The material selection that makes a difference.









KaVo. Dental Excellence.

KaVo CAD/CAM Elements – four ways to convince you.

KaVo CAD/CAM Elements are materials for dental excellence in prosthodontics. As a fundamental aspect of the KaVo CAD/CAM Systems, the comprehensive KaVo Elements program offers you all essentials for efficient and top-quality CAD/CAM processing.

From robust temporary applications to sophisticated framework constructions and aesthetically demanding restorations - with KaVo CAD/CAM materials you will always achieve high-quality results - in almost every indication imaginable.

Design the fabrication process: You have free choice of material, matching process and fabrication scheduling. You have individual control and can make a customised decision.

Use blanks with KaVo holders on your KaVo ARCTICA Engine. Or use the embedding method with blanks on your KaVo Everest Engine. Here you may also use disks - for particular high utilisation of machine capacity.

A portfolio of materials perfectly tuned to your KaVo Engine is available. You are therefore optimally equipped for each restoration. The wide variety of materials leaves nothing to be desired. Each material category allows for the greatest possible scope for individual prosthodontics solutions, as well as all functional, aesthetic and economic requirements.

KaVo cooperates with VITA dental technology company and other well renowned manufacturers and can therefore offer an enhanced material portfolio - versatility with system.

Play it safe with KaVo. All KaVo materials have been tested for tolerability and biocompatibility in accordance with international standards. They are industrially manufactured products from high-quality, optimised materials in accordance with certified standards. Their excellent material properties are retained throughout the entire prosthodontics fabrication process. This is because no manual steps such as casting, soldering, mixing, etc. are required at all.

KaVo CAD/CAM Elements - key quality features.

Preferred materials and preferred alternatives are offered for every indication to meet the individual needs of the patient. The KaVo Elements range offers freedom to select the best customised dental solution at the highest level of quality with

every type of material depending on functional requirements, aesthetic requirements and financial restrictions.

KaVo CAD/CAM overview – maximum versatility for your KaVo CAD/CAM-System.







For KaVo Everest + KaVo ARCTICA



For KaVo ARCTICA























VITABLOCS

CAD-Temp multiColor





Your choice: use discs or blanks with embedding method.

A suitable holder for each ARCTICA material

Use Elements with screwed or adhesive holder on your KaVo ARCTICA CAD/CAM system. KaVo ARCTICA Elements are available in many different thicknesses. We offer the following holder types:



ARCTICA exchangeable holder

Screwed holder for titanium and glass filled plastic (C-Temp).

An ARCTICA exchangeable holder is contained in the Titan and C-Temp starter kits and may also be ordered separately.

KaVo's ARCTICA Engine: perfect for



ARCTICA plastic holder

Adhesive-mounted disposable holder for ZS and PMMA plastics (C-cast).

ZS and C-Cast for KaVo ARCTICA come including an adhesive-mounted holder.



ARCTICA Block Holder 1

The ARCTICA Block Holder 1 is used e.g. for processing of Ivoclar IPS e.max CAD.

The ARCTICA Block Holder 1 is included in the ARCTICA Holder Set Blue and in the ARCTICA Holder Set Blue

The combined milling and grinding

unit works fully flexible and highly

accurate. It features a 5-axis system

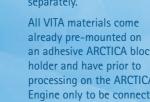


ARCTICA Block Adapter

The ARCTICA block adaptor is used to mount materials processed in connection with KaVo block holders (e.g. materials by VITA or Ivoclar).

The ARCTICA Block Adapter is included in the Glass-infiltrated ceramics starter kit and may in addition be ordered separately.

All VITA materials come already pre-mounted on an adhesive ARCTICA block holder and have prior to processing on the ARCTICA Engine only to be connected



to the ARCTICA block adaptor. Ivoclar IPS e.max CAD blocks have to be adhesive-mounted on an ARCTICA block holder 1.





KaVo's Everest Engine.

