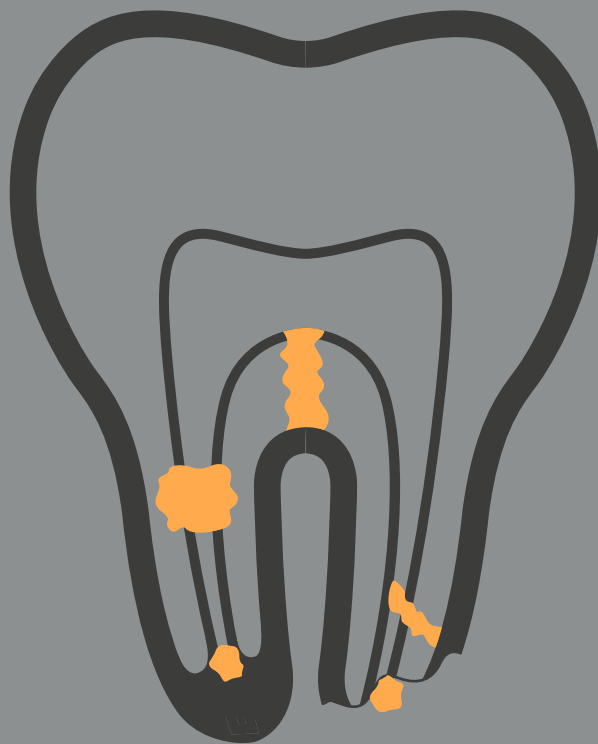
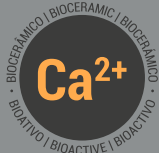


# BIO-C<sup>®</sup> REPAIR

Bioceramic reparative material  
ready to use (*putty*)

