

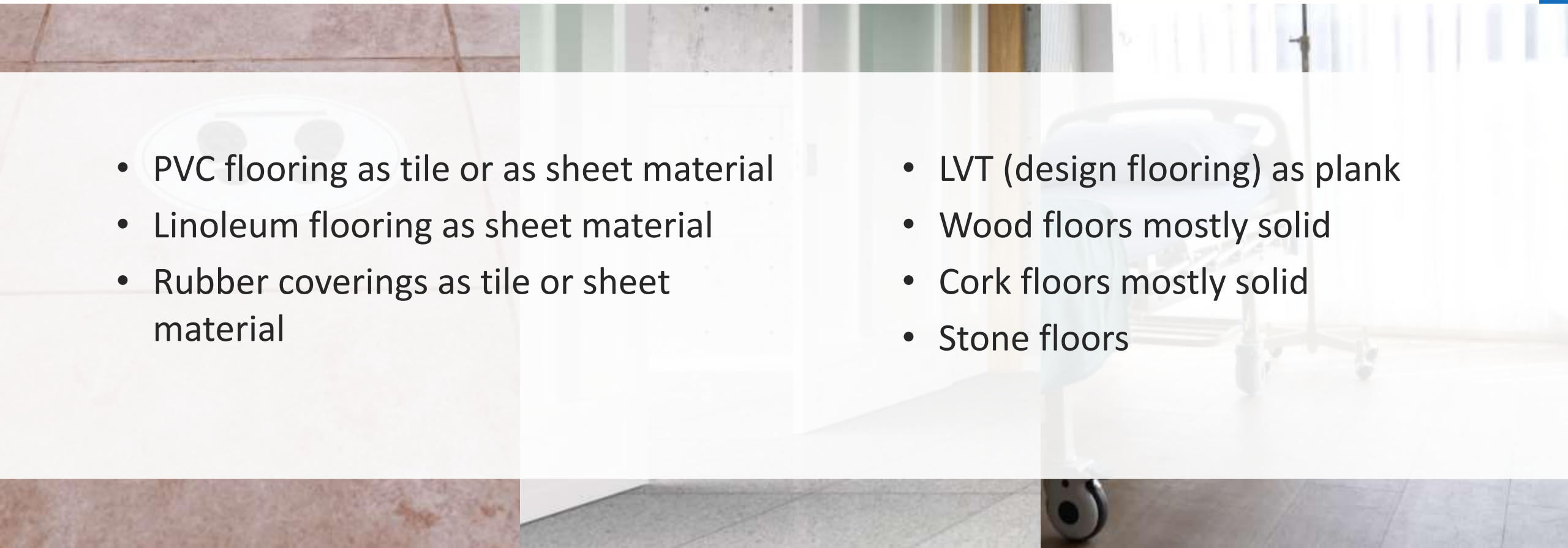
WELCOME TO THE VIROBAC WEBINAR

The solution against **viruses & bacteria**
on floors in healthcare environments

AGENDA

1. Type of floors
2. Floor requirements
3. Types of germs (viruses, bacteria)
4. Surface disinfection has limits
5. Presentation of VIROBAC
6. Field study
7. Presentation of the video
8. Discussion

Floor coverings in the health & care sector

- 
- PVC flooring as tile or as sheet material
 - Linoleum flooring as sheet material
 - Rubber coverings as tile or sheet material
 - LVT (design flooring) as plank
 - Wood floors mostly solid
 - Cork floors mostly solid
 - Stone floors

Requirements for floor coverings in use

- High durability
- High chemical resistance
- Slip resistance classes must be fulfilled
- Some floors have to be conductive



Cleaning & maintenance requirements

- Most floors have a factory PU finish
- Ideally a hermetically sealed surface
- Easy to clean
- As a rule, no care products or polishes required
- Alcohol-based cleaners and disinfectant cleaners used



Leaflet: Requirements for the cleaning and disinfection of floors in hospitals

Areas	Floor requirements
A1 Patient rooms with possible risk of infection	daily cleaning; disinfecting cleaning as required (e.g. change of patient room).
A2 Patient rooms with special risk of infection (intensive care)	daily disinfecting cleaning
A3 Isolation areas	daily disinfecting cleaning
B1 Office space with low traffic	daily cleaning
B2 Office space with high traffic	daily cleaning
B3 Classrooms and training rooms	daily cleaning
C surgical department; intermediate cleaning of the operating room	disinfecting cleaning after use
C surgical department; final cleaning of the operating room after the end of operation	daily disinfecting cleaning
D1-1 Examination and treatment rooms with a possible risk of infection	daily cleaning; disinfecting cleaning as required (e.g. change of patient).