This high-performance production centre will cope with even big jobs. The disks are utilised to their maximum. Your KaVo Everest engine "remembers" per RFID chip the data of each processed circular blank as well as its remaining available material. For your next job, you simply use already partially processed disks. Everything is fully documented and consistently material quality is ensured. Through the RFID chip each circular blank can be processed in multiple KaVo Everest





You have full choice over material, machining process and fabrication scheduling to control exactly how rationally and efficiently you want to design your KaVo Everest machining process. With regards to materials, KaVo Everest allows you to machine blanks with the embed-

ding method or to use disks for a particularly economical use of material.



The use of KaVo Everest Elements as disks offers an even wider range of machining options: disks are especially suited to work with large sizes in titanium, ZS, C-Temp or CAMselect.



The Everest-specific embedding method presents advantages that no other CAD/CAM system offers.

The placement of the machined item in an embedding material (plastic or wax) enables very fine machining, even with ZS, allowing ultrathin margins, which would

not be possible without using embedding material to provide support throughout the milling process. As there are no bars, post-processing is not mandatory.

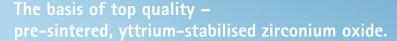
Up to 25 units can be fabricated from one circular blank. This makes a highly economical overnight production in your inhouse laboratory possible. Retention bars are used for working with disks. The bars are pre-cut after grinding and can be removed with minimal manual effort.

Disks significantly increase material efficiency because they can be machined for optimum material usage. Your KaVo Everest system "remembers" the data of each processed circular blank as well as its remaining available material.

This information is saved on a RFID chip and can be retrieved the next time the work piece is inserted. Jobs can therefore be machined from partially used disks for optimum use of the available material. At same time, works are seamlessly documented and a consistent high level of material quality is insured.



High-end material zirconium dioxide soft.



With ZS KaVo offers a medical product that – based on its special manufacturing process with continuous quality control – guarantees optimum restoration results. KaVo ZS has of course been tested for tolerability and biocompatibility.



Unmatched accuracy of fit through 5-axis and top material quality.



Homogenous, fine-grained structure of the ZS material guarantees maximum accuracy and strength.

Ceramic accuracy with ideal aesthetics.

ZS material offers a foundation for perfection all the way to perfect frameworks: Pre-sintered ZS elements are milled in their soft state and subsequently sintered. During sintering they shrink to their precisely calculated final dimension.

The marginal gap measurement is the proof of the outstanding accuracy of work fabricated with Everest and ARCTICA. It also dazzles through its aesthetic qualities: ZS frameworks can be easily coloured completely or partially by paint brush in five colour shades using Ivoclar IPS e.max or VITA Coloring Liquid.

For individual veneers, we offer our zirconium dioxide veneers ceramics with its thermal expansion coefficient of 9.



Overview of KaVo Elements – ZS.

ZS	ZS
for KaVo ARCTICA	for KaVo Everest
ZS blank (B70/12), 2 pcs. ZS blank (B70/16), 2 pcs. ZS blank (B70/20), 2 pcs. ZS blank (B70/25), 2 pcs.	ZS circular blank (100x16), 1 pc. ZS circular blank (100x20), 1 pc. ZS circular blank (100x25), 1 pc ZS circular blank (100x25), 1 pc ZS blank (16), 10 pcs. or 50 pcs. ZS blank (20), 10 pcs. or 50 pcs. ZS blank (842/16), 5 pcs. or 25 pcs. ZS blank (842/20), 5 pcs. ZS blank (60/20), 5 pcs.

ZS's advantages:

- Excellent biocompatibility
- Stable flexural strength
- Excellent wear properties
- Very fine particle sizeExtremely high density
- Free of pores
- Adhesive or non-adhesive integration
- Flexural strength 1200 MPa

For KaVo ARCTICA with adhesive-mounted single-use plastic holder



Biocompatible and easy to machine: Titanium.

Size range robustness

Grade 2, pure surgical titanium, guarantees absolute biocompatible dental solutions without complications. Even highest mechanics stresses are no problem. Whether blank or disks: KaVo titanium blanks or circular blanks are the first choice for classical crowns and bridges and for patients with allergies.







Titanium copings.



Total work accuracy.

