

# G-aenial Universal Flo and its application in class V restorations.

G-aenial Universal Flo is the flowable component of GC's Gaenial composite.

A case study by Ulf Krueger-Janson Nov 2011

A class V filling is the fastest aesthetic dental restoration which can be performed by a dentist. This is because it visually improves any unsightly transitions of the tooth structure into the gingiva. It enables the dentist to recreate lost substance and to simultaneously protect the tooth from thermal, chemical and abrasive irritations (such as overly vigorous brushing). Occlusal dysfunctions should, however, always be considered when examining the case history. The patient will instantly notice an aesthetic change and will thus have more confidence in the ability of their practitioner.

With only one shade of G-aenial Universal Flo's (A03 with considerable opacity), dentists will be able to treat the cervical area with a long-lasting restoration which also presents high-quality aesthetic shade-matching. The material properties of the G-aenial Universal Flo, such as high abrasion stability, good polishability and a very convincing chameleon effect due to its outstanding ability to cover discoloration, enable a fast and aesthetically realistic reconstruction of lost tooth substance. The technical specifications are as followed: 69% filler in weight, 181% Radiopacity, similar wear resistance to nano-filled posterior composite, 167 MPa Flexural strength.

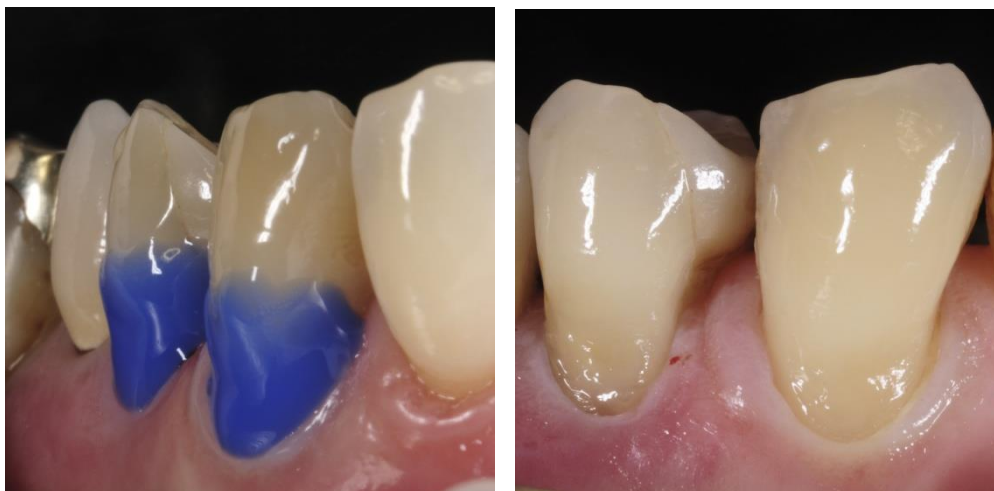
The following report shows the creation of two cervical fillings in regio 13 and 14 that have been chronologically documented using photos taken from the perspective of a practitioner working in the 12 o'clock position. The patient is 56 years old. A strong pigmentation or discolouration of the cervical area is not present; the teeth generally appear to be largely monochromatic (one colour).



Figs. 1 & 2

As a rule, a retraction thread should be used during the placement of cervical fillings in order to prevent sulcus fluid and microfine bleeding from coming into contact with the area of restoration. A vasoconstrictive effect on the gingiva in regio 13 is clearly visible. A thread with strength of 0 was applied to 13 and 14.

The area where the filling is to be applied is then roughened with a diamond bur, a process which also removes any impacted pigments. A flat bevel will be created in the incisal area in order to ensure a gentle transition of the "flow" from the tooth structure to the material (maximisation of the chameleon effect).



Figs. 3 & 4

The tooth surface is pre-treated using a "total-etching" procedure (first the enamel followed by the dentine). It is important to ensure the etching gel is not excessively applied to the gingival tissue as this could cause micro-lesions of the gingiva's epithelial layer. Thus the etching gel is carefully applied along the edge of the gingiva using a probe. Once completed, the gel is carefully rinsed and dried and the bonding agent is applied.



Figs. 5 & 6

The flowable composite is applied in small increments. The entire cervical area is restored with layers of A03 color (higher opacity) which is then smoothed out following the incisal shape. It is recommended to use the probe to smooth out the respective increments by using a gentle rocking motion to move the material into the desired position as it is more viscous than other products.



Fig. 7

The material has been morphologically layered to create a natural vestibular contour. The tip of the probe is used to adapt the flow to the edge of the preparation margin. This is performed to avoid coating of the gingiva tissue. It also prevents excessive overcontouring and therefore facilitates subsequent stages of the treatment.

Fig. 8

The crown profile is developed using an EVA head (KaVo) and a medium granulation diamond file. The instrument allows the creation of a smooth and even vestibular surface. Its oscillating motion (vertical hub) helps prevent grooves and concaves from forming, generating a perfect, smooth structure which is tapered following the incisor shape.

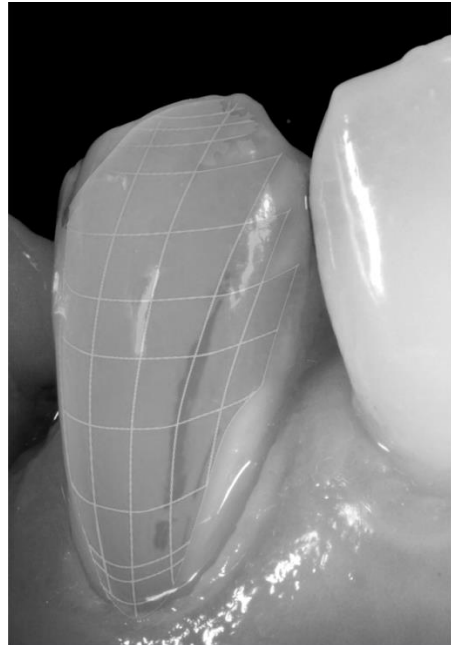


Fig. 9

This instrument allows both the cervical area of the tooth, where it transitions to the gingiva, and the root element to be treated in a way which is particularly atraumatic and which involves a minimal amount of traction on the tissue. As the instrument does not rotate, it enables a practitioner to produce a transition from composite material to tooth substance which is both very flat (using a stroke motion) and clean. This helps avoid a composite overhang. It is also possible to visually check the material transition as the retraction thread is still in the apical position.

Fig. 10

Once polished, the result is checked for colour matching and morphological integrity. Optimal contouring is confirmed using a light-reflective bar. The colour of the material is perfectly adapted to the surrounding teeth.



Figs. 11 & 11a The result from the same treatment session seen from another perspective. The atraumatic treatment method means the gingiva tissue is left relatively intact. Both the even colouring and the anatomical contouring deliver a solid tooth structure. A grid has been projected onto the surface of the tooth so the achieved contour shape can be more easily seen.



Fig. 12

Another perspective shows the appropriate colouring and shaping of the tooth.

### Summary:

Gaenial Universal Flow allows practitioners to create a stable and aesthetically accurate reconstruction. If both the anatomical and chromatic structures of the tooth (colour adaptation using only one colour layer/chameleon effect) are accurately recreated, a restoration of this kind can be perfectly integrated into the patient's mouth. And this is sure to leave patients with a smile on their face!