50 years of VITA metal ceramics – VMK
Leading the way in veneering technology for restorations

VITA shade taking  VITA shade communication  VITA shade reproduction  VITA shade control

Date of issue: 09.12

VITA shade, VITA made.
Dear customers and business associates,

with healthy, beautiful teeth, many things are possible – a positive attitude to life, an attractive appearance, and last but not least, improved communication with one another. Tooth loss can therefore have a direct and crucial impact on our confidence – enjoying a hearty laugh without feeling self-conscious may no longer be possible for many who are affected.

For this reason, the fear of tooth loss and poorly-fitting restorations was widespread until the beginning of the 1960s. The only superior-quality individual solution available – the all-ceramic jacket crown – was also expensive. And due to changes in shade in the oral environment, acrylic veneers were not considered a viable long-term option for esthetic bridge restorations.

These were the circumstances in 1962 when VITA introduced VITA VMK, the first metal ceramic veneering system. It marked the beginning of a new era, in which the majority of patients could avail of exceptional quality dental restorations. For many, this meant a new lease of life with a natural appearance that also restored their confidence. Metal-ceramic veneered crowns and bridges have since become the benchmark in esthetics – and VITA VMK synonymous worldwide with metal ceramics.

As a pioneer and innovation leader, we have consistently refined our veneering system. As a result, VITA veneering materials continue to lead the way today among modern metal ceramics in terms of esthetics, and with regard to their chemical, physical and processing properties.

VITA is also a leader and innovator in all-ceramics. Be it processing convenience, durability or natural esthetics – our ceramics have been setting the pace for generations. That is why all veneering materials in the VITA VM system are always perfectly tailored to one another in terms of shade and physical properties. Together with all the other features of VITA VM, this guarantees you outstanding reconstructions that could almost be mistaken for the real thing.

Of course, this doesn’t mean that we intend resting on our laurels. The development of our dental materials will continue, and we too are moving forward. As in the previous 50 years, we are already working at full speed today on the materials of tomorrow. That is what our partners expect of us. And that is what we expect of ourselves.

Warmest regards,

Henry Rauter  
Managing Partner

Dr. Emanuel Rauter  
Management Assistant
VMK – a metal-ceramic veneering system revolutionizes dental treatment

Until the beginning of the 1960s, all-ceramic jacket crowns were the only option when it came to performing esthetically superior restorations of individual teeth. Due to changes in shade in the moist oral environment, acrylic veneers were not considered a viable long-term alternative for esthetic bridge restorations.

“The introduction of VMK in 1962 was the beginning of a revolution in multi-unit restorations. I began my own career 51 years ago, and I have remained loyal to VITA ceramics ever since.”

Mick Kedge, internationally renowned dental technician and longstanding advocate of VITA in Great Britain

VMK – an enduring name for a new technology

With the launch of the first metal ceramic in 1962, VITA made a lasting impact on dentistry unlike any other company before them. The VITA metal ceramics brand – known as VMK for short – became synonymous with this pioneering technology. For the first time, dental technicians could create restorations that not only offered lasting esthetics and a natural appearance but that also allowed patients to smile again with confidence. The first product ranges were on sale as early as December 1962, however only in combination with a course.

VITA VMK 68: larger bridge frameworks, improved esthetics

As confidence grew with regard to processing, so too did the demand for larger bridge frameworks: the new VMK 68 ceramic allowed bridges with more than four units to be fabricated for the very first time. Thanks to their natural fluorescence, the new VMK 68 materials proved esthetically superior to conventional VMK materials.

VITA – 50 years of veneering expertise
VITA OMEGA: superb shades for the highest standards

VITA OMEGA was a considerable improvement on VMK 68, particularly with regard to shades. Compared to its predecessor, it offered vastly superior options in terms of design for natural-looking restorations, making it particularly appealing to users for whom only the best would do.

More depth effects with VITA VMK Color opaque materials

Often enhancements to existing material systems are what make the work of the dental technician easier by responding to the needs of users. This was the case with VITA VMK Color opaque materials, which solved the problem of thin walls by adding depth to veneers.

“One of our patients still has the VMK 68 bridge that he was fitted with more than 30 years ago. He is now 81 years old and still happy with the restoration.”