The complete processing through CAD/CAM milling technology ensures that the original material properties of pure titanium are retained. Effects such as alpha-case layer or shrink hole formation are reliably avoided.



High-quality in-house titanium processing

Overview of KaVo Elements – titanium.

Titanium for KaVo ARCTICA	Titanium for KaVo Everest
Titanium blank (B70/12), 2 pcs. titanium blank (B70/16), 2 pcs.	Titanium circular blank (100x12), 1 pc. titanium circular blank (100x16), 1 pc. titanium circular blank (100x18), 1 pc. Titanium blank (10), 10 pcs. titanium blank (12), 10 pcs. titanium blank (16), 10 pcs. titanium blank (16/16), 10 pcs. titanium blank (833/12), 10 pcs. titanium blank (845/12), 10 pcs. titanium blank (845/12), 10 pcs. titanium blank (845/16), 10 pcs. titanium blank (845/16), 10 pcs. titanium blank (845/18), 10 pcs. titanium blank (845/18), 10 pcs. titanium blank (860/16), 5 pcs. titan blank (860/18), 5 pcs.

Titanium's advantages:

- Grade 2 pure surgical titanium
- Economical
- Excellent biocompatibility
- Can be aesthetically veneered with ceramic
- Radiopaque
- Low thermal conductivity
- Light weight
- Allows conventional cementation
- Tensile strength 90,000 to 100,000 N/mm²

For KaVo ARCTICA without screwed exchangeable holder (can be ordered separately). The Starter Set Titanium comes with 1 exchangeable holder.



The Cobalt/chrome alloy for KaVo Everest: CAMselect.

The premium alloy - CAMselect

CAMselect is a nickel-free cobalt and chromium (CoCr) alloy with outstanding veneer characteristics and very attractive adhesive properties as well as high biocompatibility. This high-quality material has been refined with further materials to reach milling properties unparalleled in the field of dental CAD/CAM applications. There are no undesirable biological reactions at the crown margins and therefore no discoloration of the gingiva.

CAMselect blanks are manufactured in a special precision casting process, that can guarantee 100% homogeneity of hardness and absence of shrink holes. Moreover, the base material has been used for more than 20 years in hip and knee joint implants.

As with all KaVo materials, CAMselect has been tested for tolerability and biocompatibility and is certified with the bio-compatibility seal.



Excellent bonding values combined with high biocompatibility.



High mechanical strength even in delicate frameworks.

Overview of KaVo Elements – CAMselect.

CAMselect	CAMselect	
for KaVo ARCTICA	for KaVo Everest	
	CAMselect circular blank (100x10), 1 pc. CAMselect circular blank (100x12), 1 pc. CAMselect circular blank (100x16), 1 pc.	

CAM select's advantages:

- High mechanical strength
- Low thermal conductivity
- Delicate framework structures are possible
- Same abrasion behaviour as enamel
- Free of silver and palladium
- Easy to mill
- Highly suitable for veneer work
- Allows to create delicate cervical margins
- Excellent polishing properties (smooth milled surfaces)
- 3-point bending strength 530 MPa

KaVo Elements plastics for casting: C-Cast.

For perfect casting results

C-Cast is ideal for making full use of the advantages of KaVo's Everest and ARCTICA CAD/CAM systems in combination with manual milling-casting technologies. To fabricate cast crowns and bridges for anterior and posterior regions from dental alloys of your choice, the desired restoration is designed with KaVo multiCAD software and then milled on the engine from a transparent C-Cast blank. C-Cast can be easily embedded in any conventional investment compound and burns off without residue in the preheat furnace. Moreover, the material may be used to test complex geometries.



Craftsmanship combined with excellent accuracy of fit.



KaVo's C-Cast material for use in cast technique.

Overview of KaVo Elements – C-Cast.

C-Cast	C-Cast
for KaVo ARCTICA	for KaVo Everest
C-Cast blank (B70/20),	C-Cast circular blank (100x20),
2 pcs.	3 pcs. C-Cast blank (B42/20), 12 pcs. C-Cast blank (B60/20), 12 pcs.

