0:00
Paste liner 2	135	6:00	2:00	575	3:00	cont	575	960	55	960	0:00	1:00	0	0:00	0:00	0:00
Shoulder 1	135	3:00	3:00	450	3:00	cont	450	850	55	850	0:00	1:00	0	0:00	0:00	0:00
Shoulder 2	135	3:00	3:00	450	3:00	cont	450	850	55	850	0:00	2:00	0	0:00	0:00	0:00
Dentine 1	135	2:00	3:00	450	3:00	cont	450	830	55	830	0:00	1:30	0	0:00	0:00	0:00
Dentine 2	135	2:00	3:00	450	3:00	cont	450	820	55	820	0:00	1:30	0	0:00	0:00	0:00
Glaze	135	0:00	3:00	450	2:00	off	-	-	55	800	-	1:00	0	0:00	0:00	6:00
Correction (Final Kiss)	135	2:00	3:00	450	3:00	cont	450	680	55	680	0:00	1:00	0	0:00	0:00	6:00
Final Shoulder (F SM)	135	2:00	3:00	450	3:00	cont	450	680	55	680	0:00	1:00	0	0:00	0:00	6:00

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in.

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Multimat NT / NTX

Cercon® ceram Kiss

	Start temp.	Pre-drying	Drying	Pre-heating temp.	Pre-heating time	Heating rate	Vacuum level	End temp.	Holding time	Vacuum time	Tempering temp.	Tempering time	Cooling level
	°C	min	min	°C	min	°C	°C/min	°C	min	min	°C	min	
Paste liner 1	575	0:00	7:00	575	4:00	55	50	970	2:00	1:00	0	0:00	0
Paste liner 2	575	0:00	7:00	575	4:00	55	50	960	2:00	1:00	0	0:00	0
Shoulder 1	450	0:00	5:00	450	4:00	55	50	850	2:00	1:00	0	0:00	0
Shoulder 2	450	0:00	5:00	450	4:00	55	50	850	3:00	2:00	0	0:00	0
Dentine 1	450	0:00	3:00	450	4:00	55	50	830	2:30	1:30	0	0:00	0
Dentine 2	450	0:00	3:00	450	4:00	55	50	820	2:30	1:30	0	0:00	0
Glaze	450	0:00	2:00	450	3:00	55	0	800	1:00	0:00	0	0:00	1
Correction (Final Kiss)	450	0:00	2:00	450	4:00	55	50	680	2:00	1:00	0	0:00	1
Final Shoulder (F SM)	450	0:00	2:00	450	4:00	55	50	680	2:00	1:00	0	0:00	1

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in.

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Multimat Touch & Press

Cercon® ceram Kiss

	Pre-heating temp.	Pre-drying	Drying	Pre-heating	Vacuum level	Heating rate	Firing temp.	Vacuum time	Firing time	Tempering time	Tempering time	Cooling level
	°C	min	min	min	hPa	°C/min	°C	min	min	°C	min	
Paste liner 1	575	0:00	7:00	4:00	50	55	970	1:00	2:00	0	0:00	0
Paste liner 2	575	0:00	7:00	4:00	50	55	960	1:00	2:00	0	0:00	0
Shoulder 1	450	0:00	5:00	4:00	50	55	850	1:00	2:00	0	0:00	0
Shoulder 2	450	0:00	5:00	4:00	50	55	850	2:00	3:00	0	0:00	0
Dentine 1	450	0:00	3:00	4:00	50	55	830	1:30	2:30	0	0:00	0
Dentine 2	450	0:00	3:00	4:00	50	55	820	1:30	2:30	0	0:00	0
Glaze	450	0:00	2:00	3:00	0	55	800	0:00	2:00	0	0:00	1
Correction (Final Kiss)	450	0:00	2:00	4:00	50	55	680	1:00	2:00	0	0:00	1
Final Shoulder (F SM)	450	0:00	2:00	4:00	50	55	680	1:00	2:00	0	0:00	1

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in.

The values listed here are intended for orientation only and should be regarded only as guidelines. Actual firing results may vary. All firing results depend on the performance of the furnace used, which in turn depends on the make, model and age of the furnace. The guideline values therefore need to be adapted individually for each firing. We recommend a test firing cycle to check the performance of the furnace. We have compiled and checked all values and other data with great care. However, we cannot be liable for your results under any circumstances.