Rolf Ankli, dental technician with his own dental laboratory in Brazil

1974

VITA VMK Color basic materials

1990

VITA OMEGA

A hearty laugh. A patient who has been wearing a VITA OMEGA bridge for 18 years.

Photo: Rolf Ankli
VITA – 50 years of veneering expertise

“When discussing dental ceramics for perfect dental restorations with colleagues, VITA OMEGA 900 would generally be mentioned right away.”

Andreas Hoffmann, master dental technician with his own dental service center in Germany

The alternative for easier layering – VITA VMK 95
VMK 95 was launched by VITA to enable quality, inexpensive metal ceramics at a competitive price. This streamlined, value-for-money range allowed laboratories to offer their customers quality ceramics without sacrificing good shade reproduction or convenient processing.

VITA OMEGA 900: the first fine-structure veneering ceramic
With VITA OMEGA 900 fine-structure ceramics, a whole new generation of ceramics was born. Thanks to a modified production process, it featured a grain structure that offered significantly improved physical properties. Greater uniformity in phase distribution ensured a homogenous, compact surface as well as outstanding grinding and polishing results.
Looking to the future – an innovative veneering concept for every indication

The question “What does a dental technician really need?” is the driving force behind genuinely inventive product development. Following on from VITA 3D-MASTER, the first shade system to be based on scientific evidence, VITA pioneered the VM concept, which offered the first universal approach to materials in dental veneering technology.

“Today, A3 and some isolated spots is no longer enough when it comes to fabricating crowns. Increasing willingness to criticize and high expectations in terms of esthetics are forcing us as professionals to see teeth as more than just a combination of yellow, brown, red or gray.”

Dr. Andres Baltzer, dental surgeon with his own dental practice in Switzerland

A shade system that sets standards
With the VITA 3D-MASTER system, scientific and systematic classification of the color space of natural tooth shades became possible for the first time. VITA 3D-MASTER is based on the description of shades already established in science based on the 3 coordinates of lightness, chroma and hue. The shade system is centered around the regular and systematic arrangement of shade samples within a color space defined by the shades observed in natural teeth. The standardized arrangement of shade samples in the 3D-MASTER system not only allows reliable shade determination, it also enables systematic and reproducible replication of natural tooth shades.

1998
VITA Toothguide 3D-MASTER

All VITA VM components are available in VITA 3D-MASTER shades. VITA VM 9, VM 13, VM CC and VM LC have also been available since 2008 in the VITA classical shades A1–D4.
“Particularly in the case of telescope restorations, I rely on VM products to facilitate uniform layering and shade schemes. I also use shade 2M2, intended for ceramic crowns, without any difficulty both for composite veneers and prefabricated teeth.”

André Bouillon, master dental technician with his own laboratory in Germany

The first fine-structure all-ceramic – VITAVM 7
VITAVM 7 was the first veneering material to follow the new VM logic, and the first fine-structure ceramic for use in all-ceramic applications.

2003 VITAVM 7

It could almost be a ceramic – the veneering composite VITAVM 7 LC
This was the first light-curing micro-particle composite in the VM concept. In addition to conventional use as a veneering material for fixed and removable restorations, it is also suitable for customizing VITA acrylic teeth and for layering long-term temporaries fabricated using the high-performance composite VITA CAD-Temp.

2003 VITAVMLC
VITA

VITA VM®13: the premium ceramic for conventional alloys

Developed especially for the most important CTE range in the world (13.8 - 15.2), this product is used for veneering metal frameworks fabricated from conventional alloys.

VITA VM®9 – the perfect complement to zirconia

VITA VM 9, a further refinement of VITA Veneering Ceramic D that has proven its worth since 1995, extended the VITA VM concept with a high-melting ceramic created especially for frameworks fabricated using zirconium dioxide (such as VITA In-Ceram YZ).

2005
VITA VM®13

2004
VITA VM®9

“...The material can be layered incredibly easily and remains stable during modeling. Fine details in terms of shape and surface are also retained, even after firing. And the shade also develops exactly as I have layered it.”

