

Cementation Guide

**Conventional & adhesive cementation
of dental prostheses made from zirconium oxide**



Valid for all Dental Direkt zirconium oxide variants

Overview - Quick Guide

The prerequisite for a natural-looking all-ceramic restoration is the perfect integration in the patient's mouth. To achieve this, the following guidelines and notes must be respected by both the dentist and the laboratory.

The overall aesthetic result of an all-ceramic restoration is influenced by the:

- Color of the tooth stump (natural stump, devitalized stump, stump reconstruction, abutment)
- Color of the fixing material, try-In pastes help to achieve the best match
- Color of the restorative material (frame color, transparency/opacity, brightness, veneering, characterization)

1) Color analysis of the natural tooth

- Determine the color of the non-prepared tooth and the neighboring teeth after cleaning them
- The color determination is recommended to be done in daylight and if possible against a neutral background
- Color intense clothes and lipstick can affect the result
- To determine the color, use any dental shade guide

2) Preparation

Please see our separate preparation and design recommendations and set up according to the general preparation guidelines.

3) Color loss of the prepared tooth/stump

The determination of the stump color after preparation is a very important step in manufacturing all-ceramic restorations, especially with discolored stumps. To ensure the optimum result, all restorations and cementation materials must be adjusted in color and translucency to the patient's situation.

4) Impression

The impression is taken as usual, either with corresponding impression materials or digitally.

5) Production of the restoration

The production of the restoration is done either directly in the clinic or in the dental laboratory.

6) Cementation

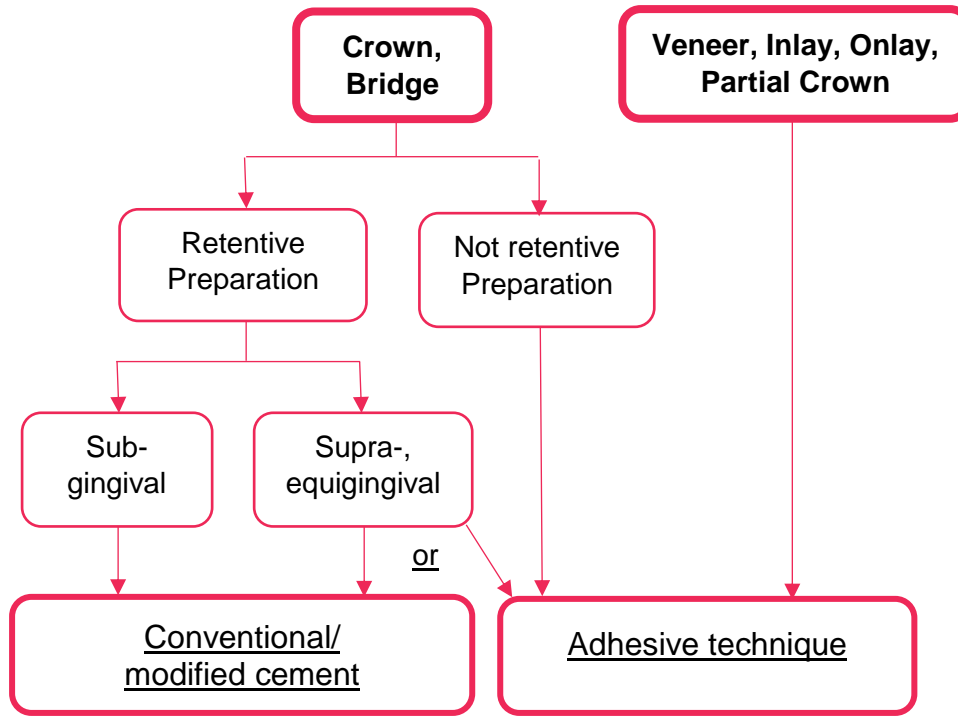
Please use our detailed instructions on the following pages.

7) Follow-up

High-quality ceramic restorations need, as do natural teeth, regular follow-ups and professional care. The goal is clean smooth surfaces on which there are less bacterial bio-film deposits and the risks such as secondary tooth decay and gingivitis are minimized.

