

Bio-Innovation™



**BioRoot™ RCS**  
Root Canal Sealer

**A BIOACTIVE  
BREAKTHROUGH**



**ACTIVE  
BIOSILICATE  
TECHNOLOGY**

**BioRoot™ RCS**  
**OUTSTANDING SEALING PROPERTIES**  
**& SO MUCH MORE**

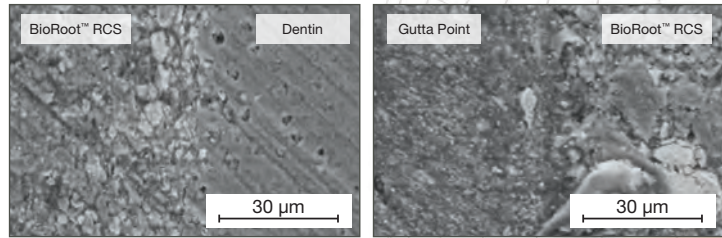




# 4 Essential Features for

## 1 Clinical success starts with a Strong Seal & Tight Interface

- Outstanding adhesion to dentin<sup>1</sup> and gutta-percha points
- Less risk of voids<sup>2</sup>
- Hydrophilic - BioRoot RCS continues the sealing process in the presence of moisture



Dentin/BioRoot™ RCS/gutta-Percha interface. No voids at interface.  
Source: Internal Scientific file

## Outstanding Microleakage Resistance

- Dentin structure mineralization through hydroxy-apatite formation<sup>3,4</sup>
- Microleakage resistance over warm obturation technique
- BioRoot™ RCS crystalizes inside dentin tubules creating a 3-dimensional seal
- Leakage-free obturation for reduced risk of late failure



Dye penetration (black) after 30 days with Warm GP + PCS (Kerr)



No dye penetration after 30 days with BioRoot RCS Obturation

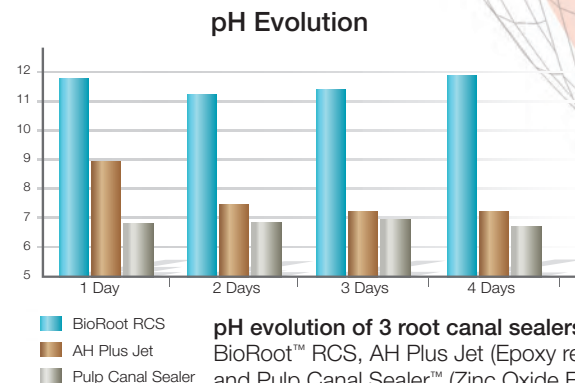
Source: Internal Scientific file

## 2 High pH creates a favorable alkaline environment

- Calcium hydroxide release
- Allows increase of pH value >11

Pulp Canal Sealer™ is a registered trademark of Sybron Endo Dental Specialties Inc.

AH Plus Jet™ is a registered trademark of DENTSPLY International.



1. A. Atmeh, F. Festy, A. Banerjee, F. Mannocci, T. F. Watson. "Mineral Interaction Zone; A Chemo-morphological Characterization of The Dentine-Biodentine Interface". 2012. King's College London Dental Institute, Biomaterials, Biomimetics and Biophotonics, London, UK.

2. K. Bentley, S. Janyavula, D. Cakir, P. Beck, L.C. Ramp, J.O. Burgess. "Mechanical and Physical Properties of Vital Pulp Materials". School of Dentistry, University of Alabama at Birmingham, Birmingham, AL



# Successful Obturations

## 3 A Bioactive Breakthrough - Active Biosilicate Technology

- Pure mineral formulation - will not stain teeth
- Reduces post-op sensitivity
- Resin-free - made from pure calcium silicate and is monomer-free ensuring zero shrinkage<sup>2</sup>
- Eugenol-free, compatible with all bonding systems

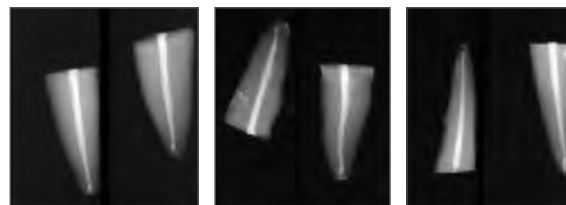


## 4 Easy obturation and handling

- Great flowability - fills auxilliary canals
- Is suitable for use in cold single cone or cold lateral condensation
- Allows rapid insertion of the gutta-percha point
- Easily coats root canal walls for smooth placement
- Optimized working and setting times:
  - Working time: > 10 minutes
  - Setting time: < 4 hours

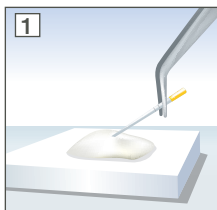
### Easy follow-up

- High 5mm Al radiopacity for clear images on radiographs
- Simple retreatment: use in combination with gutta-percha points

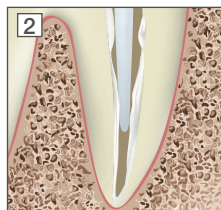


Radiographs of roots obturated by BioRoot RCS (Internal data on file)

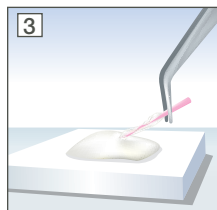
## Simple Hand-Mix Instructions



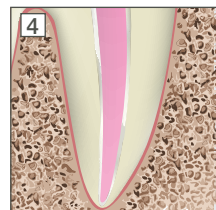
1 Place mixed BioRoot™ RCS with a paper point



2 Coat the root canal walls with BioRoot™ RCS



3 Coat the apically adjusted cone with BioRoot™ RCS



4 Insert the cone gently into the root canal



5 Immediate post-operative radiograph

3. Goldberg et al., In Vitro Evaluation of the Bioactivity of BioRoot RCS™, A New Canal Sealer. 2014 Publication submitted to Biomaterials.

4. C. Prati et al., Dental Materials. 2015; 31 (351-370).



# BioRoot™ RCS has it all!

Features	BioRoot™ RCS	Zinc Oxide Eugenol Pastes	Epoxy-Based Sealers
Outstanding seal	✓	✓	✓
Easy to use	✓	✓	✓
Bioactive	✓	✗	✗
Allows High pH (>11)	✓	✗	✗
Resin-free formulation	✓	✓	✗
Hydroxy-apatite formation <sup>1</sup>	✓	✗	✗
Dentin mineralization	✓	✗	✗
Radiopaque	✓	✓	✓



## 35-application pack

- 15 g powder bottle
- 35 single dose containers
- 1 measuring spoon (450 mL)

## BioRoot™ RCS comes in a convenient hand-mix presentation

- Full control of the final viscosity
- Reduced risk of cross contamination compared to in-mouth inserted syringes
- Less material waste through hand dosage of powder

1. Goldberg et al., In Vitro Evaluation of the Bioactivity of BioRoot RCS™, A New Canal Sealer. 2014 Publication submitted to Biomaterials.

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