C-Cast's advantages:

- Polymethyl methacrylate (PMMA)
- Can be easily embedded in any conventional investment compound
- Residual-free incineration in a preheating furnace
- The material can be easily machined using common carbide bits for plastic
- No additional materials required
- Flexural strength 120 MPa

For KaVo ARCTICA with adhesive-mounted single-use plastic holder

Please note:

C-Cast is exclusively intended for use in the fabrication of cast restorations and must not be in contact with the patient's mouth!



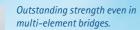
The foundation for reliable long-term temporary applications: C-Temp.

Strength for temporary applications

KaVo's C-Temp offers an innovative, high-performance endless molecular polymer chain plastic for prosthodontics. Its strength is 450 MPa, its flexural modulus is 2000 MPa. The material is therefore also suitable for large-size long-term temporary applications. The industrially produced polymer blanks feature ideal and homogeneous structure. Solubility and water absorption are so low to offer up to 12 months wear

High-performance polymers

With its 3-point bending strength of 450 MPa, C-Temp is suited for bridge frameworks of up to 14 elements. Even in long-term applications they show high durability. Temporary applications should not be immediately recognisable as temporary at first glance, which is why this material also offers good aesthetics. C-Temp frameworks can be veneered with commonly available plastic veneer materials.



Overview of KaVo Elements – C-Temp.

C-Temp	C-Temp
for KaVo ARCTICA	for KaVo Everest
C-Temp blank (B70/20), 2 pcs.	C-Temp circular blank (100x20), 1 pc. C-Temp blank (B42/20) (42x20x20), 10 pcs. C-Temp blank (B60/20) (60x25x20), 10 pcs.

C-Temp's advantages:

- Excellent wear properties
- Allows conventional cementation
- Flexural strength 450 MPa

For KaVo ARCTICA without screwed exchangeable holder (can be ordered separately). The Starter Set C-Temp comes with 1 exchangeable holder.

VITA CAD-Temp: durable plastic for long-term temporary applications.

VITA CAD-Temp monoColor.

The proven CAD/CAM dental composite VITA CAD-Temp monoColor is a cross-linked acrylate polymer with micro filler. It is used in the fabrication of monochromatic long-term temporary restorations. This acrylate polymer with micro filler features excellent milling properties, low plaque affinity, lasting colour stability and excellent polishing properties. This material has proven itself very well since its market launch in 2007.

Overview of KaVo Elements - VITA CAD-Temp monoColor.

VITA CAD-Temp monoColor for KaVo ARCTICA	VITA CAD-Temp monoColor for KaVo Everest	
CAD-Temp monoColor Bloc (55x19x15,5), 1 pc.	CAD-Temp monoColor circular blank (100x20), 1 pc.	



VITA CAD-Temp multiColor.

VITA CAD-Temp multiColor is a proven CAD/CAM dental composite from cross linked acrylate polymer with micro filler. Owing to its total of four available colour-intensity layers, VITA CAD-Temp multiColor is particularly suited for the fabrication of long-term temporary applications for the anterior region as it achieves realistic, aesthetic results.

Overview of KaVo Elements – VITA CAD-Temp multiColor.

VITA CAD-Temp multiColor for KaVo ARCTICA	VITA CAD-Temp multiColor for KaVo Everest
CAD-Temp multiColor Bloc (39x19x15,5), 2 pcs.	-

The advantages of VITA CAD-Temp monoColor and multiColor are:

- Excellent shape and long-term stability
- Superior abrasion resistance
- Enduring colour stability and aesthetics
- Natural fluorescence and translucence
- Radiotranslucent
- Very easy to polish
- No irritation of gingiva or pulp by residual monomers
- Flexural strength > 80 MPa
- Available in different colours

For KaVo ARCTICA with adhesive-mounted block holder. For processing on the ARCTICA Engine, an ARCTICA block adapter is required; this can be ordered separately.



A colour range for realistic aesthetics: VITABLOCS Mark II, TriLuxe and RealLife.

VITABLOCS Mark II.

