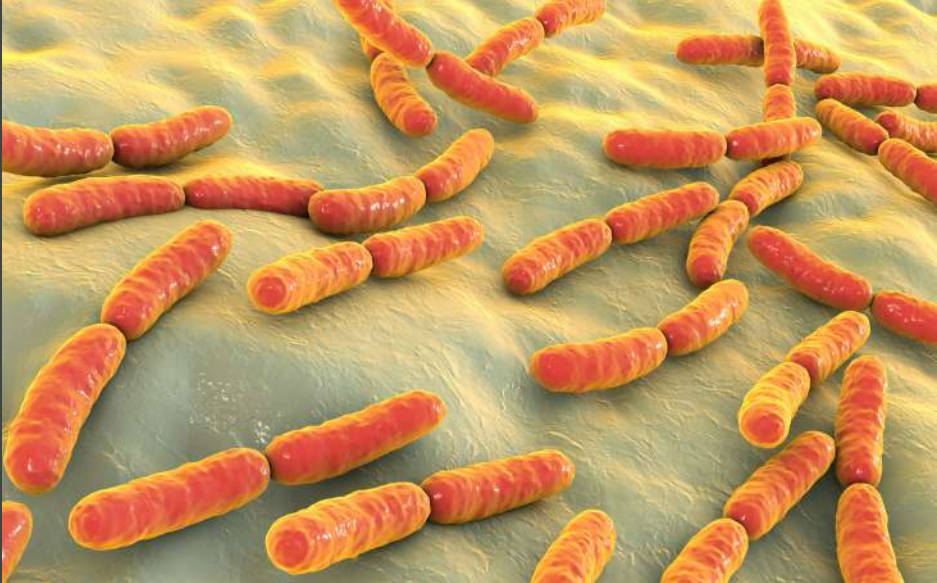
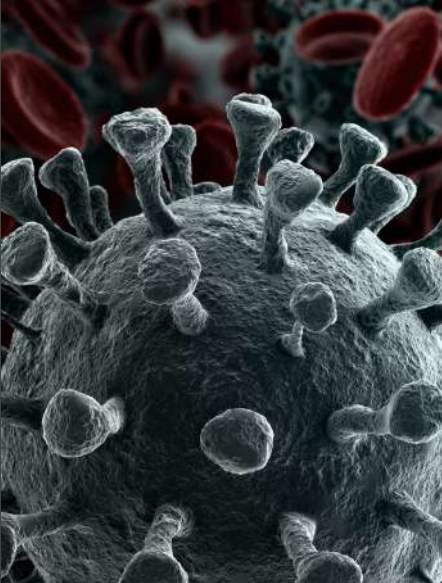


**CRANE**

Composites

discover the difference

The Right Choice FOR ALL THE RIGHT PLACES



# making the right choice **for** sanitary applications

## **company statement**

Stance against antimicrobial agents

## **our products**

Crane fiberglass reinforced plastic (frp) liners define hygienic and sanitary standards

## **the big debate**

Are antimicrobial surface additives worth the risk + cost? here are the facts!

## **timeline**

Breaking down the 30 years since antimicrobials entered the market

## **crane's position**

Why Crane frp liners are the right product across the supply chain

## COMPANY STATEMENT

our stance against  
antimicrobial or biocide use  
in our products

At Crane Composites, the health and safety of our customers is our top concern. While the COVID-19 pandemic has sparked a renewed interest in antimicrobial coatings, we continue to follow the lead of the United States Centers for Disease Control and the World Health Organization. Both agree that rigorous cleaning and sanitization of surfaces is the most effective way to combat the spread of disease-causing organisms. The cleanability and durability of our products are hallmarks of our design and they meet the challenges of the post-COVID-19 marketplace.

# OUR PRODUCTS

Crane Composites fiberglass reinforced plastic (frp) wall and ceiling liners have a long history of standing up to the challenges faced in tough environments. Our liners have been the choice in thousands of vehicles where cleanability, durability, and low maintenance is required.



## HYGIENIC

**Crane frp has a completely non-porous, robust, and scratch resistant surface.**

Our liners will not collect dirt, bacteria, or other dangerous organisms that can contaminate food or other items during transport.



