

Hotel JAM - Brussels

Testing H₂O₂ Disinfection in a Hotel – Case Study – 06/11/2020



The Test



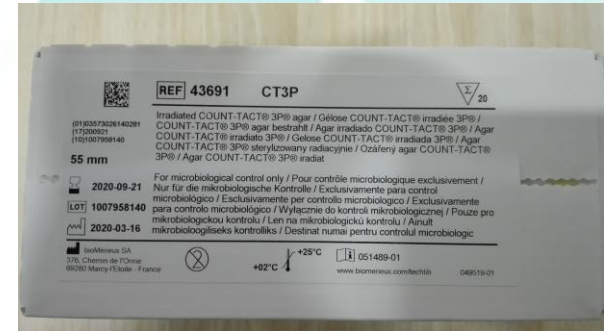
Context

- i. In the context of the Covid 19 pandemic (and since), the hotel industry had to adopt stronger hygiene measures than previously in order to ensure the safety of visitors and staff and meet mandated safety standards.
- ii. While the pandemic may have eased, the problem of microbial contamination remains and all players in the HORECA domain have an obligation to their customers and their staff to maintain hygiene and safety standards.

Objectives

- ✓ During this test, we will check the effectiveness of the cleaning products used (= T0).
- ✓ At time T1, we will check the effectiveness of Airandé products based on H₂O₂ for the manual cleaning of rooms and bathrooms.
- ✓ At time T2, we will check the effectiveness of the Airandé Hygien'air 'dry fog' device in final disinfection of the hotel room/bedroom.

The Test



Test Set-up

- ✓ To determine the contamination, we used “Irradiated Count-Tact 3P agar” from Biomérieux ref: 43691 lot: 100797958140
- ✓ Contact time of boxes with surfaces: **30 sec**
- ✓ Contact time with Airandé H2O2 3% solution and Airandé 3% wipes : **1 min**
- T0 = verification of disinfection before using Airandé products
- T1 = verification of disinfection with 3% H2O2 solution (**S**) and 3% wipes (**L**)
- T2 = verification of airway disinfection with the Hygien'Air device and 7.9% H2O2 solution



The Test



Methodology

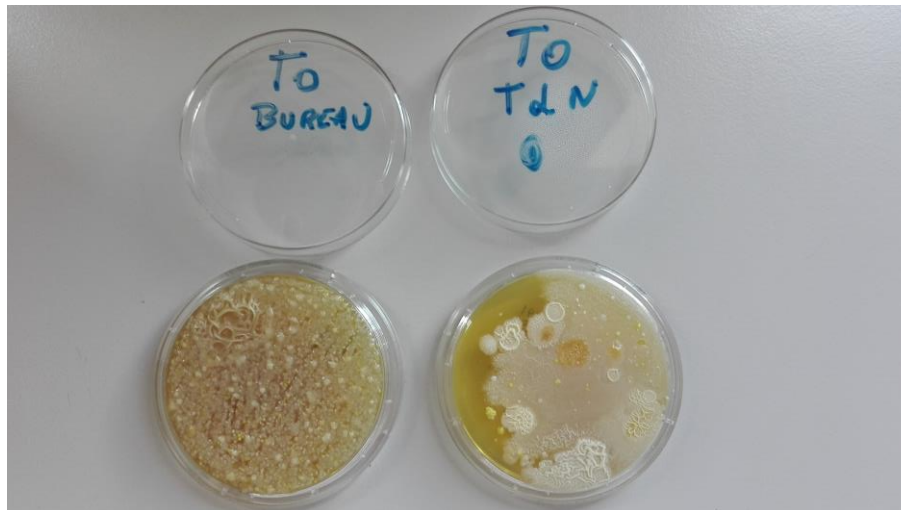
- A cleaned room 602 was chosen by the JAM hotel
- 2 control points have been chosen in the room: the nightstand and the desk
- 2 control points have been chosen in the bathroom: the sink and the WC board
- The contact time of the **Airandé H2O2 3% solution** and the **H2O2 3% wipes** was **1 min** with the surfaces
- The **Hygien'Air** device has been programmed for 60m³ for the bedroom and 10m³ for the bathroom
- The **Hygien'Air** device consumed **5 ml / m³ programmed**
- For the check at T2, we waited 1 hour after stopping the device



