

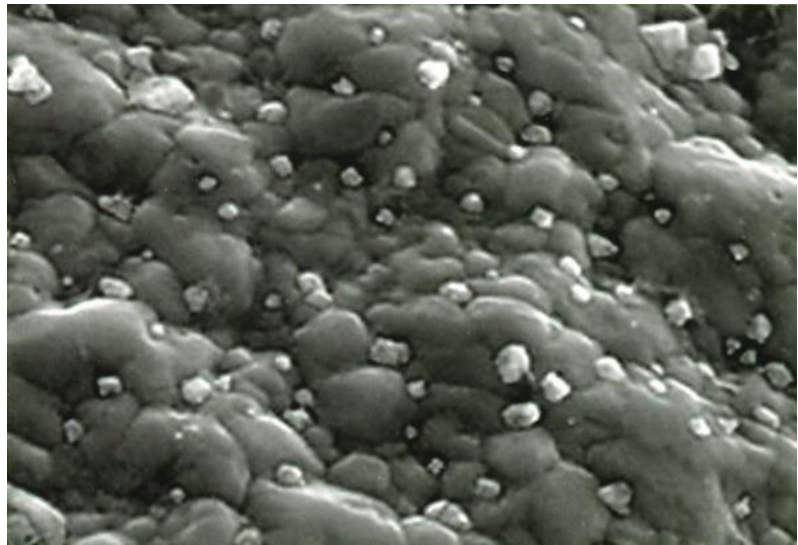
Category: Materials, Coatings and Processes

Reference: TD-DE-1022

Highly efficient antimicrobial coating

The cooperation between process engineers and microbiologists has led to the development of this breakthrough antimicrobial contact catalyst. A patented, specifically structured, and coated surface, conditioned by post-treatment, results in a highly antimicrobial surface that develops its superior efficacy through catalytically driven multiple redox pairs and a micro-electric field.

AGXX is a new highly efficient antimicrobial technology whose mechanism of action is based on a catalytic reaction triggered by the interaction of two precious metals. In the presence of atmospheric moisture, oxygen is converted into reactive oxygen species (ROS). The ROS kill all types of microorganisms by first destroying their outer membranes and then the organs and DNA of the microorganisms. The mechanism is based on a circular redox system, i.e., AGXX is not consumed but continuously regenerated. In addition, the micro-electric field present between the two noble metals interferes with important cell membrane functions, accelerating the killing of microorganisms.



Due to its innovative mechanism of action, AGXX works entirely without releasing metals or harmful compounds into the environment, providing long-lasting antimicrobial protection.

Innovative Aspects:

- The coating permanently generates peroxides from dissolved oxygen. Organic structures, such as bacterial membranes are damaged by these reactive oxygen species.
- Minimal to no environmental impact.
- Low concentrations/ quantities required.
- Easy handling and storage.
- Suitable for private and medical applications.
- No depot/ long shelf life.
- Light weight, recyclable and easy to maintain.
- Minimal to no environmental impact.
- No formation of multiresistance.
- No side effects known / to be expected.
- AGXX is not an active pharmaceutical ingredient.
- Effective against bacteria, viruses, fungi, algae.
- Low maintenance.
- No external power supply.

Application Areas:

The first commercial applications are in the field of microbial decontamination of aqueous solution cooling and process waters. Since the coating technology works independently and effectively without the release of toxic substances such as silver ions, it can be used in many other applications, such as in the field of hygiene and water technology, medical technology, and biomedicine, as well as in the health care sector, in the food industry.

Interesting for e.g.:

Drinking water conservation, drinking water treatment, air filtration, wound care, dental treatment elements, urinary tract infection prevention (catheters), shower head & hose coating, washing machines, facade painting, anti-fouling coating, cooling water treatment, scales, aquaponics.

Cooperation:

The company offers customization developments to application areas and coatings as a service.