## NO PLACE FOR BACTERIA

**Crane frp resists the growth of bacteria and mold.**

In 2020, our tests again confirmed that our products do not support or promote the growth of bacteria. Coupled with regular cleaning, where our FRP excels, bacteria does not stand a chance.



## USDA/FDA/FSMA COMPLIANT

Meets food safety compliance across the entire supply chain

Crane liners have been designed to allow for full compliance with USDA/FDA requirements for non-food contacting applications for years and support the Food Safety and Modernization Act.



## CLEANABLE

A key strength of our liners is its durability to the strongest cleaning agents.

Bleach, detergents, sanitizing wipes and sprays will not stain or change the color of our liner product and will have no effect on the long term performance of our products.



## SURFASEAL® FILM

An integral film, found on ArmorTuf® and Kemlite® liners, that provides a barrier

This film is NOT an additive, it is a key structural component integrated at the time of manufacturing to create a pore-free surface. Crane is the only frp manufacturer with this unique film.



# THE BIG DEBATE

▶ An old idea that is new again is the concept of embedding antimicrobial agents in surfaces to create resistance to germs, mold, and other organisms. Additives commonly used include silver or copper nanoparticles, bacteriocides, or new materials such as graphene.

Are antimicrobial surface additives worth the risk + cost?



## Additives manufacturers

Antimicrobial products are being marketed as a failsafe means to perpetually fight bacteria and micro-organisms.

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## Governing agencies

The CDC, WHO, and other leaders in the health industries are cautious about the claims and benefits of antimicrobial surface treatments.

**Key players  
involved in this  
debate**

# Myths about adding antimicrobial agents into products

**With antimicrobial agents, the problem is solved.**

**Fact:** without regular cleaning and sanitization, antimicrobial surface treatments offer limited resistance. They can also create a false sense of security where cleaning is minimized which can lead to the development of resistant organisms, sometimes referred to as Super Bugs.

**Viruses are vulnerable to antimicrobial agents.**

**Fact:** No antimicrobial surface agent has been shown to be effective to viruses

**Antimicrobials are effective against any bacteria.**

**Fact:** Common antimicrobials are effective against many bacteria but there are known resistant strains and the bacteria are evolving to become more resistant to antimicrobials.



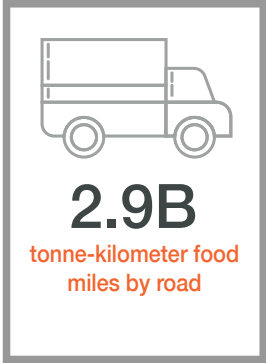
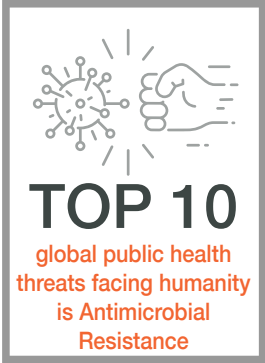
## Facts & Figures

### Truck/Trailer manufacturers

Manufacturers are working to introduce these agents to numerous products such as wall liners and inaccurate claims are made that these additives protect against viruses such as COVID-19.

### Fleets & End-Users

Uncertainty about the effectiveness of antimicrobials leads to confusion about the choice of the right product for the right application.



# TIMELINE



For over 30 years, antimicrobial surface treatments have been the subject of debate. Crane Composites has followed the debate closely and made decisions based on leading research and studies.

▶ Antimicrobials enter the marketplace

**1984** →

**Products launch terminology catching on**

Microban® is introduced as an additive for plastics, coatings, fabrics and surfaces.

▶ Antimicrobial market growth

**1990's** →

**Popularity rises antimicrobial gains traction**

Antimicrobial products grow in popularity from toys to tools to soaps and cleaners.

▶ Centers for Disease Control (CDC) issues statement on antimicrobials

**2003** →

**CDC involvement studies conducted seeking evidence**

The US CDC completed a study in 2003 that found there was no evidence that antimicrobial coatings offer any enhanced protection from the spread of bacteria and germs. According to the CDC, the most effective way to prevent the spread of infectious disease is to implement a stringent hygiene and cleaning regimen. This includes regularly disinfecting surfaces, using social distancing, and wearing a mask.