The Test

Results

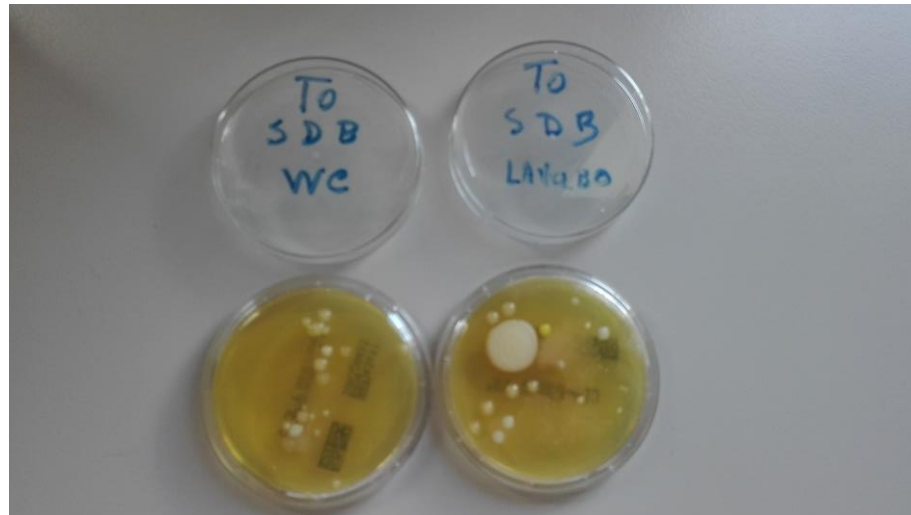
- At T0: before disinfection with Airandé products
 - In the bedroom:



The Test

Results

- At T0: before disinfection with Airandé products
 - In the bathroom:



The Test

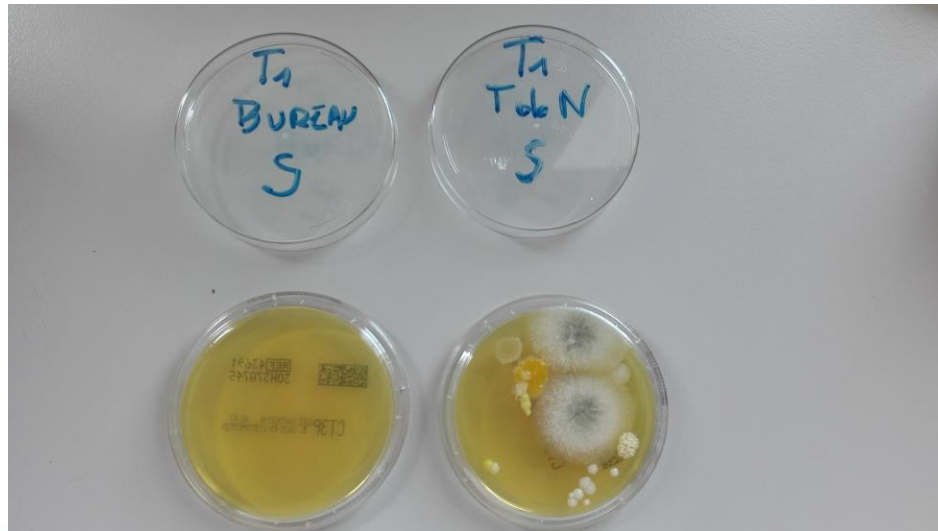
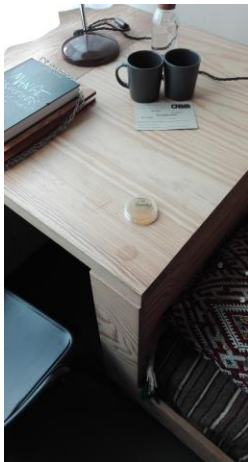
Comments/results at T0

- ✓ The surfaces are all subject to routine cleaning/disinfection by the hotel housekeeping team.
- ✓ But,
 - The surfaces of the nightstand and the desk show significant contamination
 - Wooden surfaces are more porous surfaces and therefore more difficult to disinfect
 - The surfaces of the bathroom are also contaminated.
- By way observation, we would suggest that an important step by the hotel management would be to review the technical sheet of the products used for cleaning the room and its surfaces in order to verify the spectrum of activity and the contact time to ensure adequate cleaning and safe disinfection .

