



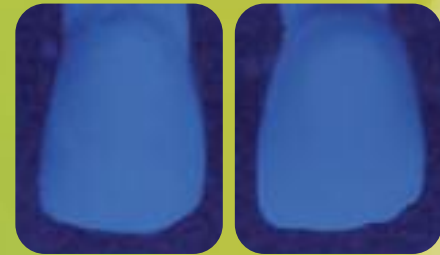
ENAMEL PLUS HRI®
BIO FUNCTION

Biocompatible

THE BIOCOMPATIBLE COMPOSITE WITH UNIQUE CHARACTERISTICS FOR ANTERIOR & POSTERIOR

- > **Highly Biocompatible** does not contain Co-monomers nor Bis-GMA, does not contain free nanoparticles
- > **Similar abrasion** to natural enamel
- > **Mechanical and functional characteristics** similar to gold
- > **Ideal polishability and handling**
- > **Suitable** for direct and indirect technique
- > **High Radiopacity** (250% compared to aluminium)
- > Contains **Fluoride**

FLUORESCENCE
LIKE THE NATURAL TOOTH



Natural tooth

Tooth realized
with enamel and dentine
Bio Function



BIOCOMPATIBLE

The UDMA and TCDDMDMA innovative **formula is zero degree cytotoxicity and Bis-GMA free**, an organic compound that exhibits estrogenic properties in human body causing health problems. It contains **nanoparticles aggregated** that cannot penetrate the cell membrane, unlike free nanoparticles whose effect on health are still object of discussion.



FUNCTIONAL

The only composite enamel with mechanical and functional characteristics **similar to gold type III** and to **natural enamel**, that maintains the occlusal balance over time respecting the neuromuscular system and getting an excellent aesthetic integration. Composite shades subject to low abrasion that are comparable to natural enamel.



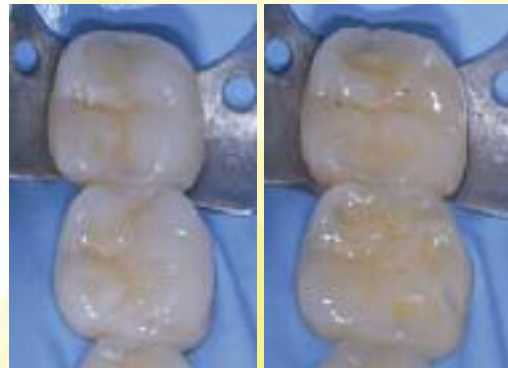
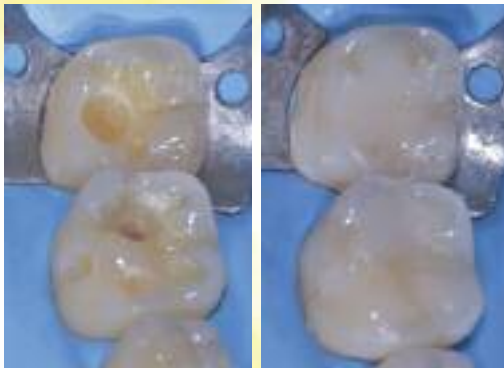
ENAMEL^{plus}  HRI[®]
BIO FUNCTION

EXCELLENT HANDLING

The new consistency allows an ideal handling and **guarantees an optimal sculpting** even at different room temperatures. The composite **does not stick** to the instrument, it is easily manipulated and keeps the given shape.

IDEAL POLISHABILITY

Formula with ultra-fine aggregated barium silicate glass ($0,3\mu$) for an **outstanding polishability and a high gloss retention over time**.



CLINICAL CASES BY DR. LORENZO VANINI
Direct restorations with dentine and enamel HRI Bio Function

ENAMEL^{plus} HRi[®] BIO FUNCTION

WEAR SURFACES

after 120.000 cycles by two-body wear test in a dual axis chewing simulator (University of Chieti - Prof. Camillo D'Arcangelo)

Gold



50x SEM images. The abrasion of Enamel plus HRi Bio Function is similar to gold and therefore to the natural enamel.

Enamel plus HRi Bio Function



50x SEM images. The surface of Enamel plus HRi Bio Function appears abraded in a regular and uniform way.