Cementation methods and materials

Cementation flow chart:

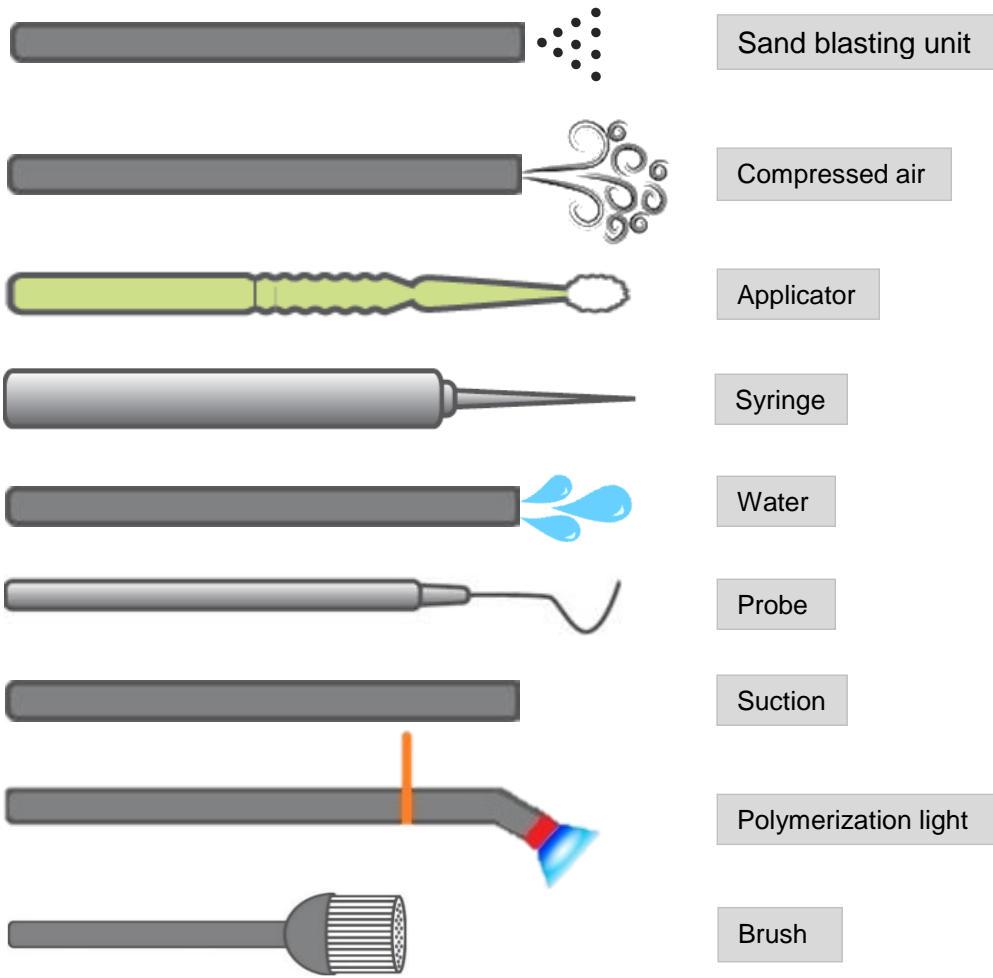


Properties and recommendations of conventional and adhesive bonding materials:

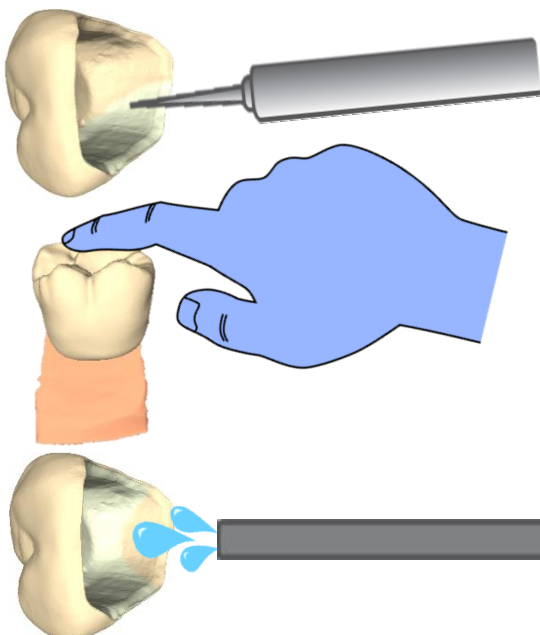
	<u>Adhesive technique</u> (Composites)	<u>Conventional</u> (Glass ionomer cement)
Characteristics	<ul style="list-style-type: none"> - High bonding strength - Are available in different colors and translucency - Moisture sensitive (draining with coffer dam is recommended) 	<ul style="list-style-type: none"> - Moderate bonding strength - Cariostatic / - preventive - Hyper sensibility after fixing possible
Recommendations	<ul style="list-style-type: none"> - Panavia F2.0, Kuraray (self-etching) - RelyX Unicem, 3M Espe (self-adhesive) - RelyX Ultimate, 3M Espe (adhesive) - Multilink Automix, Ivoclar Vivadent (self-curing) 	<ul style="list-style-type: none"> - Vivaglass, Ivoclar Vivadent (conventional) - GC Fuji Plus, GC America (conventional) - Ketac- Cem Plus, 3M Espe (modified) - RelyX Luting, 3M Espe (modified)

