

2024 WHITE PAPER

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HOW ANTIMICROBIAL PROTECTION WORKS: ANTIMICROBIAL COATINGS VS. MICROBAN® TECHNOLOGY

INTRODUCTION TO MICROBAN®

Antimicrobial technology is a cutting-edge approach to sanitation that has become increasingly essential in our daily lives, especially in the wake of global health crises. The role of this system is to inhibit the growth of microorganisms, helping to inhibit the effects of non-pathogenic bacteria such as staining, odors, and/or product deterioration.

One prominent player in this field is Microban®, an Environmental Protection Agency-registered company that has revolutionized the way people think about hygiene and protection.

For that reason, T Concepts Miami has partnered with Microban® to offer the first commercial door handle with Microban® product protection. In this White Paper Report, we'll delve into some of the details of antimicrobial technology, focusing on Microban® and its applications and why that is important to T-Concepts Miami's philosophy of added protection for high-touch services.

HOW MICROBAN® WORKS

Microban®'s mission is clear: to inhibit the growth of harmful microbes such as bacteria, mold, and mildew. Unlike naturally antimicrobial materials (like copper), which directly kill microbes, Microban® takes a different approach. It incorporates additives into various products, making them inherently resistant to microbial colonization. Imagine surfaces that are not only easier to clean but also last longer—Microban® makes this a reality. These treated surfaces can even reduce the frequency of cleaning.

The mechanism behind Microban®'s effectiveness lies in disrupting microbial metabolism. By preventing the conversion of nutrients into energy, Microban® inhibits microbial survival, reproduction, and colonization. By targeting multiple aspects of microbial growth, Microban® technology reduces the likelihood of bacterial resistance, making it an effective and sustainable solution for long-term antimicrobial protection.

APPLICATIONS IN DOOR HARDWARE

It's clear to see how Microban® can be effective and important in door handle hardware.

The integration of Microban® technology in door handle hardware presents a unique opportunity to enhance hygiene and helps reduce the effects of non-pathogenic bacteria. High-traffic environments support the constant flow of people each day. By applying Microban® technology to door handles, knobs, and other frequently touched surfaces, the risk of contamination and cross-contamination is significantly reduced. This is especially important in hospitality, commercial spaces, office buildings, hospitals, schools, and public restrooms, where the transmission of bacteria is a significant concern.

Additionally, Microban® technology can be used in combination with other antimicrobial measures, such as regular cleaning and disinfection, to inhibit comprehensive protection against microbial growth and viruses.

BENEFITS AND LIMITATIONS

Microban® offers several advantages:

- ▶ **Continuous Protection:** Built-in antimicrobials remain active throughout the product's lifetime, providing uninterrupted defense.
- ▶ **Odor Control:** Microban® can combat odors caused by microbial activity, ensuring freshness.
- ▶ **Stain Resistance:** Depending on the type of antimicrobial, Microban® protects against discoloration and staining.
- ▶ Microban® is EPA-registered

However, it's essential to recognize there are some limitations:

- ▶ **Not a cure for diseases such as COVID-19:** While Microban® treated products fight surface pollutants, they do not protect against viruses like coronavirus.
- ▶ **Regulatory Compliance:** Manufacturers must adhere to safety regulations and standards when incorporating Microban® into their products. At T Concepts Miami we are vigilant about understanding and adhering to these requirements and regulations.

Safety considerations and regulatory standards play a critical role in the development and use of Microban® technology. The active ingredients used in Microban® technology undergo rigorous testing to ensure their efficacy and safety for human and environmental health.

Additionally, Microban® technology is subject to various regulatory standards and guidelines, including those set forth by organizations such as the Environmental Protection Agency (EPA) and the Food and Drug Administration (FDA). These standards ensure that Microban® technology meets stringent safety and efficacy requirements and can be safely used in a wide range of applications.

CONTRASTING TRADITIONAL COATINGS

While traditional antimicrobial coatings have been used for decades to inhibit the growth of bacteria and fungi, they have several limitations that make them less effective than Microban® technology. For example, traditional coatings rely on the release of toxic chemicals to kill bacteria, which can lead to the development of resistance and pose risks to human health

and the environment. Additionally, traditional coatings are often less durable and may degrade over time, requiring frequent reapplication to maintain their effectiveness. In contrast, Microban® technology utilizes a multi-modal approach to combat microbial growth, making it more effective and sustainable in the long term.

FUTURE OF ANTIMICROBIAL TECHNOLOGY

Looking ahead, the future of antimicrobial technology is promising. Innovations like Microban® will continue to evolve, addressing new challenges and applications.

Whether it's in healthcare, textiles, or everyday items, antimicrobial solutions will play a crucial role in maintaining a cleaner, safer world.

CONCLUSION

In summary, Microban® technology represents a significant advancement in antimicrobial protection, providing durable, long-lasting, and effective solutions for a wide range of applications. By disrupting the cellular functions of microbes, Microban® technology reduces the likelihood of bacterial resistance and provides continuous protection against microbial growth. Additionally, Microban® technology is safe for use in various environments and complies with regulatory standards for antimicrobial agents. While traditional antimicrobial coatings have been used for decades, they have limitations that make them less effective than Microban® technology. Overall, Microban® technology offers a superior solution for antimicrobial protection, with a wide range of benefits and applications.

For these reasons and more, T Concepts Miami is proud to employ this solution in the development and production of our products.