Csaba Szegö, dental technician and instructor with his own laboratory in Hungary

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VITAVM®13: the premium ceramic for conventional alloys

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Simple and reliable – VITA VMK Master®
Effortless processing, appealing esthetics and excellent optical characteristics: VMK Master from VITA is aimed at customers who do not see an all-encompassing ceramic concept as critical. These customers are happy with a compact assortment of additional materials and want to be able to fabricate quality restorations at a competitive price using conventional dentine-enamel layering schemes.

VITAVM®15 – unlimited possibilities for high-expansion alloys
With the low-melting VITA VM 15 ceramic, all benefits of the VITA VM concept are available to the user when veneering universal alloys. The ceramic is indicated for metal substructures made from so-called multi-indication alloys in the CTE range of 16.0 - 17.3.

Rounded off perfectly with VITAVM®CC
VITA VM CC completes the range of indications supported by the VITA VM concept. The filler-free cold-curing polymer is recommended and suitable especially for the fabrication of esthetically appealing temporaries, bonding of acrylic teeth and coating of attachments.

2007
VITA VM 15,
VITA VM CC

2009
VITA VMK Master

“VMK Master ceramics offer me comprehensive options for fabricating customized and age-appropriate ceramic veneers.”

Nathalie Reynaud, dental technician with her own laboratory in France
Let the sun shine with the new VITA VM® ceramic materials Sun Opaque and Sun Dentine

Warmer and more intensive hues can be achieved with three additional Sun Opaque materials that can simply be mixed together with existing opaque materials.

The three Sun Dentine materials also provide for greater luminosity, allowing the lightness in the cervical and central area of the restoration to be controlled.

Keep what they promise:
VITA VM® Effect Opal materials

Effect Opal materials not only mean improved light effects, they also ensure natural-looking transmission of light in the incisal and translucent area — allowing improved shade adaption in line with the remaining dentition. This opal effect also remains stable and clearly visible, even after repeated firing.

“I always say to my customers with a clear conscience: I only use VM brand quality — because it always works and always does what it says on the package.”

Andreas Beining, dental technician with his own laboratory in Germany
The VITA VM concept provides VITA dental technicians with an integrated system for the entire spectrum of veneering techniques that is simple, clear and intuitive, and includes all materials and technologies related to tooth shading. This allows dental technicians to concentrate on the essentials: veneering.

“Restorations fabricated using innovative VITA VM materials offer patients additional oral comfort. The veneer feels like natural enamel. The homogenous surface does not feel uncomfortable to the tongue and also facilitates good oral hygiene.”

Dr. Norbert Thiel, Head of R&D and Production for ceramic products since 1987

The brand that makes the difference
A strong focus on customer needs is the secret of the success of the VITA VM brand. With the VM concept, VITA has set perfection as its benchmark. The best raw materials as well as state-of-the-art production techniques provide the basis for materials that offer quality that is significantly better than average. The result: excellent veneering materials with truly convincing esthetics and physical properties.

The integrated layering concept: an all-in-one solution
The innovative integrated layering concept is designed with natural anatomy in mind and incredibly easy to master. With a choice between two different types of layering, it enables maximum flexibility so that you can respond to all customer needs on an individual basis. This offers considerable advantages during processing.
Systematically good: value for money that’s easy to master
All processes always follow exactly the same principle. And all components feature consistent and logical material names – making your work significantly easier. Once you know how to use one component, you are automatically familiar with all the other materials.

One look is all you need: color-coding gives you clarity
Thanks to colored product coding, reliable application and efficient handling are ensured, virtually eliminating the possibility of errors.

Simply spectacular processing
Superb material and processing characteristics have made VITA VM products firm favorites among renowned dental technicians throughout the world.

Allowing individual esthetics to flourish
The veneering materials of the VITA VM concept offer users professional solutions at all levels, providing unlimited freedom for customized layering that meets the most exacting of restoration requirements. Exceptional luminosity and light effects lend veneers a natural appearance, so that these restorations could almost be mistaken for the real thing.

Accurate shade reproduction even with very thin layers
With VITA VM materials, shades can be created accurately even when space is at a premium: the selected and reproduced shade matches, even with layers of just 0.8 mm (for ceramics) or 0.5 mm (for composites). This is based on several factors, including optimized shade pigments, which means a significant improvement in shade reproduction and ensures that the correct shade effect is almost always achieved, even where light sources vary.
VITA VM® – the veneering concept for modern dental technology

VITA VM®7 – perfect natural beauty

An attractive appearance, positive energy, and a charming smile – the desire to achieve even greater perfection in terms of beauty is a sign of the times. Thanks to its natural fluorescence and opalescence that could almost be mistaken for the real thing, VITA VM 7 fine-structure ceramics are the embodiment of outstanding anterior esthetics.