(All recommendations are based on the current state of science, therefore we reserve the right to changes.)

Cementation – Tools required



6.0 Using Try-in paste before adhesive cementation



Apply Try-in paste on the inner surface of the construction.

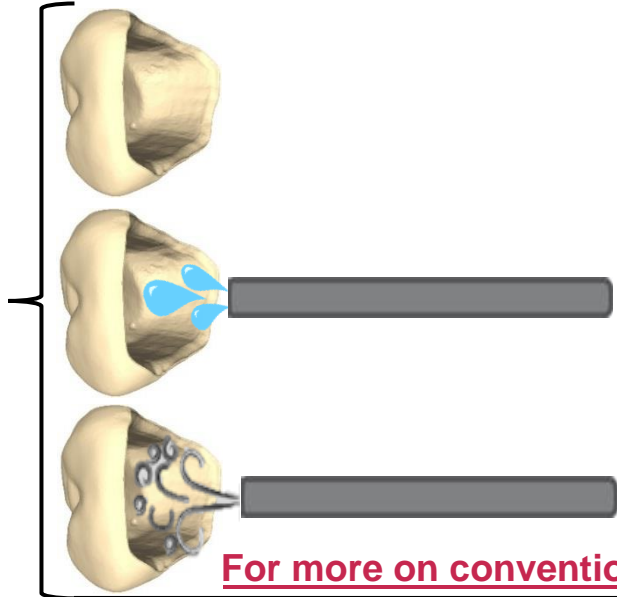
Set the construction and press firmly. Check the color effect.

After successful color checking of the construction, clean with water or ultrasonic bath.

For more on adhesive cementation see page 5 - point 6.1

6.1 Cementation – Cleaning the Zirconium oxide construction

Conventional cementation



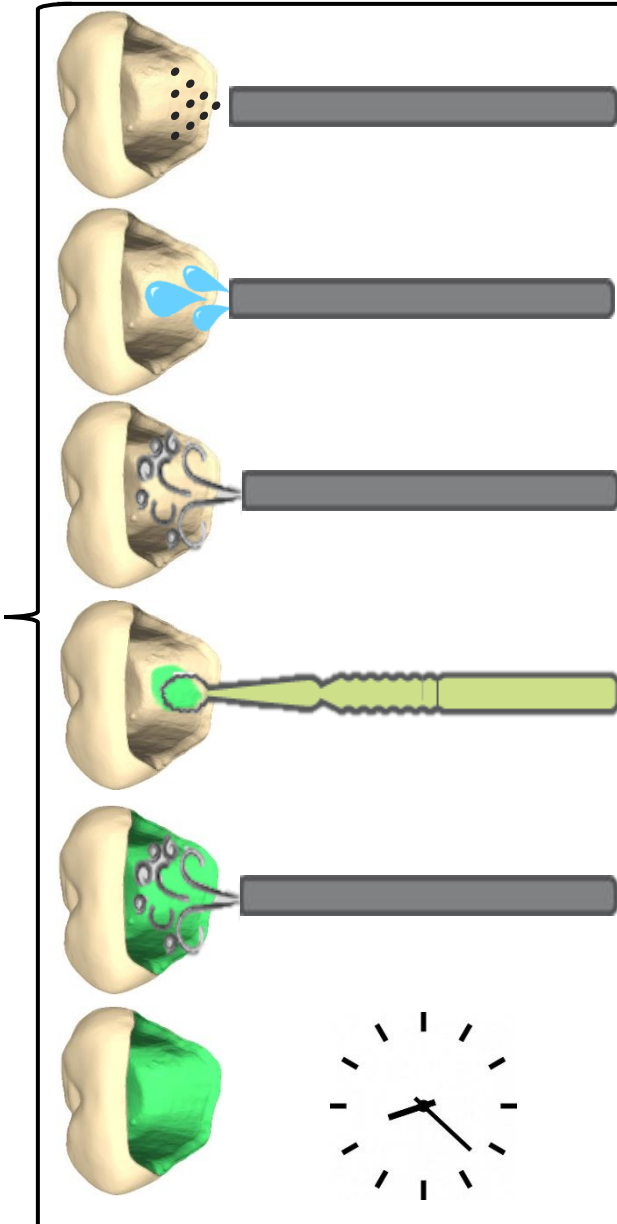
After the try-in of the zirconium oxide construction sandblast the inside lightly with aluminium oxide 50 µm at 1-2bars.

