NEW PRODUCT

BASED ON THE PROVEN CERAMIR TECHNOLOGY from Doxa

LIGHT-CURED RESIN-MODIFIED BIOCERAMIC PULP PROTECTANT

ceramir®
PROTECT LC
SYRINGE

Ceramir Protect LC – combining the unique Ceramir technology with a light-cured matrix

www.ceramirdental.com

WHEN BIOACTIVITY MATTERS

Ceramir Protect LC - Syringe is a light-cured, resin-modified Bioceramic pulp protectant for direct and indirect pulp capping. The significant release of calcium on moist tooth surfaces promotes the formation of hydroxyapatite as well as tertiary dentin, leading to safe pulp protection. A high alkaline pH level creates an environment hostile to bacteria, which is conducive for healing and protects against hypersensitivity.

Ceramir Protect LC Syringe is moisture tolerant, insoluble and radiopaque. Thanks to its thixotropic behavior and by using the supplied needle tips, Ceramir Protect LC can be applied very precisely, even in deep cavity preparations.

When to use Ceramir Protect LC Syringe:

Direct pulp capping for any pulpal exposures, including:

- Carious pulp exposure
- Mechanical pulp exposure
- Pulp exposure due to trauma

Indirect pulp capping in deep preparations:

- Under amalgam restorations
- Under Class I and Class II composite restorations
- Under cements
- As an alternative to calcium hydroxide

M1120EN-V01

#CERAMIR

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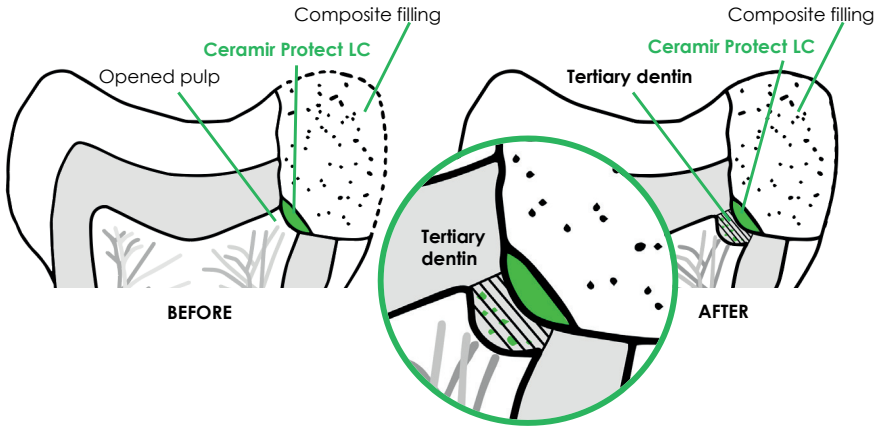
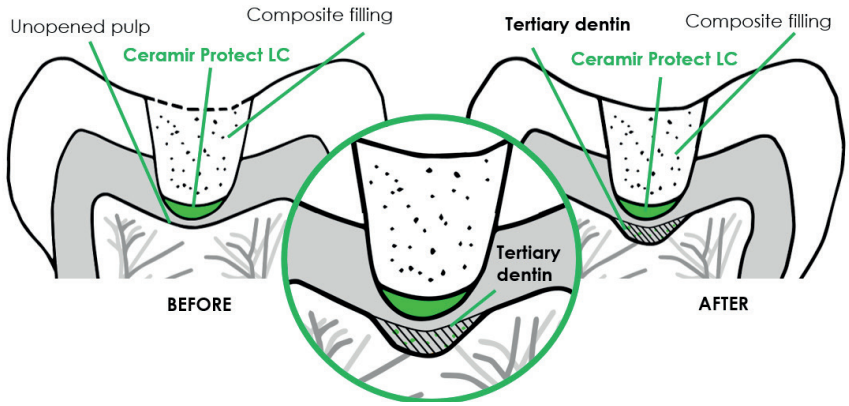
Direct Pulp capping

The significant release of calcium promotes the formation of hydroxyapatite and tertiary dentin.



Indirect Pulp capping

The significant release of calcium promotes the formation of hydroxyapatite and tertiary dentin.



Key advantages:

- Calcium release and high pH value promotes the formation of hydroxyapatite and tertiary dentin
- Moisture tolerant
- Insoluble
- A high alkaline pH level creates an environment hostile to bacteria, which is conducive for healing and protects against hypersensitivity
- Light-cured
- Radiopaque
- Good protection of the pulp in deep cavities
- Ready to use one component material

Calcium release and pH measurement

The calcium release as well as the effect on pH of Ceramir Protect LC were tested similarly to previously published data for calcium hydroxide and calcium silicate pulp capping agents. Results from the calcium release presented in **Figure 1** show that Ceramir Protect LC release about twice the amount of calcium as TheraCal LC (Bisco Inc., USA), and Dycal (Dentsply Sirona, USA).

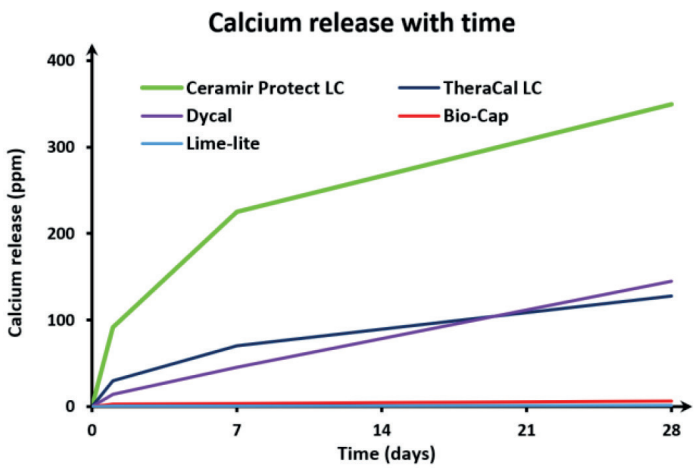


Figure 1. Calcium release during water storage at 37°C for up to four weeks. Data collected by Lawson, University of Alabama at Birmingham.

Surface mineralization

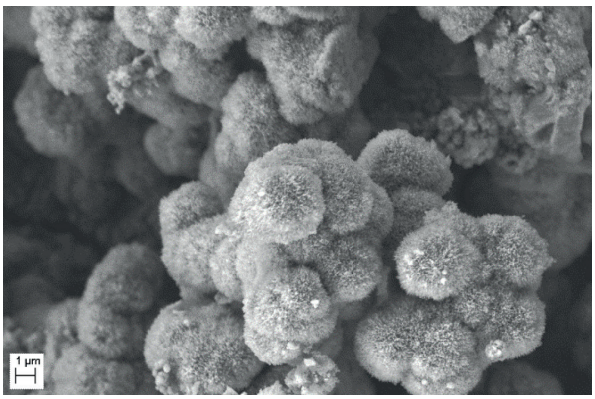


Figure 2. SEM micrographs showing Ceramir Protect LC after storage in PBS solution for seven days.

Electron images of the material surface after PBS storage for one week show a clear surface mineralization. A thick layer with needle like mineral is clearly visible (**Figure 2**). Typically, hydroxyapatite precipitate as needles, as this is the most energetically favored way of precipitation, showing that the precipitated layer is indeed hydroxyapatite.

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