



Endodontic Products Catalog

Sealing the Canal / Filling the Canal / Cleaning the Canal / Endodontic points



Premixed Bioceramic Sealer Calcium Aluminosilicate Paste Well-Root ST



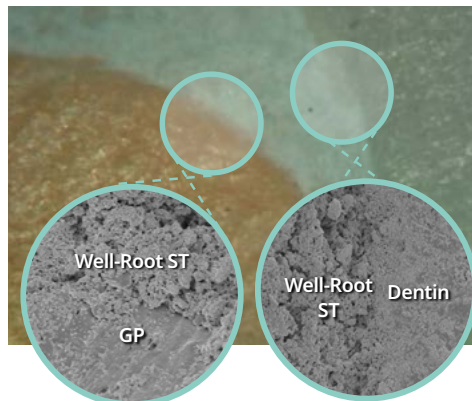
• Features and Benefits

- Excellent bonding to gutta-percha and dentin
- Zero shrinkage
- Hydroxyapatite generation
- Hydrophilic
- Extremely small particle size

► Right Image

※ Optical microscope and SEM image of GP/ Well-Root ST/Dentin interface:
No gap at interface (GP/Well-Root ST and Dentin/Well-Root ST)

• Tight Sealing



Optical microscope image of microleakage test (dye penetration test)
; No dye penetration

• Easy to use

- No mixing, No working time
- Premixed injectable paste
- Optimal flowability

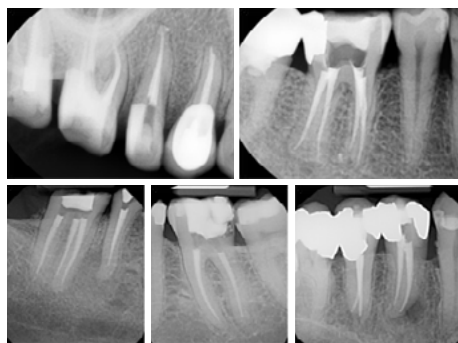
• Biocompatible

- High purity calcium aluminosilicates
- Resin-free
- Eugenol-free

• Indication

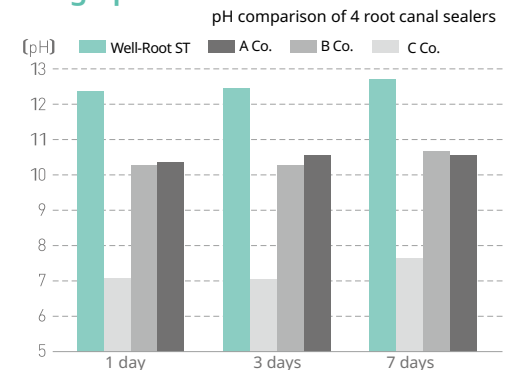
Sealer for permanent root canal sealing

• Radiopacity



Well-Root ST uses zirconium oxide for radiopaque agent.

• High pH



- Calcium hydroxide is generated during setting
- pH value increase 12 and over
- Alkaline environment making it highly antibacterial

Premixed Bioceramic Putty

Calcium Aluminosilicate Paste

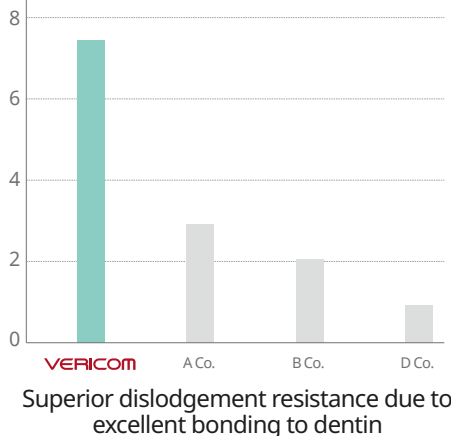
Well-Root PT



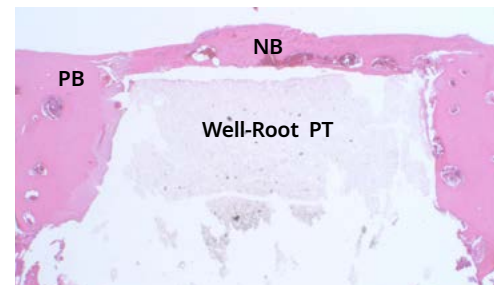
• Features and Benefits

- Premixed putty without mixing process
- Paste-only filling
- Proper setting time for applications
- Superior compressive strength
- Antibacterial effects by alkaline pH
- Biocompatible elements
- Radiopaque

• Push-out Bond Strength (MPa)