Clean the sandblasted surface with water or ultrasonic bath.

Dry the construction with oil-free compressed air.

For more on conventional cementation see page 6 - point 6.2

Adhesive cementation



After the try-in of the zirconium oxide construction sandblast the inside lightly with aluminium oxide 50 µm at 1-2bars.


Clean the sandblasted surface with water or ultrasonic bath.

Dry the construction with oil-free compressed air.

With the help of an applicator, apply the bonder/bonding agent on the inner surface of the construction.
⚠ Follow the application instruction from the product manufacturer.

Thoroughly remove excess with high pressure air. No movable liquid film may be visible.

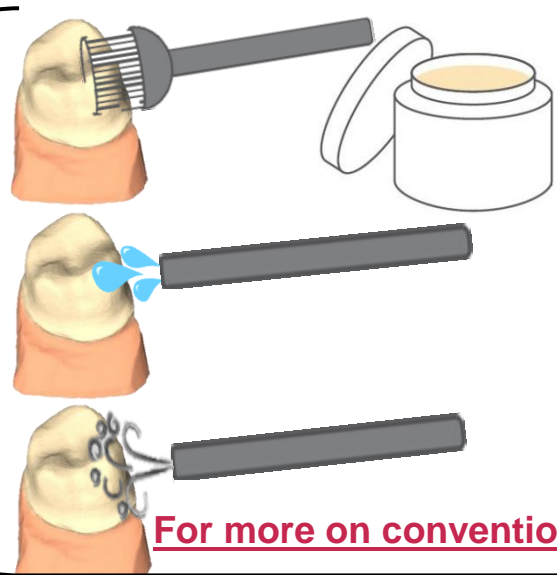
Leave for 60 seconds.



For more on adhesive cementation see page 6 - point 6.2

6.2 Cementation – Cleaning the prepared tooth/stub

Conventional cementation



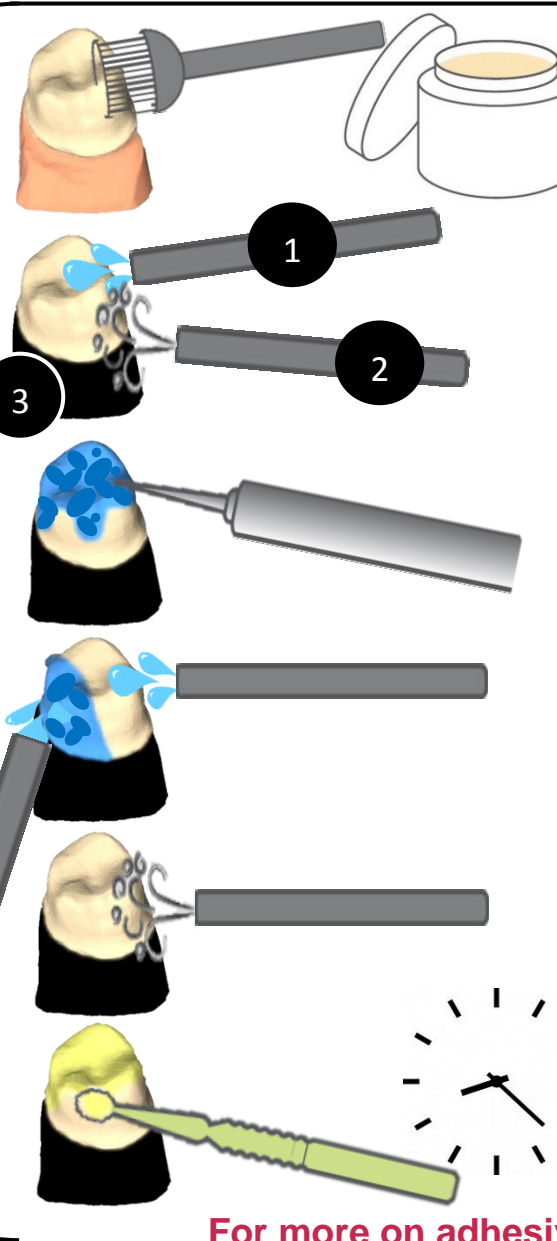
Clean the cavity/stump with a brush and cleaning paste, gently and with low rotation.