Source: Hospital standard DIN 13063/2021-09, Annex A Federal Health Bulletin 10-22, Table 2 (Krinko recommendation)

Specific areas & conditions

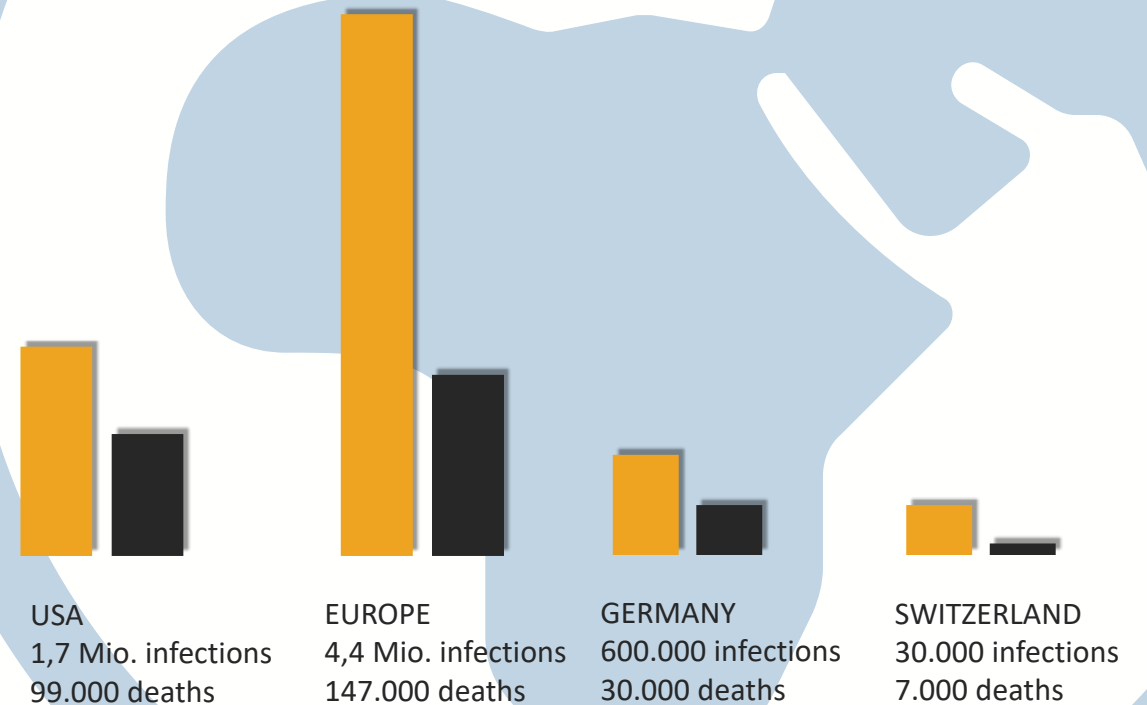
- Operating rooms
- X-ray rooms
- Wet cells
- Kitchens
- etc.



Germs (viruses and bacteria) are everywhere

- On humans
- On door handles
- Underneath shoes...

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



Surface disinfection has its limits

The surface disinfectants commonly used in practice **do not solve the problems adequately**. And they have four basic limitations or disadvantages:

- They only have an effect on the floors when they are wet (i.e. only for a short time).
- They must be used every day → polluting
- They are harmful to health
- They promote the development of resistance of germs and bacteria
- Most germs are found on the ground (Source: Study on Infect Control by the Federal Ministry of Research)



The innovative & unique solution: DR. SCHUTZ VIROBAC SEALER



The technology: photodynamics



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.

The properties and advantages of VIROBAC

1. Meets antimicrobial requirements in hospitals and other medical areas:

- ✓ Antibacterial (tested by Enders laboratory in accordance with EN 13697)
- ✓ Limited virucidal plus (tested by Laber Enders according to EN 16777)

Attention: both EN standards usually refer to the measurement of a wet floor.

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LABOR ENDERS

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03.02.2022

Gutachterliche Stellungnahme

Prüfprodukt: Dr. Schutz Vir-O-Bac Siegel

Die antibakterielle und antivirale Wirksamkeit von Dr. Schutz Vir-O-Bac Siegel (Firma Dr. Schutz GmbH) basiert auf folgenden Prüfberichten:

- LI-021-S-141-11 – getestet in Anlehnung an EN 13697 (Phase 2 / Stufe 2-Test) und ISO 22196:2011 (*Staphylococcus aureus* und *Acinetobacter baumannii*)
- LI-021-145-6-3 – getestet in Anlehnung an EN 16777 (Phase 2 / Stufe 2-Test) und ISO 21702:2019 (Modified Vacciniavirus Ankara)
- LI-V-022-036 – getestet in Anlehnung an EN 16777 (Phase 2 / Stufe 2-Test) und ISO 21702:2019 (Murines Norovirus)
- LI-V-022-037 – getestet in Anlehnung an EN 16777 (Phase 2 / Stufe 2-Test) und ISO 21702:2019 (Adenovirus Typ 5)

Anwendungsempfehlung für Dr. Schutz Vir-O-Bac Siegel:

