

# ActaCal™

## Pre-Mixed Bioactive MTA PUTTY



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### PRODUCT DESCRIPTION

ActaCal MTA PUTTY is a bioactive dental material composed of a very fine inorganic blend of tricalcium and dicalcium silicates suspended in an organic carrier. It is supplied in a ready-to-use form, eliminating the need for mixing. The material is designed to set naturally in the presence of moisture within the oral environment.

### MATERIAL PROPERTIES

- Bioactive bioceramic formulation
- Color-stable; will not stain tooth structure
- Radiopaque for easy visualization
- Free of resin components

### INDICATIONS

Procedures involving vital pulp tissue:

- Direct pulp capping
- Indirect pulp capping
- Use as a cavity liner or base
- Pulpotomy procedures
- Apexogenesis

Procedures involving periradicular tissues:

- Repair of perforations
- Treatment of resorptive defects
- Root canal obturation
- Apexification
- Root-end (retrograde) fillings

### CONTRAINDICATIONS

Not recommended for patients with known sensitivity to highly alkaline (high pH) substances.

### POSSIBLE ADVERSE EFFECTS

Temporary inflammation of oral soft tissues may occur if the unset material comes into contact with mucosa.

### WARNINGS

ActaCal MTA PUTTY is alkaline in nature, similar to other calcium silicate-based materials, and should be handled with care.

### MATERIAL INTERACTIONS

No known incompatibilities with other dental materials.

### STORAGE GUIDELINES

- Store at ambient room temperature
- Do not refrigerate
- Reseal immediately after each use to prevent premature hardening
- Keep the syringe in its provided protective aluminum container

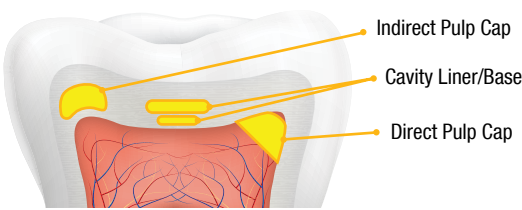
### PRECAUTIONS

- Avoid contact of unset material with skin or oral tissues; rinse thoroughly with water if contact occurs
- Use appropriate personal protective equipment (gloves, eyewear)
- Keep the product tightly sealed when not in use
- Store in its protective container to limit moisture exposure
- Do not overfill canals during obturation or apexification
- Use a new dispensing tip for each application
- Prevent contamination by avoiding contact between the syringe and non-sterile surfaces
- When used intraorally, cover the syringe with a disposable barrier sleeve
- Supplied non-sterile; cannot be sterilized—follow standard disinfection protocols between uses

### PERFORMANCE CHARACTERISTICS (ADA 57, ISO 6876 & 9917-1)

- Working time (room temperature): approximately 1 hour
- Initial set time (37°C, moist conditions): about 2 hours
- Full set time: 24 hours
- Solubility: less than 3%
- Dimensional change: slight expansion (~0.08%)
- Radiopacity: equivalent to 8.1 mm aluminum
- Heavy metal content (Pb, As): below 2 ppm

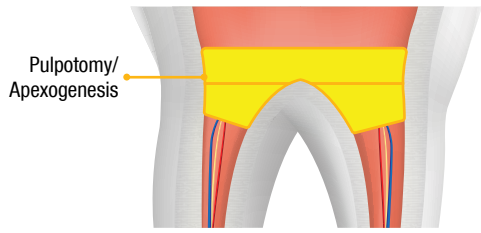
### CLINICAL APPLICATION GUIDELINES



#### DIRECT / INDIRECT PULP CAPPING, BASE, AND LINER:

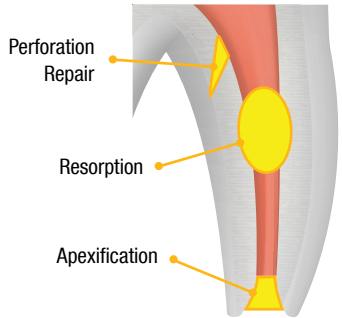
1. Prepare the cavity under rubber dam isolation using a high-speed handpiece.
2. Remove decayed tissue with a slow-speed round bur or hand instruments.
3. Achieve hemostasis using an appropriate solution (e.g., saline, sodium hypochlorite, or chlorhexidine). Persistent bleeding beyond 10 minutes may indicate irreversible pulpitis.
4. Apply ActaCal MTA PUTTY to the exposed pulp or cavity floor, maintaining at least 1.5 mm thickness.
5. Remove excess with a lightly moistened cotton pellet.
6. Restore immediately using a suitable restorative material (composite, glass ionomer, RMGI, etc.), or place an intermediate layer if preferred.
7. Monitor pulp vitality and verify with radiographs as needed.

### PULPOTOMY & APEXOGENESIS:



1. Access the pulp chamber under isolation.
2. Remove all carious tissue.
3. For multi-rooted teeth: remove coronal pulp to canal orifices
4. For single-rooted teeth: remove pulp to the CEJ or slightly below
5. Control bleeding; prolonged hemorrhage may require alternative treatment.
6. Place ActaCal MTA PUTTY (minimum 1.5 mm thickness).
7. Clean away excess material.
8. Restore the tooth immediately.
9. Evaluate vitality and confirm with radiographic imaging.

### PERFORATION REPAIR / RESORPTION / APEXIFICATION



#### Initial Steps:

1. Clean and shape the canal system under rubber dam isolation.
2. Irrigate with sodium hypochlorite or chlorhexidine.

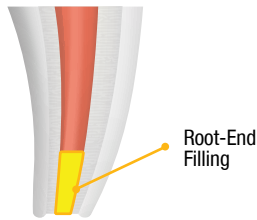
#### For Perforation or Resorption:

3. Isolate the defect area.
4. Fill the canal apical to the defect.
5. Place material into the defect.
6. Gently condense using appropriate instruments.
7. Verify placement radiographically.
8. Remove excess and complete obturation.

#### For Apexification:

3. Dry canals carefully.
4. Place material in the apical region to form a 3–5 mm barrier.
5. Confirm with radiograph.
6. Complete obturation and seal the access.
7. Place a full-coverage restoration as indicated.

### ROOT-END (RETROGRADE) FILLING



1. Surgically expose the root apex and resect 2–4 mm.
2. Prepare a 3–5 mm deep root-end cavity.
3. Achieve hemostasis and dry the area.
4. Place and gently compact ActaCal MTA PUTTY.
5. Remove excess and rinse lightly.
6. Confirm placement radiographically.
7. Close the surgical site.

### SYMBOLS USED ON LABELING:

	Manufacturer		Keep Dry
	Caution		Irritant
	Expiration Date		Prescription Only
	Lot Number		Catalog Number
	Consult Instructions For Use		

#### Manufactured for:

**engineered endodontics**

4965 N. Campbell Drive  
Menomonee Falls, Wisconsin 53051, USA

www.EngineeredEndo.com

orders@engineeredendo.com

+1 (833) 867-3636