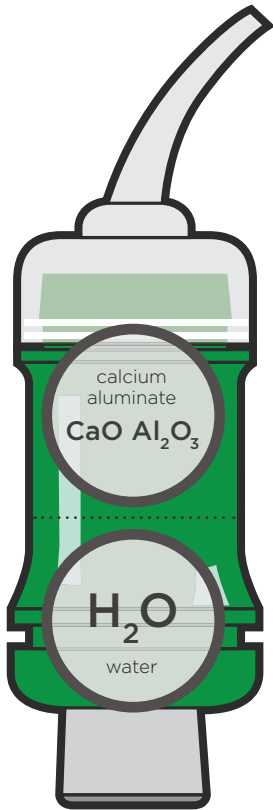
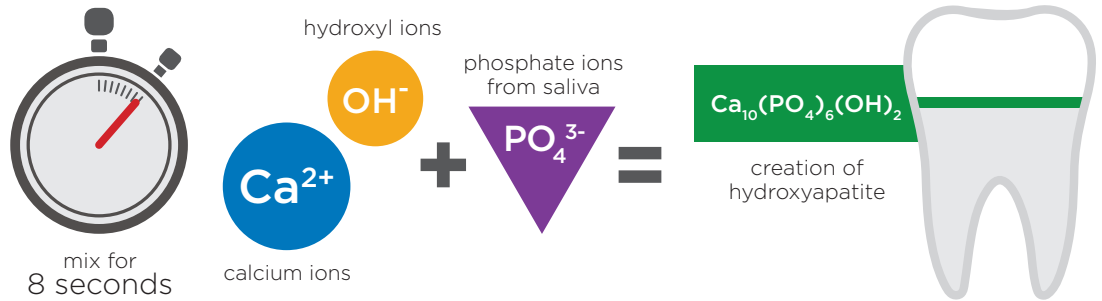


8 SECONDS TO BIOACTIVE BREAKTHROUGH



Calibra® Bio Bioactive Luting Cement's chemistry is a hybrid of calcium aluminate and glass ionomer, creating a new class of its own called **calcium aluminate ionomer (CAIO)**. It has been specifically designed to promote the creation of **hydroxyapatite (HA)** by utilizing this unique chemistry found in a two-chamber capsule.



CHEMISTRY IN A CAPSULE

The Calibra® Bio Bioceramic Luting Cement capsule keeps the calcium aluminate and water separate until it's time to activate the chemistry using a triturator (mixer).

FROM ACTIVATION TO REACTION

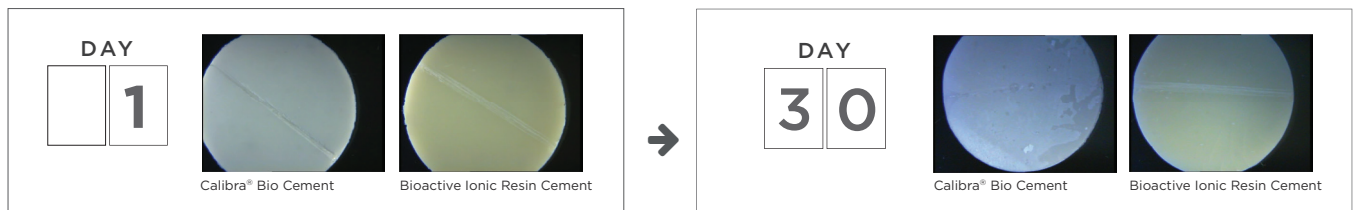
After only eight seconds in a triturator, the hydration process of calcium aluminate is activated, resulting in the release of calcium (Ca^{2+}), aluminate (Al^{3+}) and hydroxide (OH^-) ions.

OUR CHEMISTRY IS THE DIFFERENCE

When calcium and hydroxyl ions come into contact with phosphate ions (PO_4^{3-}) found naturally in saliva, a self-repairing hydroxyapatite ($\text{Ca}_{10}(\text{PO}_4)_6(\text{OH})_2$) layer forms.

THE SELF-REPAIRING HYDROXYAPATITE LAYER

Internal in-vitro experiments show only our bioactive Calibra Bio® Bioceramic Luting Cement can form relevant amounts of hydroxyapatite. In the demonstration below, Calibra® Bio cement is in contact with a solution containing phosphate, similar to saliva. Its bioactive properties cause HA to form, seamlessly filling the scratched surface. Competitive materials claim to release calcium and promote apatite formation, but in our tests they couldn't repair the scratch!



1. Calibra® Bio cement tested in a saliva-like solution against two resin-based dental cements that claim to stimulate apatite formation show only poor to no HA formation. Data on file.

Contact your Dentsply Sirona representative or visit CalibraCement.com for more information.