

Hygiene in focus

How contactless passage through a clean building might look in the future.

It's a fact, after touching door handles, railings and other objects, two-thirds of people now immediately look for the nearest sink to wash their hands. It is also true that 83 percent of respondents also try to touch as few things as possible on a daily basis, such as door handles, handrails or switches.

Hygiene in healthcare, hotels and restaurants, commercial and academic institutions, private and public buildings is therefore more important than ever. Because wherever infection protection is a top priority, people feel safe, welcome and comfortable.

If architects, planners and facility operators want to continue building attractive, future-proof buildings, they must take into account the sharply increased hygiene awareness of the people who enter them. And since germs mainly spread via high-touch surfaces such as handrails, elevator switches and handles, what needs to be done is also clear. Find out what contactless passage through a building that is as hygienic and free from infection as possible might look like.



How long do coronaviruses survive on surfaces?

How long can coronaviruses survive on surfaces such as doorknobs? And what means can be used to kill them off effectively?

A research team at the Greifswald University Hospital and the Ruhr-University Bochum (RUB) asked these questions and published the answers in the Journal of Hospital Infection.:

- At room temperature, pathogens such as the SARS and MERS coronavirus can stay on surfaces for up to nine days and remain infectious
- On average, their lifespan is between four and five days
- Agents based on ethanol, hydrogen peroxide or sodium hypochlorite are highly effective against coronaviruses
- In appropriate concentrations, they reduce the number by four so-called log steps within a minute. This corresponds to a decrease from one million to just 100 pathogenic particles

Another study from the United States paints a similar picture: according to this, SARS-CoV-2 viruses can stay for up to 72 hours on plastic and stainless steel. On copper and cardboard, SARS-CoV-2 was viable for up to 4 hours and 24 hours respectively. It should however be noted that these are laboratory conditions, which may well differ from real-life conditions.

Hygiene Awareness 2020: People want to touch less

People have become more disciplined in terms of hygiene. For example, a forsa survey commissioned by the KKH commercial health insurance company on International Hand Hygiene Day shows that the first thing almost everyone (93 percent) does when they get home is wash their hands (in 2019 it was only 71 percent). Another fact: after touching door handles, railings and other objects, two-thirds (67 percent) now immediately look for the nearest sink (in 2019, the figure was just half this). 83 percent of respondents also try to touch as few things as possible in daily life, such as door handles, handrails or switches (in 2019, it was just 53 percent).

So, fear of infection has clearly not only increased significantly, but is generally high. For architects, planners and facility operators, the question remains: how can one allay people's fears and increase infection prevention and control in buildings?

5 critical points where hygiene is important

"Open sesame" must be the motto of the future. Because if people want to rely less and less on touch, automatic door systems, contactless door key switches, hygienic access controls and innovative technologies must take its place. Throughout the entire building. And it has the side effect of not only increasing hygiene in buildings, but also enhancing convenience, safety and barrier-free accessibility.

1. When entering through the main entrance

Revolving and sliding doors are ideal for main entrances and high-traffic areas. They secure the exterior without visible physical barriers, and can guarantee increased hygiene through contactless passage. Adjustable speeds mean revolving doors offer a high degree of user convenience. Climate separation also reduces energy consumption. In addition to contactless access, sliding doors also give the exterior facade a particularly harmonious overall appearance.

2. For interior access points

Sliding doors are also suitable for hygienic interior access points. However, if space is limited, single- or double-leaf doors equipped with a swing door operator are a better choice. And regardless of whether they are single- or double-leaf, manual doors with the appropriate operator can also be automated at a later stage without great effort or outlay. There are also glass sliding door systems, which make it possible to implement room partitions flexibly, transparently and with the greatest possible levels of hygiene.

3. When opening and closing doors

In terms of hygiene and infection control, automatic doors are just half the battle. They are only really clean when combined with sensors and contactless door key switches.

Automatic door systems are triggered by radar motion detectors, which work in a clearly defined field and offer reliable detection. They can also detect slow movements via integrated tracking. There are also contactless door key switches, which can be opened by a single hand movement – they mostly use microwave technology, which offers very homogeneous detection.

4. When entering non-public areas

Automatic doors allow anyone who wants to go through to do so. So, locking systems which can be opened using contactless, usually electronic media, such as access cards, transponders or smartphones should be used for areas that are particularly vulnerable or security-relevant when it comes to infection protection. RCID technology (Resistive Capacity Identification), which uses the body's natural electrostatics to transmit the respective access permissions is particularly innovative.

