

Additional information for dentists

■ Recommendations for handling all-ceramic restorations in zirconium oxide

Contraindications

If space is restricted or in the case of patients with parafunctional habits (e.g. bruxism), an alternative type of restoration should be chosen. Similarly, grinding the interior of the crown substructure is contraindicated.

Preparation

Due to the physical properties of the zirconium oxide material, the tooth must be prepared with a pronounced chamfer or shoulder. A tangential preparation of the tooth dies is contraindicated (cf. ZENO® Preparation Guide).

Trimming the occlusal and approximal contact points

If correction work has been carried out on the ceramic veneer with rotary instruments, then this absolutely **must** be followed by a glaze bake.

This reduces stresses and may correct any damage that the veneer has suffered in the form of microcracks.

The restoration should not be subjected to extensive grinding.

Checking the fit of the framework

There must be no discernible independent friction at the tooth die. In order to prevent the ceramic from failing as a result of corrective grinding of the framework, e.g. on the inner surface of the crown, we recommend an initial try-in of the framework either before or just after firing. Furthermore, zirconium oxide frameworks must not be subjected to excessive contact pressure during grinding. Please use only the abrasives (fine-grain diamond burs)

specifically recommended for zirconium oxide and ensure that there is adequate cooling (e.g. by using a water-cooled turbine handpiece).

Conditioning the inside of the framework before cementing

Gentle sandblasting of the zirconium oxide substructure is recommended. This cleans the inner surface of the substructure and guarantees a better bond for the veneering ceramic.

The trimmed zirconium oxide substructure should therefore be blasted with approx. 110 µm aluminium oxide abrasive at approx. 1 bar.

Ensure that the inner surfaces of the substructure are free of dirt and grease.

Recommended fixing method

Zirconium oxide substructures can be fixed conventionally with phosphate or glass ionomer cement, but they can also be fixed with composite bonding materials (e.g. RelayX/Unicem from 3M ESPE or Panavia F 2.0 from KURARAY).

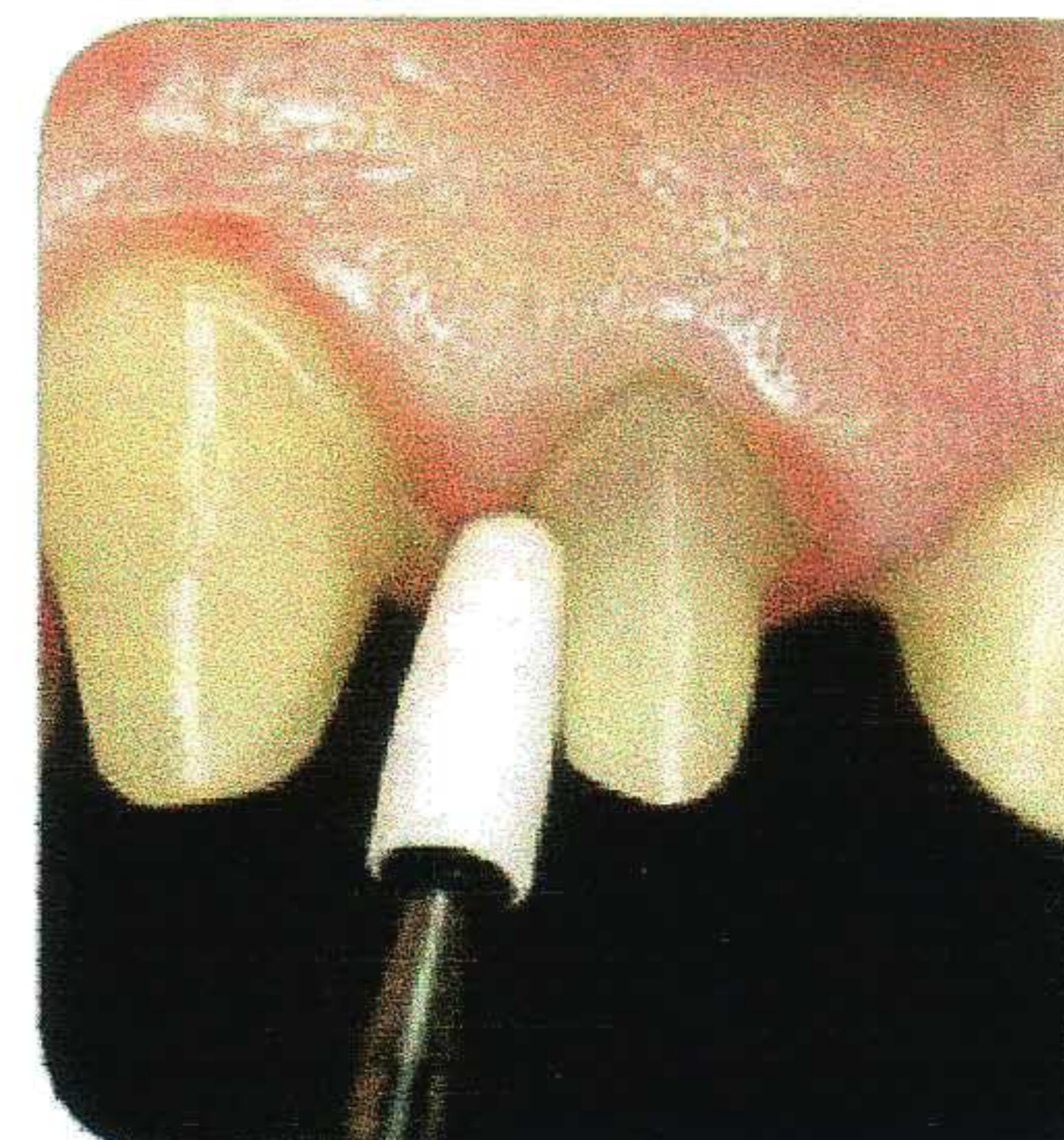
Note!

We advise against using compomers, acrylic modified glass ionomer cements with a high coefficient of expansion.

Note!

If the recommendations for working with this material are not followed, this can cause the ceramic veneer to crack or flake off or can even cause the restoration to fracture!

Photos: Dr. von Blanckenburg,
ZENO® Preparation Guide



A diamond instrument was used to customise the contour of this ceramic bur for use in special cases



Finished preparation



High translucency and light transmission all the way to the sulcus and the gingiva

Further information can be obtained from the Download Center at www.wieland-dental.com