



Need technical support? We are proud to announce Duncan Figg as the KOL for the United Kingdom

Look out for his social media posts



Which glaze? ceraMotion® paste glaze bright has even more fluorescence, making the restoration "brighter".

30% off your first ever paste glaze

WHW presents a true technical insight from differing perspectives about the characterising phenomenon

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REVOLUTION

A small revolution in the big world of all-ceramic restorations

Carine Quéward is a materials scientist at Dentaureum Ceramics in Angers (France) with a focus on "dental ceramics". She is part of the development team of ceraMotion® One Touch, and her expertise helped make the paste ceramics system what it is today: a real classic.



Carine Quéward, materials scientist at Dentaureum Ceramics in Angers (France)

DID YOU HAVE THE FEELING DURING THE MARKET LAUNCH OF CERAMOTION® ONE TOUCH IN 2016 THAT YOU AND YOUR TEAM WERE AHEAD OF THE TIMES WITH THIS PRODUCT?

For us as developers, ceraMotion® One Touch was the next logical step in the evolution of veneering ceramics, we looked forward to welcoming in this new era. Framework materials, especially zirconium oxide, have evolved, and so have the requirements for a matching veneering ceramic. We met these requirements with ceraMotion® One Touch. We didn't feel like we were ahead of the times, but rather like we were proactively responding to the needs of the market and developments. The positive feedback was a wonderful confirmation of our work. Even then, we felt that dental technicians were grateful for this new type of ceramic. Now, after some reflection, we can see that our decisions were right. The success of ceraMotion®

One Touch strengthens our commitment and motivates us to continue thinking and working proactively. After all, this is exactly what makes our job as scientists so exciting and fulfilling. - describes his experiences and how ceraMotion® One Touch has revolutionised his workflow. The conversations not only give our readers insights into the technical aspects but also show the passion for the craft, as well as the product itself. We invite you to discover the stories behind ceraMotion® One Touch.



Aesthetic results with ceraMotion® One Touch



Under the successful umbrella brand ceraMotion®, Dentaureum Ceramics produces more than 1500 products in compliance with the highest quality standards.

THIS SYSTEM OFFERS A UNIQUE PROPOSITION IN THAT YOU ARE ABLE TO GET EXTRAORDINARY BENEFITS FROM JUST A FEW POTS, MAKING IT TECHNOLOGICALLY ADVANTAGEOUS, COST EFFECTIVE AND MORE PROFITABLE.

WHAT DIFFERENTIATES CERAMOTION® ONE TOUCH FROM OTHER VENEERING CERAMICS?

ceraMotion® One Touch is a paste ceramic used for the finishing of zirconium oxide and lithium disilicate frameworks. During development, we optimised both the composition of the ceramic and the processing. Even with ultra-thin layer thicknesses, natural aesthetics can be achieved. Generally, colouration is significantly influenced by light dispersion. This is a complex phenomenon determined by the transmission and reflection of light within the restoration and its surroundings. For a true-to-nature imitation of teeth, it is crucial to be able to precisely control the translucency effects of the

ceramic. When developing ceraMotion® One Touch we paid particular attention to creating an impressive in-depth effect despite the thin layer of material. Another feature that distinguishes it from conventional ceramics is

its processing. As ready-to-use mixtures, the 2D and 3D pastes are easy to use. Their consistency ensures even wetting of the surfaces. The thixotropic effect results in excellent bonding to the framework and enables precise layering. The particle size is another special feature, the 2D pastes have an extremely fine grain size (9µm) compared to conventional powders. The 3D pastes have an intermediate grain size (19µm), which means that morphology and textures can be layered with accuracy to detail.



The thixotropic effect results in excellent bonding to the framework and enables precise layering.

whw
Behind every smile



All of the system components can be mixed together to create a custom palette

It all starts with the paste glaze



How many firings are required? Well, that's up to you...

Fires at a max temp of 750°C/1382°F

Take advantage of our amazing pick 'n' mix introductory offer and start using the system today, please ask for more information

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ceraMotion® One Touch 2D and 3D pastes in a practical display with mixing plate

CAN YOU DESCRIBE THE INSPIRATION AND MOTIVATION BEHIND CERAMOTION® ONE TOUCH?

