



British Institute
of Dental & Surgical
Technologists

CPD Article

ISSUE 29

Proud of our History, Looking Forward to the Future

This learning session has been judged as being equivalent to one hour of verifiable CPD. To claim your verifiable CPD you will need to answer the questions at the end of this article and submit them either by email to secretary@bidst.org or by post to the BIDST Membership Office 44-46 Wollaton Road, Beeston Nottingham NG9 2NR. You will also need to keep a copy of the article together with your feedback sheet and certificate for revalidation.

Good stability characteristics, firing stability and top aesthetics

In October 2009, a new generation ceramic of the VITA VMK (VITA METALL KERAMIK) was added to the assortment of VITA veneering ceramics for the

conventional CTE range. Master Dental Technician (MDT) Christoph Freihöffer from Kassel/Germany reports on his first experiences with the new material.



Fig. 1: Available since October 2009 – VITA VMK Master!

MDT Christoph Freihöffer (fig. 2), born in 1970, is the ceramics department manager at Dental Labor Werth & Priester in Kassel and the assistant of the company management. The laboratory was founded in 1952 and today employs a staff of 75. Its sister enterprise, founded in Erfurt/Germany in 1991, is of roughly the same size. The Kassel enterprise supplies its comprehensive range of products and services to customers

beyond the regional boundaries, i.e. on a nationwide level. In the federal states of Hessen, Thuringia and Bavaria, a courier service delivers daily to customers of the region. The laboratory operates not only in the classical areas of dental technology, but furthermore specialises in fields such as functional theory/analysis according to MedR Prof. Dr. Rudolf Slavicek, BIOlogical Prosthetics (BLP) according to Dr. Eugen End, the DIR system according to PD Dr. Andreas Vogel, 3D-planning in implantology and also covers the entire area of all-ceramics. Since 1998, MDT Freihöffer has been manufacturing dental restorations in physiological occlusion and articulation according to nature's example in close collaboration with dentist Dr. Eugen End, dental practitioner in Weingarten/Germany. MDT Freihöffer was able to apply these long years of experience gainfully on taking up his position at the Dental-Laboratory Werth & Priester in Kassel.

In the same way as the circle of customers is wide, extending beyond regional boundaries, also the requirements of these customers are widely varied. This multifaceted approach provides the basis for the

quality standard of the dental laboratory: 100% fulfilment of customer demands. If high-end quality is desired, and the corresponding conditions are fulfilled, the laboratory offers optimal resources for supplying this quality. The basis for this consists in ongoing further staff education and training, premium quality equipment and the use of nothing but first-rate materials in every case. A high priority is given to all of these aspects at Dental Labor Werth & Priester in Kassel. The high degree of customer satisfaction achieved in this way demonstrates that the laboratory team has chosen a successful path.

MDT Christoph Freihöffer is assisted by a team of a further six ceramists. He has been using the new veneering ceramic VITA VMK Master since August 2009. In the following article he gives a summary of his impressions



Fig. 2: MDT Christoph Freihöffer tells of his first experiences with the new veneering ceramic.

and experience with this material.

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A new material must bring advantages

"Initially, I tested VMK Master out of curiosity, since I am constantly on the lookout for ways to improve the status quo, for ways which lead me more simply, quickly and efficiently towards a goal. The first impression



Fig. 3: Crown for tooth 26 with occlusal contact markings.



Fig. 4: Crown for tooth 26 without occlusal contact markings.

was very good, and was confirmed in the course of the test phase: no problems in processing, attractive aesthetic effect, good light-optic properties. As an experienced ceramist, the simple handling and the classical layering technique with dentine and enamel porcelains reminded me of its well-known predecessors VMK 68 and VMK 95, likewise from VITA.

Convincing in every aspect

Particularly with regard to the processing properties of the materials, I was convinced by the low degree of shrinkage and the good stability characteristics of the ceramics. This is why I consider the new metal ceramic to be ideally suited to my way of working in the area of BIO-Logical Prosthetics. With regard to designing ceramic occlusal surfaces according to the occlusion concept of BLP, I mark the contacts as points. For this I need a ceramic with sufficient stability characteristics, and with which the contact points, once they have been defined, do not smudge in the process of layering. These contact points should also withstand the firing cycles, and come out of the furnace the way they were layered. I found both of these material properties – stability characteristics and firing stability – in this new material. Also with regard to the accurate layering of anterior crowns and bridges, this is very conducive to my way of working.

Good bonding properties even with non-precious metal frameworks As to all dental laboratories, smooth processing and the harmonious behaviour of ceramics bonded to nonprecious metal substructures (e.g. cobalt-chrome) are important. I have always had good results in this area to date – both in the case of full veneers and vestibularly veneered crowns, and bridges with metal occlusal surfaces, the ceramic achieves the results its manufacturer intended. Non-precious metal frameworks are no problem to process, fire and finish with VITA VMK Master. Even the considerable heat development at times during polishing of the metal occlusal surface cannot, in my experience, do any harm to the veneers.

Comprehensive range of additional porcelains

For the individualisation of the restorations I use – depending on the tooth colour and situation – the wide range of additional porcelains. This enables me to obtain good shade effects, for instance, with OPAQUE DENTINE in patient cases where little space is available for the veneer. For the shade characterisation of the body of the dentine, good results have been obtained to date with DENTINE MODIFIER in conjunction with dentine. A natural, lifelike in-depth effect of the

veneer can be achieved with the various TRANSLUCENT porcelains.

Conclusion

After four months in use, it is surely too soon to give a final assessment. However, the new veneering ceramic is now an integral part of our everyday laboratory routine, because it completely convinced us during the test phase – particularly its pleasant, simple and efficient processing, and

the aesthetically attractive end results (figs. 3 and 4). In combination with customary bonding alloys, reduced precious metal content alloys and nonprecious metal alloys alike, both the handling and the firing result were very satisfactory."

For information on VMK Master, exchanges deals and special offers, please call Panadent 01689 88 17 88 or www.panadent.net

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VITA



CPD Questions

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- Q1.) Which ceramic type within the range gives good results for shade characterisation of the body of the dentine?
- Q2.) Where little space is available for veneers good shade effects can be obtained using which material?
- Q3.) The classical layering technique of the porcelains reminded the author of which of the Vita predecessors?
- Q4.) What processing properties of the materials are highlighted by the author?
- a. Low degree of shrinkage and good stability characteristics
 - b. High shrinkage and good stability
 - c. High stability and good characteristics
- Q5.) In which year was the new generation of ceramic added to the vita range of veneering ceramics.
- a. 2008
 - b. 2009
 - c. 2007

Name:

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