The Test

Results

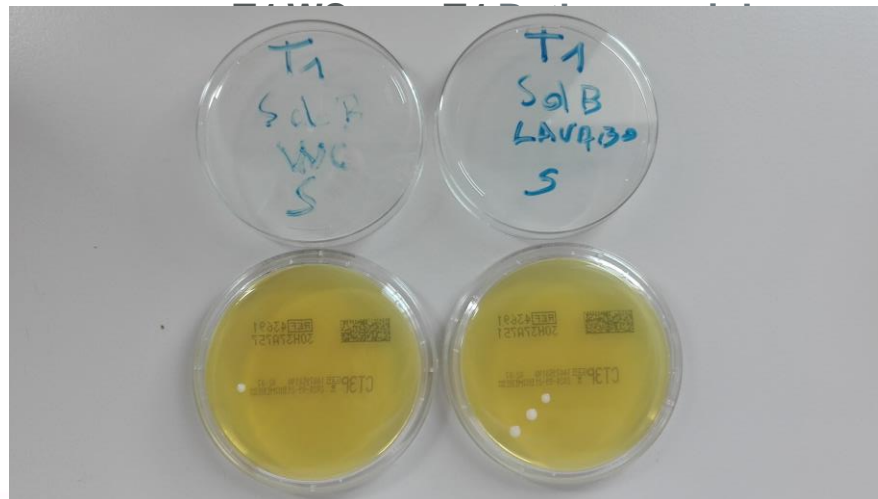
- At T1: using the Airandé 3% solution, contact time 1 min
- In the bedroom



The Test

Results

- At T1: using the Airandé 3% solution, contact time 1 min
 - In the bathroom



The Test

Comments/Results at T1 with the Airandé 3% Solution

- ✓ The 1 min contact time for disinfecting bathroom surfaces is effective
- ✓ Regarding the surfaces of the room:
 - The surface of the desk is disinfected in 1 min
 - The surface of the nightstand is still contaminated after 1 minute because the wood is irregular and porous (“vintage” nightstand). It will therefore be necessary to slightly increase the contact time and use more solution this type of surface.

Conclusion

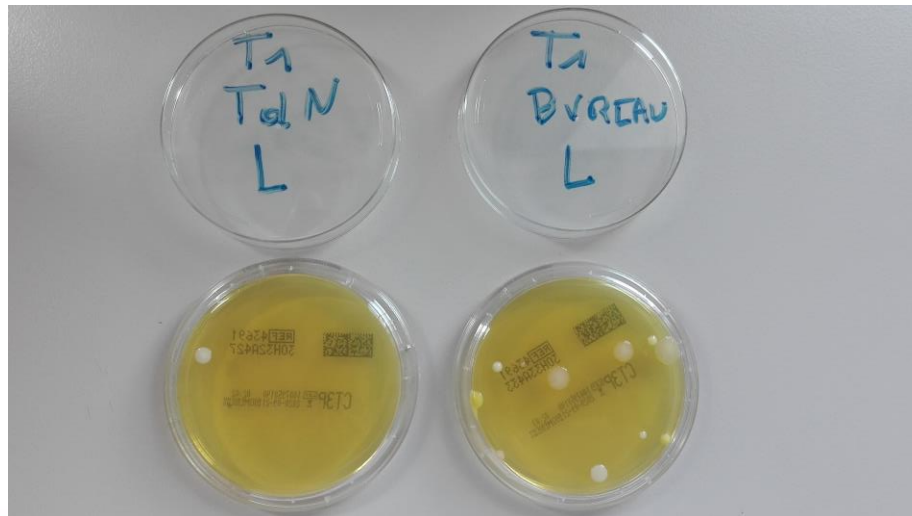
This test shows that the H₂O₂ is an efficient and effective disinfectant.

