“Keramik-Veneers.de" This kit includes adapted diamond instruments for substance-preserving controlled preparation of ceramic veneers

Ceramic veneers are very popular in the USA due to their esthetic appearance. Also in Germany the veneer technique has found wide acceptance. Labial restoration of anteriors and canines with ceramic veneers is today a scientifically accepted method*. Among other aspects, systemized substance-preserving preparation is the prerequisite for the clinical success of a restoration using ceramic veneers.

Exactly this preparation is a special challenge in case of veneers. On one hand, a minimum reduction depending on the material is necessary and on the other hand excessive penetration depth in the enamel should be avoided.

Research carried out in Great Britain shows** that under controlled test conditions even experienced dentists are not able to adhere to the required uniform substance reduction of app. 0.5 mm and to predictably avoid dentin exposure.

In cooperation with Dr. Ahlers, head-physician at the University Clinic Hamburg-Eppendorf, we designed respective depth markers allowing good control of the penetration depth. The new instruments are part of the kit 4388. As the new kit corresponds to the recommendations of the DGZMK (German Society of Dento-Maxillo-Facial Sciences) for preparation technique as basis of quality assurance it is called “Keramik-Veneers.de”.

Important features of the kit 4388 and its instruments are:

- Newly developed depth markers (868B) define the reduction depth (0.3 and 0.5 mm)
- The narrow not too fine diamond coating guarantees high material reduction without undesired temperature development.
- There are tapered diamond abrasives (868) in medium grit (grit size 100 µm) and diamond finishing instruments (8868) in fine grit adapted to the new depth markers. Depth markers, abrasives and finishing instruments are form-congruent (taper with rounded tip).
- There are two matching sizes for all indications in the anterior region.
- Egg-shaped diamond abrasives (379) and finishing instruments (8379) are designed for veneers which correct the function in the palatinal area.
- A smoothly operating separating instrument (852EF) and an egg-shaped finishing instrument (379EF) in extra-fine grit (grit size 15 µm) allow controlled removal of excessive composite.

* Scientific report can be found under www.dgzmk.de

**Application in the anterior area**

1. The new depth markers 868B.314.018/020 are used to prepare the labial orientation grooves starting in the cervical third of the labial surface.

2. The narrow diamond coated portions of the working part permit easy creation of the orientation grooves without excessive heat generation.

3. Even if the instrument is placed at a too steep angle, the penetration depth will not be exceeded due to the tapered shape of the working part and the rounded tip.

4. The orientation grooves define the desired maximum reduction and thus determine the definite preparation level.

5. The remaining ridges between the orientation grooves are planed with the tapered diamond abrasive 868.314.015. This step is facilitated by the form-congruent depth marker and the diamond abrasive. The diamond abrasive operates smoothly due to the relatively short working part.

6. Adapted to the shaping diamond abrasive there is a form-congruent diamond finishing instrument 868.314.016. This instrument permits conservative planing of the surface as part of the quality assurance process.

7. Instruments with smaller diameter (8868.314.012) are suited for shaping the proximal preparation areas as well as for smaller teeth, especially lower mandibular anteriors. These diamond abrasives are also included in the kit, as finishing instruments 8868.314.012.

**Application in the canine area**

1. In the course of a functional therapeutically treatment plan the restoration of an excessively abraded canine is sometimes necessary. An ideal instrument for the preparation of a slight circular shoulder is the egg-shaped abrasive 379.314.023 with the Komet-typical elliptic rounded "tip".

2. Also in this case a form-congruent instrument is available: the egg-shaped diamond finishing instrument 8379.314.023; it permits smoothing of the preparation and especially the transition areas to the incisal edge thus assuring the high quality of the preparation.

3. The gentle, but distinct shoulder assures that the margins of the ceramics which will be bonded palatinally are not too fine. The elliptic "tip" of the diamond finishing instrument allows to form a slight central groove in the center of the palatinal surface as positioning aid during insertion.

4. The orientation grooves define the desired maximum reduction and thus determine the definite preparation level.

5. The remaining ridges between the orientation grooves are planed with the tapered diamond abrasive 868.314.015. This step is facilitated by the form-congruent depth marker and the diamond abrasive. The diamond abrasive operates smoothly due to the relatively short working part.

6. Adapted to the shaping diamond abrasive there is a form-congruent diamond finishing instrument 868.314.016. This instrument permits conservative planing of the surface as part of the quality assurance process.

**Recommendations for use:**

- The instrument are preferably used in the red contra-angle observing the speed indicated on the package.
- Apply sufficient spray-coolant (50 ml/min).