Specific firing recommendations

Multimat MC II

Cercon® ceram Kiss

	Pre-heating	Drying	Pre-heating	Vacuum	Firing	Tempering	Cooling	Firing	Heating	Vacuum
	°C	min	min	min/temp	min	min		°C	°C/min	hPa
Paste liner 1	575	7	4	1:0	2:0	0	0	970	55	50
Paste liner 2	575	7	4	1:0	2:0	0	0	960	55	50
Shoulder 1	450	5	4	1:0	2:0	0	0	850	55	50
Shoulder 2	450	5	4	2:0	3:0	0	0	850	55	50
Dentine 1	450	3	4	1:5	2:5	0	0	830	55	50
Dentine 2	450	3	4	1:5	2:5	0	0	820	55	50
Glaze	450	2	3	0:0	1:0	0	1	800	55	-
Correction (Final Kiss)	450	2	4	1:0	2:0	0	1	680	55	50
Final Shoulder (F SM)	450	2	4	1:0	2:0	0	1	680	55	50

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in.

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StratoPress

Cercon® ceram Kiss

	Dry Pos	Dry	Close	Lo Temp	Heat	Rate	Hi Temp	Vac 0%	Vac Off	Hold + V	Hold V	Temper	Cool	
	0-9	min	min	°C	min	°C/min	°C	%	°C	min	min	min	°C	min
Paste liner 1	9	6:00	2:00	575	3:00	55	970	100	970	0:00	1:00	0:00	0	0:00
Paste liner 2	9	6:00	2:00	575	3:00	55	960	100	960	0:00	1:00	0:00	0	0:00
Shoulder 1	9	3:00	3:00	450	3:00	55	850	100	850	0:00	1:00	0:00	0	0:00
Shoulder 2	9	3:00	3:00	450	3:00	55	850	100	850	0:00	2:00	0:00	0	0:00
Dentine 1	9	2:00	3:00	450	3:00	55	830	100	830	0:00	1:30	0:00	0	0:00
Dentine 2	9	2:00	3:00	450	3:00	55	820	100	820	0:00	1:30	0:00	0	0:00
Glaze	9	0:00	3:00	450	2:00	55	800	0	0	0:00	1:00	0:00	0	6:00
Correction (Final Kiss)	9	2:00	3:00	450	3:00	55	680	100	680	0:00	1:00	0:00	0	6:00
Final Shoulder (F SM)	9	2:00	3:00	450	3:00	55	680	100	680	0:00	1:00	0:00	0	6:00

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in.

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Austromat 3001

Cercon® ceram Kiss

Paste liner 1	C575 T360 T180 · L9 T180 V9 T055 · C970 V0 T60 C0 L0 T2 C450
Paste liner 2	C575 T360 T180 · L9 T180 V9 T055 · C960 V0 T60 C0 L0 T2 C450
Shoulder 1	C450 T180 T180 · L9 T180 V9 T055 · C850 V0 T60 C0 L0 T2 C450
Shoulder 2	C450 T180 T180 · L9 T180 V9 T055 · C850 V0 T120 C0 L0 T2 C450
Dentine 1	C450 T120 T180 · L9 T180 V9 T055 · C830 V0 T90 C0 L0 T2 C450
Dentine 2	C450 T120 T180 · L9 T180 V9 T055 · C820 V0 T90 C0 L0 T2 C450
Glaze	C450 T180 · L9 T120 T055 · C800 T60 C0 L7 T360 · L0 T2 C450
Correction (Final Kiss)	C450 T120 T180 · L9 T180 V9 T055 · C680 V0 T60 C0 L7 T360 · L0 T2 C450
Final Shoulder (F SM)	C450 T120 T180 · L9 T180 V9 T055 · C680 V0 T60 C0 L7 T360 · L0 T2 C450

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in.

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Programat P300

Cercon® ceram Kiss

	Program number	Standby temp. °C	Closing time min:s	Temperature gradient °C	Holding temp. °C	Holding time min:s	Vacuum on °C	Vacuum off °C	Extended cooling °C
	P	B	S	t↑	T	H	V1	V2	
Paste liner 1		400	6:00	55	970	1:00	450	969	0
Paste liner 2		400	6:00	55	960	1:00	450	959	0
Shoulder 1		400	6:00	55	850	1:00	450	849	0
Shoulder 2		400	6:00	55	850	2:00	450	849	0
Dentine 1		400	6:00	55	830	1:30	450	829	0
Dentine 2		400	6:00	55	820	1:30	450	819	0
Glaze		400	6:00	55	800	1:00	0	0	550
Correction (Final Kiss)		400	6:00	55	680	1:00	450	679	550
Final Shoulder (F SM)		400	6:00	55	680	1:00	450	679	550

Slow cooling is mandatory after the last firing; this includes correction firings of restorations after try-in.