WEAR COMPARATIVE ANALYSIS

| | Depth (mm) | Volume (mm ³) |
|---|------------------|---------------------------|
| Natural enamel | 0.216 (0.070) | 0.404 (0.200) |
| Gold type III | 0.219 (0.060) | 0.328 (0.140) |
| Composite F* (enamel) Light cured with Laborlux ^{*****} | 0.459 (0.068) | 1.017 (0.239) |
| Composite F* (enamel) Light cured with dentist's curing unit | 0.464 (0.069) | 0.972 (0.247) |
| Enamel plus HRi Biofunction Light cured with dentist's curing unit | 0.252 (0.059) | 0.454 (0.057) |
| Enamel plus HRi Biofunction Light cured with Laborlux ^{*****} | 0.212 (0.052) | 0.375 (0.052) |

*reference composite chosen after identified as the best among the ones tested during the preliminary phase
**curing unit for laboratory; it cures with heat (70°C)

PHYSICAL DATA

| | MPa |
|-----------------------|--------|
| Vickers Hardness | 685 |
| Flexural Strength | 150 |
| Modulus of elasticity | 11.600 |
| Compressive Strength | 460 |

Physical data maintained till 4 mm of depth with (minimum power 1000 mW) LED light curing unit

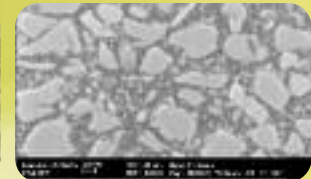
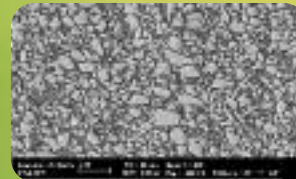
BIO FUNCTION combines the characteristics of wear resistance similar to natural enamel and gold to the aesthetics of the modern restoration systems. Furthermore, it guarantees an excellent handling and a higher biocompatibility thanks to the innovative organic and inorganic components.

NEW BIOCOMPATIBLE COMPOSITE WITHOUT BIS-GMA

Completely biocompatible to guarantee a perfect integration in harmony with the human body without releasing any toxic substance. High stability resin matrix and absence of Bis-GMA and free nanoparticles in the powders generated by abrasion phenomenon that could be absorbed by the body. The REM images shows the particle clusters that are bigger than one micron.

PARTICLE SIZE

REM images



ENAMEL^{plus} HRI[®] BIO FUNCTION



ENAMEL

ENAMEL PLUS HRI BIO FUNCTION ENAMEL

| | | |
|--------|---------------------------|-----|
| CHRBF1 | BF1 Enamel (low value) | 5 g |
| CHRBF2 | BF2 Enamel (medium value) | 5 g |
| CHRBF3 | BF3 Enamel (high value) | 5 g |



DENTINE

ENAMEL PLUS HRI BIO FUNCTION DENTINE

| | | |
|----------|----------------------|-----|
| CHRBD0 | Dentine BDO | 5 g |
| CHRBD0,5 | Dentine BDO,5 | 5 g |
| CHRBD1 | Dentine BD1 (A1) | 5 g |
| CHRBD2 | Dentine BD2 (A2) | 5 g |
| CHRBD3 | Dentine BD3 (A3) | 5 g |
| CHRBD3,5 | Dentine BD3,5 (A3,5) | 5 g |
| CHRBD4 | Dentine BD4 (A4) | 5 g |
| CHRBD5 | Dentine BD5 | 5 g |
| CHRBD6 | Dentine BD6 | 5 g |



CR3FB

ENAMEL PLUS HRI BIO FUNCTION KIT 2,5 g

3 Bio Function Enamel: BF1, BF2, BF3



CHR3BFD

ENAMEL PLUS HRI BIO FUNCTION MINI KIT 3 COLOURS 2,5 g

2 Bio Function Dentine: BD2, BD3

1 Bio Function Enamel: BF2



CHR12

ENAMEL PLUS HRI BIO FUNCTION DENTINE & ENAMEL KIT 5 g

3 Bio Function Enamel: BF1, BF2, BF3

9 Bio Function Dentine: BDO, BDO,5, BD1(A1), BD2(A2),
BD3(A3), BD3,5 (A3,5), BD4(A4), BD5, BD6

Micerium S.p.A.

Via G. Marconi, 83 - 16036 Avegno (GE) Italy
Tel. (+39) 0185 7887 880 • Fax (+39) 0185 7887 970
sales@micerium.it • www.micerium.com

File: Enamel plus HRI BioFunction EN v3_04/2018

