

NanoCem Ultimate Dual Cure Self-adhesive Resin Cement

INSTRUCTIONS FOR USE

NanoCem Ultimate is a user-friendly, dual-cure resin cement that offers exceptional bond strength and high adhesion. It is composed of a base and catalyst paste, dispensed via an automix syringe system for ease of use.

Indications for use

- Cementation of metal and resin crowns
- Cementation of dental bridges
- Bonding of inlays and onlays
- Cementation of all-ceramic restorations

Composition

- Methacrylate resins
- Barium glass
- Silicon dioxide
- Curing additives

Application protocol

1. Pre-application procedures

- Before use, verify the expiration date and ensure the packaging is free of contamination.
- Always consult the manufacturer's instructions for use prior to application.
- The product cap should be removed just before beginning the procedure.
- Prior to starting the procedure, a respiratory mask must be worn.

2. Application

I. Tooth preparation

- Before cementation, the preparation is thoroughly cleaned to eliminate all contaminants.
- The tooth is then dried with a gentle air stream or a cotton roll.
- All temporary restorations and provisional cements must be completely removed and the area must be cleaned.
- Rinse the surface thoroughly with water and gently air-dry.

Note: Etching may be necessary if the bonding surface includes uncut enamel.

II. Tooth surface etching (Optional)

- Applying an adhesive will provide clinically significant bond strength, which can be further enhanced by selectively or completely etching the enamel.
 - Selective enamel etching method: Apply etchant solely to the enamel for 10 to 15 seconds, followed by a thorough water rinse.
 - Total etching method: Begin by applying etchant to the enamel, then extend it to the dentin. After a 10 to 15-second wait, rinse thoroughly with water for a minimum of 15 seconds. Gently dry the surface with an air syringe or cotton pellet. Preventing excessive dentin desiccation after etching is critical for successful resin bonding and avoiding post-operative sensitivity.

III. Restoration preparation

- Refer to the manufacturer's instructions for proper preparation of the restorative material.

IV. Cement application and final bonding

1. Working and setting times

- Working and setting times are influenced by intraoral conditions, such as temperature.
- Curing accelerates at elevated temperatures, and exposure to operatory lighting may further shorten the working time.
- Working and setting times are based on typical clinical environments.
 - Room temperature: Working time is 3 minutes and 30 seconds; setting time is 4 minutes and 30 seconds.
 - Intraoral: Working time is 2 minutes; setting time is 2 minutes and 30 seconds.

2. Preparing the syringe and mixing tips

- Dispense a small amount of NanoCem Ultimate to ensure equal amounts of base and catalyst are extruded from the syringe outlets.
- To remove the cap, turn it a quarter-turn counterclockwise, then twist and press down on the base of the cap.
- Avoid contact between the base and catalyst to prevent premature curing at the syringe tip.
- Align the mixing tip with the syringe's alignment groove and secure it with a quarter-turn.

3. Cementation of restorations

- Extrude the mixed cement from the syringe and apply it to the internal surface of the restoration. Seat the restoration firmly with strong, consistent pressure.
- Remove excess cement from the margins using a brush tip.

Note: Do not apply cement directly to a tooth or cavity coated with adhesive, as this may hinder proper curing.

To achieve the optimal film thickness, seat the restoration within one minute of applying the cement; otherwise, curing may be compromised.

V. Excess cement removal

1. Light-curing method

- After seating the restoration, tack-cure the excess cement with a light-curing unit for 2 to 4 seconds. The excess will reach a gel-like state and can be easily removed.

Note: Avoid excessive light curing during this step, as it can over-harden the cement and make removal difficult.

2. Self-curing method

- Gelled cement can be easily removed between approximately 1 and 3.5 minutes after initial set. After 3.5 minutes, the cement becomes fully hardened and more difficult to remove.

Note: The setting time may vary by up to 20 seconds depending on the patient's oral temperature.

VI. Final adjustments

1. Final curing

- Translucent restorations (e.g., ceramics or composites): Light-cure the NanoCem Ultimate through the restoration for at least 20 seconds using a curing unit with an intensity of 600–800 mW/cm². If curing the entire surface at once is challenging, it is recommended to cure in sections.
- Opaque restorations (e.g., metal): Light-cure the margins for 20 seconds. Then, instruct the patient to apply normal occlusal force for 5 minutes to complete the self-curing process.

2. Finishing

- Polish the restoration surface using polishing agents to achieve a smooth finish.

Contraindications

- This product is contraindicated for use on patients with a known history of hypersensitivity or allergies to methacrylate-based resins.

Precautions

1. For professional dental use only.
2. Do not use on patients with a history of allergic contact dermatitis or rash from methacrylate resins.
3. This product is intended solely for application on oral tissues.
4. In the event of skin or eye contact, rinse thoroughly with clean water. Seek medical attention if necessary.
5. This product is restricted to its intended dental use and must only be handled by trained dental professionals.
6. Adhere to all procedural guidelines and precautions.
7. Store out of the reach of children and others who are not authorized dental users.
8. Do not use the product after its expiration date.
9. Handle the product with care and avoid excessive impact to prevent damage.
10. The components of this product must not be substituted with other materials.

Warning

- Do not overfill the restoration with the material. An excessive amount of unset material can generate heat as part of the exothermic setting reaction.

Storage

1. Protect the product from direct sunlight.
2. Store at a temperature between 1°C and 30°C.

Shelf-life

- 2 years from the date of manufacture.



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