Eine ausreichende Reduktion konnte bei folgenden Anwendungsbedingungen erzielt werden:

Testorganismus	Anwendungsbedingungen	Reduktion	Killrate
Adenovirus Typ 5	Leistung: 20 mW / cm ² Spannung: 25 V	1,33 log ₁₀	95,32 %
Murines Norovirus	Stromstärke: 1.089 mA Kontaktzeit: 4 Stunden	1,00 log ₁₀	90,00 %
Modified Vacciniavirus Ankara	Leistung: 2,4 mW / cm ² Spannung: 25 V Stromstärke: 0.221 mA Kontaktzeit: 4 Stunden	1,67 log ₁₀	97,86 %
gram-positive Keime	<i>Staphylococcus aureus</i> Leistung: 4 mW / cm ² Spannung: 25 V	3,63 log ₁₀	99,98%
gramnegative Keime	<i>Acinetobacter baumannii</i> Stromstärke: 0.424 A Kontaktzeit: 60 min	2,72 log ₁₀	99,81%

Das Dr. Schutz Vir-O-Bac Siegel reduziert die Belastung der Oberfläche mit Bakterien und Viren um bis zu 99,9%.

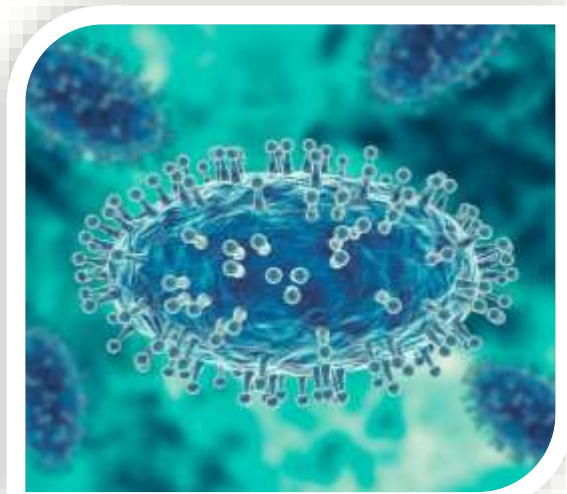


PD Dr. rer. nat. Maren Eggers
Leitung der Desinfektionsmittelprüfung

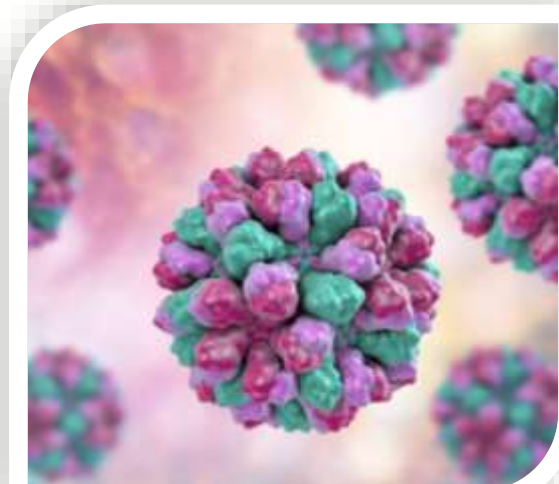
The properties and advantages of VIROBAC

2. Tested and checked viruses include:

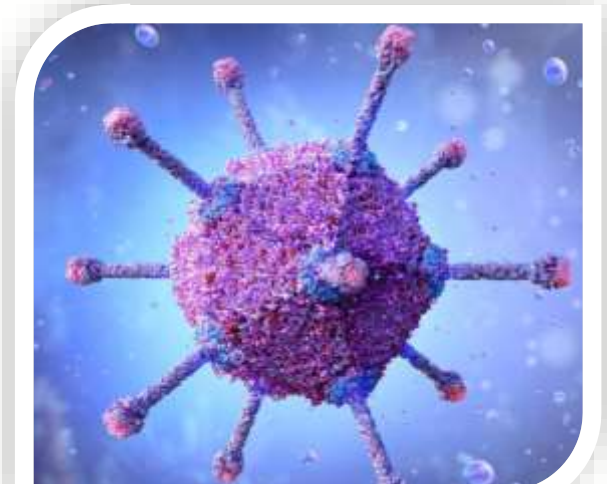
Monkeypox virus



Norovirus



Adenovirus



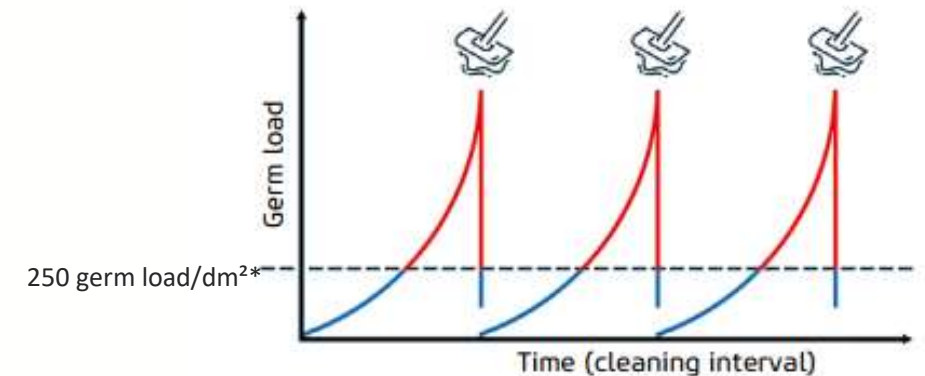
The properties and advantages of VIROBAC

