EDGE COM

Nano-Hybrid Universal Composite

HAMERZ MEDICAL

EDGE COM is a light-curing nano-composite for the adhesive filling techniques. It contains an ultrafine, radiopaque glass filler. This composition results in exceptionally homogenous restorations. The guidelines and requirements of ISO 4049:2019 has been met.

Composition

Monomer matrix:
Bis-GMA, BDDMA, DUDMA, CQ and other additives
Filler content:
77 %wt inorganic filler (28 nm - 10 µm)

Indications

- Direct anterior and posterior tooth restorations in Black's classes I, II, III, IV and V.
- Indirect restorations such as inlays, onlays and veneers
- Correction of shape and shade resulting in esthetic properties

Application

Preparation of the natural tooth
Before starting the treatment, clean the hard tissue with fluoride-free polishing paste. Choose the color using the Vita®*-shade guide while the tooth is still moist.

Cavity preparation

Gently prepare the hard tissue according to the rules of the adhesive technique. When working on anterior teeth, bevel all enamel edges. Do not bevel the edges when working on posterior teeth. Avoid feather-edged margins. Next, clean the cavity with water spray, remove all residues and dry. Complete drying is necessary. The use of a rubber dam is recommended.

Design of approximal contacts

In cavities with approximal sections, set in a transparent matrix and fix.

Etching and bonding

Apply Etching Gel to the prepared surface, etch enamel for 30 sec and/or etch dentin for 15 sec. Thoroughly rinse the etching gel off with water. Avoid drying out the dentin. Dried, etched enamel surfaces have a chalky-white appearance and must not be contaminated before the bonding is applied. If the preparation area is contaminated by saliva, rinse and dry again. Etch once again, if necessary.
Shake the bonding agent well before use. Liberally apply the bond to the dentin and enamel surfaces with a brush. Brush intensively for about 30 sec. Afterwards, carefully dry with oil-free compressed air for about 15 sec. Cure the bonding layer for 20 sec with a light curing device, before applying a second layer of bond in the same way. Refer to the instruction of the manufacturer for more details.

Application of the composite

Take the required amount of composite out of the application tip. Fill the cavity with the material and shape as needed, using conventional suitable instruments. The layer thickness of 2 mm must not be exceeded. Due to the oxygen in the ambient air, a thin dispersion layer will remain on top of each layer. This dispersion layer forms the chemical bond between the layers and must not be touched or contaminated with moisture.

Polymerization

The polymerization time is 20 sec per layer using a light curing device. Hold the light-guide as close to the surface of the filling as possible. Fillings with several surfaces should be polymerized from the direction of each surface.

Finishing

EDGE COM can be finished and polished immediately after polymerization. Application of finishing diamond burs, flexible separating discs, silicone polishers and polishing brushes are recommended. Check occlusion contacts and functional movements, correct if necessary. Finally, polish with suitable polishing pastes.

Special instructions

- The working time under a surgical light is 2 min.
- In case of extensive restorations, the surgical light should be moved away from the working area temporarily to avoid premature curing of the composite. Alternatively, the material can be covered with a light-tight foil.
- Use a light curing device with an emission range of 450 nm and intensity of 500 mW/cm² to polymerize the material. The required physical properties are only reached if the light curing device functions properly. Therefore, it is necessary to check the light intensity regularly according to the manufacturer's instructions.

Storage / Cautions

Store at temperatures between 10 °C and 25 °C (50 °F to 77 °F) - Avoid direct sunlight. Let the material reach the room temperature before use - Withdraw the plunger slightly after use to keep the outlet from becoming clogged - Do not use after the expiration date (see label on the syringe) - Only for use in dentistry - Keep out of children's reach - This product has been developed for the specific use above mentioned - Only process as described in these instructions - The manufacturer will not be held liable for any damages that result from improper use or improper processing.

Side effects

With proper use of this product, unwanted side effects are extremely rare. Reactions of the immune system (e. g. allergies) or local discomfort, however, cannot be ruled out completely. Should you learn about unwanted side effects – even if it is doubtful that the side-effect has been caused by our product – please kindly contact us. In order to avoid a possible pulp reaction, always prepare a liner in cases with exposed dentin (e. g. compound containing calcium hydroxide).

Contraindications / Interactions

If a patient has known allergies against or hyper-sensitivities towards a component of this product, we recommend not to use it or to do so only under strict medical supervision. In such cases, we will supply the composition of our medical device upon request. 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 resin may lead to skin allergies. Therefore, the user should consider protective measures. Phenolic substances (e. g. eugenol) inhibit polymerization. Therefore, these materials (e. g. zinc oxide eugenol cements) must not be used as a liner. Discoloration may occur upon using chlorhexidine or oral washing liquids.

Shelf life

Shelf life of the material is 3 years. Do not use after the expiry date.

Discard

The material must be discarded as a hazardous material.

Troubleshooting

Trouble	Cause	Remedy
Composite does not cure.	Light output of the polymerization lamp is insufficient.	Check the light output and, if necessary, replace the light source.
	Emitted wavelength range of the polymerization lamp is insufficient.	Consult the manufacturer of the polymerization lamp. Recommend wavelength range 450 nm.
Composite inside the syringe is sticky and soft; clear liquid separates from the material inside the syringe.	Material was stored at temperatures 25 °C (77 °F) for a longer period of time.	Please note the storage temperatures: Store at temperatures between 10°C (50 °F) and 25 °C (77 °F). Short-duration storage in a refrigerator.
	Material was stored in the syringe heater for too long.	Never leave a syringe longer than one hour per use in a syringe heater.
Composite appears to be too compact and hard inside the syringe.	Material was stored at temperatures < 10 °C (< 50 °F) for a longer period of time.	Let composite reach room temperature before use. If necessary, use a syringe heater.
	Syringe was not closed correctly; composite has started to polymerize.	Each time after removing material from the syringe, correctly cap and close the syringe.
Composite does not cure all the way through (dark or opaque colors).	Layers per polymerization cycle were too thick.	Do not exceed max. layer thickness of 2.0 mm per layer.
Restoration has a yellowish tint when compared to the color reference.	Insufficient polymerization of the composite layers.	Repeat polymerization cycle several times; at least 20 sec.

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