The values listed here are intended for orientation only and should be regarded only as guidelines. Actual firing results may vary. All firing results depend on the performance of the furnace used, which in turn depends on the make, model and age of the furnace. The guideline values therefore need to be adapted individually for each firing. We recommend a test firing cycle to check the performance of the furnace. We have compiled and checked all values and other data with great care. However, we cannot be liable for your results under any circumstances.

Terminology

Abbreviations

Bleach

Significantly brighter and whiter than A1, to be used predominantly in patients with bleached natural teeth.

D

Dentine, matched to the appropriate tooth shade. Used for building ceramic restorations that emulate natural teeth. Includes organic pigments for a better shade distinction pigments; these burn out completely during firing.

Final Kiss

Add-on (correction) mass for additional firings after glaze firing.

Flu Inside

Fluorescent dentines (used e.g. as modifiers for dentine mamelons) are dentines characterized by pronounced fluorescence. They enhance the luminescence of the veneer. Short-wave invisible light is absorbed, long-wave visible light is emitted.

F SM

Shoulder mass for corrections that may become necessary after glaze firing.

GI

Gray Inside: A unique fluorescent dentine that can be used to compensate for high-value framework contours in the incisal region.

Gum

Gum-coloured ceramic material for gingival replication, e.g. for implant-supported superstructures.

OE

Opal effect for customizing the incisal third.

OS

Opalescent incisal for replicating the opalescent impression of natural enamel.

PC

Power Chroma for increasing and customizing the shade intensity.

PL

Paste liner, specifically adapted to the corresponding tooth shades. Low light transmission provides good opacity.

S

Incisal for building up the incisal area.

S BY

Opalescent multifunctional material for use by itself or for mixing.

SC

Smooth Chroma: to attenuate the framework's chroma, which determines the shade, in pontic regions or over discoloured preparations.

SD

Modelling liquid for mixing dentines, modifiers, incisors and transparents.

SD-Form

Modelling liquid, like SD, but increases the stability of the ceramic materials. Requires longer pre-drying.

SD-Quick

Modelling liquid for mixing dentines, modifiers, incisors and transparents whenever faster drying is desired. The SD-Quick liquid also serves as a liquid for shoulder materials.

SM

Shoulder mass, for creating metal-free crown margins. Requires a bevelled shoulder or chamfered margin.

TC

Transpa Clear, for additional transparency on tooth surfaces.

TR

Transpa Red, for additional customization of reddish tooth shades.

WS

Whitish opalescent incisal materials for superficial tooth whitening.

Troubleshooting

Error	Possible cause	Potential remedy
The ceramic shades are too bright and have too little transparency.	Vacuum is not fully present.	Check vacuum pump.
Ceramic material is porous.	The pre-heating temperature is too high.	Decrease the pre-heating temperature.
	The firing temperature is too low.	Increase the firing temperature.
	The vacuum pump comes on too late.	Decrease the pre-heating or vacuum start temperature.
	The vacuum level attained is too low.	Check the vacuum pump/furnace for leaks.
The ceramic surface is too rough.	The firing temperature is too low.	Increase the firing temperature.
The ceramic surface has too little lustre.	The holding time is too short.	Extend the holding time.
The ceramic surface has too much lustre.	The firing temperature is too high.	Reduce the firing temperature.
Edges and contours are not clearly defined but rounded.	The holding time is too long.	Shorten the holding time.
Blistering.	Impurities in the framework or in the veneering material caused by improper grinding tools.	Use only tools recommended for Cercon.
	Pastes or liners improperly pre-dried.	Extend the pre-drying phase.
	Air has become entrapped.	
	Too much liner thinner was used.	Extend the pre-drying phase when using the liquid.
	Paste was applied too thickly.	

R^{only}
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DeguDent GmbH
Rodenbacher Chaussee 4
D-63457 Hanau-Wolfgang
Germany
www.degudent.com

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