Introduction

Handles and operating elements can act as carriers for many pathogens. With every hand contact, bacteria and germs take hold on the surface where they can proliferate unchecked over time, such as between two cleaning cycles. If one or more people later touch the same part, the expanded growth of pathogens has the opportunity to spread even further.

The antimicrobial standard parts of the **Sanline** product family can prevent pathogens from propagating on an operating element. This actively reduces the spread of bacteria, fungi, and viruses.

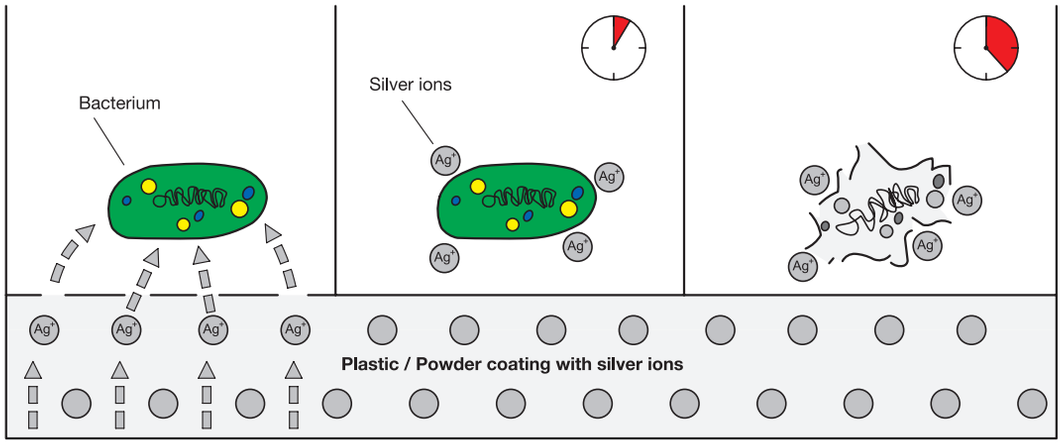
Additives based on silver ions that are used in the plastics or powder coatings of standard parts of the **Sanline** product family destroy the cell walls of the microorganisms, killing them in the process. The effectiveness is retained for a long time, even after frequent cleaning cycles, and is absolutely safe for the user.

With their antimicrobial properties, the **Sanline** operating elements are predestined for areas with elevated hygiene requirements. These include doctors' offices, hospitals, rehabilitation and care facilities as well as cafeterias, food-processing plants, and agricultural operations with livestock. **Sanline** products also reduce the risk of infection in locations where many different people come into contact with handles and operating elements, such as in stadiums and concert halls, amusement parks and wellness facilities as well as on public transport.

Functioning principle

Plastics or powder coatings manufactured with silver ions inhibit the establishment and proliferation of pathogens on the surface. The effect is based on a natural principle and remains continuously effective for a long time.

Silver ions (Ag^+) diffuse from the surface and attach to the cell walls of the microbe. After a short time, the silver ions break through the cell wall of the microbe and destroy the enzyme activity within the cell. The genetic material of the microbe is attacked, preventing further cell division and eventually killing off the germ.



The antimicrobial effect of the additive is not reduced by repeated cleaning with soap or solvent. Even at sterilization temperatures the effect is not lost.

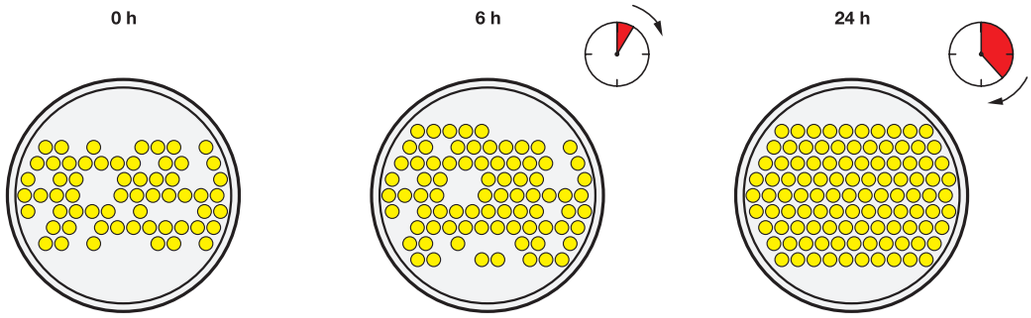
Laboratory tests

The plastics or powder coatings of the Sanline standard parts were tested by an accredited testing laboratory on the following microorganisms:

Plastic	Powder coating
Bacteria (as per ISO 22196:2011): - Staphylococcus aureus ATCC® 25923™ - Escherichia coli ATCC® 25922™ - Klebsiella pneumoniae ATCC® 13883™ - Pseudomonas aeruginosa ATCC® 27853™ Fungus (as per ISO 22196:2011): - Candida albicans ATCC® 10231™	Bacteria (as per ISO 22196:2011): - Escherichia coli ATCC® 25922™ - Pseudomonas aeruginosa ATCC® 27853™ - Enterococcus hirae ATCC® 10541 Viruses (as per ISO 21702:2019): - Influenza A (H1N1) - Human coronavirus (OC43) - SARS-CoV-2

The principle of action has been shown to reduce the growth of bacteria and fungi within 24 hours so that the surfaces ultimately exhibit less than 1% of the original microbial contamination. In the case of viruses, the contamination is reduced to below 5%.

Typical standard part
Microorganism proliferation in a period of 24 h



Sanline standard part
Microorganism reduction in a period of 24 h