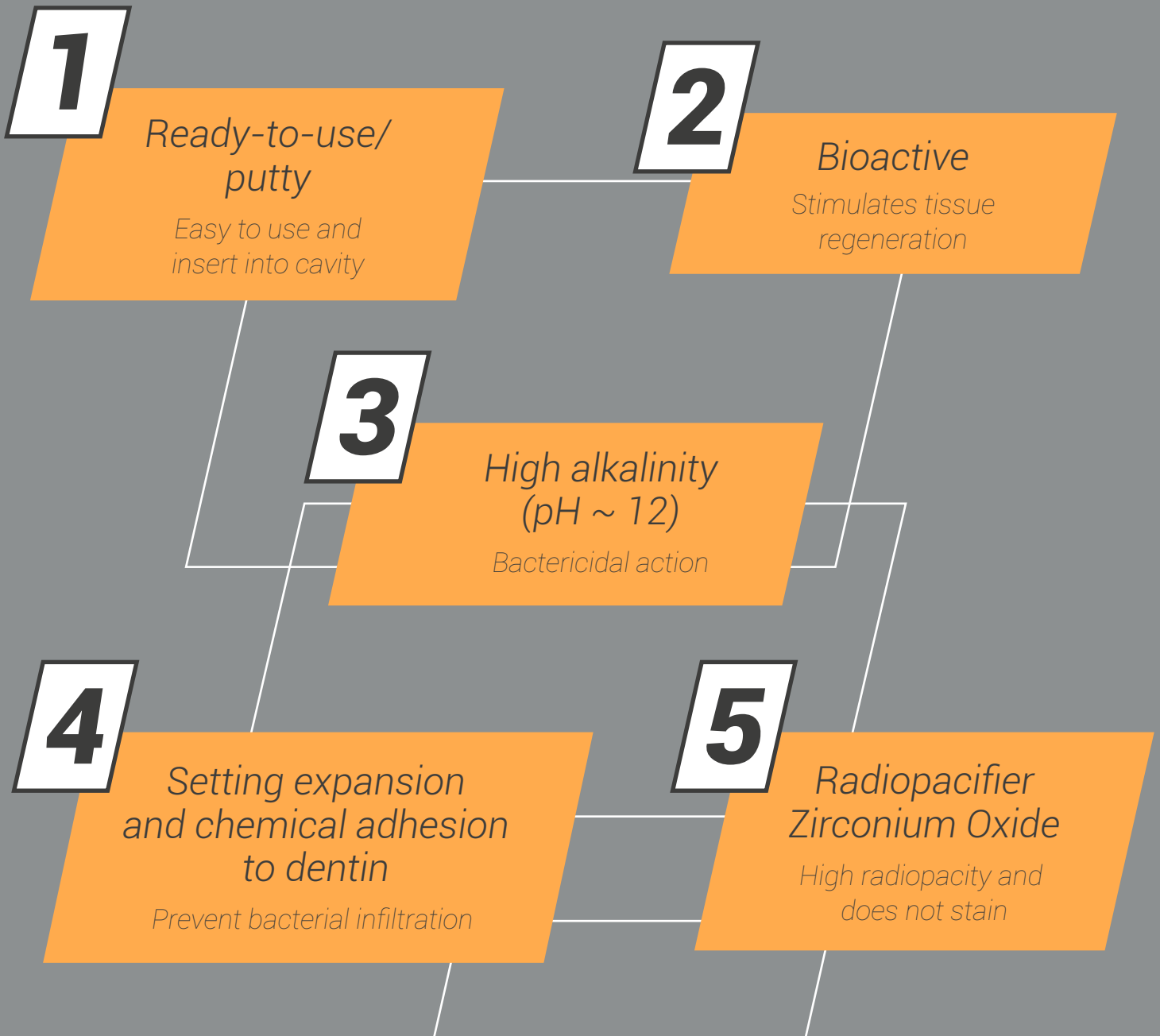


 angelus<sup>®</sup>



# 5

## Reasons to use BIO-C® REPAIR



# Repair and Regeneration!



New product!

# More than biocompatible, bioactive!

## BIO-C® REPAIR

Bioceramic reparative material ready to use (putty).

Imagens meramente ilustrativas..



### INDICATION

- Treatment of root or furcation perforation via canal;
- Treatment of root or furcation perforation via surgery;
- Treatment of internal resorption via canal;
- Treatment of communicating internal or external resorption via surgery;
- Retrofilling in endodontic surgery;
- Direct and indirect pulp capping;
- Apexification;
- Apexogenesis and Pulpotomy;
- Pulp regeneration.

### Definition

BIO-C® REPAIR is a ready-to-use bioceramic repair cement (putty).

The **ready-to-use** presentation in a screw-in syringe facilitates the removal of the product for application at the preparation site, simplifying this procedure with great time savings.

In addition to its ease of use, it offers all the benefits of bioceramic formulation: induction of **tissue regeneration** through the release of  $\text{Ca}^{2+}$  ions resulting in the formation of mineralized tissue, **bactericidal action** due to its high pH, **inhibition of bacterial infiltration** by setting expansion and chemical adhesion to dentin. As a result, safety and high rates of success in endodontic treatment are obtained.



Ready-to-use/  
putty



Bioactive



Bactericidal

# Composition

COMPONENT	FUNCTION
Tricalcium Silicate	Setting reaction and release of ions $\text{Ca}^{2+}$ ions
Dicalcium Silicate	
Tricalcium Aluminate	
Calcium Oxide	Release of $\text{Ca}^{2+}$ ions
Zirconium oxide	Radiopacity
Silicon Oxide	Consistency
Polyethylene Glycol	
Iron Oxide	Pigmentation

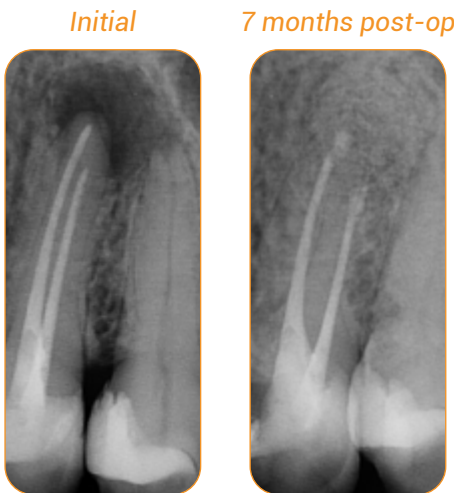
## Key Features and Benefits

### Ready-to-use (putty)

Easy to use screw-in syringe.

### Bioactivity/Release of $\text{Ca}^{2+}$ ions

Promotes biomineralization by providing rapid tissue regeneration.



Images courtesy of Dr. Vicente Rocha.

### Bactericidal (pH ~ 12)

Promotes local decontamination.

### Setting Expansion ( $0.092 \pm 0.05\%$ )

Prevents bacterial infiltration.

### Does not stain tooth structure

Zirconium oxide as a radiopacifier that does not stain the dental structure.

### Chemical adhesion to dentin

Formation of a zone of mineral infiltration promoting a biological seal.

### Radiopacity

More than 7 mm Aluminum step-wedge. Great radiographic visualization.

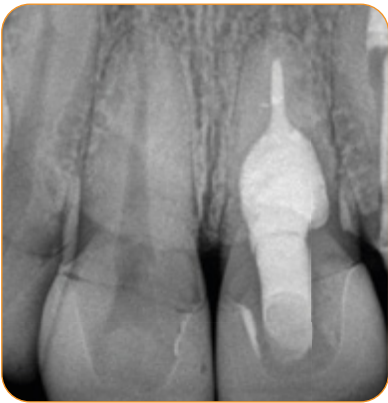


Image courtesy of Dr. Vanessa Pandolfi.

### Non-resinous composition

It allows use in humid environments without loss of properties, especially in surgeries where humidity control of the operative field is a challenge in the procedure.

