



**HARVARD®**

# Harvard **BioCal® - Line**

Bioactive resin-reinforced **MTA** protective liner



→ Bioactive

→ pH protective shield

→ Mineralizing

→ Light cure

**NEW!**

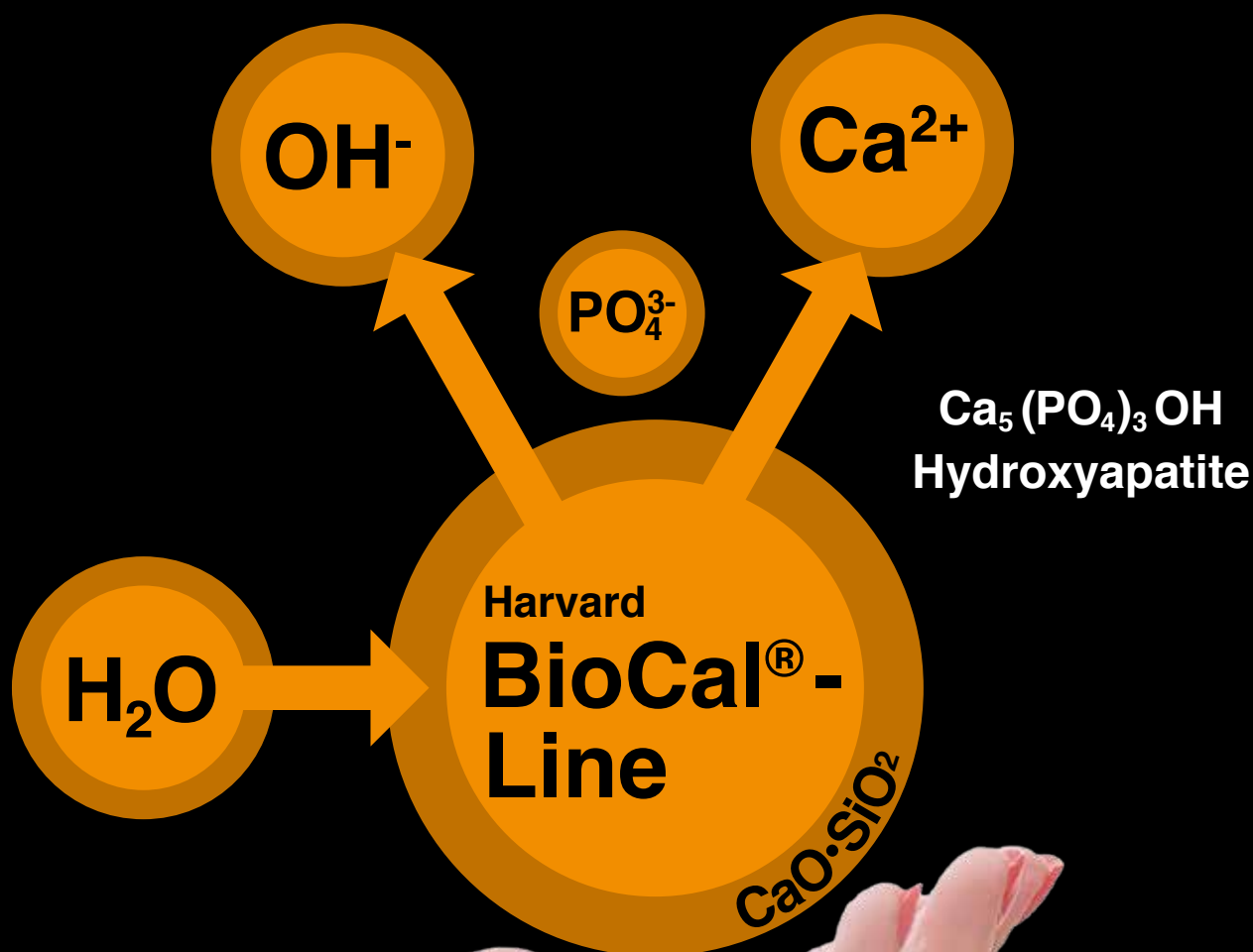


# Harvard BioCal<sup>®</sup> - Line

Harvard BioCal<sup>®</sup>-Line is a bioactive, light cure, resin-reinforced MTA protective liner. The good strength and the protective effect of the MTA components (high alkalinity and mineralization) ensure pulp protection with sufficient stability for subsequent filling at the same time.

Harvard BioCal<sup>®</sup>-Line is moisture-tolerant, insoluble and exhibits high radiopacity. Thanks to its thixotropic behavior and the supplied NeedleTip, Harvard BioCal<sup>®</sup>-Line can be applied very precisely, even in deep cavities. Light cure ensures a controlled curing.

The release of calcium and hydroxyl ions promotes the formation of tertiary dentine.



The result is a safe pulp protection. The high alkaline pH has an antibacterial effect and thus supports healing and protects against hypersensitivity.

