

BACTICENT® CHX

*Antimicrobial coating for
medical devices*

ON THE SURFACE
We touch life first

MATERIALS

*Transform your medical device
into a powerful weapon
in the fight against healthcare
associated infections.*



Each year in the US alone, health care associated infections affect 1.7 million people at a cost of more than \$35 billion.¹

Health care associated infections are a leading cause of death in the United States.

BACTICENT® CHX
Antimicrobial Coating

Proprietary chemistries that enable advanced surface enhancement on your medical devices, healthcare disposables, or life science products.



- The CDC reported that, in 2011, approximately 75,000 hospital patients with healthcare-associated infections died during their hospital stays (Centers for Disease Control and Prevention, 2015).

- According to the American Medical Association, the total annual costs for the five most common HAIs were \$9.8 billion (Zimlichman et al., 2013).

Healthcare-associated infections affect millions of patients world-wide each year.

The impact of infection on the patient is significant, ranging from discomfort to death, loss of time and money due to prolonged hospital stays, and serious subsequent consequences that may result in future hospitalization and a shorter life span.

The healthcare system also suffers as a result of healthcare-associated infections, exposing healthcare workers to additional risk, consuming valuable resources and incurring additional expenses which are increasingly not reimbursed.

Current best healthcare practices suggest the use of medical devices with an antimicrobial coating go a long way toward eliminating these deadly infections.



Typical medical devices that may benefit from an antimicrobial coating include indwelling catheters, central venous catheters, and dialysis catheters.

Bactigent Antimicrobial Coatings are easily applied to your medical devices using one of Harland Medical Systems' standard automated coating systems.



Introducing

Bactigent brand broad-spectrum antimicrobial coatings are a powerful weapon in the fight against healthcare associated infections.

Bactigent CHX features the highly effective antimicrobial, chlorhexidine, delivered right from the surface of your medical device. Engineered to fight off the most common gram negative and gram positive bacteria associated with healthcare associated infections.

Material Description

Bactigent CHX consists of a heat cured copolymer matrix infused with chlorhexidine diacetate. The coating is compatible with most relevant device base materials.

Tailored Performance

Process flexibility combined with Harland's experience mean the elution profile can be tailored to meet your device's performance needs.

Combine with lubricity

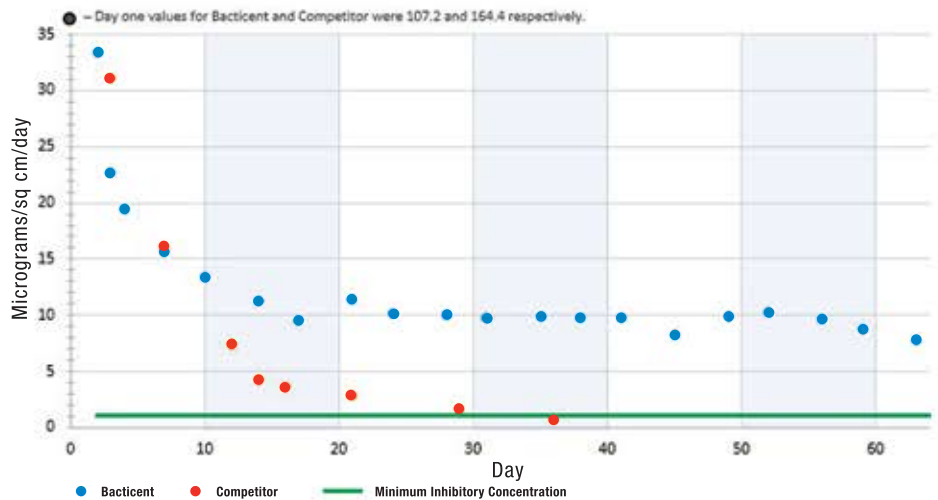
For increased patient comfort and additional bacteria adhesion resistance, Bactigent CHX may be combined with a lubricious layer such as Harland Medical Systems' Lubricent® Hydrophilic Coating.

Coating Services

Coat your devices in your own facility or take advantage of Harland's ISO 13485 certified coating capabilities.

First-Class Elution Performance

A comparison of Bactigent® CHX with leading competitive coating



Methodology: Catheters were cut into test segments and incubated in 10 mM Phosphate buffer (pH 7.0) at 37° C and agitated at 50 RPM. The buffer was exchanged at regular intervals and the solutions were analyzed by HPLC for chlorhexidine concentration.

Analysis: The Competitor's catheter exhibits greater initial release and faster depletion of chlorhexidine than the Bactigent CHX coating with limited long-term (>30 days) effectiveness. The Bactigent CHX coating release profile balances initial burst with a delayed release that extends effectiveness to 60 days



THE 4M FRAMEWORK™

Harland manages all of these elements as an integrated program to provide you with a complete surface enhancement solution tailored to precisely meet your particular technical, functional and economic requirements.



MATERIALS — proprietary chemistries that enable advanced surface enhancement on your medical devices, healthcare disposables or life science products. Harland provides unique, world class chemistry platforms for solving customer surface enhancement challenges.

METHODS — processes and protocols to effectively and efficiently apply and cure surface enhancing materials. Harland creates and validates robust methods that optimize the integration of Materials and Machines to meet your product's requirements.

MACHINES — automated systems designed specifically to apply and test advanced Materials on your device. Engineered to meet your technical, commercial and operating requirements including throughput and total cost of ownership.

MANUFACTURING — with either Harland Contract Coating Services or customer- owned coating operations. Harland is uniquely positioned to offer a full spectrum of surface enhancement manufacturing options based on your manufacturing strategy and volume requirements.

Total Solution

As a total solution provider, Harland Medical Systems will work with your team through the entire project, providing feasibility and prototype coated devices, process development (OQ and PQ), and regulatory and automation support.

Whether you ultimately choose to take advantage of Harland Medical Systems' ISO13485 certified contract coating capabilities or coat your devices in-house, you can be assured of total support through the entire process.

Regulatory Support

The regulatory path for an antimicrobial coated part can be complex. Harland has combination device regulatory expertise in-house and can work with you to smooth the regulatory path.

Open Development

Harland encourages open customer contact during the method development and subsequent process validation. Harland believes that open communication and cooperation is essential to the successful rapid completion of any customer program. Harland's Start Now™ stage-gate process is well defined to keep you aware of your program's progress and the steps to completion.

Looking for a coating to deliver a specific anti-infective compound?

Bacticent coating technology can be adapted to deliver other antimicrobial compounds. Harland Medical Systems will work with you to develop the Bacticent coating technology to deliver the compound at the rate you need to satisfy the particular infection reduction and elution profile that best meets the needs of your specific medical device.



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