▶ FDA Food Safety Modernization Act (FSMA) launched

**2011** →

**FDA takes control preventing illness becomes goal**

Millions of people in the USA get sick from foodborne illness in a year. The FDA decided to make the prevention of illness the forefront rather than responding to it. In 2011, Congress launched the FSMA which outlines specific rules, at each point in the supply chain, that must be taken to prevent contamination.

Accessible version: <https://www.cdc.gov/od/ohrt/infcontrol/guidelinesforhealthcarefacilities.html>

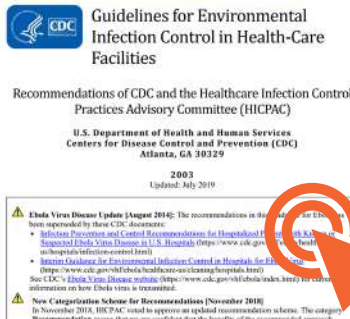


Image Screenshot: [Food Safety Modernization Act \(FSMA\)](#)





*In recent years, there is a growing concern about the overuse of anti-microbial agents that could lead to more dangerous organisms that threaten global health. Leading government agencies are taking this matter seriously and are have issued strong positions against the use of antimicrobials, which is Crane chooses against their use in our manufacturing process.*

▶ **Kaiser-Permanente Position Statement**

**2016** →

**Healthcare involvement stances against agents/additives**

In 2016, after completing an investigation into the chemicals used as antimicrobials, Kaiser-Permanente, the world's largest healthcare provider, banned paint and other interior building products treated with "germ fighting" antimicrobial agents from use in their hospitals, physician offices, and administration buildings.

▶ **Emergence of COVID-19 and a resurgent interest in antimicrobial surface treatments**

**2019** →

**COVID-19 pandemic reignites interest in antimicrobials**

In late 2019, COVID-19 emerges and cleaning, hygiene & sanitization are key defenses that halt its spread

▶ **World Antimicrobial Awareness Week initiated by WHO and renewed strategies for long-term public health**

**2020** →

**WHO seeks to educate public health strategies gear up**

World Health Organization launches World Antimicrobial Awareness Week with slogan "Antimicrobials: Handle with Care". The development of antimicrobial resistant organisms is a serious concern of the WHO, that declared them to be a top ten global public health threat facing humanity.

**Banning use of antimicrobial agents for infection control**

With no proof that antimicrobial-treated furniture and fabrics improve infection prevention, health care system bans 15 chemicals from use in interior products.



**OAKLAND, Calif.** — Concerned about increasing exposure to toxic chemicals in everyday life and the threat of drug-resistant bacteria, Kaiser Permanente has banned paint and other interior building products that contain antimicrobial agents for use in its hospitals and health care facilities. The ban, which took effect in January, covers 15 different chemical ingredients. Manufacturers routinely add antimicrobial chemicals to their products for infection control, although the Centers for Disease Control and Prevention (CDC) has found no evidence to suggest the products are more effective than production from the growth of bacteria and germs, and some are known to be harmful to people.



**Antimicrobial resistance**

**Key facts**

- Antimicrobial resistance (AMR) is a global health and development threat. It requires immediate action to achieve the Sustainable Development Goals (SDGs).
- WHO has declared that AMR is one of the top 10 global public health threats of the decade.
- Misuse and overuse of antimicrobials are the main drivers in the development of drug-resistant pathogens.
- Lack of clean water and sanitation and inadequate infection prevention and control, especially in low-income countries, contribute to the spread of AMR.
- The cost of AMR to the economy is significant. In addition to death and disability, AMR also results in longer hospital stays, the need for more expensive medicines and diagnostic tests, and increased productivity losses.
- Without effective antimicrobials, the success of modern medicine in treating infections, including major surgery and cancer chemotherapy, would be at increased risk.



# CRANE'S POSITION



Following the lead of the World Health Organization and the United States Centers for Disease Control, we have chosen to not pursue antimicrobial coatings for our products. We believe the risk and cost of antimicrobial surface treatments outweigh their value.