However, the quality of the surfaces influences the quality of the disinfection. This is an important parameter that must be taken into account when assessing the volume of disinfectant to be used and its contact time for decontamination.

The Test

Results

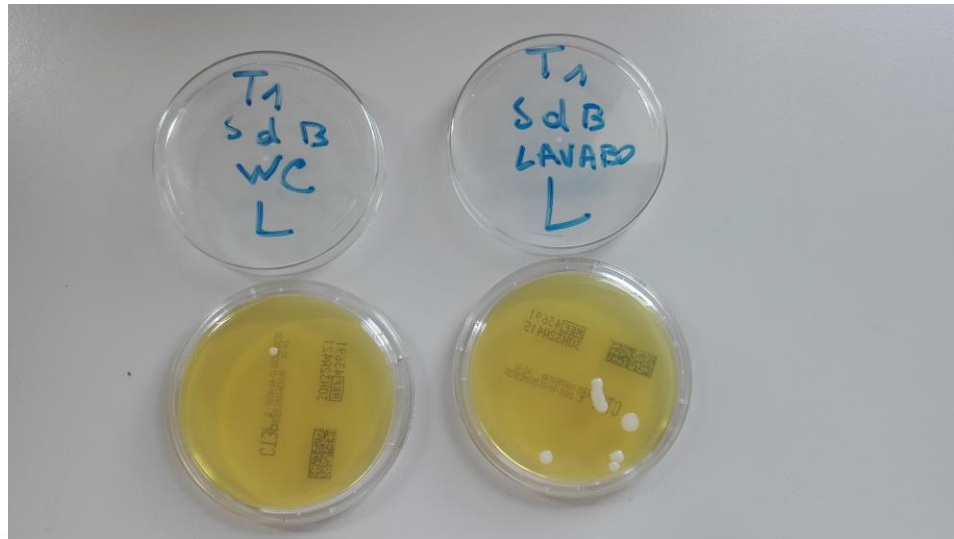
- At T1: using the Airandé H₂O₂ 3% wipes, contact time 1 min
 - In the bedroom



The Test

Results

- At T1: using the Airandé H₂O₂ 3% wipes, contact time 1 min
 - In The bathroom



The Test

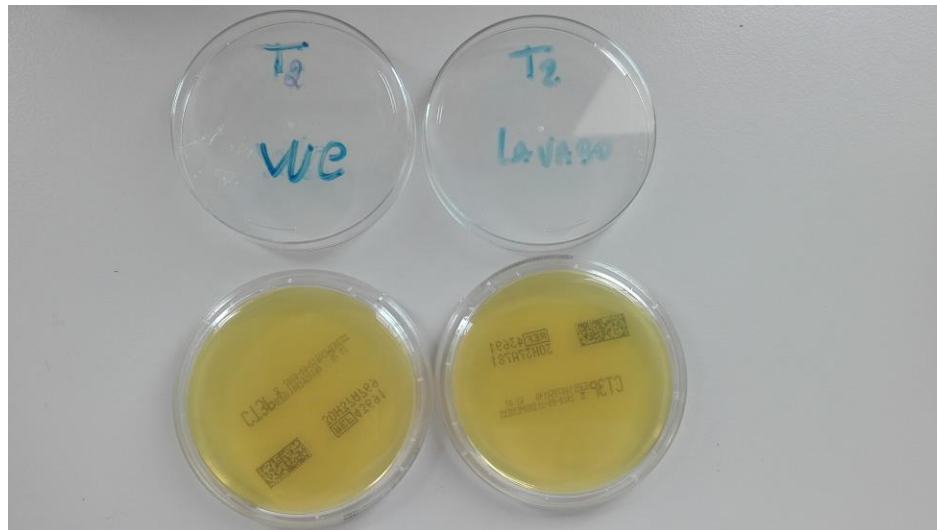
Comments/Results at T1 with Airandé H2O2 3% wipes