We didn't just want to develop another veneering ceramic. Rather, we wanted to provide dental technicians with a completely new product that facilitates their daily work and is adapted to modern working methods. Even then, framework materials such as oxide and high-strength silicates are considerably more aesthetic than in their early stages and it was inevitable that development would progress rapidly. As a material developer, it is in our nature to think in a forward-looking way. Our research also worked intensively on optimising modern zirconium oxides, and we knew that dental veneering would remain indispensable in many cases despite improved framework materials. After all, even if materials and techniques change,

the demand of dental technicians for individual aesthetics remains. Our inspiration was the desire to develop a veneering ceramic that would meet these demands. We found motivation among the dental technicians who supported us intensively during development. The close collaboration was very enriching. After all, dental technicians ultimately know best what they need. In product development, we try to meet these wishes with safe, reliable materials.

WHAT TECHNICAL CHALLENGES WERE FACED DURING DEVELOPMENT AND HOW WERE THEY SOLVED?

As is typical for such innovative projects, we encountered many challenges. As researchers, we see this as an incentive to find solutions for them. For example, a technical challenge was the density of the veneering ceramic. The pilot users

stressed the need for an absolutely homogeneous ceramic. Problems such as porosities that leave small bubbles after firing, or unfused grains that appear as white spots on the ceramic are unacceptable. So we reduced the particle size using special techniques such as air micronisation and planetary movement. The ceramic is designed to compact itself during firing, which affects the microstructure. In addition, we carried out intensive research on modelling liquids to be able to control the density of the ceramic. All of this resulted in a very homogeneous ceramic. The result was a non-porous surface with low abrasion and reduced plaque accumulation. Another aspect involved opalescence; to give the ceramic good opalescence without adding colours, we developed a new method known as thermocolouration.

TO WHAT EXTENT DID THE FEEDBACK OR REQUIREMENTS FROM THE DENTAL TECHNICIANS INFLUENCE THE DEVELOPMENT OF CERAMOTION® ONE TOUCH?

Our goal was to develop a ceramic by dental technicians, for dental technicians. Collaboration with the pilot users was indispensable for this. Dental technicians from all over Europe contributed their experiences and

wishes. They kept testing the ceramic masses under realistic laboratory conditions and gave us feedback. With their direct judgement, they gave us tasks to fulfil. It was like a constant dialogue in which they were able to tell us where the obstacles and pitfalls lie in daily use. This collaboration enabled us to find solutions together, rather than bypassing actual needs. Ultimately, the close interaction resulted in ceraMotion® One Touch now doing exactly what is needed in the everyday life of a dental technician.

CAN YOU PROVIDE A BRIEF INSIGHT INTO THE MATERIALS SCIENCE OF PASTE CERAMICS? WHAT IS SPECIAL AND HOW DO CERAMISTS BENEFIT?

The ceramic pastes are manufactured from glass frits, which are obtained by melting a mixture of different ceramic oxides at 1500°C (about 2700 °F). The product is created using high-tech methods such as thermocolouration and milling the frits using air jet technology. When developing ceraMotion® One Touch we optimised various manufacturing parameters: thermodynamic analysis of phase separation during glass melting, the role of the cooling rate of the glass, the dissolution behaviour of opacifiers, etc. It is also worth mentioning that

we developed a gel that improves viscosity and made ceraMotion® One Touch the first veneering ceramic in paste form. The ingredients for the ceramic are ultra-pure synthetic oxides distributed in the microstructure. We made a strict selection and used only the best raw materials. The risk of impurities, which can occasionally occur in feldspar ceramics, is thus eliminated. The 2D and 3D pastes make it relatively easy in daily laboratory work to reproduce natural surface effects and to adapt the shape and colour of a restoration. By mixing the 2D and 3D pastes at any ratio, users have the freedom to create their own colour palette. In combination with the ceraMotion® Stains Universal, there is no end to the possibilities. The fine grain size combined with its translucency improves colour matching of the restoration, while the high firing stability reliably preserves the morphology. The thixotropic properties of the pastes enable precise shaping e.g. in the incisal and occlusal region or with interproximal contact areas. In short, ceraMotion® One Touch gives dental technicians the confidence to carry out their work precisely and achieve consistently good results every day.

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