

# TheraCal LC<sup>®</sup>

LINING AND PULP CAPPING. **THE THERA WAY.**



Rx Only



# TheraCal LC<sup>®</sup>

Resin-Modified Calcium Silicate Pulp Protectant/Liner

■ STRONG PHYSICAL PROPERTIES

TheraCal LC is a light-cured, resin-modified calcium silicate liner designed for use in direct and indirect pulp capping, as a protective liner under composites, amalgams, cements, and other base materials. It can be used as a replacement for calcium hydroxide, glass ionomer, RMGI, IRM/ZOE and other restorative materials. TheraCal LC performs as an insulator/barrier and protectant of the dental pulpal complex.

TheraCal LC's syringe delivery offers controlled and precise placement in all deep cavity preparations. TheraCal LC is easy to manipulate without running or slumping and its light-cured ability permits immediate placement of a definitive restorative material.

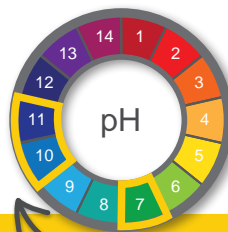
## Liquid Apatite at Your Fingertips

- **Protective liner:** TheraCal LC can be used as a protective liner under restorative materials, cements or other base materials.
- **Pulp capping agent:** TheraCal LC may be placed directly on pulpal exposures after hemostasis is obtained. It is indicated for any pulpal exposures, including carious exposures, mechanical exposures or exposures due to trauma.



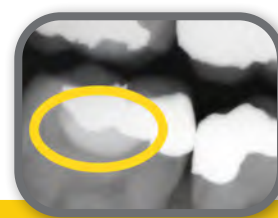
### Calcium Release

TheraCal LC releases 213  $\mu\text{g}/\text{cm}^2$  of calcium in 24 hours.<sup>▲</sup>



### Alkaline pH

TheraCal LC reaches an Alkaline pH of 10-11 in 3 hours.<sup>1</sup>



### Radiopaque

TheraCal LC is radiopaque for easy identification on radiographs.

## PHYSICAL PROPERTIES COMPARISON

	Water Solubility ( $\mu\text{g}/\text{mm}^3$ )	Water Sorption ( $\mu\text{g}/\text{mm}^3$ )
TheraCal LC <sup>®</sup>	0	283
Dycal <sup>®</sup>	116.48	111.03

### Did You Know?

TheraCal LC's water sorption facilitates ion exchange, which leads to significant calcium release. What's more? All of this occurs without TheraCal LC being soluble!

<sup>▲</sup> Dycal is a registered trademark of Dentsply

## UNIQUE HYDROPHILIC MATRIX

The proprietary formulation of TheraCal LC consists of tri-calcium silicate particles in a hydrophilic monomer that provides significant calcium release\* making it uniquely stable and durable as a liner or pulp capping material.



## Thera Benefits



**Calcium release**<sup>1\*</sup> stimulates hydroxyapatite and secondary dentin bridge formation<sup>2,3</sup>



Significant **calcium release**<sup>1</sup> leads to protective seal<sup>5,7,8</sup>



The **alkaline pH** promotes healing, pulp vitality and apatite formation<sup>2,4</sup>



Forms a **protective barrier** that insulates the pulp<sup>5,6</sup>, resulting in virtually no post-operative sensitivity



**Moisture tolerant**<sup>1</sup> and radiopaque - it will not dissolve over time and it will be visible on an radiograph

\* BISCO has, on file, the calcium release data for TheraCal LC.

1 Gandolfi MG, Siboni F, Prati C. Chemical-physical properties of TheraCal, a novel light-curable MTA-like material for pulp capping. International Endodontic Journal. 2012 Jun;45(6):571-9.

2 ADA definitions for direct and indirect pulp capping at <http://www.ada.org/en/publications/cdt/glossary-of-dental-clinical-and-administrative-ter>

3 Apatite-forming Ability of TheraCal Pulp-Capping Material, M.G. GANDOLFI, F. SIBONI, P. TADDEI, E. MODENA, and C. PRATI J Dent Res 90 (Spec Iss A):abstract number 2520, 2011 ([www.dentalresearch.org](http://www.dentalresearch.org))

4 Okabe T, Sakamoto M, Takeuchi H, Matsushima K (2006) Effects of pH on mineralization ability of human dental pulp cells. Journal of Endodontics 32, 198-201.

5 Sangwan P, Sangwan A, Duhan J, Rohilla A. Tertiary dentinogenesis with calcium hydroxide: a review of proposed mechanisms. Int Endod J. 2013; 46(1):3-19

6 Selcuk SAVAS, Murat S. BOTSALI, Ebru KUCUKYILMAZ, Tugrul SARI. Evaluation of temperature changes in the pulp chamber during polymerization of light-cured pulp-capping materials by using a VALO LED light curing unit at different curing distances. Dent Mater J. 2014;33(6):764-9.

7 Cantekin K. Bond strength of different restorative materials to light-curable mineral trioxide aggregate. J Clin Pediatr Dent. 2015 Winter;39(2):143-8.

8 Mechanical Properties of New Dental Pulp-Capping Materials Over Time. M. NIELSEN, R. VANDERWEELE, J. CASEY, and K. VANDEWALLE, USAF, JBJS-Lackland, TX, J Dent Res 93(Spec Iss A): 495, 2014 ([www.dentalresearch.org](http://www.dentalresearch.org))

## Indirect Pulp Capping Placement

Dentistry courtesy of Dr. Juan Angel Castro

1



Isolate tooth.

2



Remove infected carious tooth structure. Leave preparation visibly moist.

3



Apply TheraCal LC directly to visibly moist dentin. Layer is not to exceed 1mm in depth. Manipulate into a smooth surface. Light-cure for 20 seconds.

4

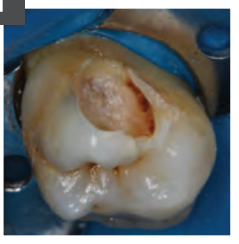


Continue tooth restoration.

## Direct Pulp Capping Placement

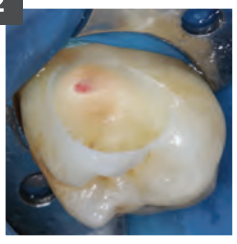
Dentistry courtesy of Dr. Elvio Durando

1



Isolate tooth.

2



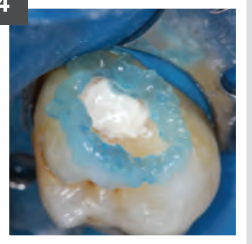
Remove infected carious tooth structure. Achieve hemostasis. Leave preparation visibly moist.

3



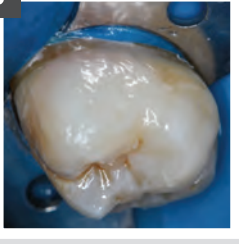
Apply TheraCal LC directly to exposed pulp. Layer is not to exceed 1 mm in depth. Cover all the exposed areas and extend TheraCal LC at least 1 mm onto sound dentin surrounding the exposure. Light-cure for 20 seconds.

4



Apply adhesive. (All-Bond Universal with selective-etch technique shown)

5



Continue tooth restoration.

### TheraCal LC Quick Tips

Apply to visibly moist dentin.



Apply in <1 mm increments.



Light cure for 20 seconds.



## Ordering Information

**4 SYRINGE PACKAGE** .....H-33014P

4 Syringes TheraCal LC (1g ea.), Accessories, Instructions

### REFILLS

1 Syringe TheraCal LC (1g), Accessories, Instructions.....H-3301P

50 Black Disposable Syringe Tips (22 Gauge) .....X-80621N

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