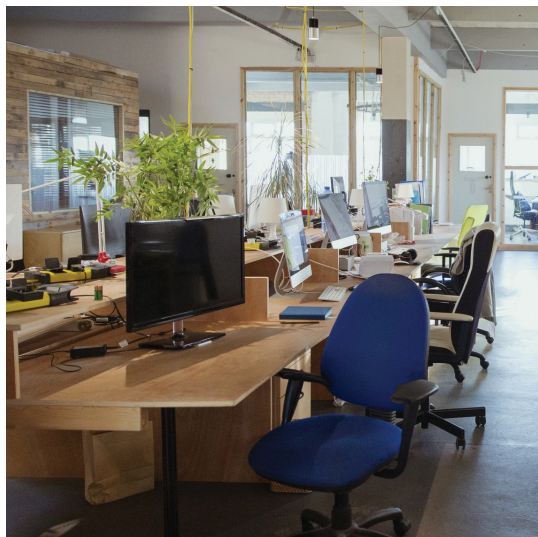


CASE STUDY - OFFICE SPACE

CS009

Client: Field research, repeated study



Situation:

SAN-AIR is developed for use in any indoor space, including car, bus, home and workplace.

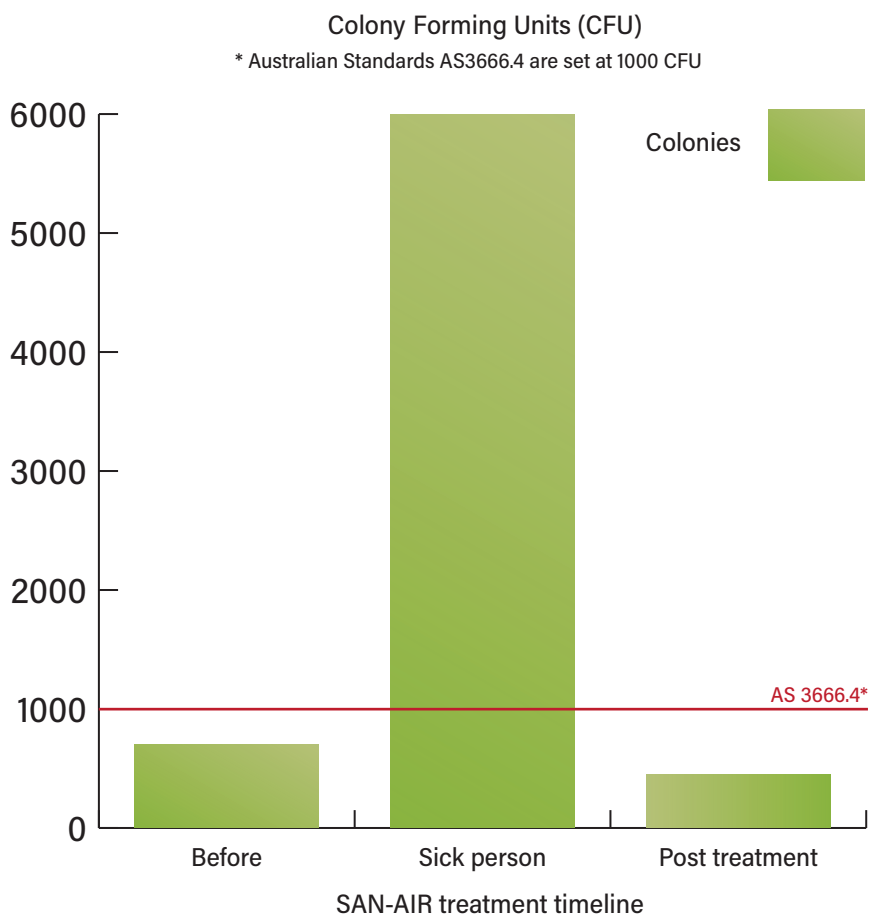
Treatment:

- Step 1: A baseline germ level measurement in a normal indoor air environment
- Step 2: A volunteer suffering a cold was introduced into the room for one hour
- Step 3: SAN-AIR was then introduced and the air test was repeated after 24 hours. The test was repeated 30 times.

