

COMPETITIVE COMPARISON

TheraCal PT[®]

Dual-Cured Resin-Modified Calcium Silicate
Pulpotomy Treatment

vs

MTA Products

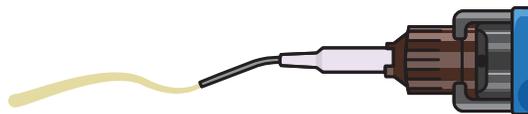
1 Simple & Easy to Use

TheraCal PT is simple and easy to use! Its delivery system, dual-curability, and optimized working and setting times make this a go-to product for pulpotomies.



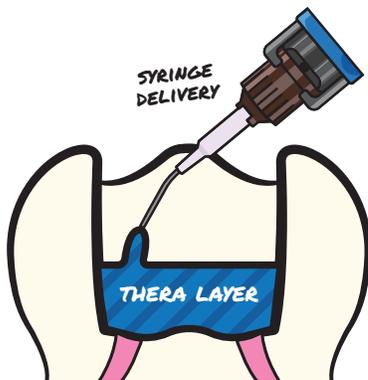
2 Syringe Delivery

Manual mixing is not required with TheraCal PT. The dispensing tip creates a uniform mix allowing for direct placement.



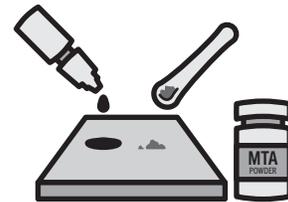
3 Easy & Consistent Handling

TheraCal PT offers a uniform mix and consistency that dentists can always rely on for easy handling. The material flows well and adapts to the pulpal floor with minimal manipulation.



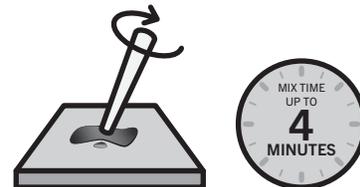
Not Easy to Use

MTA must be mixed or triturated and generally has long working and setting times.



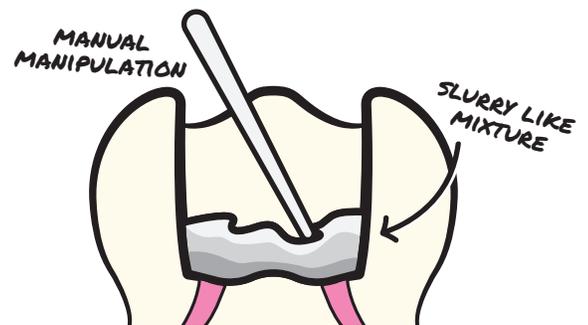
Manual Delivery

MTA products often require manual mixing of a powder and liquid which can take up to 4 minutes. The success of the restoration is largely dependent on how well the material is mixed.^{1,2}



Difficult to Handle

Studies have shown that the manual manipulation of MTA can lead to a mixture that is inconsistent or "slurry-like."³



*Data on file.

¹Schmitt D, Lee J, Bogen G. Multifaceted use of ProRoot™ MTA root canal repair material. *Pediatr Dent.* 2001;23(4):326-330.

²Sluyk SR, Moon PC, Hartwell GR. Evaluation of setting properties and retention characteristics of mineral trioxide aggregate when used as a furcation perforation repair material. *J Endod.* 1998;24(11):768-771.

³Mooney GC, North S. The current opinions and use of MTA for apical barrier formation of non-vital immature permanent incisors by consultants in paediatric dentistry in the UK. *Dent Traumatol.* 2008;24(1):65-69.

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4 Short Working & Setting Time

TheraCal PT is quick and efficient with a minimum working time of 45 seconds, and a maximum setting time of less than 5 minutes. Once cured, the prep can be immediately restored. TheraCal PT is a perfect time-saver for those antsy pediatric patients!



5 Any Etch/Bond System

Once cured, TheraCal PT is compatible with any etch/bonding technique (self-, total-, selective-etch) for optimal bonding and finishing of the restoration.

After light-curing TheraCal PT you can:



Self-Etch



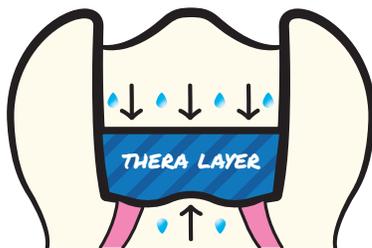
Selective-Etch



Total-Etch

6 Less Solubility

TheraCal PT's unique hydrophilic resin matrix allows for ion exchange and calcium release, but it is not water soluble.*



Long Working & Setting Time

MTA materials can have a working time of up to 20 minutes and are known for having prolonged setting periods, varying from 40 minutes to 4 hours. Adding "accelerators" can resolve this issue, but at the risk of decreasing compressive strength.⁴



Incompatible With Etch

Even if present in small amounts, phosphoric acid will alter the MTA setting reaction and reduce the micro-hardness of the set material.⁵⁻⁷



Do not
Selective-Etch



Do not
Total-Etch

Higher Solubility

Increases in the water to powder ratio upon mixing MTA can lead to higher solubility, porosity, and loss in consistency.⁸



*Data on file.

⁴Lee BN, Hwang YC, Jang JH, Chang HS, Hwang IN, Yang SY, Park YJ, Son HH, Oh WM. Improvement of the properties of mineral trioxide aggregate by mixing with hydration accelerators. J Endod. 2011;37:1433-1436.

⁵Parirokh M, Torabinejad M. Mineral trioxide aggregate: a comprehensive literature review — Part I: chemical, physical, and antibacterial properties. J Endod. 2010;36:16-27.

⁶Yesilyurt C, Yildirim T, Tasdemir T, Kusgoz A. Shear bond strength of conventional glass ionomer cements bound to mineral trioxide aggregate. J Endod. 2009;35:1381-3.

⁷Parirokh M, Torabinejad M. Mineral trioxide aggregate: a comprehensive literature review — Part I: chemical, physical, and antibacterial properties. J Endod. 2010;36:16-27.

⁸Fridland M, Rosado R. Mineral trioxide aggregate (MTA) solubility and porosity with different water-to-powder ratios. J Endod. 2003; December;29(12):814-7