### Hydrophilic

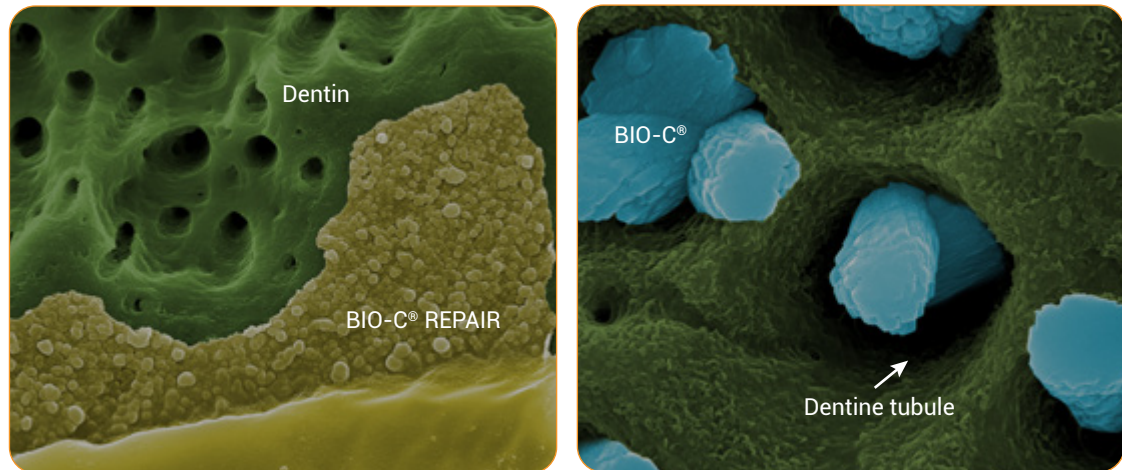
Absorbs moisture from the medium by starting the setting process.

### Non-toxic

Contains no heavy metals.

## Micronized particles (< 2 µm)

Higher reactivity, accelerating the healing process and greater penetration into the dentinal tubules.



Images provided by Dr. Celso Klein: Scanning microscopy. Image with computerized coloration for didactic purposes.

The BIO-C® REPAIR comes packaged in a syringe with a threadable piston. It allows removal of the product from the syringe in small portions with no effort or waste.



## Technical data

Setting time*	≤ 120 minutes
Radiopacity*	≥ 7,0 mm Al
pH	~ 12
Particles Size	< 2 µm
Solubility*	< 3%
Setting Expansion	0.092 ± 0.05%
Resistance to Compression	7.933 ± 3.284 MPa

\*Norma ISO 6876:2012.

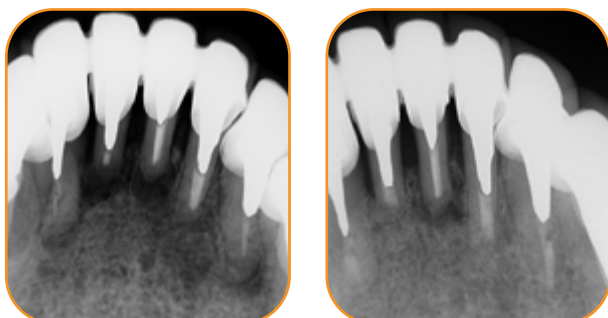
## Mechanism of Action

When it comes into contact with water present in the dentin tubules, BIO-C® REPAIR forms  $\text{Ca(OH)}_2$  that interacts with tissue fluids and dissociates and releases  $\text{Ca}^{2+}$  and  $\text{OH}^-$  ions.

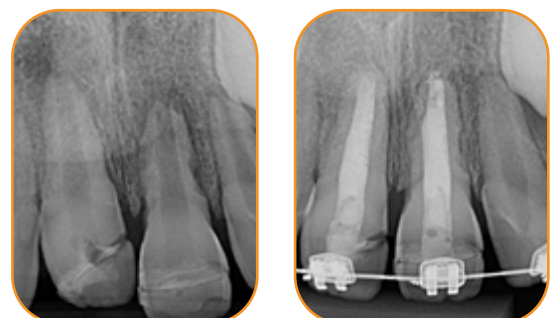
The released  $\text{Ca}^{2+}$  ions react with  $\text{CO}_2$  from the bloodstream forming  $\text{CaCO}_3$  granules (calcite), stimulating fibrinectin conditioning. Fibroctin stimulates cell adhesion and differentiation that results in the formation of hard tissue.

The release of  $\text{OH}^-$  ions promotes an increase in pH making the alkaline medium responsible for the bactericidal action of BIO-C® REPAIR.

## Clinical Cases



Images courtesy of Dr. Vicente Rocha.



Images courtesy of Dr. Maria Cristina Carvalho.

**Simplified!**

Customer Service  
+55 43 2101-3200

[www.angelus.ind.br](http://www.angelus.ind.br)