

# Shade and shape sink in their teeth!

One of the worst things that I have experienced in my life as a dentist is when I had to reface a maxillary anterior bridge three times. Shade adaptation for aesthetically appealing reconstructions in a visible area is indeed truly a feat. The multitude of devices that recently have been developed for this task shows that the uncertainties are considerable. But why did the aforesaid bridge have to be refaced three times?

*Hans Sellmann*

I want to make it short: the tooth-shade ring used at that time still had the sample teeth mounted on little buttons. These sample teeth could be pulled out to hold them very close to the teeth in question to determine the shade. And it must have indeed happened that there were several sample teeth removed and incorrectly reattached. The “Bio 13” was, in actuality, a completely different shade. Consequently, the bridge was correctly faced in the laboratory (They had the correct shade ring.), but it absolutely did not match the other teeth in the mouth because of the mix-up.

## What shade will it be?

It rather annoys one when a shade goes wrong with a method that costs time (and concomitantly money) to correct in the laboratory. In the meantime, our patients are quite spoiled by the possibilities of modern dentistry. They are not simply content with getting a “white” filling in the anterior area; No, it has to be indiscernible. That does not even mean simply white, but that it is perfectly blended with the other teeth. You all know how difficult that is.

## The Michelangelo of composite

I had just taken part in a symposium where a true artist had presented his incredibly beautiful anterior restorations. Apart from the fact that I will arguably never achieve any such virtuosity, there is still one

other little hitch: I do not have any patients from whom I could collect for such restorations from said artist. Nevertheless, my patients also want perfect restorations for which they believe they have an “insured right” to receive. What is one to do?

## Fourth generation?

Are we still in the fourth generation of “tooth-shaded restoratives”? Or is what we can read on the topic at [www.zahnwissen.de/lexikon\\_kn-kz.htm](http://www.zahnwissen.de/lexikon_kn-kz.htm) already outdated? I still remember the times when one was happy just to even have a tooth-shaded composite restorative. Much has been done to date: the light-curing, bond, flowables, etc. are only a few catchwords. These innovations enable us dentists the ability to more easily and better carry out the treatment of carious lesions or the consequences of trauma in the anterior and posterior dentition. However: All problems are far from being solved.

## Variatio delectat

As there are tall and short, fat and thin, pretty and not-so-pretty people, there are also a multitude of tooth shades. And we must have the composite available in the widest range of shades to fabricate restorations that match them. Sometimes, however, they do not “match” and we may mix our own shade from different tubes or compules – only carried out in deficit for the “insured restoration”, as the fee

does not cover the time and effort. There is now, however, a solution for these travails.

### The solution for the shade

VOCO, the company in Cuxhaven, Germany known for its high quality products, has broken new ground to simplify our work. AMARIS is the name of its new product, a highly aesthetic restorative.

Up to now, it was just a fact that we selected a “standard shade” at the beginning of the restoration to determine the shade, used an appropriate material and could only see if we had chosen correctly after completing and polishing the restoration (frequently unfortunately not). And when we were off the mark, then we could not just simply send the patients home: No, we had to redo the restoration with another shade whether we wanted to or not.

### No more do-overs!

VOCO takes a different path with AMARIS. The practitioner develops the required shade “impression” during the restoration preparation work-steps, carried out pursuant to the detailed instructions for use (I have tried the material and can confirm this philosophy.). And that is quite possible with the AMARIS system. The combination of the individual components additionally permits a high degree of flexibility during the process of reconstruction. It is thus possible to still change the shade during the restoration. We are therefore not forced to make a final decision already at the beginning of the session, but can still adapt the shade during layering, which functions particularly well with the AMARIS components.

### Definition of visual appearance

Only the combination of dentine and enamel form the visual appearance of a tooth. And a restoration must follow this principle to be perfect. VOCO reduces the numerous steps with AMARIS to achieve a perfect restoration and that is an important criterion in today’s times of limited compensation for our services. And how does this work? AMARIS is divided into base,



Figure 1: Veneers were actually applied here or rather high quality, aesthetic composite restoration with Amaris.



Figure 2: After only a minor preparation of the surfaces, rather just a “roughening”, we bond the tooth with Futurabond from VOCO.



Figure 3: It is really easy. We activate the single blister by pressing on the marked point...



Figure 4: ... and apply the bond as usual. Then it is subsequently light-polymerised.



