

ESTELUX NC

Nano-hybrid composite light-cure filling material

COMPOSITION

Urethane-methacrylate, Bisphenol A-glycidyl methacrylate (Bis-GMA), Triethylene glycol dimethacrylate (TGM), Butylated hydroxydetoluene, Camphorquinone, Trimethacrylate triethanolamine (TMATEA), Fluorescent pigment, Barium aluminoborosilicate glass PM-3, Glass filler GM 32087, Glass filler Nano Fine 27884, Aluminum oxide, Silane A-174, Iron oxide pigments, Hema Phosphate, acetone

PURPOSE.

Light-cure composite nano-hybrid material "ESTELUX NC" is designed for use in therapeutic dentistry to restore esthetically the cavities of teeth of I - VI classes for adults and children, to use sandwich-technique, to make inlays, onlays, veneers, to form tooth core. It is cured by light wavelength of 450 - 500 nm.

PROPERTIES

"ESTELUX NC" is nano-hybrid composite which contains particles with the dispersion of 20-100 nm, 0.04-1 micron which allows to create dense filling. The degree of filler contained in the matrix is 80±2% by weight.

The material has high strength, flexural strength is not less than 50 MPa, diametric strength is not less than 34 MPa, polymerization depth for 10 seconds of light exposure is not less than 2 mm.

The material has thixotropy, which allows easily to create complicated forms, is radiopaque, fluorescent, color stable, is easily polished to "dry light".

The material is produced of the following VITA shades: EA1, EA2, EA3, EA3,5, EB2, EB3, EC2, EC3, DA1, DA2, DA3, DA3,5, DB2, DB3, DC2, DC3, DD3, OA2, OA3, OB2, OB3, incisive edge TC, white, in 3 transparency levels: enamel (E), dentin (D), opaque (O).

Clinical procedure

While working with ESTELUX NC it is recommended to use the traditional technique of working with composite materials, by making obligatory micromechanical adhesion of the material to the tooth. Temporary and layer materials, if used, should not contain eugenol.

Shade determination

Before determining the shade it is necessary to clean the tooth enamel by the prevention paste or pumice. The teeth should be moist for shade determination. Shade determination is made by natural or artificial light. Determine color of the middle part of tooth comparing it with VITA scale template.

If you plan to use 1 transparency level of material, choose shade D, comparing middle part of tooth with the template.

If you plan to make restoration with the use of 2 levels of transparency, while choosing E shade, you should estimate color of the upper 1/3 part of the crown and of incisive edge or the peak of vestibular part of the molar. Choose color matching the central part of VITA template.

Attention! Intensity of color of restoration material depends on thickness of the layer.

In complicated cases place the material of chosen shade on the unetched tooth. Form the material in such a way as to create the model of future restoration by thickness and form, light-cure the material, and then estimate the correspondence of chosen shade and transparency under natural and artificial light. Get agreement from the patient to the chosen color. Remove restoration material from the tooth with the use of probe or excavator.

Cavity preparation

Prepare the cavity according to the principles of the adhesive technique, round the angles. Clean with a spray of water and dry with air. Prevent oral fluids, blood from contacting the prepared cavity. Appropriate isolation with a rubber dam or a cotton roll may be used.

Etching of enamel and dentin

The technique of total etching is recommended with the use of etching gel containing 34-37% of orthophosphoric acid. Enamel is etched for not less than 15 seconds, dentin – for 5-10 seconds depending on indications. Then rinse the gel off with water, dry the tooth surface with air, avoiding overdrying dentin. Protect etched and dried tooth surface from contamination with mouth waters, blood, saliva. In case of contamination repeat the etching for 10 seconds.

Application of Primer-adhesive for enamel and dentin

Apply Primer-adhesive with a brush or applicator, spread it evenly thinly over the enamel and dentin surface, rub it for 15 seconds, blow with air until the movement of liquid in Primer –adhesive is stopped. Remove excess of material and cure with light for 10-20 seconds. To increase the adhesion it is recommended to place the second layer of Primer-Adhesive; then remove the excess material with; cure for 20 seconds.

Placing and curing Estelux NC material

Restore lingual and side walls of the tooth with the material of chosen shade with E transparency by layers of 2 mm or less, then cure the layer for at least 20 seconds if halogen source of polymerization is used, and at least 10 seconds for light-emitting diode one.

The main body of restoration perform with material of the chosen color with D transparency by layers of 2 mm or less, then cure the layer for 20 seconds. If necessary for restoration of incisive edge, cover the restoration by thin layer of material of E transparency of the chosen shade. Cure for 20 seconds.

Light cure is made with the use of light with wavelength of 450 - 500 nm and light density of 600 mB/cub.cm, the light source should be held as close to the material as possible.

The technique of placing the material in layers allows to minimize the shrinkage of the material. Use matrix strips if necessary. In case of Class III and IV restoration the material should be cured from both vestibular and oral surface. If composites of EC3, ED3, DA3,5, DC3, DD3, OA2 OA3, OB2, OB3 Vita shades are used, the time of curing should be increased by 10 seconds.

Finishing

Finishing may begin after curing the last layer. Use finishing diamond or carbide drills and water cooling. For polishing seal surface use silicone polishing heads of various forms, discs and strips.

CONTRAINDICATION

With patients having increased sensitivity and allergy for methacrylate resins, Estelux NC material should be used with care.

POSSIBLE SIDE EFFECT

Estelux NC material and Primer-adhesive contain substance which with patients having allergy may cause allergic reaction while contacting oral mucosa and skin.

PRECAUTIONARY MEASURES

Etching gel contains orthophosphoric acid. Avoid contact with skin, oral mucosa, eyes and clothes. In case of contact with these, rinse with large amount of water.

TRANSPORTATION

Estelux NC kits may be transported by all types of covered transport vehicles in accordance with rules of transportation for each type of transport. It may be transported via post, by cars and in containers. Temperature during transportation should be within $+(5+24^{\circ})$ C

STORAGE

Syringes with Estelux NC material must be closed immediately after use. Estelux NC kits should be kept in a place not exposed to direct sunlight at temperature $+(5+24^{\circ})$ C. If refrigerated during storage, the material before use must be kept at room temperature for at least 1 hour.

SHELF LIFE

Shelf life of the material is 2 years. Do not use the material after expiration of shelf life

PRODUCER GUARANTEE

The producer guarantees correspondence of Estelux NC material to all technical requirements on condition of observing all rules of utilization, transportation and storage.

PLACES OF USE

For use in hospitals, dentistry clinics and mobile medical complexes.

DISPOSAL

Disposal of material with expired shelf life or which became unfit for other reasons, should be made through collection of material into container with subsequent removal by a specialized agent.

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