Success made easy for everyone

BioRoot™ Flow

Bioactive Mineral Root Canal Sealer

septodont

* 24 months after treatment, the overall efficacy rate using loose criteria was 91.0% in the BrF group and 90.4% in the BrRCS group (p= 0.0003) Clinical study results (Clinicaltrial.gov/NCT04757753) currently under peer review.

Class III Medical Device - Certified by BSI (2797) for MDR/EU compliance.

BioRoot™ Flow makes **obturation easy**

Ready-to-use syringe

- Easy and fast: no preparation time
- Consistent viscosity with every application

Direct intra-canal delivery

- 21 gauge bendable tip
- Ensures adaptation to all root canals
- Limits the risk of overfilling

Suits your technique

- Keep your preferred obturation technique
- Or shift to easy single cone technique with efficient results (1)

Highly radiopaque

- >5 mm Al radiopacity
- Easily visible on X-Rays

Easy extrusion

- Limited plunger resistance (A)
- Anatomic finger grip for improved syringe handling
- Easy and precise delivery in mouth
- More comfortable and user-friendly (A)

Easy and fast removal (2)

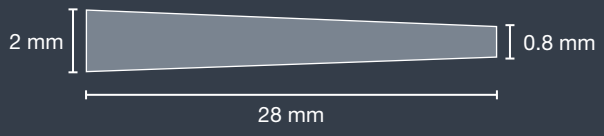
- Retreatable in less than 10 min*

*among calcium silicate based materials, with NiTi files.

Technical Insights

Innovative tip allows direct & precise placement in the root canal

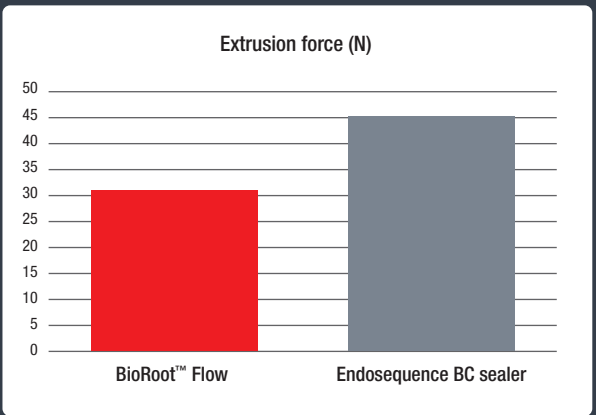
- Flexible tips allow bending and access to all root anatomies
- Precise 21-gauge diameter for optimal delivery, limiting the risk of going too deep



Source: Internal R&D document page 5

(A) Less force needed for product extrusion

- BioRoot™ Flow requires only 31N
- Product extrusion is easy and comfortable



among calcium silicate based materials
Source: internal data
BioRoot™ Flow: Internal R&D document page 17
Endosequence BC sealer: Internal R&D document page 14

BioRoot™ Flow makes **obturation successful**

No shrinkage[3]

- Resin-free formulation
- Hermetic seal of the root canal[2]
- Even with single cone technique[4]

Limits bacterial growth

- High pH 8.5-11.5
- Creates an alkaline[C] environment, unfavorable for bacterial growth

Penetrates all radicular canals

- Without the need for compaction
- Hydrophilic sealer seeks for residual water in accessory canals & tubules[5]
- Excellent flowability of 32.2 mm and low solubility of 0.2%[6]

Highest concentration of C3S on the market*

A high quantity of C3S[8] allows

- A great bioactivity
- A better 3D seal
- A shorter setting time

* 36% C3S: internal RD data - highest concentration on the market: compared to all endodontic sealers in a ready-to-use syringe.

Biocompatible[7]

- High purity tricalcium silicate from proprietary manufacturing process
- Ensures favorable tissue response
- Limits the risk of adverse reaction

Bioactive: triggers mineralization[B]

- Calcium ions release forms hydroxyapatite
- Increases the mineral density of dentin

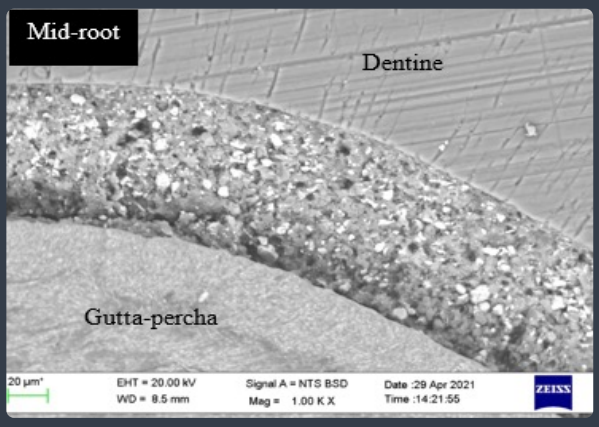
Successful results even with single cone technique[7]

- Unique benefits of tricalcium silicate enhancing cold technique efficacy
- Obturation is just as successful as with warm techniques[3]

Technical Insights

Hermetic seal of the root canal

- Excellent adhesion to dentin & gutta-percha
- Eliminates residual spaces for bacteria to grow



BioRoot™ Flow SEM interfaces

Source: C. Wang, N. Mosahebi, J. Camilleri (2021). Testing of a new premixed BioRoot™ RCS (Septodont)

(B) Bioactivity and mineralization

- BioRoot™ Flow induces hydroxyapatite crystal formation by the reaction between calcium hydroxide and phosphate