Restorations made of VITABLOCS Mark II are so similar to enamel that the antagonist polishes the ceramic surface and is abraded as little as natural enamel. For more than 20 years have excellent clinical experiences been confirming the long durability of VITABLOCS. In more than 20 Millions of performed restorations, VITABLOCS have demonstrated a clinical success rate of 90%. The main applications of VITABLOCS Mark II are monolithic restorations, however it may also be customised using VITA VM 9.

VITABLOCS Mark II I12	VITABLOCS Mark II I12	
for KaVo ARCTICA	for KaVo Everest	
Mark II I12 (15x10x12),	Mark II I12 (10x12x15),	
5 blocks	5 blocks	

VITABLOCS Mark II I14	VITABLOCS Mark II 114
for KaVo ARCTICA	for KaVo Everest
Mark II I14 (18x14x12),	Mark II I14 (12x14x18),
5 blocks	5 blocks

VITABLOCS advantages are:

- No thermal finishing processes required
- Easy characterisation that saves time and money possible as an option
- Superior machining qualities
- Adhesive fixation
- 3-point bending strength 154 MPa
- Available in different colours

For KaVo ARCTICA with adhesive-mounted block holder. For processing on the ARCTICA Engine, an ARCTICA blockadapter is required; this can be ordered separately.

VITABLOCS TriLuxe.

VITABLOCS fine-structure feldspar ceramics comes as TriLuxe block option with three colour intensity layers. This multi-layer blocks allows computer-aided reproduction of a tooth's natural colour gradient. VITABLOCS TriLuxe are made from VITABLOCS ceramics, which have proven themselves Millions of times!

The innovative VITABLOCS RealLife have specifically been developed for aesthetically highly demanding anterior restorations. Its three-dimensional block structure with dentin core and enamel shell replicates the natural tooth structure with its arched colour gradient from dentin to edge. VITA-BLOCS RealLife restorations may therefore contain either more cervical or more edge portions in accordance with the natural colour nuances of the remaining tooth structure.

VITABLOCS TriLuxe	VITABLOCS TriLuxe	
for KaVo ARCTICA	for KaVo Everest	
TriLuxe (18x14x14), 5 blocks		

VITABLOCS RealLife for KaVo ARCTICA	VITABLOCS RealLife for KaVo Everest
RealLife (17.8x14.2x15), 5 blocks	

IPS e.max CAD.

IPS e.max CAD is an innovative, powerful lithium disilicate glass ceramic that, thanks to its system components fulfils every demand to meet individual patients' needs. The IPS e.max CAD ceramic is processed as a crystalline intermediate stage in which the material's characteristic and striking bluish colour is apparent. In this "soft" stage (160 MPa), any grinding process, manual shaping or cut-back is quick and efficient and the fit can be tested against the model. A simple, fast crystallisation process (30 min.) follows in a common ceramic furnace. Here IPS e.max CAD obtains its final strength of 360 MPa as well as its desired aesthetic properties such as tooth-colour, translucence and brightness. IPS e.max CAD blocks come in different grades of opacity and translucence.

IPS e.max CAD blocks can be both processed on the Everest Engine and on the ARCTICA Engine. For processing on the ARCTICA Engine, IPS e.max CAD blocks have to be adhesive-mounted onto a KaVo block holder 1. For this purpose, KaVo offers the ARCTICA Holder Set Blue or the ARCTICA Holder Set Blue Refill. The mounted IPS e.max CAD block can then without any difficulty be inserted into the ARCTICA Engine by using an ARCTICA block adaptor. For this, an ARCTICA block adapter has to be ordered once.

www.kavo.com/arctica-videos

ivoclar ' vivadent:





Overview of KaVo Elements -Ivoclar Vivadent: IPS e.max. CAD.

IPS e.max CAD for KaVo ARCTICA

Aesthetically demanding restoration

easily done: IPS e.max CAD.

IPS e.max CAD C14 for KaVo ARCTICA in various colours and different grades of translucence.

ARCTICA Holder Set Blue. 1 bonding-device, 25 block holders 1, 1 RFID

ARCTICA Holder Set Blue Refill, 25 block holders, 1 RFID

IPS e.max CAD

for KaVo Everest

IPS e.max CAD C14 for KaVo Everest is available in different colours and different grades of translucence.



