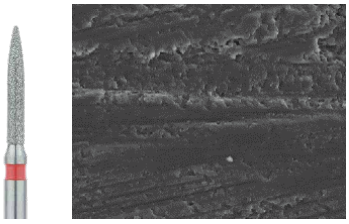
POLISHING PROTOCOL

FILLING COMPOSITES

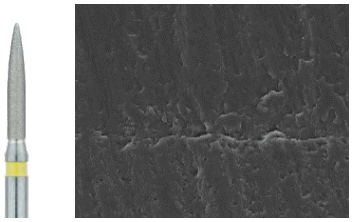
Preliminary remark:
Modern, highly filled composites are characterised by an almost tooth-hard surface, which nevertheless needs to be polished. Insufficiently polished surfaces are responsible for discolouration of the filling, favour the adhesion of plaque and make daily cleaning more difficult.
During finishing, rough surfaces are lightly abraded and compacted to create a smooth and shiny structure. The material properties of the surfaces play a major role in this process, as these determine the appropriate polishing materials and polishing instruments. In dentistry, however, there is no one polishing material or polishing instrument that can be used to polish every (filling) material. In the following, we would like to show you how you can polish the highly filled nano-hybrid composites/ORMOCER®s from VOCO to a high gloss in just 3 steps.

1. **Contouring** (coarse finishing) of the shape, excess removal and adjustment of the occlusion with coarse (ISO 534, green) diamond-coated grinders under water cooling.

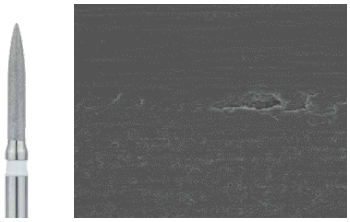
2. **Finishing** (fine) with diamond-coated grinders under water cooling from:



fine (ISO 514, red) to



extra fine (ISO 504, yellow) to



ultra fine (ISO 494, white).

(Notice = Tungsten carbide finishers are not suitable for today‘s composites!)

3. **Polishing** (incl. high-gloss polish)
Use a multi-step polishing system for high-performance composites without additional polishing pastes. You can achieve very good results with the so called twist polishers, which are offered by manufacturers such as Meisinger, Komet, NTI, Busch, EVE Ernst Vetter, and many more. Use polishers with low pressure and wiping movements. In general, polishers should always be used on a large surface area and selected accordingly in order to avoid pits and graves caused by polishers that are too small.

Always check the result when the surface of the composite filling is wet, because tooth structure and composite have a completely different morphology, which therefore also shows in different light refraction.

Further recommendations:
For all 3 working steps (contouring/finishing/polishing) the following rules should always be observed:

1. Use finishing and polishing instruments in the correct order from “coarse” to “fine”.
2. Follow the manufacturer‘s instructions for the correct rotation speed and possible water cooling.
3. Avoid heat on the composite surface. Pay attention to speed, pressure and water cooling.
4. Choose suitable instrument sizes according to the intended purpose, e.g. for finishing the occlusal relief.