Technical data

Adhesiveness to dentin and etched enamel	30	MPa
Adhesiveness to non precious metals (Co/Cr)	24	MPa
Adhesiveness to precious metals (Au/Pd)	6	MPa
Curing time with dental halogen or LED curing unit	40	sec.
Setting time for the 1:1 mix with ENA BOND CATALYST for self curing without light, air excluded (see ENA BOND CATALYST instructions)	ca.	3 min.

MSDS available on website: www.micerium.com

MICERIUM S.p.A. Via G. Marconi 83 16036 Avegno (GE) Italy
Tel.+39-0185-7887870 fax: +39-0185-7887970
www.micerium.it e-mail: micerium@micerium.it
Export Direct Line: Tel. +39-0185-7887880 e-mail: hfo@micerium.it

CE 0123

File: ENA BOND KIT_EN_v3.6_2020-05

ENA BOND (EN)
Single component bonding

Information on product
ENA BOND is a strong dentin-enamel bonding system consisting of a single light curing component including both primer and adhesive.
ENA BOND is designed for strong bonding of composites, compomers and metals to enamel and dentin and no precious and precious metals.
ENA BOND can be also used for priming the root canals before filling of the root canals or cementations of endodontic posts.
ENA BOND is further designed as primer for adhesive lutings for indirect restorations, e.g. ceramic, metal and composite inlays, onlays, veneers, crowns and bridges with a self or dual curing composite cement.
ENA BOND assures a long lasting adhesive strength and a good biocompatibility.
ENA BOND is compatible with all current brands of visible light curing composite restorative materials.
ENA BOND is ethanol-based. As it is hydrophilic, ENA BOND can be used on slightly moist dentine surfaces (wet-bonding-technique).
In the rare cases a dual or self curing priming and bonding system is recommended ENA BOND can get dual cure when applied as a 1:1 mixture of ENA BOND and ENA BOND CATALYST. The activator is available separately. For these applications refer to recommendations for use of **ENA BOND CATALYST.**
ENA ETCH is an etching gel in red colour (37% phosphoric acid).

Indications
- adhesive for direct restorations with light-curing composite
- adhesive for indirect ceramics or composite restorations (inlays, onlays, veneers)

Contra-indications
If a patient has known allergies against or hypersensitivities 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.

ENA BOND One component: instructions for use

1. Bonding of light curing composite restorations
Rubber dam is the recommended method of isolation. Prepare the cavity with minimal tooth reduction. Base only those areas in close proximity to the pulp using hard-setting calcium-hydroxide material, covered by a very thin layer of glass ionomer (Some authors avoid this passage). Apply ENA ETCH etching gel on the all cavity (enamel and dentin-total etching technique). Leave the ENA ETCH etching gel in place for 15 seconds. Rinse and apply it again for only on the margins of enamel for others 20 seconds. Rinse and dry with oil-free and water free air, leaving the dentine wet (wet technique).
ETCHING PRECAUTION: it is essential that the etched enamel and dentine are not contaminated by anything, otherwise the etching process should be renewed. Hazard statements: causes severe skin burns and eye damage. Precautionary statements: skin (or hair) immediately remove all contaminated clothing. Wash with water. Eyes: Rinse cautiously with water for several minutes. Remove any contact lenses, and continue rinsing. Immediately call a poison centre/doctor. Apply an adequate amount of ENA BOND with a brush or with a small sponge (Ena Bond applicator) on the dentin-enamel surfaces for 20-30 seconds, spread with air without oil or water, cure the entire surface with a halogen / LED curing unit for 40 seconds. An additional second film of Ena Bond has to be applied following the same above mentioned procedure. Apply then the filling material (see *ENA HRi / Enamel Plus HRi* instructions).
2. Post luting with adhesive technique

The use of a rubber dam to isolate the tooth is strongly recommended. Prepare and clean the root canal; microblasting of cavity surfaces is recommended in order to clean and eliminate endodontic material debris. Etch the cavity with Ena Etch 37% phosphoric acid for 2 minutes. Wash accurately the canal with a syringe to remove completely the acid. Suck water and dry the canal with paper point; in order to maintain wet the dentine and avoid collagene collapse do not dry with air. Apply in the cavity and in the canal the mixture of Ena Bond and Ena Bond Catalyst, in order to make it dual to be certain of complete polymerisation. The adhesive should be wiped on the surface with a disposable microbrush or with a paper point; **Attention**: Ensure that microbrush reaches into the depths of the canal and that the Bonder is evenly rubbed in everywhere. Microbrush should not touch the surface or possibly get jammed. Dry with air to eliminate water and solvent residuals. Insert the post to check the canal and better push adhesive in dentine tubules. Apply a dual composite cement into the canal. Apply some cement on the post surface and insert slowly the post to full depth. Light cure for 60 seconds and proceed to the restoration. Refer to manufacturers instructions for placement of the post and curing of the composite cements (See Ena Post and Ena Cem instructions).

3. Sealing of the cavity before amalgam filling restorations

Prepare the cavity, etch, wash and apply the adhesive. Important: in such clinical situations, to be certain of complete polymerisation, ENA BOND should be mixed with ENA BOND CATALYST in order to be dual. Cure the bonding with a halogen / LED curing unit for 40 seconds. An additional second film of Ena Bond has to be applied following the same above mentioned procedure. Apply amalgam following the manufacturer's instructions.