"The power of VM 7 really comes into its own on translucent frameworks fabricated using VITA In-Ceram Spinell and Alumina ceramics. This offers esthetics vastly superior to those of anterior crowns on a zirconia framework."

Wolfgang Sokalla, dental technician with his own laboratory in Germany. Photo: fotogen GK

Ludger Schlütter, dental technician with Kleinsman & Partner, Germany

Flawless esthetics with individual flair
The goal of any esthetically superior restoration is to reproduce the fluorescence and opalescence of natural dentition. The light reflection and refraction properties of VITA VM 7, which are very similar to those of natural tooth enamel, give you unlimited creative freedom for flawlessly beautiful, natural restorations.

A natural feel with a surface similar to natural tooth enamel
Just like all VM fine-structure ceramics, VITA VM 7 never fails to convince thanks to its superb behavioral properties similar to those of enamel. This has been proven in scientific studies by renowned university hospitals in Zurich and Boston, to name just a few. Compatible with antagonist dentition, the ceramic surface also ensures optimum oral comfort as well as offering a generally softer feeling in situ that is comparable with that of natural tooth enamel.

Compatibility – and not just with VITA framework materials
The original application area of VITA VM 7 was for framework materials such as VITA In-Ceram glass-infiltrated oxide ceramics, with a CTE range of 7.2 - 7.9. Today, VITA VM 7 is also increasingly being processed on framework ceramics from other manufacturers such as NobelProcera Alumina (Nobel Biocare).

"Just like we have our favorite instruments, we also have our favorite materials. In my case, this includes VITA VM 7. Using this material, I can create solutions that offer convincing natural perfection, even in close-up."

VITA VM®7 – small procedure, big impact

How four no-prep veneers made of VITA VM 7 helped pave the way to the catwalk.

1. The initial situation shows a medial diastema and gaps in the upper jaw dentition as well as obvious composite filling of the fractured mesio-incisal edge of tooth 21.

2. Closure of the gaps in the dentition and adjustment of the dental proportions have altered this young woman’s appearance completely.

3. The final image shows a completely natural appearance, as if this smile had never been any different.

Photos: Ludger Schlütter
VITA VM® – the veneering concept for modern dental technology

VITA VM®9 – the versatile zirconia ceramic for those with high standards

Flexibility and customizability – these are the requirements that today’s zirconia ceramics must meet. The high-melting, fine-structure ceramic VITA VM 9 sets the benchmark in versatility. However, it also delivers all the benefits that you would expect from VITA VM ceramics in terms of options for esthetic design.

“For me, VITA VM 9 is the king of ceramics. There is nothing more beautiful. We particularly like its color reproduction, its shade accuracy, and its translucency.”

Vanik Kaufmann-Jinoian, dental technician and instructor with his own laboratory in Switzerland

Versatility par excellence
This ceramic is used for veneering frameworks fabricated using zirconium dioxide such as VITA In-Ceram YZ, with a CTE range of approximately 10.5. Additionally, it is also recommended for customizing restorations made from VITABLOCS MARK II ceramics and VITA PM 9 press ceramic pellets.

Finely-structured with all the benefits
In comparison with conventional ceramics, a fine-structure ceramic such as VITA VM 9 is distinguished chiefly by the fact that the various phases in its structure are more finely and considerably more uniformly distributed. This gives the product unique characteristics: significantly better physical properties, greater durability in the oral environment as well as other benefits during processing.

Reliable bonding means a product you can trust
The optimum adhesion offered by VITA VM 9 ensures that the ceramic is tailored precisely to the CTE of the framework material. As a result, tangential pressure and radial tensile stress are adapted ideally to suit one another.

“There is no such thing as more beautiful. We particularly like its color reproduction, its shade accuracy, and its translucency."

