

Restorite Nano Composite Kit

Introduction: Restorite Nano Composite Kit by Prime Dental Products is the right restorative option offering a complete solution for a composite restoration, that is; **Etch, Bond, Fill & Finish.**

Kit Contents:

- 1 x 3ml Restorite Etching Gel – 37% Phosphoric Acid Gel
- 1 x 5ml Restorite Bond 5G – 5th Generation Bonding Agent
- 4 x 4g Restorite Nano Composite Syringes
- 1 x 4g Aster Compo- Alumina based composite polishing paste (fine grit)
- 10 x Microbrushes
- 5 x Application needles

Indications:

- Direct anterior and posterior restorations in Black's class I, II, III, IV, and V cavities.
- Indirect restorations such as inlays, onlays and laminate veneers
- Extended fissure sealing in molars and premolars
- Endodontic posts
- Splinting mobile teeth
- Adjusting the contours and shades to improve aesthetics

Brief Introduction of all the contents:

(kindly note for an in-depth instruction of use for each product, visit our website - www.Prime-Dental.com)

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Etch - Restorite Etching Gel: is a formulation of 37% phosphoric acid in thixotropic gel consistency, indicated for enamel etching and dentin conditioning.

Bond - Restorite Bond 5G: is a 5th generation total-etch bonding agent for enamel and dentine

Fill - Restorite Nano Composite is a Urethane Dimethacrylate based light curing composite, containing an ultrafine, radiopaque glass filler and is indicated for placing fillings using adhesive techniques. The composition with ultrafine filler leads to exceptionally homogenous restorations

Physical properties:

- Volume shrinkage: **1.3%**
- Young's modulus (Mpa): **16,575**
- Bending strength (Mpa): **157**
- Vickers hardness (Mpa): **948**
- Compressive strength (Mpa): **432**
- Filler Load: **83.5% by weight**
- Tensile strength(Mpa): **56**

Finish – Aster Compo: is an alumina-based abrasive to maximize the polishing/finishing of synthetic restorative materials (Composites) and Enamel. The thixotropic properties are controlled in a manner to ensure non splattering effect. It is a fine grit blue paste with a mint fragrance.

Procedure:

Pretreatment: Before commencing the treatment, clean the tooth with non-fluoride polishing paste (**Prime Dental's Aster Proply**). Use a Vita® shade guide to select the shade while the tooth is still moist.

1. Cavity preparation: Minimal-invasive preparation of the cavity as generally required for adhesive techniques. All enamel margins in the anterior region must be beveled. Do not bevel the margins in the posterior region and avoid slice preparations. Spray the cavity with water to clean it, remove all debris and dry it. The cavity must be isolated. It is advisable to place a rubber dam.

2. Pulp protection/ Cavity liner: If an enamel-dentine adhesive is used during regular cavities no cavity liner is required. In very deep cavities areas in close proximity to the pulp must be coated with a calcium hydroxide material. (**Prime Dental's Restorite LC Cal**)

3. Approximal contact areas: When filling cavities with approximal sections, place a transparent matrix and fix it in place.

4. Etch: Apply **Restorite Etching Gel** first to the enamel areas of the cavity and let it take effect for 30 seconds. Then fill the whole cavity (dentine) with Restorite Etching Gel and let it take effect for a further 15 seconds. The etching time in the dentine should not exceed 15 seconds. Then rinse the cavity thoroughly with a water spray and dry it with oil-free compressed air. Do not over dry the dentine. Dried, etched enamel surfaces have a chalky-white appearance and must not be contaminated before the bonder is applied. If the surface becomes contaminated with saliva, rinse and dry again and re-etch if necessary. (**For drying Prime Dental's Dent Dry can be used**)

5. Bond: Take **Restorite Bond 5G**. Unscrew the cap. Squeeze out the exact number of drops you need into the disposable well. When finished, screw the cap back on to the bottle. Immediately after dispensing apply 2-3 consecutive coats of adhesive to etched enamel and dentine for 15 seconds with gentle agitation using a fully saturated applicator. Gently air thin for five seconds to evaporate solvents. Light cure for 10 seconds.

6. Composite Filling: Extrude the required amount of **Restorite Nano Composite** from the screw syringe, place it in the cavity with a standard instrument and contour it. The layers may not be thicker than 2 mm. Due to the effect of the oxygen in the air, a thin layer of unpolymerized material remains on the surface of each layer. This bonds the layers chemically and should not be touched or contaminated with moisture.

7. Curing: All shades must be light cured for 40 seconds per layer using a commercially available light curing unit. The light guide must be held as close as possible to the surface of the filling. Multiple surface fillings should be light cured from each side.

8. Trimming: Restorite Nano Composite can be trimmed and polished immediately after curing using finishing diamonds, flexible disks, silicone polishers and polishing brushes. Check the occlusion and articulation and spot grind to eliminate high spots or undesirable paths of articulation from the surface of the filling.

9. Final Finish: Apply **Aster Compo** paste on the cup/brush or directly over the tooth or on the restoration material. Use the paste in low rotation, applying low pressure with intermittent touches and in circular movements. The paste is thixotropic in nature and more fluidity can be attained when subjected to rotation.

After the final finishing use **Prime Dental's Restorite Cavo Surface Sealer**. It is a light cured unfilled methacrylate resin that penetrates, seals cracks and surface porosity in composite restorations. This product applied at the restoration placement and on an annual basis, improves marginal integrity of composite restorations by filling microscopic cracks in composite surfaces.

Note:

The working time under a surgical lamp is approximately 2 minutes. In case of time-consuming restorations, the surgical lamp should be either temporarily moved away from the working area or the material should be covered by an opaque foil in order to prevent the composite from curing too early. Use a light-curing unit with an emission spectrum of 350 nm and above for the polymerization this material. As the required physical properties can only be achieved when the lamp works correctly, its luminous intensity must be checked regularly as described by the manufacturer.

Contraindications/ interactions:

If a patient has known allergies against or hypersensitivities to a component of this product, it must not be used or only under strict medical supervision by the doctor/ dentist. The dentist should consider known interactions and cross-reactions of the product with other materials already in the patient's mouth before using the product. Unpolymerized composite may cause skin allergies. The user must take adequate precautions. In case of irritation or allergy due to one of the constituents listed under "Composition", do not use this material.

Interactions with other substances:

As phenolic substances (such as eugenol) inhibit polymerization, do not use cavity liners (such as zinc oxide eugenol cements) containing such substances.

Side-effects:

With proper use of this medical device, unwanted side-effects are extremely rare. Reactions of the immune system (allergies) or local discomfort, however, cannot be ruled out completely. To prevent possible reactions of the pulp in cavities where the dentine is exposed, the pulp must be protected adequately (e.g. calcium hydroxide preparation)

Storage: Store all kit contents away from sunlight in cool and dry place. Refrigerate material, do not freeze.

Special storage notes:

Restorite Nano Composite -Close the cap of the screw syringes tightly immediately after use. The material should be at room temperature before use.

Restorite Etching Gel/Aster Compo- Close the cap of syringe tightly immediately after use. Retract the plunger of the syringe slightly to prevent the apertures becoming blocked.

Restorite Bond 5G- Close the cap of bottle tightly immediately after use

Do not use after expiry date (refer to label of individual packs). For use by dentists only. Keep out of reach of children. This product was developed specifically for the described range of applications. It must be used as described in the instructions. The manufacturer is not liable for damage caused by handling or processing the material incorrectly.