

QualiSense NANOCORE ZR (MINIMIX)

Dual Curing Flowable Microhybrid Composite for Core Build-ups and Cementation of Posts

Instructions for Use

NANOCORE ZR is a dual cure high radiopaque flowable microhybrid composite material with nano particles (nano-zirconium dioxide, nano-calciumfluoride) for core-build-up and cementation of posts. Due to its excellent mechanical properties final crown preparation can be carried out more precise. **NANOCORE ZR** is also suitable for cementing of crowns and bridges, inlays and onlays. For all indications the use of a dual cure bonding agent (**e.g. ADHESIVE S2**) is required before application of the composite.

NANOCORE ZR is based on poly- and difunctional methacrylates and inorganic filler particles of 0.02-10 µm. The total filler content is 64 % by weight and 48 % by volume. Delivered in auto-mixing 1:1 MINIMIX-syringes it can be easily dispensed and applied directly. **NANOCORE ZR** exhibits a short setting time without high heat generation. The dual cure properties enables the dentist, also to carry out cementations and core build ups in cases where a light cure cannot be guaranteed to be sufficient.

NANOCORE ZR meets the requirements of **DIN EN ISO 4049, type 2, class 3.**

Indications

- Core build-ups
- Cementing of posts
- Cementing of crowns and bridges, inlays and onlays

Contraindications

The placement of **NANOCORE ZR** is contraindicated if a dry working area or the recommended application technique are not possible. Also do not use **NANOCORE ZR** if the patient is known to be allergic to any of the ingredients.

Side effects

In singular cases, **NANOCORE ZR** may cause a sensitizing reaction in patients with a hypersensitivity to any of the ingredients. In these cases, the material should not be used.

Irritations resulting from direct contact with the pulp cannot be ruled out. Therefore for pulp protection areas close to the pulp should be covered with a thin layer of calciumhydroxide material.

Incompatibility with other materials

Do **not** use in combination with substances containing eugenol because eugenol inhibits the polymerization of the composite. Neither store the composite material in proximity of eugenol containing products, nor let the composite allow coming into contact with materials containing eugenol.

Preparing the MINIMIX-Syringe

Remove the cap of the **MINIMIX-syringe** and throw it away (**do not use it again!**). It is replaced by a supplied **1:1 mixing cannula**. Turn the cannula **90°** until it locks in position. The material is now ready for application.

Note:

Store used syringe with fixed used mixing cannula. Discard the first 2-3 mm of the extruded material. This has to be done for each new mix.

Store used syringe with fixed used mixing cannula in the dark.

The working time (**23°C (74°F)**) of **NANOCORE ZR** in the self cure mode is **1:30 minutes** from start of mixing.

1. Post Cementation

1.1. Isolation

Use of a rubber dam to isolate the tooth is strongly recommended.

1.2. Root Canal Preparation

Refer to directions of the selected post manufacturer.

Before starting the preparation clean the tooth from residues. Prepare and clean the root canal with e.g. sodium hypochlorite solution, rinse and remove excess solution from the canal with a soft paper tip.

Recommended bonding agents for conditioning are:

- **UNIVERSAL ADH** combination with **UNI CATALYST** according to the self-etch technique
- **ADHESIVE T2**, use dual cure bonding system for the Total-Etch-Technique in combination with **ETCHING GEL**
- **EADHESIVE S2**, a self-etching dual cure adhesive
Apply the bonding agent according to the corresponding instructions.

1.3. Post Cementation

Prepare the selected post according to manufacturer directions.

NANOCORE ZR is applied into the prepared root canal and onto the post. Seat the post careful into the canal and maintain firm pressure until the post is seated. **NANOCORE ZR** self-cures within **3:30 minutes**. For post stabilization light cure the coronal part of the cemented post for **20 seconds** with a polymerization unit (**wavelength range 400-500 nm**) with a light intensity of at least 1000mW/cm².

As soon as the **NANOCORE ZR** has set proceed with the core-build-up procedure.

2. Core-Build-Up

2.1 Isolation

Use of a rubber dam to isolate the tooth is strongly recommended.

2.2. Cavity Preparation

Remove all existing old restorations and decay from the tooth. If necessary place any pins or posts. Refer to directions of the selected post manufacturer.

2.3. Pulp Protection

For pulp protection areas close to the pulp should be covered with a thin layer of calciumhydroxide material (**e.g. CH LINER**).

2.4. Application of a Bonding Agent

Recommended bonding agents for conditioning are:

- **UNIVERSAL ADH**, a light cure universal adhesive to be used with the self-etch technique, with preceding selective enamel etching or with the total-etch technique (**if required in combination with UNI CATALYST**)
- **ADHESIVE T2**, use dual cure bonding system for the Total-Etch-Technique in combination with **ETCHING GEL**
- **ADHESIVE S2**, a self-etching dual cure adhesive
Apply the bonding agent according to the corresponding instructions.

Note:

It is essential that the primed dentine and enamel surfaces are dry and contaminant free for the application of **NANOCORE ZR**.

2.5. Application NANOCORE ZR

Place the mixing cannula directly into the preparation and press out the paste.

NANOCORE ZR is automatically mixed when dispensed with slight and even pressure. Filling should occur from bottom upwards to prevent air voids. To facilitate placement of **NANOCORE ZR** place a matrix band around the prepared tooth.

NANOCORE ZR may be contoured by using a composite instrument. A flat-ended interproximal carver is recommended.

Place **NANOCORE ZR** directly into the preparation and allow the system to self cure for **3:30 minutes**. After that the material should be light-cured (**40 seconds**) with a polymerization unit (**wavelength range 400-500 nm**) with a light intensity of at least 1000mW/cm². With this technique an optimum of physical properties will be obtained.

An explorer can be used to test that **NANOCORE ZR** has completely set. Remove the matrix not earlier than the material has set.

Final core preparation on **NANOCORE ZR** can be carried out by using crown preparation burs.

Additional Notes

- Do **not** use any resin to adjust viscosity of composite restorative material.
- Contact of resin pastes with skin and gingival tissue should be avoided, especially by anyone having known resin allergies.

Storage

Do **not** store above 20 °C (68 °F). Store unopened material in the refrigerator.

Opened cartridges have to be used up within 3 months.

Do not use after expiry date.

Warranty

First Scientific Dental Materials GmbH warrants this product will be free from defects in material and manufacture. First Scientific Dental Materials GmbH makes no other warranties including any implied warranty of merchantability or fitness for a particular purpose. User is responsible for determining the suitability of the product for user's application. If this product is defective within the warranty period, your exclusively remedy and First Scientific Dental Materials GmbH's sole obligation shall be repair or replacement of the First Scientific Dental Materials GmbH product.

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Keep away from children!

For dental use only!



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