Conclusion:

SAN-AIR has been able to repeatedly prove its ability to significantly reduce germ counts in the air within 24 hours, as well as:

- Reduce the development of "sick air" environments
- Significantly reduce the amount of airborne germs
- Sanitisation of air conditioning ductwork, cooling coils and filters



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CASE STUDY - MEDIA OFFICE

CS006

Client: Media company - Sydney



Situation:

A major media organisation occupied an office space in the Sydney CBD. The open plan office occupied 400sqm on one floor, and was used by 80 to 100 people on a daily basis.

The facility manager explained that their office had a recurring seasonal absenteeism of 16% to 22% due to respiratory infections. This was a characteristic incidence and was almost always at the same time as employees complaining of bad odours from the air conditioning. The same employee would go away sick, take 2-3 days off, and return on respiratory infection medication.

Treatment:

Test locations were identified. Suitable test locations are typically:

- under selected air conditioning vents
- next to return air conditioning grilles
- on top of frequently used furniture e.g. desk
- across high traffic doorways

Test readings were taken prior to treatment.

A SAN-AIR 500g Gel pack was then placed in the plant room dedicated to this office floor.

Following the placement of SAN-AIR, test readings were taken weekly.

Result:

Test results in various locations on the office floor demonstrated a 50-90% decrease in microbial contaminants.

The introduction of SAN-AIR:

- reduced the initial mould and bacteria count found in the workspace to levels below that recommended by the Australian Standards
- reduced absenteeism to below 2%; the 2% could not be attributed by the manager to the indoor work environment.

Conclusion:

The circulating air in an air conditioned environment can be adequately treated for general bio-burden contamination by using SAN-AIR.

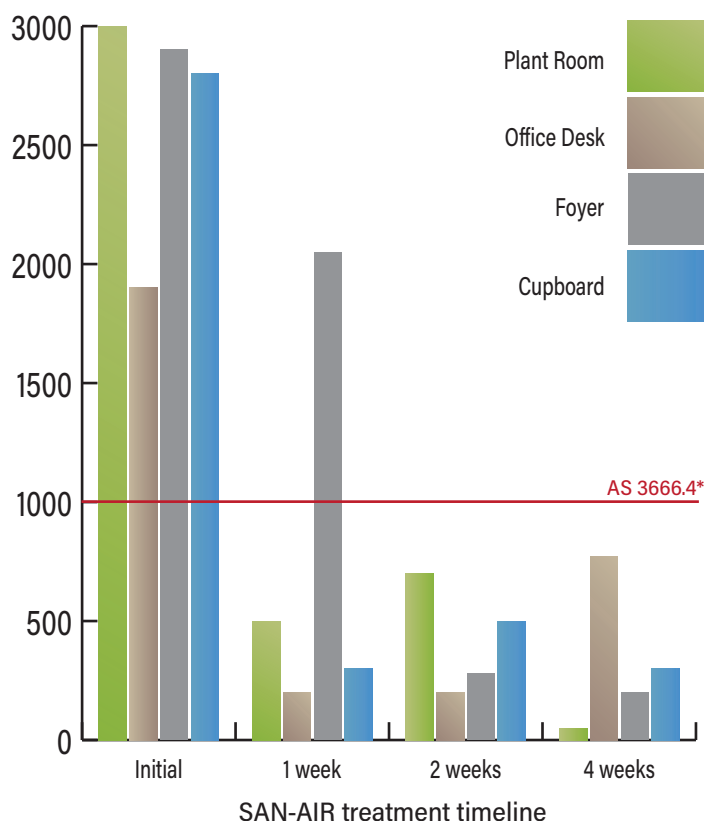
The benefits of SAN-AIR to the organisation are:

- Addressing serious OHS with respect to employees
- Enabling productivity gains because people didn't take time off due to absenteeism
- Reducing management strain to reschedule work tasks due to absenteeism
- Removing liability risk from the company due to poor IAQ affecting the health of their employees
- Meeting indoor air quality microbial count guidelines as per AS3666.4

In return for fixing the issue, SAN-AIR received a very guarded, liability conscious, testimonial which said the entire premises was made to smell and feel better.