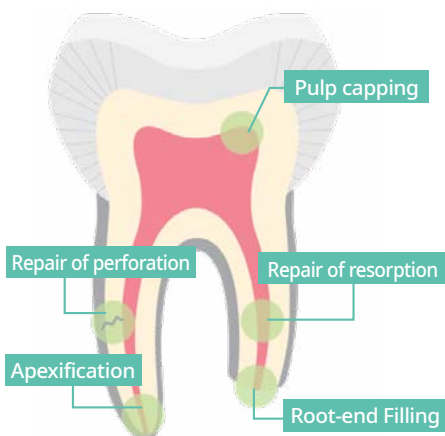
• Biocompatibility



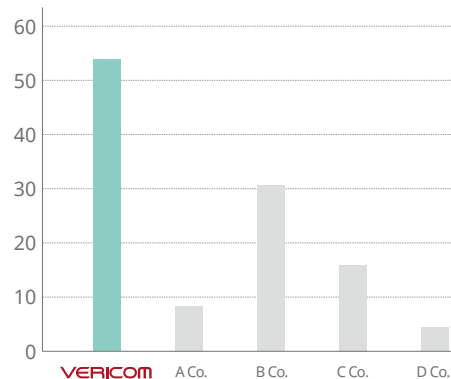
※ PB : Pre-existing bone / NB : New bone

- Well-Root PT doesn't create inflammatory response.
- Well-Root PT promotes mineralization and bioactivity.

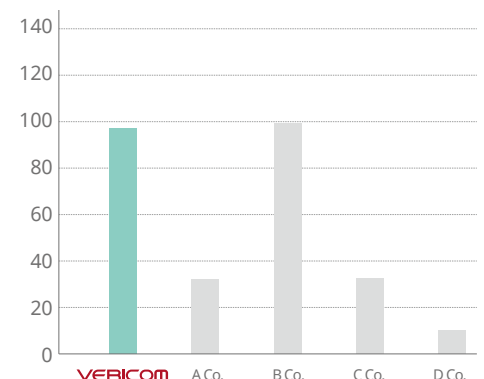
• Indications



• Vickers Hardness (Hv)



• Compressive Strength (MPa)



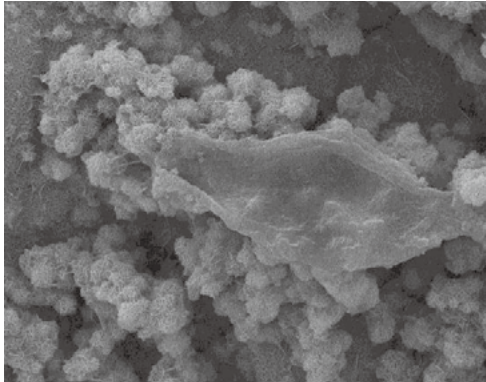
High stability due to good hydration reaction

Premixed Bioceramic Putty

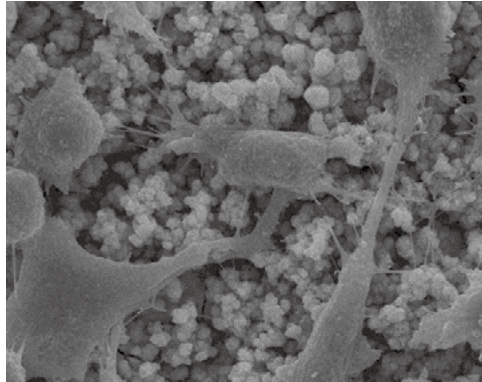
Calcium Aluminosilicate Paste

Well-Root PT

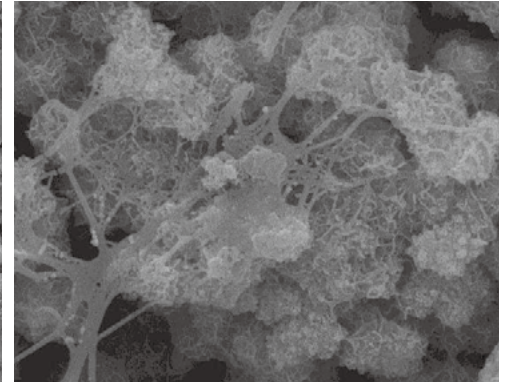
Cell Adhesion Analysis (Surface chemistry)



White MTA [Fig.A (X2,000)]



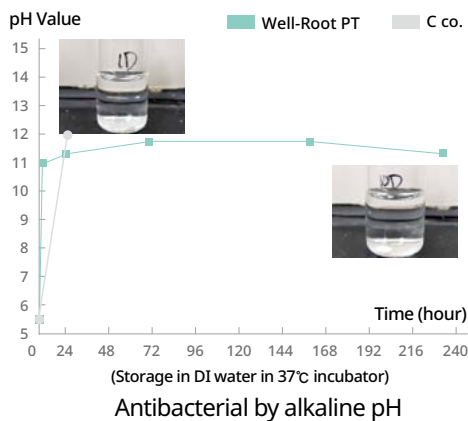
Well-Root PT [Fig.B (X2,000)]



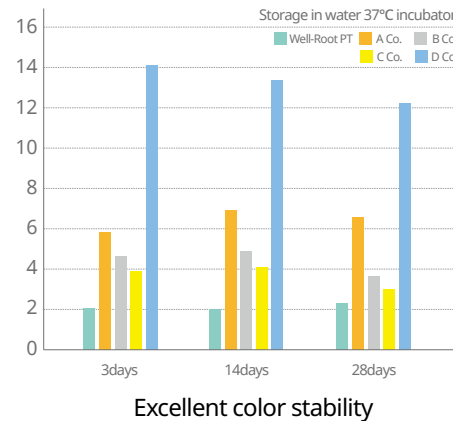
Well-Root PT [Fig.C (X10,000)]

