

The **WORLD'S FIRST**
from Germany

VIROBAC SEALER

The permanent solution
against germs on hospital floors
cost-saving – efficient – sustainable



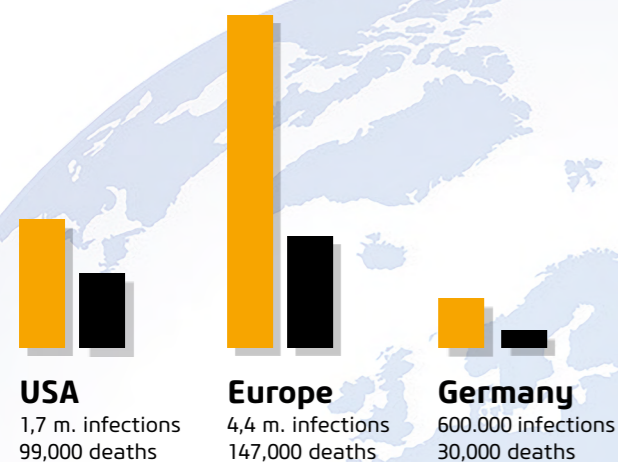
MULTI-RESISTANT GERMS: THE PROBLEM IS AT OUR FEET

Every day, germs are introduced into the floors of hospitals, nursing homes and doctors' surgeries as a result of ongoing public traffic. This can lead to serious and often fatal infections, in particular in the inpatient sector. Especially when the germs are multi-resistant strands. Infections caused by multi-resistant bacteria and viruses are among the most frequent causes of death in the health sector worldwide.

Nosocomial infections

WHO report: 50 % of nosocomial infections are preventable through improved hygiene.

Hospital-acquired infections:



The dangerous germs live on the floor

As a recent health study at Germany's leading University Hospital, the Charité in Berlin, and the University of Jena shows, the biggest source of viruses and bacteria is on hospital floors. This is especially true for multi-resistant germs. In the study, the bacterial colonisation in the patient rooms of a neurological ward was investigated for 30 weeks. This showed how, after only a short time, bacteria largely replaced the initially present environmental germs and multiplied.

Conclusion: The problem is at our feet. While there were only a few positive findings on door handles and in wash basins, the resistant genes found on the floor accumulated over time. "We have to assume that these could find their way into pathogens," says Hortense Slevogt, head of the working group in Jena. "Therefore, we should urgently clarify the question why these genes can become more and more on the floor and which transmission mechanisms for resistant genes exist."

Researchers at Jena University Hospital and Charité study
ANTIBIOTICS RESISTANCE Hospital Magazine 17.08.2021

The DIN 13063 (hospital norm), the TRBA 250 and The German Commission for Hospital Hygiene and Infection Prevention recommend it

According to **DIN 13063**, hospitals must check whether their disinfection regime is still up-to-date and the best possible. "**Substitution testing** is prescribed in §6 and §16 of the Ordinance on Hazardous Substances. This includes checking whether, in the case of biocidal products, their use can be kept to a minimum by properly considering physical, chemical and other alternatives."

The **TRBA 250** regulates that **joints are to be avoided** with resilient floors, otherwise the cleaning or disinfectant solution can penetrate the floor. In addition, joints promote the growth of bacteria.

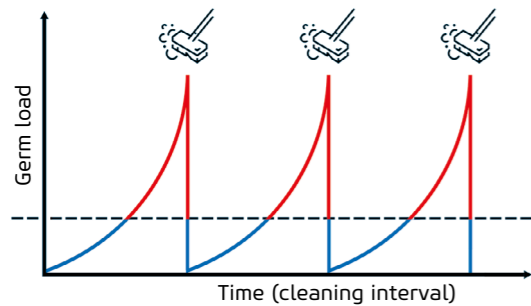
In the health sheet 10/2022 (**KRINKO recommendation** for surfaces) published by the Robert Koch Institute, antimicrobial surface finishes are described as a solution "to permanently reduce the pathogen load on surfaces in the time between disinfecting surface cleaning". **Antimicrobial surface** finishes are intended to close the hygiene gap.



Hygiene gaps can be closed by permanent sterilisation effect!