Rinse the stump thoroughly with water.

Lightly dry the stump with oil-free compressed air. The stump must not dry out completely.

For more on conventional cementation see page 7 - point 6.3.1

Adhesive cementation



Clean the cavity/stump with a brush and cleaning paste, gently and with low rotation.

Rinse the stump thoroughly with water (1) and then dry with oil-free compressed air (2). Drainage with coffer dam is recommended (3).

Apply an etching gel on the contact surface. **Follow the application instruction from the product manufacturer.**

After reaction time, rinse thoroughly with water and remove excess etching gel with suction.

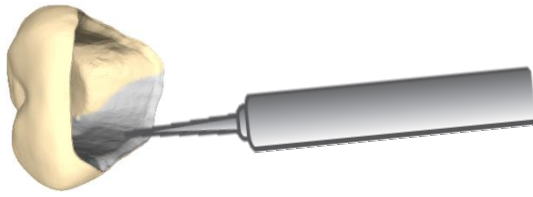
Dry the stump with oil-free compressed air.

Apply primer, rub and let dry. **Follow the application instruction from the product manufacturer.**

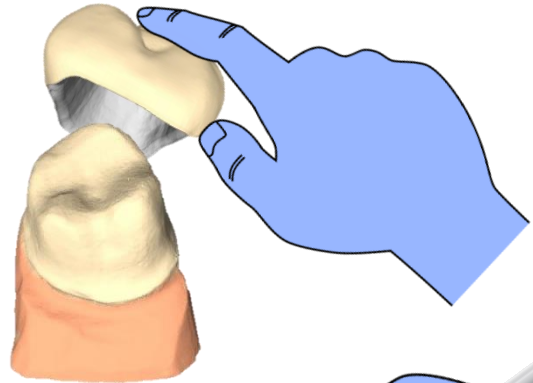
For more on adhesive cementation see page 8 – point 6.3.2

6.3.1 Cementation – Conventional cementation of a crown

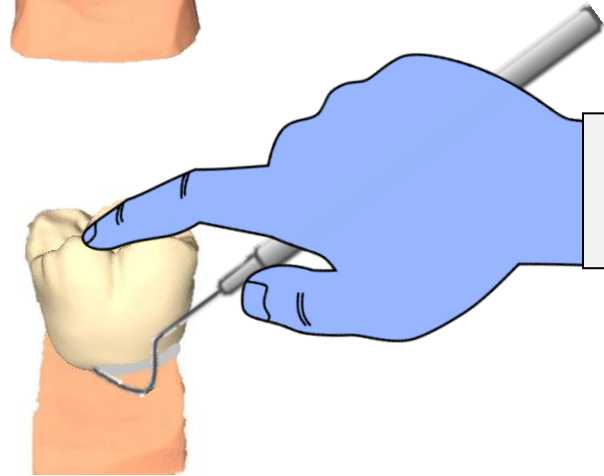
Conventional cementation



Apply cement on the pre-treated interior surface.



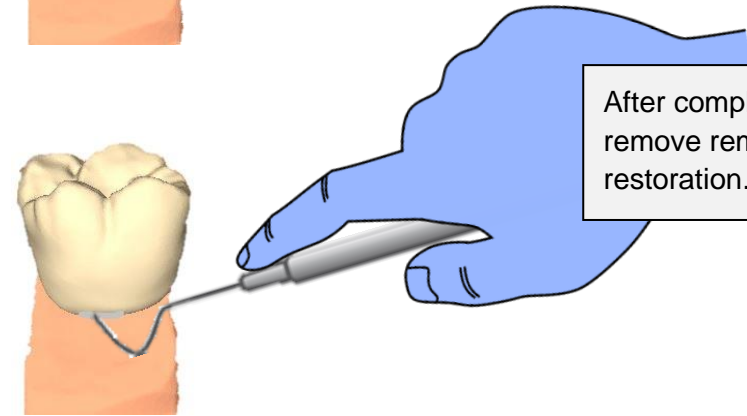
Set the restoration and press firmly.