**Indications:**

- Perfect as a thin-layer protective liner in deeper cavities
- Also suitable for indirect and direct pulp capping

# The bioactive MTA protective liner.



Class I cavity



Class I cavity after application of an adhesive



Application of Harvard BioCal®-Line



Harvard BioCal®-Line cured after 40 seconds light curing

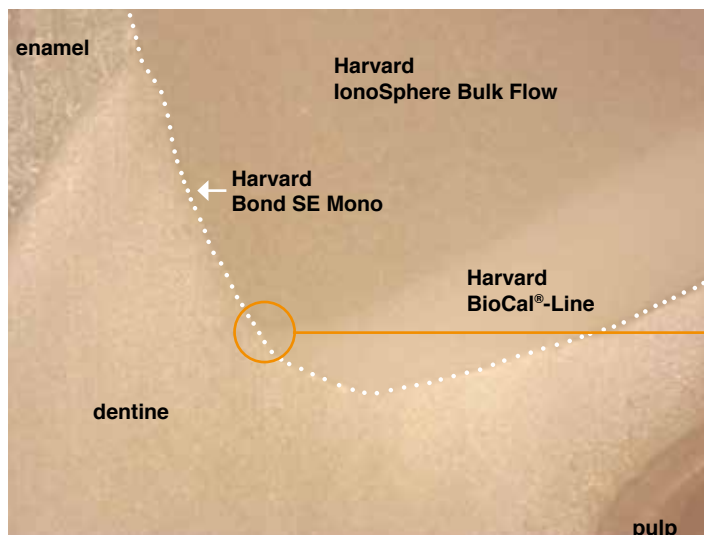
**Benefits:**

- Easy and fast application
- Stimulates the formation of tertiary dentine
- Environment hostile to bacteria (pH 11)
- Mechanically stable
- Short setting time due to light cure
- Mineralizing
- Compatible with all composite restorative materials
- Radiopaque (225 % Al)

## Harvard BioCal®-Line

Harvard BioCal®-Line should be used with a dentine adhesive, ideally with Harvard Bond SE Mono. Dentine adhesives do not restrict the bioactive effect. A continuous gap-free marginal seal and high alkaline bioactive MTA components protect pulp and dentine equally, especially in deep restorations.

High strength values and minimal layer thickness ( $\leq 1$  mm) form the foundation for safe and reliable restorative therapy.



**Laser microscopic image (magnification: 5x / 0.13)**  
Deep composite restoration close to the pulp  
Experimental Tooth Preparation (cross section) after one-week storage in artificial saliva (37° C / 98,6° F / thermocycling)



**Image detail (magnification: 50x / 0.95)**  
Interface: Dentine / Harvard IonoSphere Bulk Flow & Dentine / Harvard BioCal-Line  
In between: Harvard Bond SE Mono

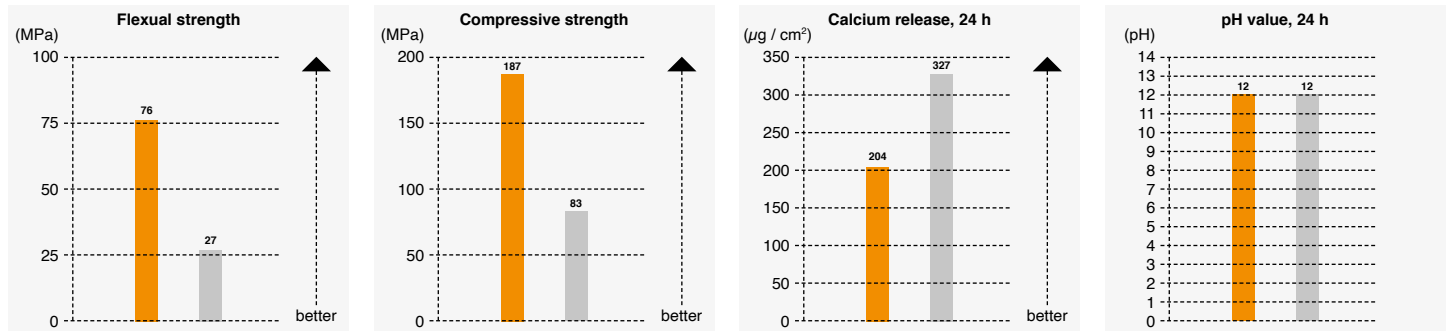


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### Technical data:

Solid physical values underline the application of **Harvard BioCal®-Line**.



■ Harvard BioCal®-Line  
■ Bisco TheraCal LC

	Harvard BioCal®-Line	Bisco TheraCal LC
<b>Flexural strength</b>	<b>76 MPa</b>	<b>27 MPa</b>
<b>Compressive strength</b>	<b>187MPa</b>	<b>83 MPa</b>
<b>Calcium release (24 h)</b>	<b>204 <math>\mu\text{g} / \text{cm}^2</math></b>	<b>327 <math>\mu\text{g} / \text{cm}^2</math></b>
<b>pH value (24 h)</b>	<b>12</b>	<b>12</b>

### Order information:

<b>Harvard BioCal® - Line</b>	
1 g syringe, 12 needle tips	7081554

<b>Harvard NeedleTips H20</b>	7091226
refill bag with 50 needle tips	

Harvard Distribution Partner.



## HARVARD®

### Marke und Qualität seit 1892

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