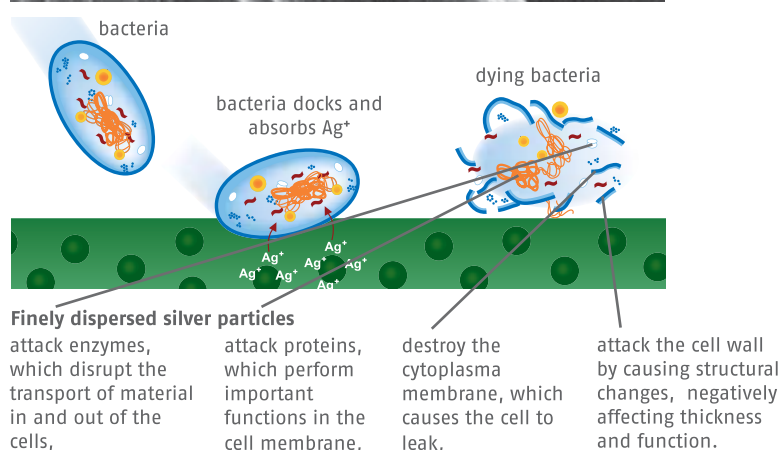
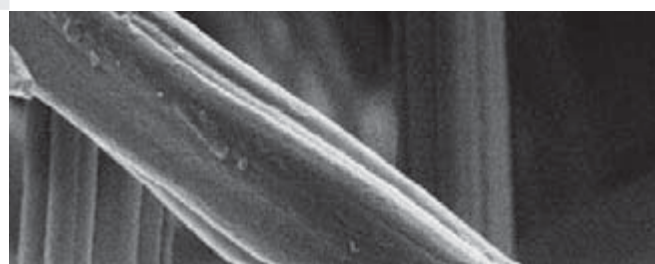


## PERLAZID® – Bactericide

Our latest innovation makes use of coatings with highly effective anti-microbial, resp. anti-bacterial components. The effect is achieved by a process utilising the well-known antimicrobial properties of silver in combination with additives, which are bacteria need for growth and are therefore easily absorbed. In order to achieve maximum effect, the additives are selected for each specific application. The correct selection of additives and suitable construction of a polymer matrix, play a significant role in the desired effectiveness.

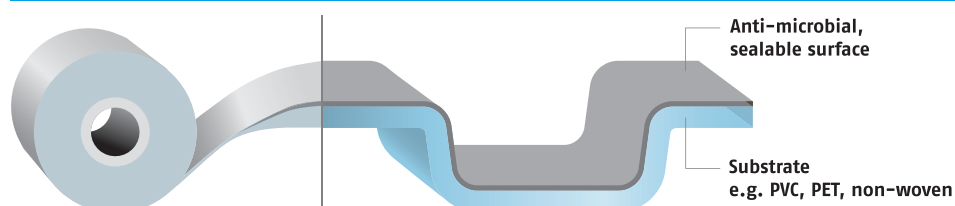
The custom-built formulations are bedded in specially developed, coatable polymer solutions, which are applied and fixed to the base substrate. The chosen formulation guarantees that a sufficient quantity of active ingredients are present on the substrate surface without affecting other important properties, such as tensile strength, chemical resistance, visual appearance, transparency, etc.

Our anti-microbial coatings can be applied to various base materials (e.g. PVC, PET, PP, non-wovens). The anti-microbial surfaces prevent bacterial contamination and remain effective over a long period of time. They are, therefore, ideally suited to combat surface bacteria, which can cause disease, can be transferred or cause other harmful effects.



Our films are usually manufactured in web-form. The transparent coating is thermoformable. The surface coating can be washed-off in neutral, base or acidic aggregates. If required, the coating can also be made sealable.

### Cross-section



Analysis of Efficacy

Bacterial Strain	Type	Efficacy %24h	Test method
Escherichia Coli ATCC 8739	Gram-positive	99.999	ASTM E2180-01 / ASTM E2149-01
Pseudomonas Aeruginosa ATCC 9027	Gram-positive	99.999	ASTM E2180-01 / ASTM E2149-01
Staphylococcus Aureus ATCC 6538 (oder 6338)	Gram-negative	97.000	ASTM E2180-01 / ASTM E2149-01
Candida Albicans ATCC 10231	Yeast bacteria	99.994	ASTM E2180-01 / ASTM E2149-01

Method of Efficacy

Finely dispersed silver (Ag) has various antimicrobial effects: it prevents normal functioning of bacterial enzymes, it embeds itself in the structural proteins of cells and destroys cell walls and membranes. This inhibits cell division and further cell production: within 24 hours nearly 100% of harmful bacteria are eliminated.

In order to grow and multiply, bacteria need phosphorous compounds. Therefore, in our formulas we combine silver with e.g. phosphates. The bacteria absorb the toxic silver together with the phosphates (like a trojan horse) and are killed off quickly.

Wash-Off Test

Wash Cycle	Wash Medium	Efficacy % 24h E.coli	Wash Medium	Efficacy % 24h E.coli	Wash Medium	Efficacy % 24h E.coli
1	alkaline	99.999	acidic	99.999	neutral	99.999
6	alkaline	99.999	acidic	99.999	neutral	99.999
11	alkaline	99.999	acidic	99.999	neutral	99.999
21	alkaline	99.999	acidic	99.999	neutral	99.999
41	alkaline	99.999	acidic	99.999	neutral	99.999

Basis: Efficacy based on wash-off with different cleaning agents and cleaning cycles with bacteria family Escherichia Coli according to ASTM E2180-01.

Comparison of Efficacy

Thanks to additives, silver coatings from Perlen Converting AG are highly reliable against bacteria, whereas organic antibiotics are increasingly ineffective. Due to it's special way of working, even small doses of silver offer unmatched surface protection against bacteria and fungi.

This can reduce housekeeping activities and lower therapy costs.

Analysis was carried out neutrally in external laboratories and done repeatedly. For every application, we recommend the analysis of efficacy and clarification of regulatory issues and can offer our support.

Application Examples

Medical and Hygiene:  
e.g. floor mats, non-wovens for hospital and hygiene areas, trays, door handles and other applications.

Liability

All details on this flyer are given to the best of our knowledge. We reserve the right to make changes, which may result from technical developments. The details are non-binding and cannot be guaranteed.

Regulatory approvals and legal aspects need to be clarified depending on the application.