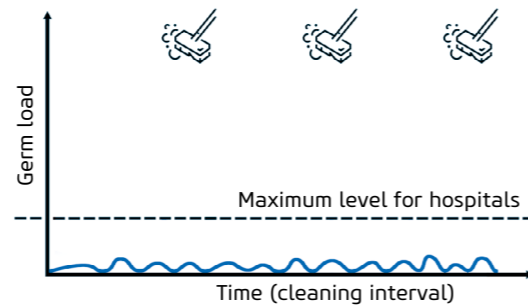
Conventional cleaning

In healthcare areas, floors are usually mopped once a day with a surface disinfectant cleaner that kills bacteria and viruses. After disinfection, however, these grow back on the surface in the 24 hours until the next disinfection.

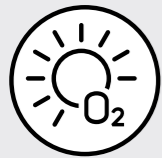


VIROBAC Sealer

VIROBAC Sealer disinfects continuously and prevents the rapid growth of bacteria and viruses thus helping to prevent the formation of resistant hospital germs.



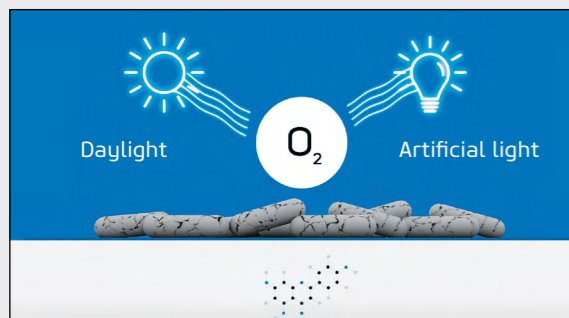
The use of VIROBAC Sealer leads to increased safety for patients and hospital staff.



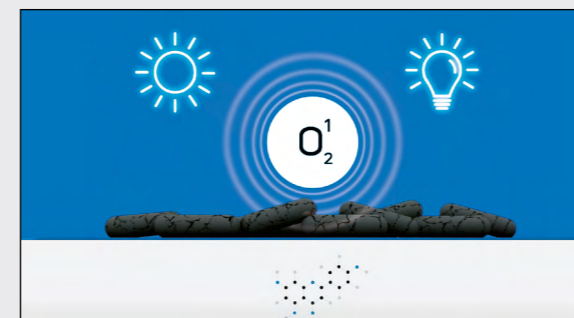
The mode of action of VIROBAC

The antibacterial floor coating with the **revolutionary mechanism** of action works permanently against germs by activating singular oxygen with the help of light. Photodynamics is based on the activation of a photocatalyst with light from the visible spectral range. The energy transfer to the surrounding oxygen creates singlet disoxygen (O_2^1). This destroys the cell wall and effectively kills the germs through oxidation. This leads to a massive reduction in germs and thus to a significant minimisation of risk.

Conclusion: Singlet oxygen is a powerful oxidant that binds to many organic surfaces. This highly reactive form of oxygen damages cell components, especially lipids, and thus kills bacteria and viruses on surfaces. At the same time, conventional biocides with their harmful side effects on room air and patients are dispensed with. **Dr. Schutz VIROBAC is the only floor coating of this kind with certified effectiveness.**

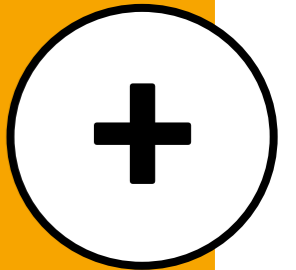


Contamination with bacteria and viruses through contact on the surface of hospital floors.



Activation of the antimicrobial effect by visible room light and oxygen destroys the cell walls of the germs and kills them.