- ✓ The contact time of 1 min with the wipes on the surfaces shows an effective disinfection and a significant reduction of germs compared to T0
- ✓ Cleaning and manual disinfection are essential before airway disinfection in order to remove the biofilm, stains present on the surfaces
- ✓ There are no traces or deposits left on the surfaces after cleaning with the wipes



The Test

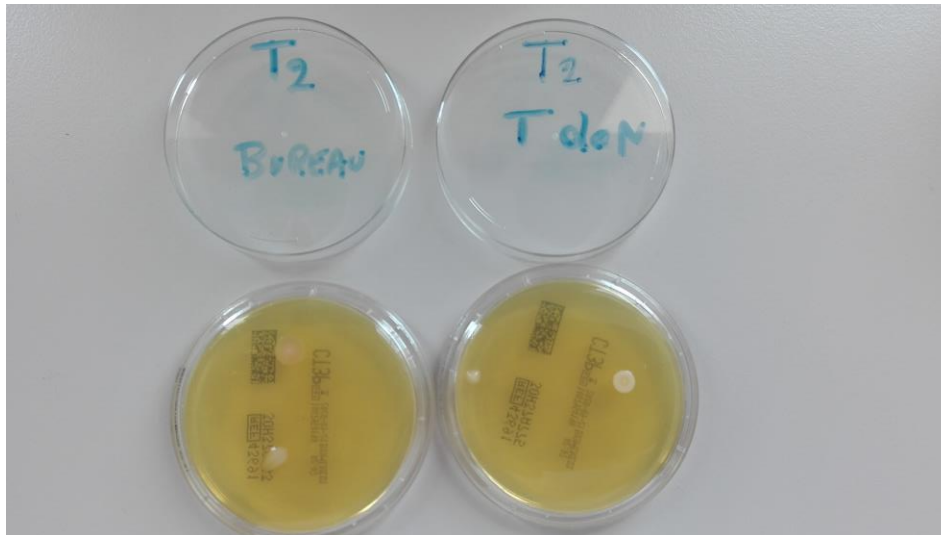
- **Results At T2 after 'dry fog' disinfection**
- **In the bathroom:** Hygien'Air was programmed for 10 m³ and consumed 5 ml / m³



The Test

Results At T2 after 'dry fog' disinfection

- In the bedroom: Hygien'Air was programmed for 60 m³ and consumed 5 ml / m³



The Test



Comments/Results at T2 with 'dry fog' disinfection using the Hygien'air dry fog device

- ✓ Airborne disinfection with Hygien'Air complements manual disinfection to ensure optimal reduction of microbial contamination on surfaces.
- ✓ Hygien'Air does not increase the work of maintenance staff because it is autonomous.
- ✓ Hygien'Air could be integrated into the cleaning protocol when departing customers to ensure the safety of new customers and staff during a pandemic such as the Covid 19, or in dealing with outbreaks such as Norovirus, influenza, RSV, etc etc.
- ✓ The results on the bathroom surfaces show a complete absence of microbial contamination after using the Hygien'Air.
- ✓ On the surfaces of the bedroom, the reduction of contamination is important to note because the samples were taken on the bedside table and the desk but in a different place than those disinfected by the 3% solution or the H2O2% Airande wipes.

Conclusion

- **H2O2 as a manual disinfection solution and as an airborne spray has proven itself**
- **Advantages:**
 - ✓ Fast and broad spectrum efficiency
 - ✓ No residue on surfaces
 - ✓ Biodegradable, ecological
 - ✓ Not dangerous for users
- It is important to note that with more porous surfaces care needs to be taken when developing cleaning and disinfection protocols that require increased contact times in order to achieve the desired elimination of microbial contamination.
- Together, the products tested and the use of airborne disinfection can provide the HORECA* domain with the additional assurance of rigorous hygiene to reassure customers and staff that safety of the environment in which they stay and work.

(*HORECA = Hotel Restaurant Catering)



Thank you to the hotel and their team for making the room available and for their patience during the test