Cell adhesion and cell spreading became more powerful in Well-Root PT(Fig.B). compared to white MTA(Fig.A).
Well-Root PT exhibits high mineralization ability, forming extensive apatite crystals on the surface.

pH Change of Well-Root PT



Color Stability (ΔE)

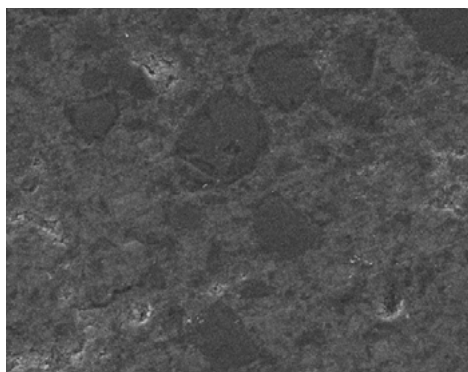


Properties of Well-Root PT

Properties measured according to ISO 6876:2012

Film thickness (μm)			
38.8 $\pm$ 4			
Radiopacity (mm Al)			
5.4			
Setting time (min.)			
Initial	5 $\pm$ 2min	Final	45 $\pm$ 5min

Surface Analysis



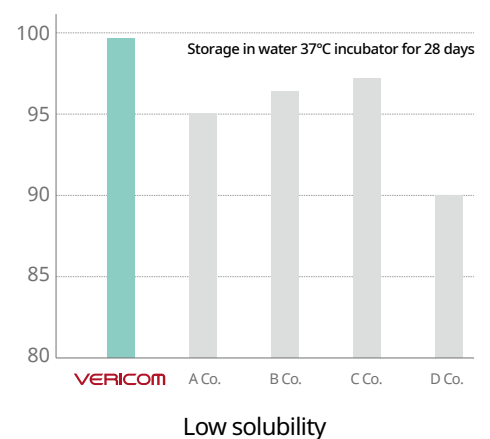
Well-Root PT (X1,000)



A Co. (X1,000)

Well-Root PT forms a coherent interface without the particle separation.

Weight Change (%)



Oil-based calcium hydroxide paste with Iodoform

Well-Pex

• Features and benefits

- Well-Pex is a temporary root canal filling material for the infected root canal. It contains calcium hydroxide and Iodoform mainly, having good radiopacity and antibacterial characteristics.
- Well-Pex is very stable without any solidification or separation and a highly-flowable paste premixed in a convenient syringe. Also, it has excellent accessibility to the apex and biocompatibility to the periapical tissue.

• Indications

- Apexification
- Treatment for an infected root canal
- Temporary root canal filling
- Root canal filling for primary teeth



► Radiopacity



Water-based calcium hydroxide paste with Barium sulfate

Well-Paste

• Features and benefits

- Well-Paste is a temporary root canal filling material for pulp capping and infected root canal. It contains calcium hydroxide and barium sulfate mainly, having radiopacity and antibacterial characteristics ($\text{pH} \geq 12$).
- Well-Paste is very stable without any solidification or separation and a flowable premixed paste in a convenient syringe. Also, it has excellent accessibility to the apex and biocompatibility to the periapical tissue.

• Indications

- Treatment for an infected root canal
- Pulp capping of exposed pulp
- Disinfection after pulp extirpation treatment
- Pulp capping of vital pulpotomy



► Radiopacity



Well-Prep

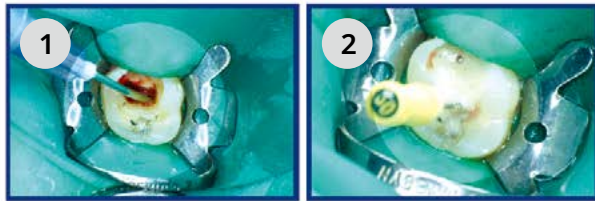
• Features and benefits

- Well-prep containing ethylenediamine tetraacetic acid (EDTA) as a chelating agent allows efficient cleaning and easy preparation of root canal.
- Well-prep improves the efficiency in injection into root canals with a special lubricant.
- The pulp debris in the canal can be lifted out efficiently by the bubbling effect of urea-peroxide in Well-prep.

• Indications

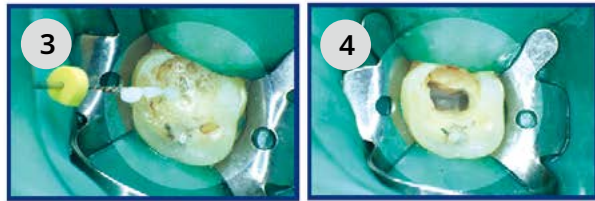
- Facile shaping and cleansing of the root canal
- Easy and fast removal of debris
- Encouraging decalcification of dentin and antibacterial effect
- Simple handling of instruments in the canals due to lubricating effect

• Procedure of treatment



1) Application by disposable tip

2) Application by file



3) Removing debris

4) After cleaning