## Why

choose Crane Composites liners

Our non-porous robust liners are designed for durable cleanability. Crane liners do not require an anti-microbial additive because our product does not support the growth of microbes.



## Why not

choose anti-microbial solutions

The long-term performance of antimicrobial surface treatment is still not known and rigorous cleaning is still essential, otherwise bacteria and germs will still flourish.



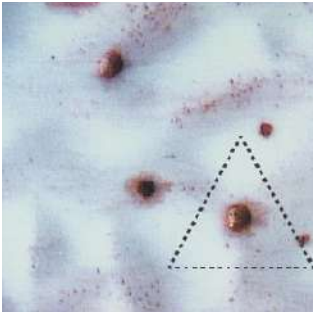
## Why ArmorTuf® & Kemlite® liners win



**Mold Resistant**  
Our FRP panels resist moisture & humidity and are certified to be mold & mildew free.



**Easy to Clean**  
Our FRP panels wipe clean with soap and water, but also stand up to any harsh chemicals + detergents & withstand repetitive cleaning cycles.



**Pore Free Surface**  
Our FRP panels are robust with a resin rich, dense surface, free from voids or pores that can trap dirt and moisture.



**Durable**  
Our liners are engineered to last for the life cycle of the vehicle, while maintaining the same hygienic performance.

# Crane liners will stand up to the toughest conditions - we have the proof!

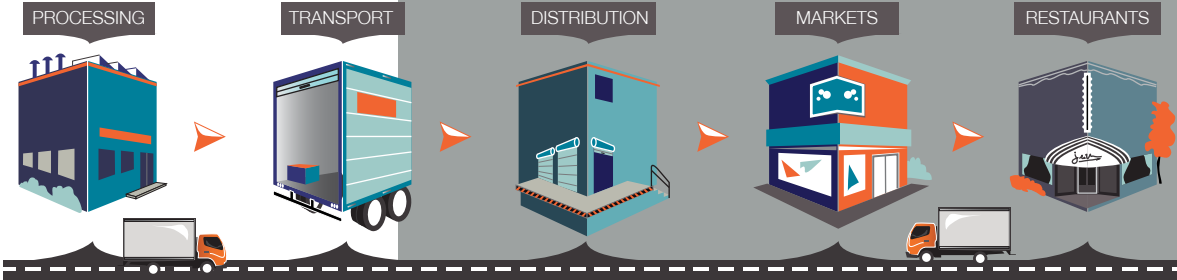


## PROPERTIES

- unique Surfaseal finish making it stain resistant & easier to clean
  - lowest overall total cost of ownership due to ROI over time
  - chemical resistant and resistant to repetitive cleaning
  - moisture & humidity resistant, mold & mildew free
  - vapor barrier protection preventing transfer of spores
  - robust panel with resistance to impact and scratches
  - pore free surface, will not trap soil or bacteria
  - seamless, one-piece liners that are easy and quick to install
- Compliant with:
    - USDA/FSIS requirements
    - Food and Safety Modernization Act (FSMA)
    - FMVSS 302 requirements
    - mold & mildew free, ASTM D3273 & ASTM D3274

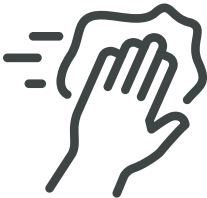
## APPLICATIONS

Our products have been used for over 65 years and are used today in food processing plants, restaurants, and in transportation truck bodies and trailers, because they are a trusted solution across the entire supply chain due to their clean, durable, and sanitary surface.



## CLEANING

Our robust panels hold up under frequent maintenance cycles, even with caustic cleaning chemicals. Our liners will not stain or change color and they are designed to maintain their strength and integrity against even the most aggressive cleaners. The following have been tested and proven to be suitable for use in most exposure conditions:



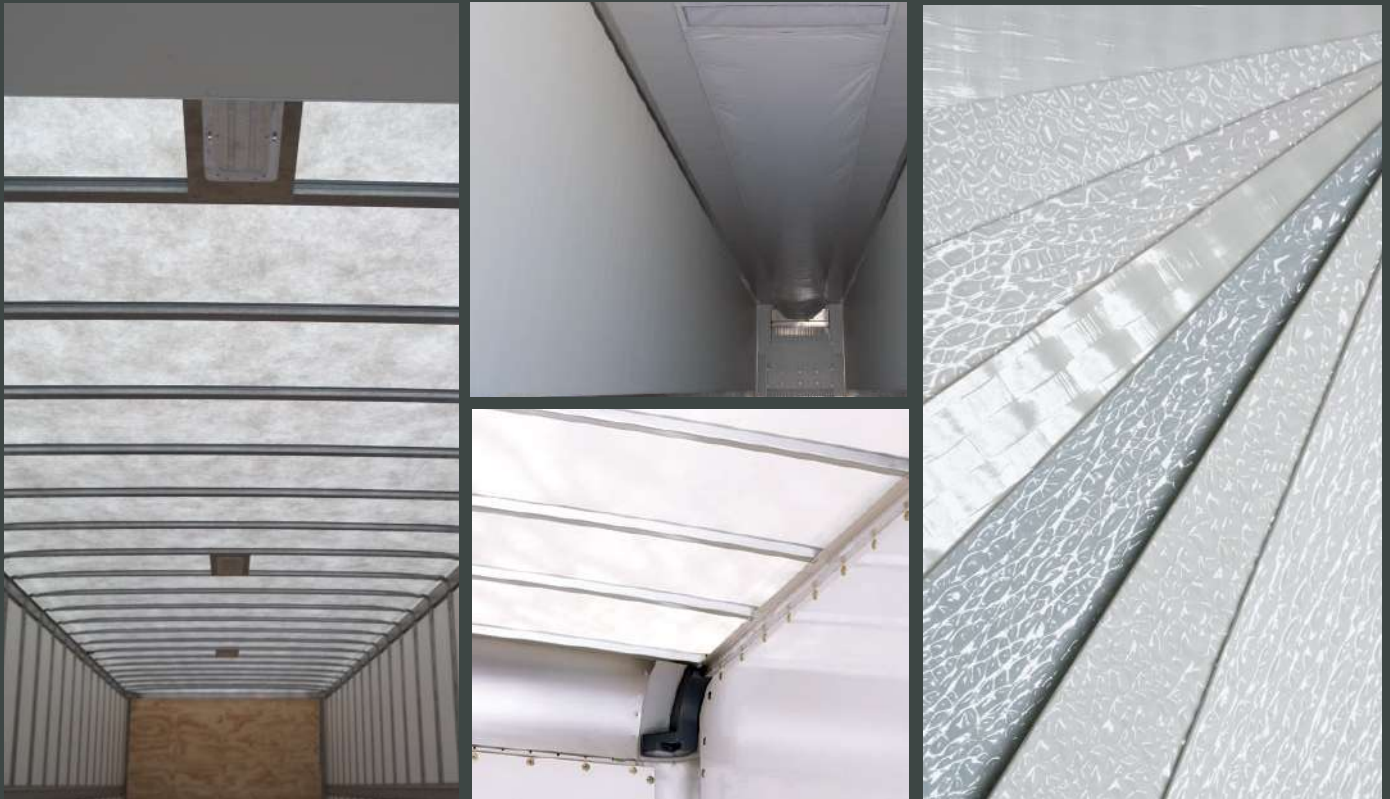
- Spor-Klenz
- Process Vesphene
- Bleach fogged hydrogen peroxide (vaporized hydrogen peroxide aka VHP)
- Lysol

Will alternative products stand up to your conditions like our liners will?

We have the proof, do you?

## who we are

Crane Composites Inc., a subsidiary of Crane Co. (NYSE:CR), is the world's leading provider of fiber-reinforced composite materials.



## The superior option

Since 1954, we have continued to pioneer numerous patented technologies for industrial and commercial product applications. Crane Composites fiber-reinforced panels (FRP) can be found in virtually every type of vertical market, from highly industrialized environments to stylish retail and hospitality settings.

No matter what the application, our products and team reflect our mission statement: we are a performance

driven organization committed to global leadership and products of high-quality composite materials.

Customers benefit not only from the outstanding performance characteristics of our products, but also from our extensive support programs. Our expert product teams are focused on the needs of customers to provide unparalleled service and expertise.