Note: the Bonding Resin will not self-cure without the corresponding catalyst. If not used immediately place the dispensed adhesive in subdued light to prevent premature polymerisation by incident light.

ENA BOND Catalyst: instructions for use

Ena Bond Catalyst is an additive which is simply mixed with Ena Bond to convert it to a dual-curing or self curing primer and bonding system.

1. Placing indirect restoration

For cavity preparation and etching, follow Ena Bond bonding instructions.

- Preparation and application of the mixture of *Ena Bond Bonding* and *Ena Bond Catalyst*

Once the cavity has been prepared, place one drop of *Ena Bond Bonding* in a mixing well. Add one drop of *Ena Bond Catalyst* and mix for 15 seconds in subdued light.

- Application to dentine and enamel

Apply an adequate amount of the *Ena Bond Bonding* and *Ena Bond Catalyst* mixture to the dentine and enamel surfaces and brush it in vigorously for 30 seconds to produce a homogeneous coat. Apply the mixture repeatedly to ensure that the dentine and enamel surfaces are kept moist with the mixture for the required time. Then dry carefully with oil-free compressed air for approximately 15 seconds. Cure the *Ena Bond Bonding/Ena Bond Catalyst* coat for 20 seconds with a halogen / LED curing unit before applying a second coat (refer to next point).

- Application of the second coat

The second coat is applied by brushing an adequate amount of dual-curing *Ena Bond Bonding/Ena Bond Catalyst* mixture into the surfaces vigorously for 30 seconds. The surface is then dried again for approximately 15 seconds with oil-free compressed air and cured for 20 seconds with a curing light. It is very important that the surfaces remain dry and clean until the indirect restoration is placed. This dual-curing system cures automatically within 3 minutes of applying it and placing the indirect restoration.

- Luting the indirect restoration

Refer to *ENA HRi / Enamel Plus HRi* instructions for use.

2. Bonding self-curing and dual-curing composites or compomers

- Cavity preparation and application of *Ena Bond Bonding/Ena Bond Catalyst* mixture

After preparing the cavity as described in *Ena Bond Bonding*, place one drop of *Ena Bond Bonding* in a mixing well.

Add one drop of *Ena Bond Catalyst* and mix for 15 seconds in subdued light.

- Application to dentine and enamel

Apply an adequate amount of the *Ena Bond Bonding* and *Ena Bond Catalyst* mixture to the dentine and enamel surfaces and brush it in vigorously for 30 seconds to produce a homogeneous coat. Apply the mixture repeatedly to ensure that the dentine and enamel surfaces are kept moist with the mixture for the required time. Then dry carefully with oil-free compressed air for approximately 15 seconds. Cure the *Ena Bond Bonding/Ena Bond Catalyst* coat for 20 seconds with a halogen / LED curing unit before applying a second coat (refer to next point).

- Application of the second coat

The second coat is applied by brushing an adequate amount of the *Ena Bond Bonding/Ena Bond Catalyst* mixture into the surfaces vigorously for 30 seconds. Dry the area with oil-free compressed air for approximately 15 seconds. It is very important that these surfaces remain dry and clean until the chemical or dual-curing composite or compomer is applied. The dual-curing system cures within approximately 3 minutes of being applied and placing the chemical or dual-curing filling material. Dual-curing filling material can also be cured with a lamp to curtail the curing time.

- Luting the fillings

Please refer to the chemical or dual-curing composite/compomer manufacturer's instructions.

Important notes

Ena Bond is a one-component enamel-dentin bonding based upon Ethanol, which has the advantage of being non-toxic and nevertheless volatile. It therefore allows to concentrate the diluted ingredients for a good bonding between dentin / enamel and composite. One major part of the formula of *Ena Bond* is methacrylatcarbonacid-esters. These materials are developing their maximum bonding values under wet conditions. This is necessary due to the fact that dentin always contains certain quantities of physiological fluids. The major important point for getting maximum bonding values is the right way of *Ena Bond* application. The material has to be applied with a small brush on dentin and enamel surfaces. The bonding has to be massaged over a period of minimum 30 seconds into the cavity. It has to be sure that the total surface of both dentin and enamel are wet and covered with *Ena Bond*. There should be no excess of liquid quantities. After having applied a thin film of the materials with a brush over a period of minimum 30 seconds the surface has to be dried carefully with a stream of air from the dentist chair (oil free) over a minimum period of 15 seconds. Cure *Ena Bond* for 40 seconds with a powerful halogen lamp / LED curing unit. An additional second film of *Ena Bond* has to be applied following the same above mentioned procedure. After the light curing process the surface of *Ena Bond* is still wet and not a hard film. After applying the composite on the wet surface *Ena Bond* develops, together with the composite, the optimal bonding values under oxygen-free conditions. The above described instructions are very important and should be followed carefully.

Additional Notes: Do not use any resin or liquids to adjust the viscosity of the adhesive. Do neither store the adhesive material in proximity of eugenol containing products, nor let the adhesive allow to come into contact with materials containing eugenol. Eugenol can impair the hardening of the adhesive and cause discolouration. Contact of adhesive with skin should be avoided, especially by anyone having known resin allergies. Use at room temperature (20°C/68°F-25°C/77°F). For professional dental use only.

Hazard statements

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Precautionary statements

Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: The shelf life is 3 years if stored between 3°C and 25°C (38°F - 77°F).