5. For large flows of people or crowds

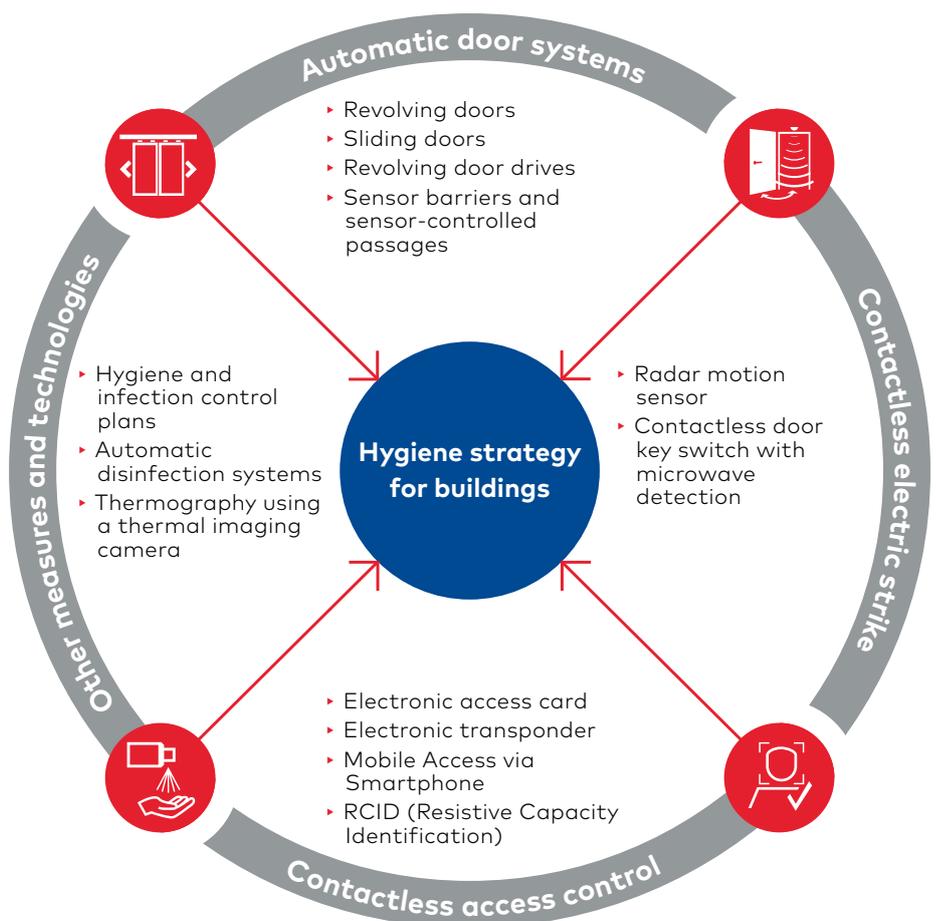
Sensor locks are ideal for separating large flows of people to increase hygiene. They recognise when someone is approaching the access point and only when access is confirmed does the interlock open automatically and let the person through. Infection prevention and control can be increased even further if automatic door systems are equipped with an integrated temperature scanner. Keyword: Thermography. Here, contactless measurement using a thermal imaging camera can help to effectively reduce cross infection.

And last but not least, more disinfection dispensers or automatic disinfection systems can significantly increase hygiene levels – for example, by means of solutions that disinfect frequently touched surfaces or even entire rooms immediately after contact or use.

Hygiene strategy for buildings

If one considers the five critical points where hygiene in buildings is important, the optimal strategy consists of a combination of four components: automatic door systems, contactless door openers, contactless access control and other measures and technologies.

However, as every building, every property and every system solution has individual requirements, how these components are assembled must be considered on an individual basis. A hospital has different hygiene standards than a department store. For a laboratory where microbiological substances are used, more stringent guidelines apply than in food production, which is already strictly regulated. And in the hospitality industry or gastronomy, there will never be such large flows of people as at an airport. An experienced solution provider can advise you on selecting suitable technologies.



Buildings need to become more hygienic

While everyone was talking about smart, connected and automated buildings for greater convenience, energy efficiency and lower costs, another challenge appeared on the scene. In the future, the Smart Building will also be defined by its levels of hygiene and infection control.

Contactless and barrier-free access in conjunction with high levels of convenience and maximum security is the core requirement. This is a balancing act: convenience is enhanced when people can enter buildings through automatic and contactless entrances. And hospitals and other healthcare institutions are already placing an increased focus on security. But there will probably also be solutions and future innovations that are perceived as disruptive. If, when you enter a building, a thermal imaging camera first needs to measure your temperature, or if a robot

starts disinfecting immediately after you touch a surface, a certain degree of discomfort is inevitable.

Manufacturers of smart and secure access solutions must therefore provide viable solutions. Those who adapt to current needs and are able to respond quickly with suitable innovations have the edge. And so, dormakaba is also working every day to be able to offer you access solutions that are not only intelligent, safe and barrier-free, but also as hygienic as possible, for everyone's benefit.

Sources:

<https://www.kkh.de/presse/pressemeldungen/corona-angst-fuehrt-zu-mehr-disziplin-beim-haendewaschen>
[https://www.journalofhospitalinfection.com/article/S0195-6701\(20\)30046-3/abstract](https://www.journalofhospitalinfection.com/article/S0195-6701(20)30046-3/abstract)
<https://www.medrxiv.org/content/10.1101/2020.03.09.20033217v2>

Do you want to design more hygienic buildings?

Or have further questions? Contact us about anything to do with clean building and room access, all from one provider. Our contact addresses are listed at the bottom of this page.

Subject to technical modifications.
© 2020 dormakaba. Date 06/2020

Any questions? We would be happy to answer any questions you may have.

dormakaba UK & Ireland | Wilbury Way | Hitchin | Hertfordshire | T +44 (0)1884 256464 | info.gb@dormakaba.com | www.dormakaba.co.uk