

Bio-C[®] Sealer Ion⁺

Premixed bioceramic root canal sealer

PATENT US-11857558-B2

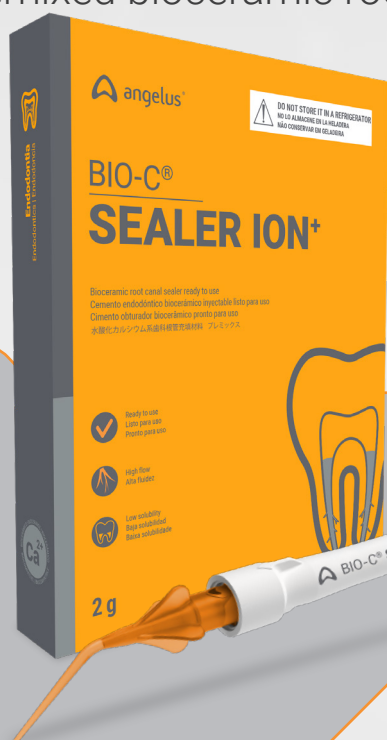




Finally there is a new choice!

BIO-C® SEALER ION+

Premixed bioceramic root canal sealer



Illustrative images.

INDICATION

- Root canal filling;
- Internal root resorption treatment.

Definition

BIO-C® SEALER ION+ is a ready to use bioceramic root canal sealer. It has great advantages over traditional sealers, it is easy to use and **does not require manipulation**, and, as a consequence, prevents incorrect portioning. The direct insertion in the root canal through a syringe with intracanal tip, simplifies the use and provides great time savings for the professional.



Ready to use



High flowability



Low solubility

Main Features

- Ready to use
- Resin-free
- High flowability
- Cold and warm techniques
- Biocompatible
- Low solubility
- Sets in presence of moisture
- Zirconium radiopacifier

RESIN FREE: BIO-C® SEALER ION⁺ is a **RESIN-FREE** sealer, which, in addition to improved biocompatibility properties, also facilitates the pulp chamber cleaning after root canal filling.

EUGENOL-FREE: BIO-C® SEALER ION⁺ it is Eugenol-free, and therefore has less cytotoxicity, does not cause staining and does not interfere with the polymerization of resin materials (resin-based cements and composite resins).

Mechanism of Action

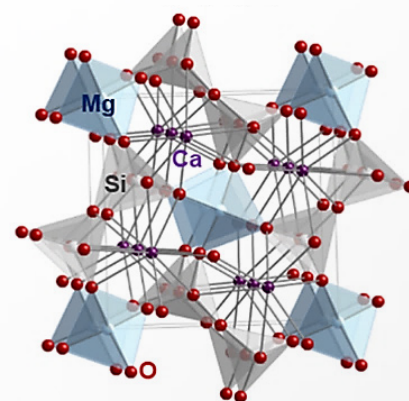
When BIO-C® SEALER ION⁺ comes into contact with water, the calcium sulfate hemihydrate ($\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$) present in its composition is dissolved in dihydrate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$), which is poorly soluble, causing a saturation in the physiological environment and, consequently, precipitation into needle-shaped crystals. The imbrication of these calcium sulfate dihydrate needles ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) with hydrated modified calcium silicate crystals ($\text{Ca}_2\text{MgSi}_2\text{O}_7 \cdot \text{H}_2\text{O}$) confers **cohesion and mechanical strength, at the same time that the interaction between the growing crystals causes a small desirable expansion.**

Crystalline Structure

The crystalline structure of modified calcium silicate consists of two silica tetrahedra connected by a shared oxygen atom (Si_2O_7)₆. Through a covalent bond (Si-O), these double silica tetrahedrons are bonded by two metal ions selected from the following groups: Ca^{2+} and Mg^{2+} .

This provides **low solubility** which, by releasing its multiple metal ions in a constant and balanced manner, is able to promote **osteogenic differentiation of osteoblasts, dental pulp cells, bone marrow stromal cells, stem cells derived from adipose tissue, fibroblasts and periodontal ligament cells** (Hoppe A, Güldal NS, Boccaccini AR, A review of the biological response to ionic dissolution products from bioactive glasses and glass-ceramics, Biomaterials 32, 2757–2774, 2011).

Crystalline Structure of Modified Calcium Silicate ($\text{Ca}_2\text{MgSi}_2\text{O}_7$).