3. VIROBAC has a permanent and long-lasting effect

- ✓ Virobac has a germ-inhibiting effect independent of room climate and soil moisture and thus permanently closes hygiene gaps

WITHOUT VIROBAC

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

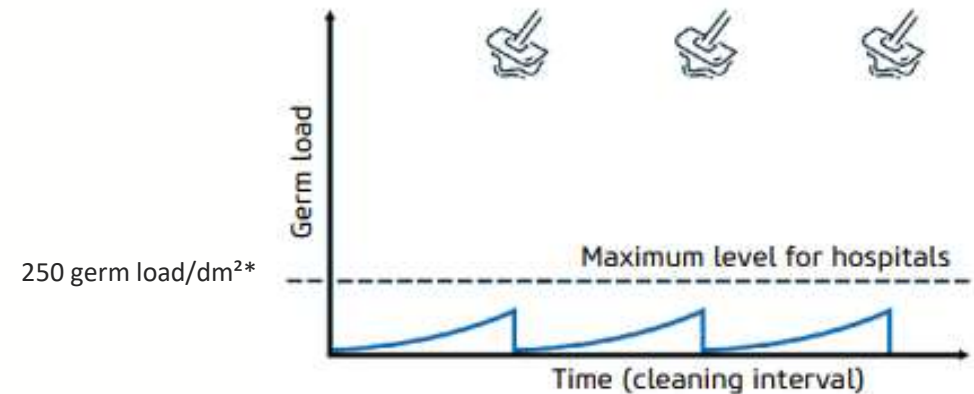


The properties and advantages of VIROBAC

3. VIROBAC has a permanent and long-lasting effect

WITH VIROBAC

VIROBAC Sealer continuously disinfects and prevents the rapid growth of bacteria and viruses until the next disinfection cleaning, helping to prevent the formation of resistant hospital germs.

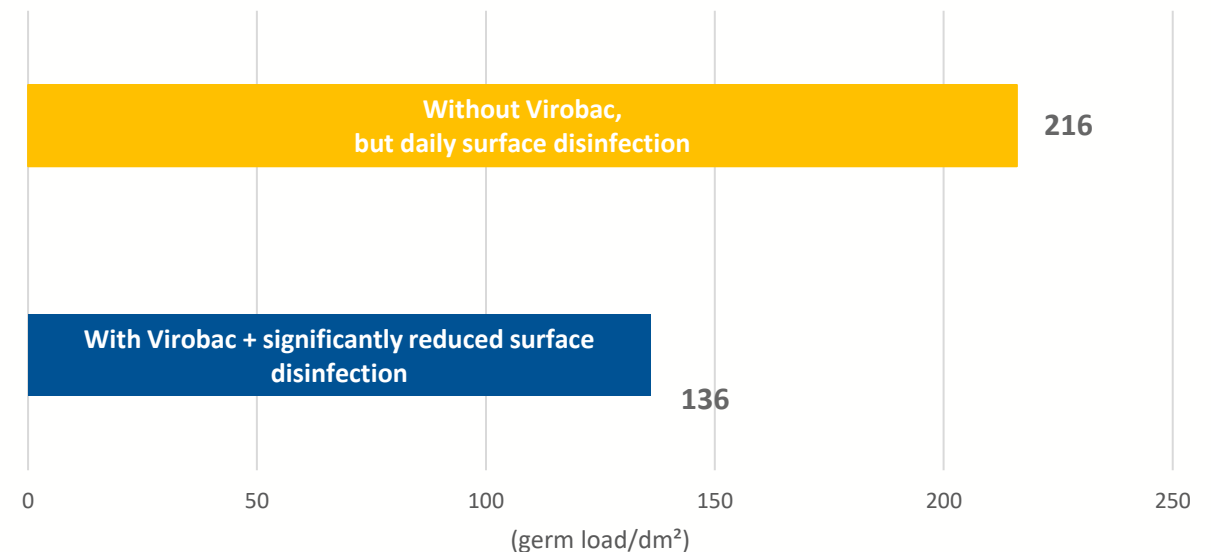


The properties and advantages of VIROBAC

4. Cost-saving: reduction of surface disinfection possible

- ✓ Virobac reduces the need for surface disinfection.
- ✓ In two field studies (at the University Hospitals in Aachen and Regensburg), it was confirmed that the germ load of floors sealed with Virobac is significantly lower even when the disinfection cleaning cycles are halved.