5a



5b

Figure 5a/5b: We selected appropriate "base" shade from the set. In this case we chose O3.

enamel and, for creating out-of-the-ordinary characteristics, there are additional effect shades. But let's just start with the basics.

### The base

The AMARIS base shades are divided into O1 to O5. These opaque composites cover all conceivable shades of dentine. We therefore select the matching base shade (Pay attention to the colour of the rubber dam, which can interfere with the image.) with the shade guide found in the set after preparation of the defect, apply the material as dentine core and polymerise it.

### The enamel

We subsequently verify the shade. If we correctly matched it, then we simply apply only a coat of enamel shade TN (Translucent Neutral). In the event that the base shade appears too light from the design of the dentine core, we darken it by applying TD (Translucent Dark). If we have made the core too dark with the layer, we can simply select TL (Translucent Light) as "cover" restorative. I have already mentioned that there sometimes is indeed the (patient) type that appears to have a shade that varies on his/her teeth. VOCO has included effect shades, HT (High Translucent) and HO (High Opaque), in its AMARIS set for this situation. With these shades as easy to apply flow material, transparent incisal edges can quite simply be copied, for example. Other situations - such as when a vertical brown line in the tooth must be imitated or the dark cervical area of teeth in older patients with exposed cementum must be restored - are also simple to accomplish with the HO.

### No tackiness

The base and enamel shades are not tacky (I can confirm this.) and are smooth (also true). The material thus not only handles well, but it is also possible to model very thin layers without the material remaining stuck to the spatula. According to VOCO, AMARIS can be easily polished (likewise tried and confirmed) and it has natural shade stability.



Figure 6: The smooth consistency of Amaris facilitates modelling with the Heidemann's spatula. It does not stick to the instrument.



Figure 9: Another treatment case: Teeth 22 and 23 need visual improvement.



Figure 7: Half-time: Teeth 21-23 are restored with Amaris (provides excellent coverage) after only minimal roughening of the enamel surfaces. Since we chose the correct shade, we only have to apply a coat of the enamel shade, TN.



Figure 10: Amaris O2 coated with TD (the core turned out too light for us) allows the patient to look good again even without expensive veneers.



Figure 8: Only tooth 12 now still needs a new incisal build-up.



Figure 11: Treatment case 3: Trauma, loss of the incisal edge on tooth 22 in a 13 year old female. The treatment (selection of the correct shade) was complicated by the prior endo-treatment with resulting apicoectomy.



Figure 12: Slight roughening of the enamel surfaces followed by the bonding...



Figure 13: ...shade selection ...




Figure 14: ... and now the application of Amaris 02 followed by a coat of TL (slightly lightens) to make the young lady look "complete" again.

## The chameleon

In Astronomy, a chameleon is a zodiac sign. That is, however, not what VOCO is referring to when it discusses the chameleon effect of its AMARIS. In fact, a chameleon is a reptile found in Africa. Chameleons are proverbially famous for their ability to change the colour of their body according to mood. Very light, iridescent colours can be seen with stress, for instance, whereas striped or spotted skin with fighting. With our patients, we do not necessary want the colour of the tooth to turn iridescent with stress and spotted with fighting. The restored tooth should, however, adapt according to light exposure. And as far as I could observe until now, it has also done that to my satisfaction (and that of my patients).

## Simply beautiful – Beautifully simple

AMARIS, be it in a syringe or compule (quite nice if one wants to avoid cross-contamination) combined with Futurabond, the bond from VOCO, makes sense for me in the midst of the near inflationary number of composite restoratives presently on the market, because it follows a new philosophy and provides a perfect restoration with less work for us dentists.

Never change a winning team? Now, you do not, however, immediately have to toss out your familiar composite. But I am certain that after AMARIS is used first for exceptional indications that you will soon make it your standard material for aesthetically superior anterior restorations that are simple to create. 

## ABOUT THE EXPERT

**Dr. Hans Sellmann** studied dentistry at Westfälische Wilhelms-Universität in Münster (Westfalia, Germany) and has practiced as a general dentist since 1976. He is the author of books on dental entrepreneurship, dealing with problem patients, micro-biological diagnostic methods, and of DVDs for continued professional development in the fields of anaesthetic treatment, cranio-mandibular dysfunction, halitosis, pedo-dontics and risk diagnosis in the dental practice. He has developed several instruments for dentistry, is an expert lecturer in CPD courses and has published more than 100 articles.

