

# ULTRA BIO

# Allure Collection

Antimicrobial Benefits with Antibacterial effect

Lektraflor's Allure Collection of products are coated with Ultra-Fresh treated Ultra Bio. Ultra-Fresh not only extends the life of the polymer, but also provides effective protection against microbial contamination while preserving the aesthetic beauty of the product.

- ↳ Excellent Antimicrobial & Antifungal Treatment
- ↳ LektraFlor Ultra-bio coating treatment is EPA (US) & BPR (EU) registered

## Ultra-Bio coating with Ultra-Fresh additives are harmless to the human body

Ultra-Fresh protects products from the growth of bacteria, mold, microorganisms and fungi that degrade product performance, keeping products more hygienic, pleasant, and odor-free. Ultra-Fresh is certified by the US Environmental Protection Agency (EPA), meets the requirements of the Bacterial product Directive (BPD), and is listed in **OEKO-TEX®**.

### What is OEKO TEX® certification?

It is a European textile product quality certification system that evaluates harmful substances such as textiles, clothing, bedding, interior materials and additives that can directly affect the human body.

OEKO-TEX is an eco-friendly certification system with public confidence that only products that are evaluated to be harmless to the human body after undergoing rigorous ingredient tests in an accredited laboratory are approved.

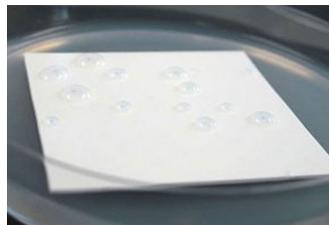


The photos below show the benefits of adding an antimicrobial additive to a polymer. Under the right conditions, mold and mildew can grow on untreated vinyl by using the polymer as a food source. By adding an antimicrobial additive during the manufacturing process, the polymer becomes resistant to microbial growth. This increases the end-use life of the PVC product.



#### Untreated PVC

For vinyl that is not treated with Ultra-Fresh, the product performance is reduced.



#### PVC treated with Ultra-Fresh

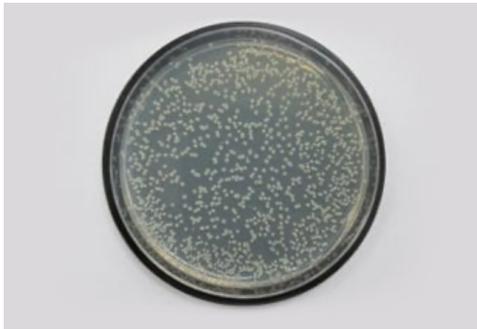
Ultra-Fresh inhibits the growth of bacteria and is responsible for creating unpleasant smells, staining, and degradation of PVC products.

## How do antibacterial plastics work?

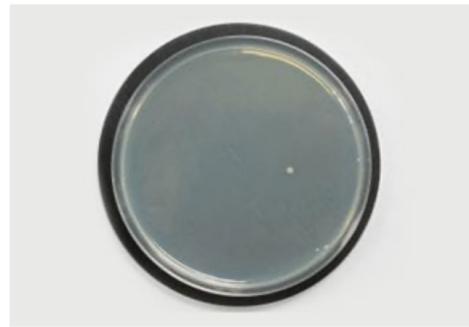
The photos below demonstrate the efficacy of antibacterial plastic.

Two polymer samples (one treated with Ultra-Fresh antimicrobial additive and one without) were tested use ISO 20743. Equal amounts of bacteria (methicillin-resistant *Staphylococcus aureus*, also known as "MRSA") were added to each sample and then incubated at 37°C/98°F (body temperature) for 24 hours.

Afterward, both samples were evaluated to see how many bacteria were left behind. As you can see in the photo below, a large amount of bacteria was recovered from the untreated plastic. In contrast, very few bacteria were recovered from the antimicrobial plastic.



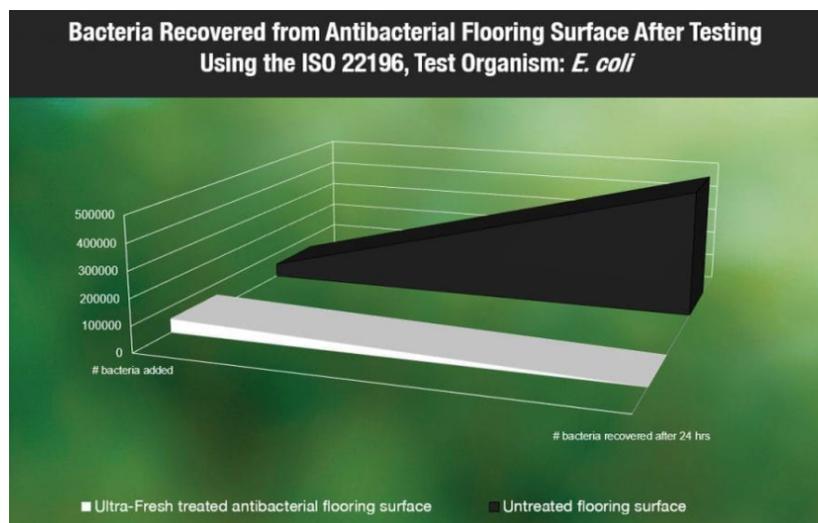
MRSA recovered from untreated plastic



MRSA recovered from antibacterial plastic

The graph below shows the performance of antibacterial plastics over time. Equal numbers of bacteria were added to the same untreated polymer material as the antibacterial plastic.

Samples were incubated at 37°C/98°F (body temperature) for 24 hours. After that, the number of remaining bacteria was determined.



The bacteria in the polymer without antimicrobial plastic treatment increased exponentially (from about 50,000 to over 500,000). However, the antibacterial plastic had 99.9% fewer bacteria compared to the untreated sample after the same period.

Reference: [www.ultra-fresh.com](http://www.ultra-fresh.com)