Mould Colony Forming Units

* Australian Standards AS3666.4 are set at 1000 CFU



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CASE STUDY - HOMELESS HOSTEL

CS003

Client: Homeless Hostel - Sydney

Situation:

A homeless hostel participated in a study measuring bio-burden levels found within buildings.

The hostel occupied a 5 storey block in Sydney. Every day the hostel would cater to 400 homeless people, with only some choosing to bathe before using the dormitory. The basement was used for receivables, food preparation, food storage, along with other services and functions. The ground floor featured the reception, a communal dining area, office space, a hospital, as well as several lavatories.

Each floor had two HVAC Plant Rooms. The fresh air intakes were soiled by pigeon droppings and positioned in close proximity to roads with a high level of motor vehicle traffic.

The building is older and given the multitude of occupants, the nature of the occupancy and the building's ambient control system, all contribute to the potential spread of microbial contamination.

The Indoor Air Quality (IAQ) was often challenged by the occupants, where the ambient odour of the internal spaces masked the odour of cooked food in the kitchen.

Treatment:

- A baseline reading was taken prior to introducing SAN-AIR into the system.
- The Biotest RCS Air Sampler collects airborne micro-organisms quantitatively onto a culture medium (agar strip). The air under examination is sucked into the sampler from a distance of at least 40cm by means of an impeller.
- Sampled agar strips are placed in an incubator set at 25°C for 24 hours, then 32°C for 48 hours.
- Colony forming units (CFU) are counted using the calculation:

$$\text{CFU/m}^3 = \text{Colonies on Agar strip} \times 25.$$
- Once a baseline sample was taken, SAN-AIR 500g and 75g Gel packs were placed in the Plant Rooms.

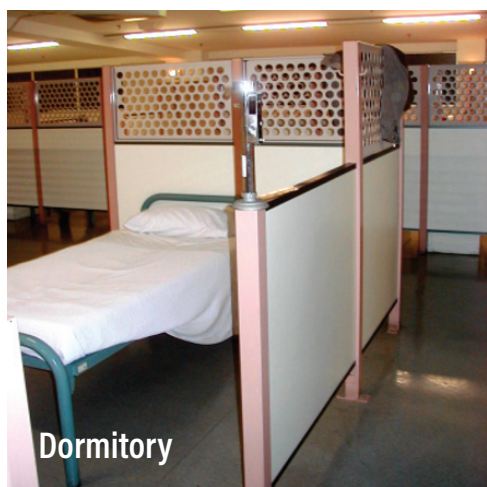
The SAN-AIR gel relies on air contact time. There was a large amount of dust build up inside the ducts and outside the coils of the air conditioning unit and this dust acts as a carrier for the mould and microbial spores. By allowing the ingredients of SAN-AIR to evaporate and become mixed with the air stream the same way as dust and microbes do, the SAN-AIR vapours come into contact with the mould or microbes. Absorption of the vapours occur on the dust particles also, increasing the contact time and allowing SAN-AIR to inhibit growth of the organisms.