Press further the occlusal onlay and carefully remove excess cement with a probe.



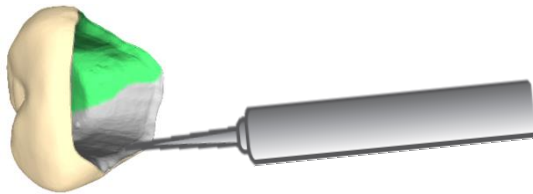
Leave the cement to harden.
⚡ Follow the application instruction from the product manufacturer.



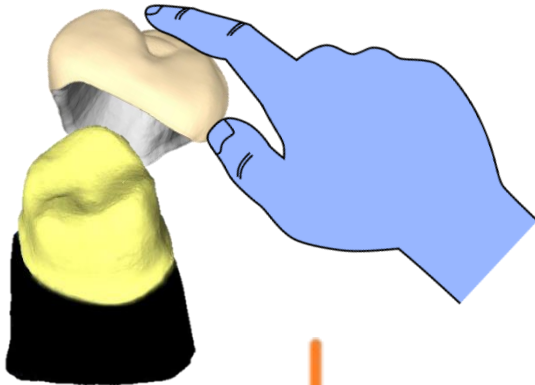
After complete hardening of the cement, remove remaining excess and clean the restoration.

6.3.2 Cementation – Adhesive cementation of a crown

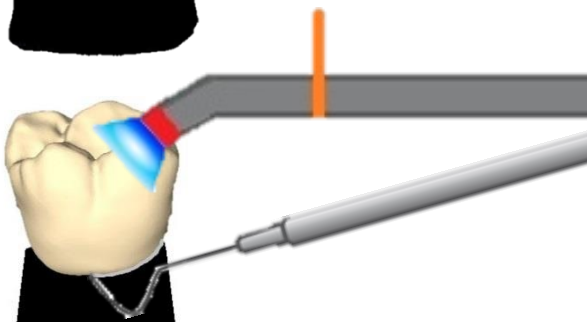
Adhesive cementation



Apply adhesive cement on the previously treated inner surface.
 ⚡ **Follow the application instruction from the product manufacturer.**



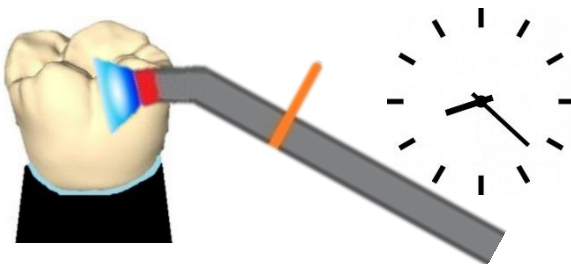
Place the restoration and press firmly.



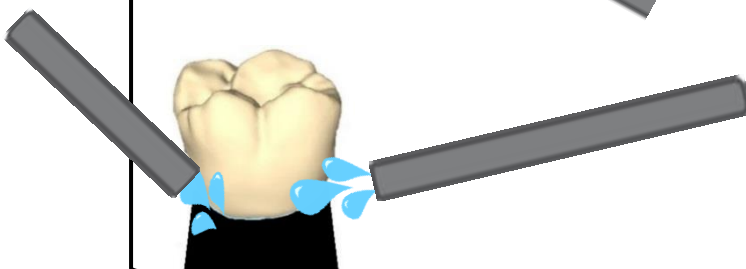
Polymerize the construction shortly and remove excess cement with a probe.
 ⚡ **Follow the application instruction from the product manufacturer.**



Apply glycerine gel to the cement joint. Glycerine prevents the contact with oxygen and ensures complete hardening of the joint.
 ⚡ **Follow the application instruction from the product manufacturer.**



Completely polymerize the construction evenly from all sides.
 ⚡ **Follow the application instruction from the product manufacturer.**



Clean the fully placed restoration with water and remove the glycerol and excess cement by suction.

*Our products are constantly being developed, which is why we reserve the right to changes. Please read the most current version of our digital information and safety data sheets. These can be found on our website: www.dentaldirekt.com **This version replaces all previous versions.***

