



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



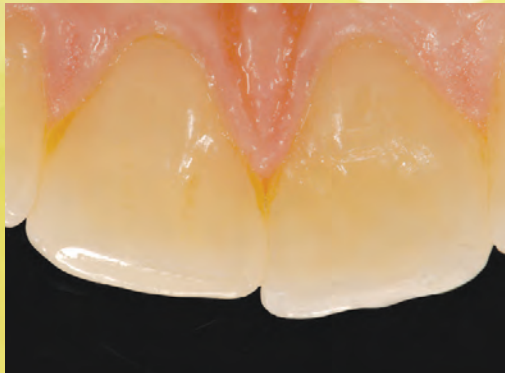
Natural tooth

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.



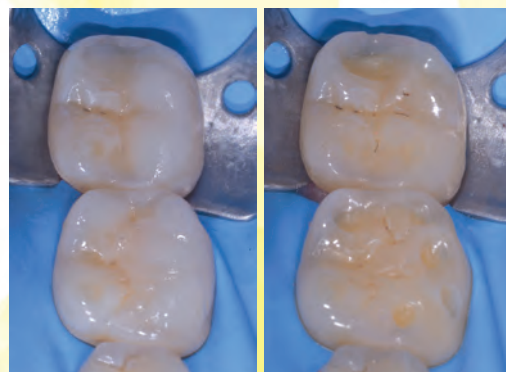
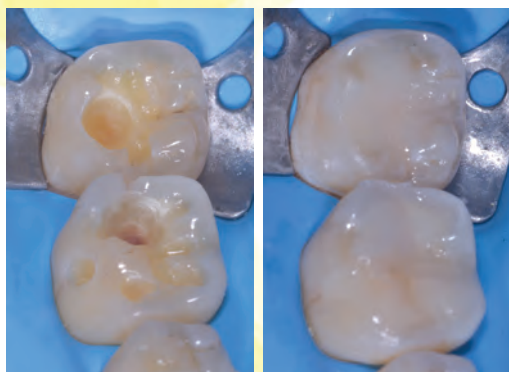
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EXCELLENT HANDLING

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**.



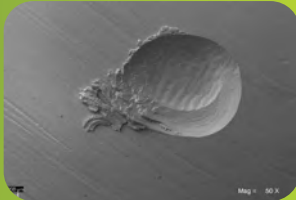
CLINICAL CASES BY DR. LORENZO VANINI
Direct restorations with dentine and enamel HRI Bio Function

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WEAR SURFACES

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

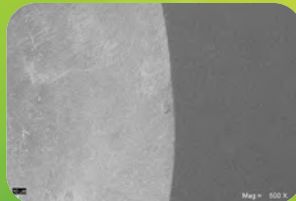
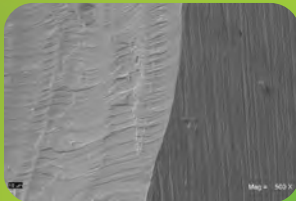
Gold



Enamel plus HRI Bio Function



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



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

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.

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)

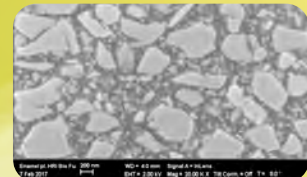
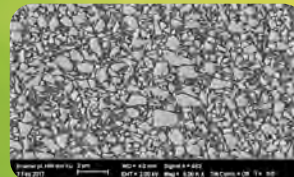
PHYSICAL DATA

	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

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 BD0	5 g
CHRBD0,5	Dentine BD0,5	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



CHR3BF

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: BD0, BD0,5, BD1(A1), BD2(A2),
BD3(A3), BD3,5 (A3,5), BD4(A4), BD5, BD6



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File Enamel plus HRI BioFunction EN v3_04-2018

