NANOFIL®

INSTRUCTIONS FOR USE
NANOFIL Dental Bonding Agent B-10

PRODUCT DESCRIPTION

NANOFIL Dental Bonding Agent B-10 is a light-curing, single-component dental adhesive designed for the total-etch technique. It is a polymer-based material incorporating Pyromellitic Glycerol Dimethacrylate (PMGDM) and HEMA in an ethanol solvent to promote adhesion between hydrophilic dentin/enamel and hydrophobic restorative materials.

Delivery Form: 5 mL liquid in a light-protected dropper bottle.

Classification: Type 2, Class 2, Group 1 (according to ISO 4049:2019).

COMPOSITION

Pyromellitic Glycerol Dimethacrylate (PMGDM), 2-Hydroxyethyl Methacrylate (HEMA), Photo-initiator, Ethanol.

INDICATIONS FOR USE

Adhesive bonding for all classes of direct restorations utilizing light-curing composite materials (Class I–VI).

Adhesive bonding for core build-ups fabricated with light-curing composite materials.

Intraoral repair procedures of existing composite restorations.

Adhesive cementation of indirect restorations (e.g., inlays, onlays) and veneers ONLY when used in conjunction with a light-curing resin cement.

CONTRAINDICATIONS

Do not use this product in patients with a known history of hypersensitivity or allergic reaction to methacrylates, or any other components of the product.

Do not use with self-curing (chemical cure) or dual-curing composite cements/core materials, as the acidity of this adhesive may inhibit their polymerization.

Do not use directly on exposed pulp tissue.

WARNINGS

Sensitization: This product contains methacrylates and HEMA, which may cause allergic contact dermatitis or sensitization in susceptible individuals.

Eye Irritation: Contact with eyes may cause severe irritation or corneal damage.

Flammability: Contains ethanol. Keep away from open flames or sources of ignition.

PRECAUTIONS

For the Dental Team:

Personal Protective Equipment (PPE): Wear protective gloves, protective eyewear, and masks. A "no-touch" technique is recommended.

Contact Management:

- oSkin: If contact occurs, wipe off immediately with a cotton pellet, then wash with soap and water.
- oEyes: If contact occurs, flush immediately with copious amounts of water and seek medical attention.

Cross-Contamination: To prevent cross-contamination, do not dispense directly from the bottle onto the patient's tray or instruments. Dispense into a mixing well.

For the Patient:

Avoid prolonged contact with oral soft tissues. If accidental contact occurs, flush with water.

If an allergic reaction (e.g., eczema, swelling) occurs, discontinue use and refer the patient to a dermatologist/physician.

Material Interactions:

Eugenol Inhibition: Do not use eugenol-containing materials (e.g., ZOE temporary cements) prior to bonding, as phenolic compounds inhibit the polymerization of methacrylates.

Hemostatics: Avoid hemostatic agents containing ferric sulfate, which may compromise bond strength.

CLINICAL PROCEDURE

Step 1: Isolation and Preparation

Isolate the operative field, preferably using a rubber dam.

Prepare the cavity according to standard clinical guidelines.

Clean the enamel and dentin surfaces with oil-free pumice paste and water.

Rinse thoroughly and dry with oil-free air.

Step 2: Etching (Total-Etch Technique)

Apply a phosphoric acid etchant (e.g., NANOFIL Etchant Gel AT-37) to the enamel

for 20–30 seconds and to the dentin for 15 seconds.
Rinse thoroughly with water for at least 10 seconds.
Drying: Lightly air dry or blot with a cotton pellet. Do not desiccate the dentin; the surface should remain slightly glistening (moist bonding technique) to prevent collagen collapse.

Step 3: Dispensing

Remove the cap and dispense the necessary amount of NANOFIL Dental Bonding Agent B-10 into a mixing well.
Recap the bottle immediately to prevent solvent evaporation and light exposure.

Step 4: Application

Using a disposable micro-applicator, apply a generous coat of adhesive to the entire etched surface.
Agitate: Rub the adhesive into the dentin/enamel for 30 seconds.
Solvent Evaporation: Gently air dry with oil-free air for approximately 5 seconds (or until the liquid film stops moving). This ensures the ethanol solvent has evaporated. The surface should appear glossy and immobile.

Step 5: Polymerization

Light cure for 20 seconds using a standard halogen or LED curing light (wavelength 400–500 nm, intensity >500 mW/cm^2).
Note: Ensure the light guide tip is positioned as close to the surface as possible without touching it.

Step 6: Restorative Placement

Proceed immediately with the placement of the light-curing composite or compomer material according to the manufacturer' s instructions.

STORAGE AND STABILITY

Temperature: Store at room temperature 2°C – 25°C (36°F – 77°F).
Shelf Life: Do not use after the expiration date printed on the packaging.
Light Sensitivity: Keep the bottle tightly closed and away from intense direct light or operating lights.
Disinfection: The bottle exterior may be disinfected using intermediate-level disinfec tant wipes. Do not submerge the bottle.

DISPOSAL

Dispose of contents/container in accordance with local/regional/national regulations. Liquid residues should be treated as hazardous chemical waste.

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Version: 6.0 Date of Issue: 2025-12-15

CE 0197