Results of the field study in Aachen
(October-December 2022)



The properties and advantages of VIROBAC

5. Cost-saving: floors are easier and cheaper to clean

- ✓ Virobac Sealer creates a closed, seamless and low-structure surface. The floors are proven to be easier and faster to clean.
- ✓ Due to the homogeneity of the VIROBAC lacquer, it is ensured that the active ingredient is evenly distributed on the surface.
- ✓ German hospital standards (according to DIN 13063) specify that surfaces must be easy to clean, i.e. have little structure and be seamless
- ✓ Substitution testing is mandatory: if possible, avoid disinfectants



The properties and advantages of VIROBAC

6. No development of resistance of germs and bacteria

- ✓ Bacteria and germs cannot build up resistance to the active ingredient in the Virobac Sealer. The singlet oxygen attacks the cell walls at many points simultaneously. The singlet oxygen always finds a point of attack in the germ - even after it has mutated.

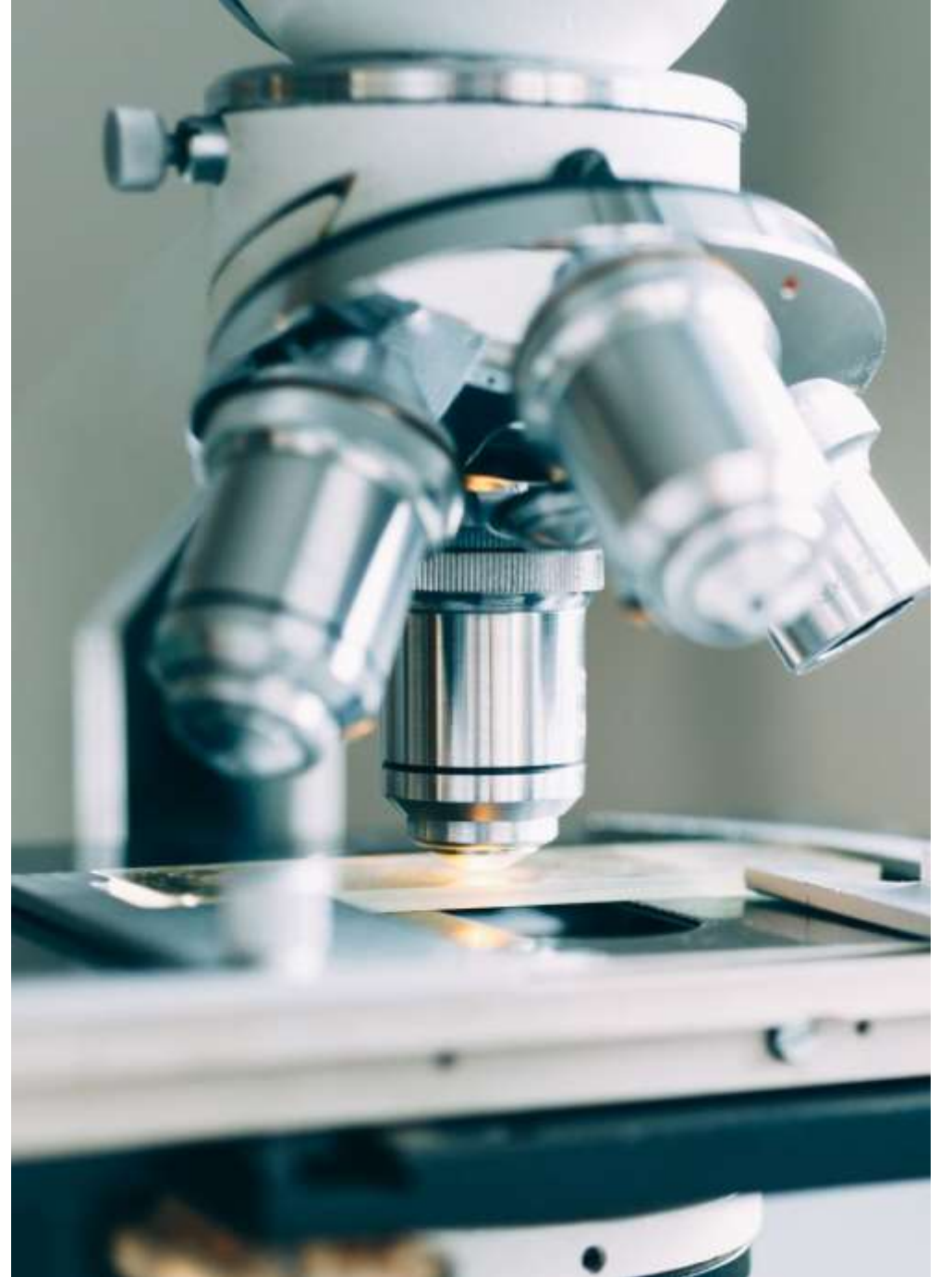
Before Virobac application:
The bacteria is surrounded
by a stable cell wall.