The advantages of IPS e.max CAD are:

- Highly aesthetic and tooth-coloured
- Natural translucence
- Fast and simple crystallisation process
- Veneering and customisation with IPS e.max Ceram
- Conventional, auto-adhesive or adhesive fixation possible
- Post-crystallisation 3-point bending strength 360 MPa
- Available in various colours and different grades of translucence.



* Distribution through KaVo specialist dealers (ref. ARCTICA Holder Set Blue) ** Distribution through Ivoclar specialist dealers

Overview of materials

Material type	Name	ARCTICA	Everest	Indication	Material overview
Pre-sintered, yttrium stabilised zirconium oxide.	ZS	•	•	Anterior and posterior crowns Anterior and posterior bridges Copings for individual crowns Framework for veneer bridges Primary crowns Inlay- and Onlay frameworks	Flexural strength 1200 MPa Frameworks are milled in pre-sintered state Shrinkage between 19% and 21% Excellent biocompatibility
Metal	Titanium	•	•	Framework copings Full crowns Capable of producing full-arch bridges Copings for individual crowns Frameworks for anatomical bridges Framework for veneer bridges Primary crowns Inlays and Onlays Inlay bridges and Maryland bridges Implant superstructures	Tensile strength 90,000 to 100,000 N/mm² Grade 2 pure surgical titanium Excellent biocompatibility Low thermal conductivity Light weight Radiopaque
Cobalt-chromium	CAMselect	0	•	Full crowns, veneered crowns and double crowns Bridges in the anterior and posterior regions Capable of producing full-arch restorations Adhesive bridges, cantilever bridges and adhesive/Maryland bridges Attachments, bar and telescopic prostheses Implant-borne superstructures	Flexural strength 530 MPa Cobalt-chromium alloy Free of nickel, silver and palladium Biocompatible material quality Easy to mill Same abrasion behaviour as enamel
Plastic for cast technique	C-Cast	•	•	For cast technique	Flexural strength 120 MPa Residual-free incineration, no distortion during embeddin Polymethyl methacrylate (PMMA) High casting accuracy in the alloy of choice
Plastic for long-term temporary applications	C-Temp	•	•	Temporary, veneered crowns and bridges up to a size of 60 mm, max. 2 intermediate elements in series, duration of wear up to 12 months	Flexural strength 450 MPa Glass reinforced high-performance polymer Allows conventional cementation Excellent wear properties
Plastic	VITA CAD-Temp monoColor	•	•	Multi-element, full or partial anatomical long-term temporary bridge designs with up to	Flexural strength > 80 MPa Fibre-free, homogenous, cross-linked acrylate polymer of the strength in t
Plastic	VITA CAD-Temp multiColor	•	0	a size of two intermediate elements Full crowns Frameworks for anatomical bridges	high molecular weight with micro particle filler High shape retention Superior abrasion resistance Enduring colour stability and aesthetics Natural fluorescence and translucence Radiotranslucent Very easy to polish
Glass-infiltrated ceramic / feldspar ceramic	VITABLOCS Mark II	•	•	Inlays Onlays Veneers Anterior and lateral partial and full crown applications.	Flexural strength 154 MPa Can be fitted immediately after grinding Excellent translucent properties Enamel-like, antagonist-friendly abrasive properties.
Glass-infiltrated ceramic / multilayer fine-structure feldspar ceramic	VITABLOCS TriLuxe	•	0	Onlays Veneers Anterior and lateral partial and full crown applications.	Very easily polished. Superior machining qualities Outstanding clinical experience from more than 20 years.
Glass-infiltrated ceramic / multilayer fine-structure feldspar ceramic	VITABLOCS RealLife	•	0	Anterior crowns Veneers	
Lithium disilicate Glass-infiltrated ceramic	IPS e.max CAD	•	•	Telescoping devices Full crowns Primary crowns Inlays Onlays	Flexural strength 360 MPa Impressive material homogeneity Natural brightness, translucence and range of colours Fast and simple crystallisation process