Corridor in front of elevator



Lunch room



Dormitory



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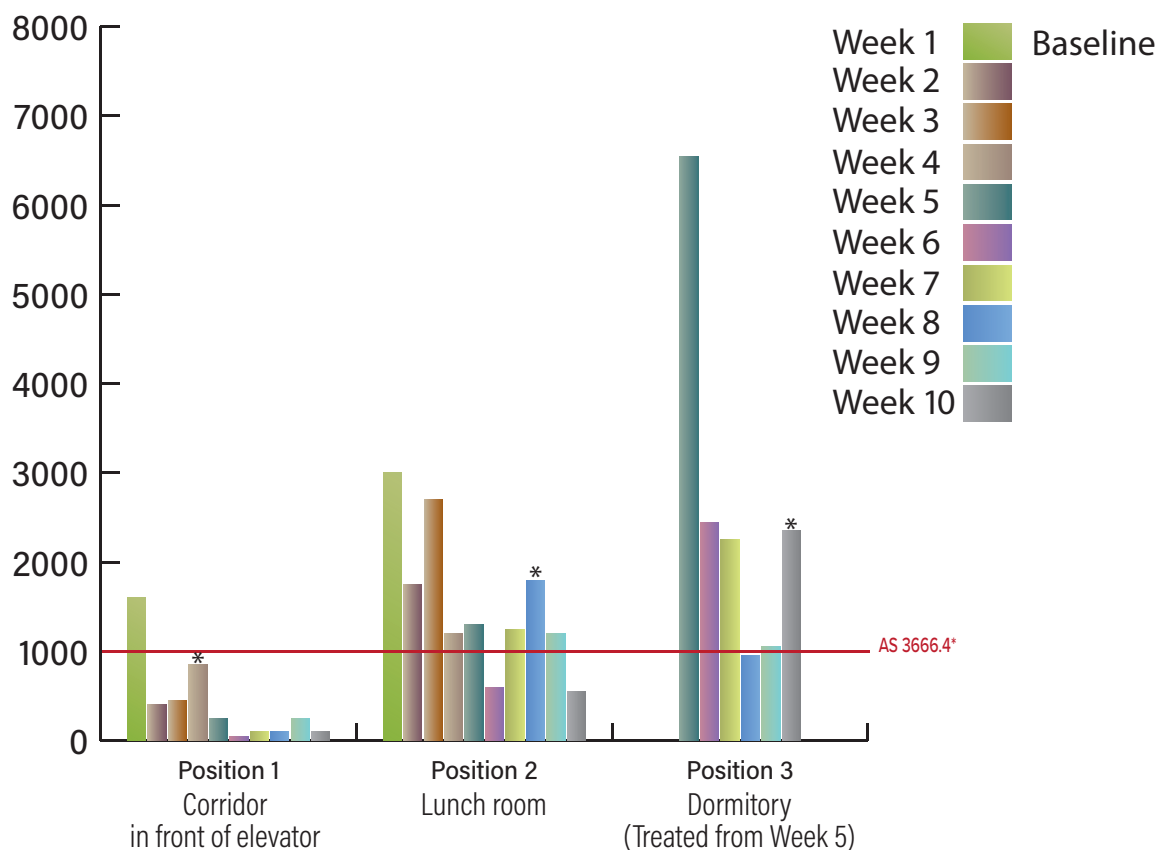
CASE STUDY - HOMELESS HOSTEL (Cont.)

CS003

Result:

Colony Forming Units (CFU)

* Australian Standards AS3666.4 are set at 1000 CFU



* Indoor Air Quality (IAQ) is influenced by newly introduced contamination carried in by the wind and often, by humans. With the SAN-AIR gel working continuously throughout the indoor air space, new contamination is quickly controlled and treated. Without SAN-AIR, the contamination would proliferate and significantly impact IAQ.

Conclusion:

The introduction of SAN-AIR led to a reduction of airborne contaminants.

This efficacy study highlights that SAN-AIR helped to:

- Address health and safety issues with respect to employees
- Remove liability risk from the company due to poor IAQ affecting the health of employees
- Meet indoor air quality microbial count guidelines as per AS3666.4
- Remove bad odours for the indoor environment.

Results show that SAN-AIR was effective in addressing contamination in the air systems which is a major source of respiratory infection triggers.

Of note was that several employees approached the SAN-AIR team towards the end of the test period, voluntarily sharing that they were no longer getting chest infections from working at the Hostel.



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