VIROBAC meets all requirements for use in hospitals, nursing homes, doctors' surgeries, etc:

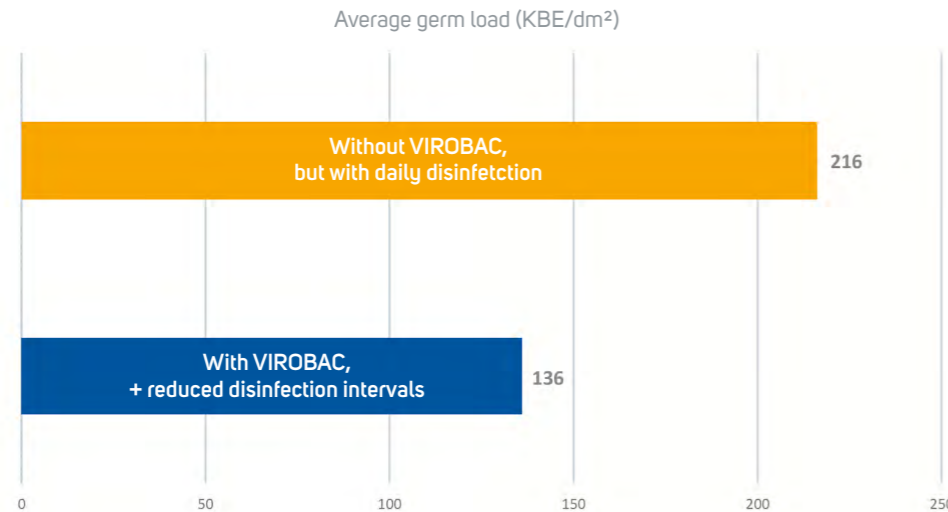


- Antibacterial (> 99% against multi-resistant germs)
- Virucidal
- Permanently effective - even when dry
- Has a long-lasting effect - tests show the effectiveness even after 5 years+
- Sustainable, because germs do not develop resistance
- Harmless to health, because no toxic biocides and no nanoparticle release
- Slip resistance class R9 according to EN 16165-A
- Resistant to all common cleaning agents and disinfectants
- Minimising maintenance cost because no additional care measures are necessary
- Universally applicable on all floors - new and existing floors
- Can be renovated at any time
- Floors are easy to clean and hermetically sealed (DIN 13063 German Hospital Norm)

Field studies confirm the effectiveness of VIROBAC

Studies show: even if the disinfection and cleaning cycles are halved, the germ load on a surface coated with VIROBAC is significantly lower compared to the germ load on surfaces without VIROBAC, which were disinfected twice as often!

Results of the field study at a German university hospital



The average germ load of the test areas without VIROBAC coating, which are disinfected daily, was 59% higher than the average germ load of the test areas sealed with VIROBAC, which are only disinfected half as often.



The antimicrobial effect of Dr. Schutz VIROBAC was tested and confirmed by Enders Laboratory in Stuttgart, Germany.

Excerpt from the testing report from 3.2.2023

Testorganism	conditions	Reduction	Kill rate
Adenovirus Type 5	Intensity: 20 mW / cm2 Voltage: 25 V	1.33 log ₁₀	95.32 %
Murine norovirus	Current intensity: 1.089 mA Contact time: 4 hours	1.00 log ₁₀	90.00 %
Modified vaccinia virus Ankara	Intensity: 2.4 mW / cm2 Voltage: 25 V Current intensity: 0.221 mA Contact time: 4 hours	1.67 log ₁₀	97.86 %
gram-positive germs <i>Staphylococcus aureus</i>	Intensity: 4 mW / cm2 Voltage: 25 V	3.63 log ₁₀	99.98 %
gram-negative germs <i>Acinetobacter baumannii</i>	Current intensity: 0.424 A Contact time: 60 min	2.72 log ₁₀	99,81 %

The Dr. Schutz VIROBAC coating reduces the floor contamination with bacteria and viruses by up to 99,9%.



The VIROBAC Sealer System in practice

- 1 non-binding and free on-site consultation by worldwide operating, tested and Dr. Schutz-certified special service providers
- 2 if necessary, redesign floors with individual choice of colours and decors as desired
- 3 the work can take place during hours of operation (no noise, dirt and dust)

Sustainable and economical

> 80 %
water savings over a period of 10 years

4 tonnes
less waste compared to floor replacement (for 1000 m²)

12,700 kg
less CO₂ for 1000 m²



> 50%
less maintenance costs



Special 3-component water-based polyurethane sealer. Permanent surface treatment for long-term protection of floors. Has an antibacterial effect (tested according to EN 13697 and ISO 22196) and is virucidal (tested according to EN 16777 and ISO 21702). Can be applied after installation or when renovating floors.



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