Luc and Patrick Rutten, dental technicians with their own laboratory in Belgium

“Thanks to its homogenous, densely compact surface, fine-structure ceramics such as VITA VM 9 are particularly easy to grind and polish, allowing natural results to be achieved.”
VITAVM®9 – esthetic success is not a matter of chance

With VITA VM 9, you can meet high expectations in a reliable and reproducible fashion

1. The initial situation shows tooth 11 with significant gingival recession.

2. An esthetically pleasing final result following gingival build-up and restoration with an all-ceramic crown fabricated using VITA VM 9.

3. A final result with outstanding esthetics

“The natural appearance of VITA VM 9 amazes me every time, particularly its fluorescence, its lightness, and the excellent adhesion it offers with the zirconia framework. It allows me to provide dental surgeons and patients with solutions that completely exceed their expectations.”

Rodrigo Monsano, dental technician in Brazil
**VITAVMs** – the veneering concept for modern dental technology

**VITAVM®13** – the metal ceramic that refracts and reflects light like enamel

Metal ceramics cannot be esthetically convincing? VITA VM 13 proves that the opposite is true. This fine-structure ceramic for the most important CTE range in the world provides a genuine alternative to all-ceramics – and is perfectly at home wherever a metal framework requires masking.

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"Metal ceramic systems such as VITA VM 13 remain at the cutting edge of technology and provide users, dental surgeons and patients with exceptional reliability and esthetics."

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**Significantly more homogenous than conventional ceramics**

VITA VM 13 also benefits from the innovative production process used in VM fine-structure ceramics. As a result of the finer distribution of leucite crystals in the glass matrix, the structure after firing is more finely distributed than in conventional ceramics and thus significantly more homogenous.

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**Excellent physical properties**

VITA VM 13 offers a variety of physical properties superior to those of conventional metal ceramics. This is true of the outstanding bending strength (as demonstrated by a scientific study carried out by the renowned university hospital in Zurich), the adhesion, and the thermal shock resistance and low acid solubility.

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"With VITA VM 13, the transparency and shade effects can be achieved that are required in order to make natural reconstruction possible in the first place. Its fine structure enables surface effects that cannot be created with glaze and that can only be achieved with manual polishing."

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Renato Carretti, dental technician and ceramics department manager in Switzerland

Dr. Roland Strietzel, private lecturer at FU Berlin University and Head of Alloy Development at BEGO, Germany
VITAVM®13 – perfection at its most beautiful

Esthetically superior restorations with natural shade effects can be yours with VITA VM 13.

1. The red lines indicate the initial incisal edge which was considered unattractive and uneven.

2. The incisal edge and tooth axes of the final restoration in situ have been evened out. The restoration cannot be distinguished from the natural dentition.

3. The result is esthetically convincing in all respects: the incisal edge and tooth axes have been balanced out, the tooth shading is natural and it was possible to adjust the tooth characteristics in an anatomically-accurate fashion.

“For decades, we have been using ceramic materials with a thickness of 1–1.5 mm to try to replicate the same effect of natural dentition regardless of ambient lighting. With VITA VM 13, we can already achieve this with veneers as thin as 0.7–0.4 mm.”

Dr. Babak Varzideh, dental surgeon and Klaus Wink, dental technician, of the Kleinsman Dental Center, Germany
VITAVM® – the veneering concept for modern dental technology

VITAVM® LC – a veneering composite that could almost be a ceramic

Veneering composites were long overshadowed by ceramics. VITA VM LC is a radical change in this respect: this light-curing veneering composite is virtually indistinguishable from ceramics in terms of esthetics, shade fidelity and durability. Thanks to its versatile range of indications, it is the ideal material for both fixed and removable restorations.

“In the early years, veneers often looked too yellow in the mouth, so that they did not appear to be natural.

Things are different today. My dentist confirms this: veneers fabricated using VITA VM LC offer an exceptionally natural appearance and are adapted to suit the oral environment.”

Is it ceramic?
The answer to this questions is increasingly “No, it’s VITA VM LC”. Restorations veneered using this material offer results that are virtually indistinguishable from ceramic veneers in terms of esthetics. The excellent, proven shade stability and high plaque resistance speak for themselves and are your guarantee of quality.

A particular strength: shade fidelity
Practitioners couldn’t be happier with the excellent shade reproduction offered by VITA VM LC, which also delivers superb, reliable results even when space is at a premium.