After Virobac application:
The photodynamic effect leads to
oxidative degradation of the bacterial
cell wall, effectively killing the
bacteria.

Good to know

- The mode of action of "singlet oxygen" is scientifically proven.
- In microbiology, germs are microorganisms that can cause diseases.
→ These are bacteria and fungi.
- Viruses are not living beings and need other cells (host cells) to live and multiply.



The properties and advantages of VIROBAC

7. Resistant to all common cleaning agents and disinfectants



The properties and advantages of VIROBAC

8. It can be used on all hard floors

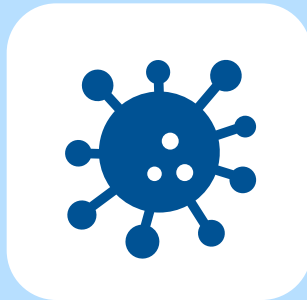
- ✓ PVC, linoleum, rubber, epoxy, PU, wood
- ✓ On new and existing floors
- ✓ Can be renovated at any time



Our 3-pillar model for hospital hygiene on floors



Easy to clean, because it has little structure and a closed seamless surface



Virobac has a durable (3 to 5 yrs.) and sustainable antimicrobial effect



Carry out surface disinfection? Yes, but much less frequently

Good to know

- EN 846 states that bacteria must not destroy plastics
- Use of silver ions only works in a damp state and is at the same time harmful to health, as nanoparticles are released into the room air



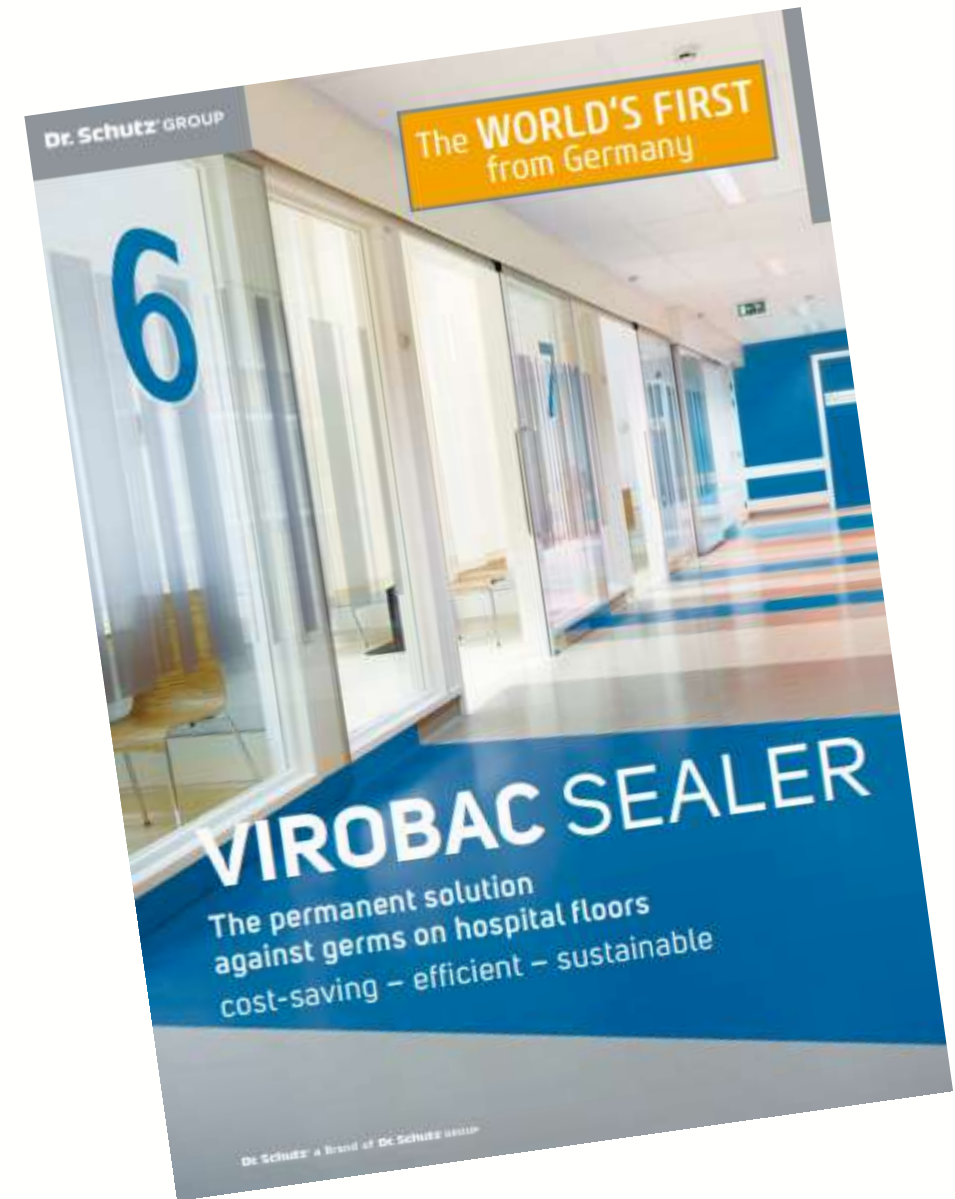
Another advantage: It's also good for the environment

- ✓ No more stripping, polishing or buffing
- ✓ Avoiding waste
- ✓ Avoiding microplastics
- ✓ Water saving
- ✓ Saving resources



Info brochure

The new sensational product is accompanied by a visually appealing and informative brochure.



