PRINTING HOUSE AMK GROUP
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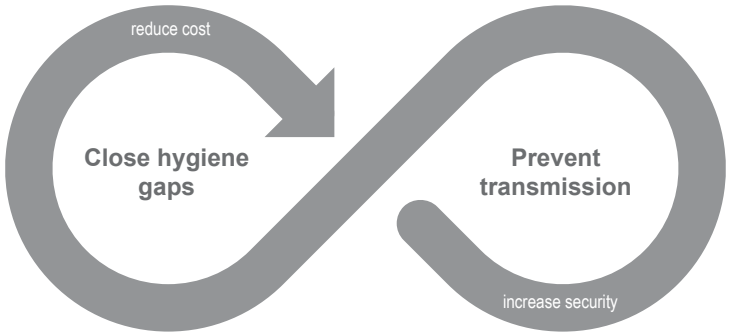
AntiVirLayer – varnish with antibacterial and antiviral effect

The **AMK Group printing house** *in cooperation with the leader in the production of printing inks and varnishes has implemented a high-performance dispersion varnish with bactericidal and virucidal properties - AntiVirLayer. This varnish is based on the effect of active oxygen generated thanks to the photosensitizer contained in the varnish.*



Survival times of germs on surfaces

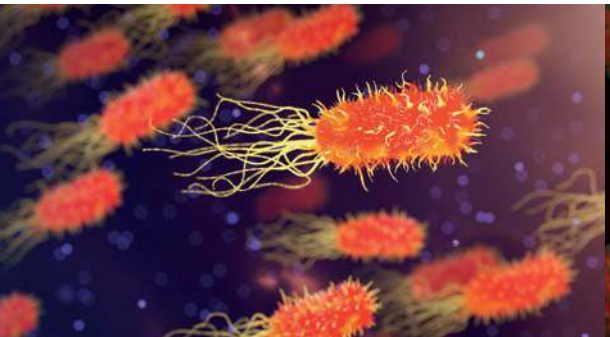

E.coli
up to 16 month

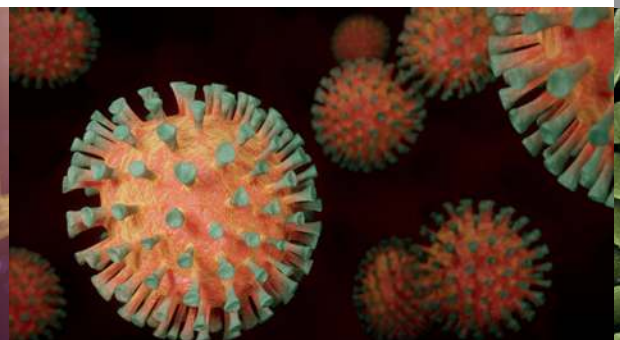

Influenza
up to 2 days

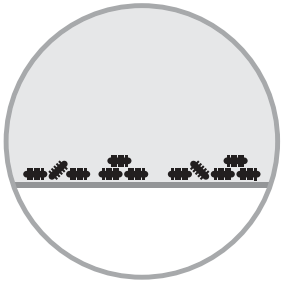

Coronaviren
up to 9 days

Our advantages

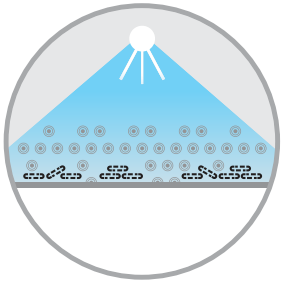
- *Tested by independent institutes efficient germ reduction by up to 99.99% **
- *Effective against bacteria, viruses, fungi and spores*
- *Working principle clinically tested*
- *Permanent and long-lasting effect*
- *Effective even on dry surfaces*
- *Avoidance of toxic biocides and nanoparticles*
- *No risk to health*
- *No development of resistance*
- *Scalable via light intensity*



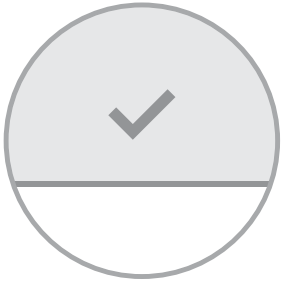




Contamination of surfaces with bacteria, viruses, fungi and spores.



The effect is through visible light and oxygen activated



Germs are inactivated quickly and effectively - hygiene gaps can be closed permanently.

AntiVirLayer

Self-sterilizing varnish

AntiVirLayer is a self-sterilizing varnish with excellent, long-lasting effect. This solution achieves the reduction of germs based on natural ingredients and is also ideal for sensitive to hygiene and frequently touched surfaces. A neutral, non-poisonous photosensitizer based on vitamins and plant repellents is able to take over the energy of incoming light from the environment and transfer it to oxygen in the air. This activated singlet oxygen is bactericidal, fights viruses, molds and fungi. It is also effective in combating multi-resistant germs. It reacts with proteins and lipids of the microbiological cover of the cell, which is destabilized within a very short time.

This varnish was tested according to DIN ISO22196 by the Fraunhofer Institut IVV in Munich and received confirmation of the effectiveness of pathogen reduction at the level of 99.5%.

Disease-causing bacteria, viruses or fungi are also able to survive for a long time also on printed surfaces, eg packaging, leaflets, folders. For example, coronaviruses survive up to 2-3 days on paper substrates. This is one of the potential routes for the spread of infection. Traditional hygiene products and regular cleaning or disinfection cannot prevent the transmission of germs between the individual cleaning cycles. They destroy pathogens only when disinfected.

After that, the surface may be contaminated again. Protecting the packaging or other types of printed materials with AntiVirLayer varnish helps to minimize the risk of germs being transferred. The effectiveness of its operation is based on a patented technology, thanks to which the photosensitizer particles in the varnish transfer the energy of the incident light to the oxygen molecules in the immediate vicinity and put them into an excited state. In the scientific language, this activated oxygen is referred to as singlet oxygen. It is able to easily react with the cover of microorganisms and kill them during the oxidation process. The excitation state is maintained only for a short time, after which the oxygen returns to the neutral state again. As a result, it was confirmed with certainty that the killing germs only occur in the immediate vicinity of the photocatalyst (i.e. on surfaces coated with AntiVirLayer) - there is no danger to people, for example by the accumulation of a disinfectant in inhaled air (e.g. on ozonation). Another advantage of our method is the high efficiency of AntiVirLayer varnish also in a dry environment and no need to use UV rays.

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