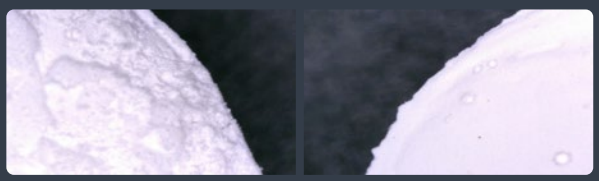
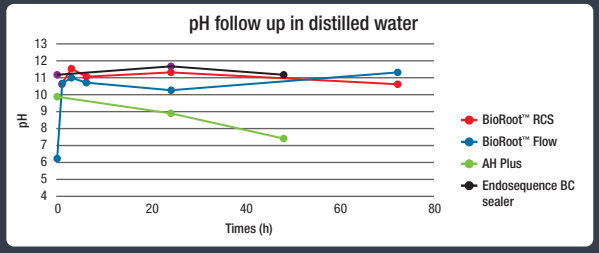


Image shows BioRoot™ Flow is immersed in Phosphate Buffered Saline (PBS - left picture) vs. water (right picture)

Source: Internal R&D document page 15

(C) Long lasting high pH

- High pH is maintained over time, creating an alkaline environment preventing bacterial growth



Source: Internal R&D document page 4

Proven
clinical success

2 years of clinical follow-up

2-year efficacy study*

- Multicentric randomized controlled trial
- Assess the efficacy and safety of BioRoot™ Flow over a 2-year period
- 160 patients

BioRoot™ Flow
91%
clinical success after 2 years

No postoperative pain reported by day 7

Exceeds clinical success rates found in the literature

- Primary endodontics [9] **82-90%**
- Retreatment [10] **77-89%**

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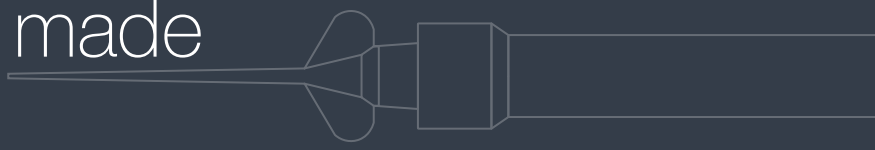
BioRoot™ Flow is made **for everyone**



Whatever your technique

Warm or cold, BioRoot™ Flow allows reproducible success

Cold technique

- No shrinkage ensuring no gaps or voids [3]
- Excellent flow to penetrate accessory canals without compaction [5]
- Tight adhesion to dentin & gutta-percha for lower risk of bacterial infiltration [6]

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Warm technique

- Thin film thickness contributing to the clinical performance of the obturation
- Water intake from root canal only, allowing the stability of the material while heated [6]

Whatever your practice

General dentistry or endodontics, BioRoot™ Flow is designed for you

General dentistry

- BioRoot™ Flow takes single cone technique to the next level
- Allows you to save chair time with each endodontic patient
- While making no compromise with the quality of obturation

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Endodontics

- BioRoot™ Flow penetrates areas that are hard to reach with a heated plugger (e.g. complex root canal anatomies) [6]
- Consistent sealing quality whatever the obturation technique used [6]
- BioRoot™ Flow helps you value your expertise of saving teeth and of avoiding extractions

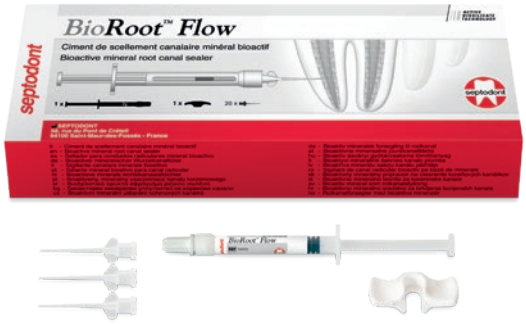
Technical Features

Working time	>60 min	Radiopacity	5 mm Al
Setting time	5 to 6h00	Flow	32.2 mm
Extrusion Force	31N	Film Thickness	22 µm
pH	8.5 - 11.5	Solubility	0.2%
Calcium release	High		

Source: internal data; Dr Camilleri

Product information

- 1x 2g syringe
- 1x finger grip
- 20 intra-oral tips



Sources:

(1) Internal R&D document page 4.
(2) Internal R&D document Internal RD data page 4 and page 25.
(3) Internal R&D document page 3.
(4) A. Zavattini, A. Knight, F. Foschi et al. Outcome of Root Canal Treatments Using a New Calcium Silicate Root Canal Sealer: A Non-Randomized Clinical Trial. J Clin Med. 2020 Mar 13;9(3):782. doi: 10.3390/jcm9030782.
(5) S. Drukteinis, J. Camilleri (Eds.). (2021). Bioceramic materials in clinical endodontics. Berlin/Heidelberg, Germany: Springer.
(6) Internal document. C. Wang, N. Mosahebi, J. Camilleri (2021). Testing of a new premixed BioRoot™ RCS (Septodont).
(7) Internal R&D document page 7. Pr. Imad About.
(8) S. Castro- Jara, B. Antilef, C. Osbén. Bioactivity analysis of calcium silicate-based sealers and repair cements on the phenotype and cytokine secretion profile of CD14+ monocytes: An ex vivo study. International endodontic Journal.2023;56:80-91.
(9) Ng, Y.-L., Mann, V., Rahbaran, S., Lewsey, J., & Gulabivala, K. (2007). Outcome of primary root canal treatment: Systematic review of the literature – Part 1. Effects of study characteristics on probability of success. International Endodontic Journal, 40, 921–939.
(10) Ng, Y.-L., Mann, V., & Gulabivala, K. (2008). Outcome of secondary root canal treatment: A systematic review of the literature. International Endodontic Journal, 41(12), 1026–1046.

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