RESULTS OF THE VIROBAC FIELD STUDY AT THE UNIVERSITY HOSPITAL AACHEN

Aim of the study

The aim was to check whether the use of the Virobac Sealer can partially or completely replace surface disinfection.

For this purpose, a field study was conducted at the University Hospital Aachen to test the germ load of a floor surface sealed with Virobac with reduced surface disinfection cleaning compared to a surface not sealed with Virobac but disinfected daily.



Place of the study

UNIVERSITY HOSPITAL AACHEN LAUNDRY AREA

This area was suggested by the hospital because of its particularly high germ load.



Floor types

The floor in the laundry is a rubber studded floor that has been divided into the following sections.

- 2 surfaces without Virobac Sealer, disinfected 5 times a week. Dr. Schutz Disinfectant Cleaner was used.
- 2 surfaces with Virobac Sealer, one disinfected 2 times, one 3 times a week. The surfaces were thus disinfected only half as often on average.

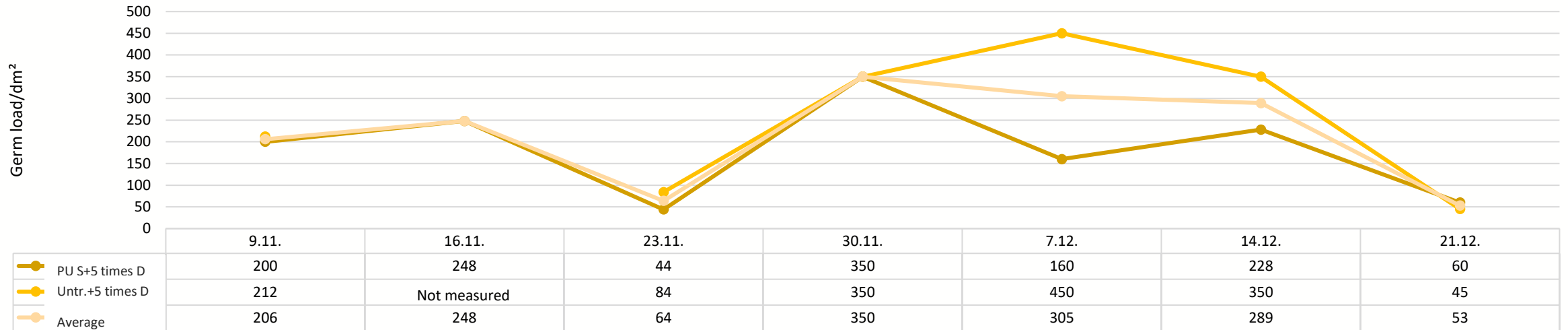


Period of the study

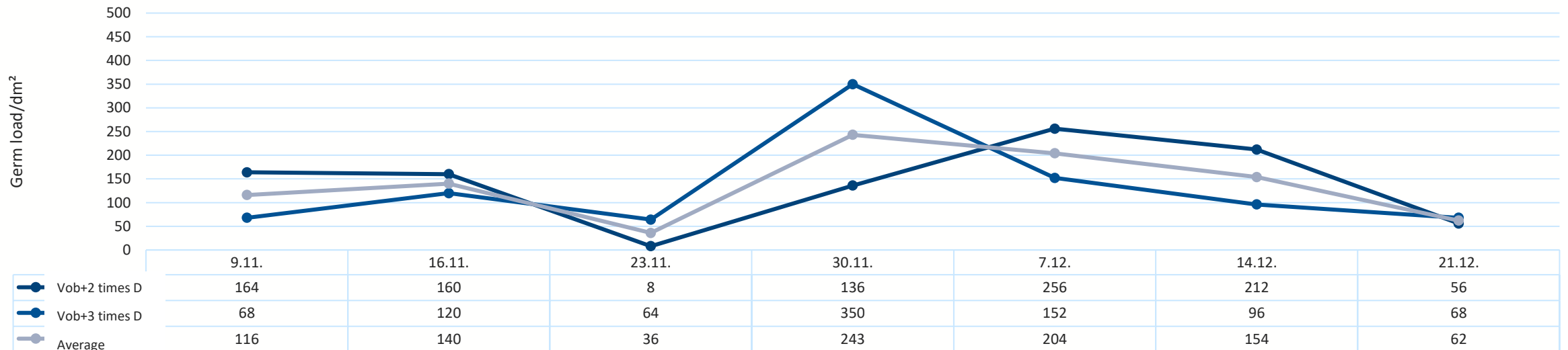
- Application of Virobac Sealer on 13.10.2022
- Weekly swab samples according to DIN 10113-3:1997-07 in the period 09.11. - 21.12.2022 as well as measurements of the germ load according to ASU B80.00-3 1988-01 by the Eurofins Hygiene Institute in Aachen.
- There was always at least 13 hours between the last disinfection and the swab sample.