If shade 1M1 or A3 is used for layering, then this is exactly the shade of the final result – and nothing else.

A team player: combined restorations
Extensive combined restorations present one of the greatest challenges for any laboratory, as this is where completely different worlds of material collide: ceramics, composites and acrylic teeth. The adaption of the materials to each other in terms of shade is critical to ensuring the harmonious completion of a complex task such as this. Yet another reason for working with the VITA VM system.

“I believe that the greatest benefit of VITA VM LC is the superb shade reproduction even with very thin layers.

The shades develop exactly as I want them to:

if I use A3 for layering, then A3 is the result – and nothing else.”
VITA VM® LC – the modern veneering composite for superior-quality solutions

Everything a dental technician could wish for in a composite: true, stable shades, durability, and convenient handling.

1. Initial situation: zirconium dioxide primary telescopes for telescope prostheses in the upper and lower jaw. The aim is to perform veneering using VITA VM LC and completion using VITA PHYSIODENS prefabricated teeth.

2. Composite veneers and prefabricated teeth are perfectly adapted to one another in terms of shade, providing harmony and balance between the restoration of the upper and lower jaw.

3. The final result: the practitioner and dental technician are satisfied, particularly with the natural appearance. Moreover, the patient is delighted with the oral comfort and esthetics of their restoration.

“I am very happy with the modelling properties of the VM LC pastes, as they ensure good stability during modeling. The viscosity of the materials also make it easier for me to model the required shape quickly and easily.”

André Bouillon, master dental technician with his own laboratory in Germany
VITA VM® – the veneering concept for modern dental technology

VITA VMK Master® – conventional layering scheme, appealing esthetics

Simple to process, yet unrivaled in reliability and suitability for everyday use – that’s VITA VMK Master. These are features particularly appreciated by anyone required to fabricate visually attractive restorations under pressure on a daily basis. With VITA VMK Master, the success story of VITA ceramics continues alongside the popular VITA VM 13 system.

"VMK Master is an excellent material that doesn’t compromise. I use it to solve both simple and complex cases."

Marcio Breda, dental technician in Brazil

Urszula Młynarska, dental technician with her own laboratory in Poland

Simple handling thanks to a proven layering scheme
Thanks to easy handling based on standard layering of dentin and enamel, esthetic results can be achieved quickly and reliably.

Processing characteristics? Top marks!
The low shrinkage and high strength of VITA VMK Master make application and modeling a pleasure: once they have been applied, contours and contacts are retained during layering, also lasting several firing cycles.

A team player: combined restorations
A compact selection of additional materials is the perfect foundation for efficient implementation of individual characteristics.

"VMK Master can be processed without any difficulty – on conventional alloys, non-precious metal alloys and on alloys with a reduced proportion of precious metal. Thanks to its excellent firing stability, even fine surface details are retained correctly following firing."

Marcio Breda, dental technician in Brazil
This product group is available in VITA SYSTEM 3D-MASTER and VITA classical A1–D4 shades. Shade compatibility with all VITA 3D-MASTER and VITA classical materials is ensured.

With the unique VITA SYSTEM 3D-MASTER, all natural tooth shades can be systematically determined and perfectly reproduced.

Please note: Our products should be used according to the working instructions. We cannot be held liable for damages resulting from incorrect handling or usage. The user is furthermore obliged to check the product before use with regard to its suitability for the intended area of applications. We cannot accept any liability if the product is used in conjunction with porcelains and equipment from other manufacturers which are not compatible or not authorized for use with our product. Furthermore, our liability for the correctness of this information is independent of the legal ground and, in as far as legally permissible, is limited to the invoiced value of the goods supplied excluding turnover tax. In particular, as far as legally permissible, we do not assume any liability for profit loss, for indirect damages, for consequential damages or for claims of third parties against the purchaser. Claims for damages based on fault liability (culpa in contrahendo, breach of contract, unlawful acts, etc.) can only be made in the case of intent or gross negligence. The VITA Modulbox is not necessarily a component of the product.

Date of issue of these instructions for use: 09.12

VITA Zahnfabrik is certified according to the Medical Device Directive and the following products bear the CE mark: VITA VM®7 · VITA VM®9 · VITA VM®13 · VITA VM®15 · VITA VM®LC · VITA VM®CC · VITA VMK Master®

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