Note:

Red spheres: oxygen
Purple spheres: calcium
Blue tetrahedron: magnesium
Gray tetrahedron: silicon

Technical Data

Setting time	≤ 240 minutes
Radiopacity	≥ 7.0 mm Al
pH	≈ 12
Flow	23 - 25 mm
Particle size	< 2 µm
Particle thickness	21 µm
Solubility	0.5 - 2.5%
Compressive strength	5 - 15 MPa

ISO 6876:2012

Clinical Case

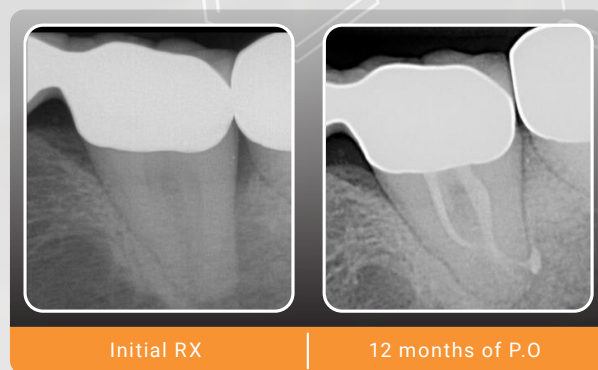
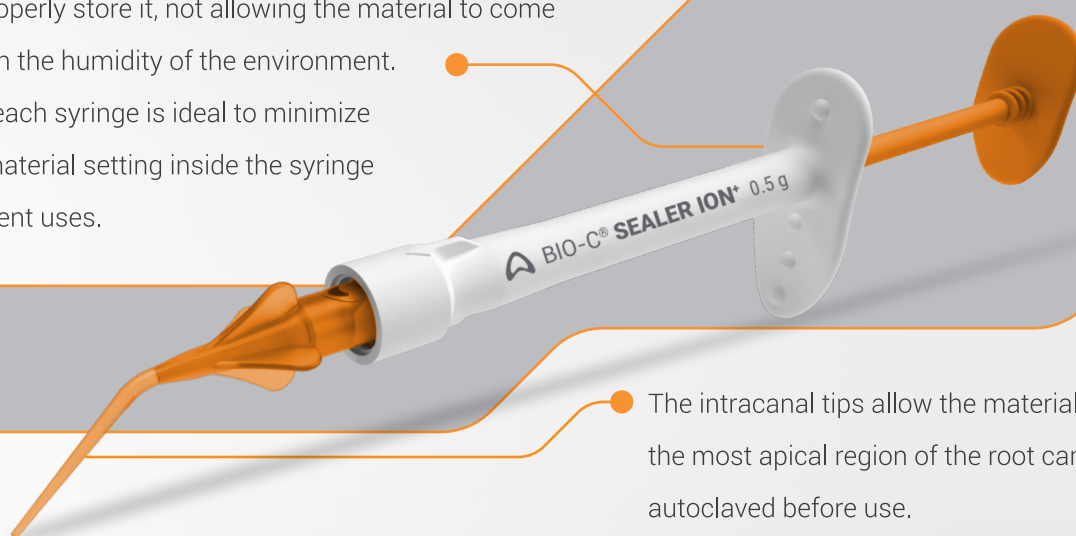


Image provided by João Vicente Barbizam, DDS.

Presentation

The BIO-C® SEALER ION+ syringe was specially developed to properly store it, not allowing the material to come into contact with the humidity of the environment. The amount in each syringe is ideal to minimize the risk of the material setting inside the syringe during subsequent uses.

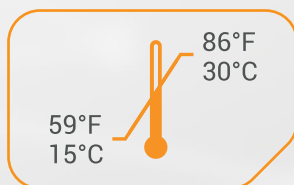


REF 3843 - Pack with 4 syringes of 0.5 g each and 20 intracanal tips.

Precautions when using and storing bioceramics



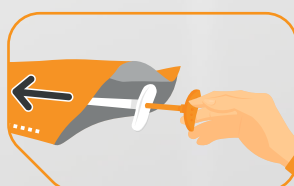
Do not store in refrigerator.



Store between **15 to 30 °C.**



After using the product, **close it with strong pressure** using the original cap.



Return the syringe to the envelope containing the silica gel and **close** the metallic package tightly.



IMPORTANT INFORMATION!

Bioceramics **products are extremely sensitive to moisture**, so **follow correctly** the instructions of use to **avoid drying out the product.**

Testimonials



"This level of bioactivity is of great importance in endodontics, but with Bio-C Ion+ I had great flowability in the pre-mixed syringes. The narrow tips are flexible, and narrow enough to fit in every canal, following instrumentation. I haven't found anything I do NOT like about it."

Gregori Kurtzman, DDS, MAGD, FPFA, FACD, FIADFE, DICOI, DADIA, DIDIA, Silver Spring, MD



"Bioactive, reparative effect, and the ability to set in moisture are important characteristics for a root canal sealer. I have found that Bio-C offers outstanding handling, flowability, and NO-MIX dispensing. Best of all, I like the results: excellent healing and radiographic response. I have switched to Bio-C Ion+."

Timothy M. Bizga, DDS, FAGD, Cleveland, OH



"While it sets in moisture more quickly and is less viscous than my previous sealer, Bio-C Ion+ works well and has a good dispensing system. The disposable tips are easy to use and make sealing the canal easier!"

Marty Jablow, DMD, Woodbridge Township, NJ

Simplified!

Customer Service

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