Without Virobac, but daily surface disinfection



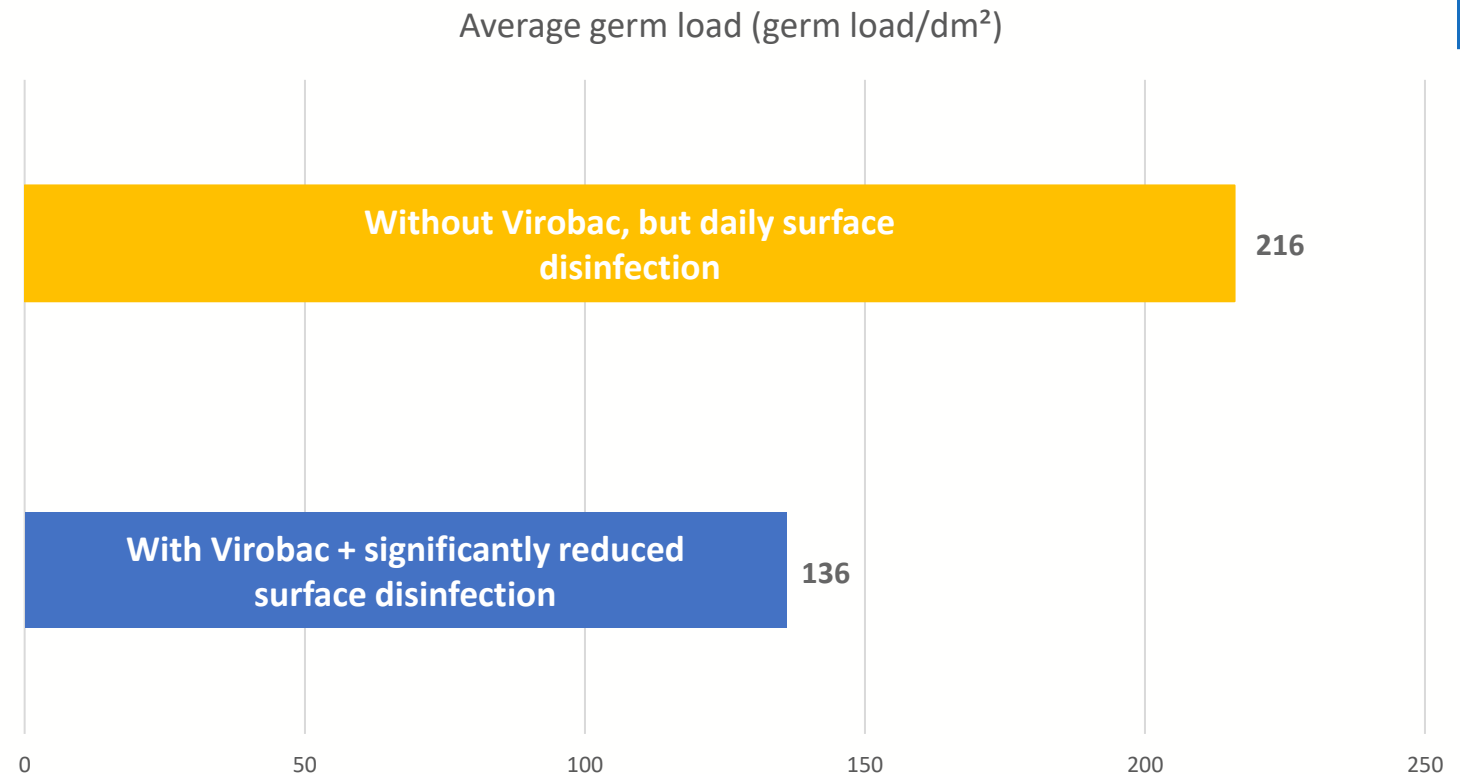
With Virobac and significantly reduced surface disinfection



Results of the study

The average bacterial load of the two test surfaces without Virobac Sealer, which were disinfected daily, was 216 germ load/dm², 59% higher than the average bacterial load of the surfaces sealed with Virobac but disinfected only half as often (136 germ load/dm²).

Virobac thus significantly reduces the average germ load even when the frequency of surface disinfection is halved.



VIROBAC

The permanent protection against
viruses & bacteria on floors
in the health sector





Discussion

Thank you for your attention!