



Healthcare Specification

Choosing the right solutions for hospitals, clinics,
care homes and more

ASSA ABLOY
Opening Solutions

Experience a safer
and more open world

The challenges of access management for healthcare – and how ASSA ABLOY helps you overcome them

Across the healthcare sector, convenient, interoperable access management systems are becoming indispensable. Facilities may be expansive and/or dispersed; door locks and other access points must integrate seamlessly with fire detection, CCTV, and other building systems.

Securing a healthcare environment presents a distinct array of challenges. Hospitals, for instance, must be inviting public spaces while simultaneously safeguarding private and/or valuable assets. These premises need to be accessible and secure for patients, doctors, nurses, visitors, and contractors, yet the protection of pharmaceuticals and confidential data is paramount – and frequently mandated by law.

In laboratories, research or testing materials necessitate continuous surveillance by certified security personnel. Medical equipment is frequently targeted for theft or vandalism.

Whether for clinics, physician practices or hospitals, ASSA ABLOY's innovative, widely deployed solutions are designed to meet the sector's unique needs: safety, hygiene, accessibility and convenience for everyone – patients, nursing staff, and doctors, support staff and contractors alike.

As a global leader with decades of expertise in door and access specification, ASSA ABLOY understands the specific needs and regional regulations which impact you. We offer comprehensive support throughout every phase of your project, from initial planning to the renovation of existing structures, ensuring your facility meets the highest standards of safety and functionality – and is a safe, efficient, compliant environment for everyone who uses it.



Meeting your challenges



Managing access to sensitive areas like medication storage, records rooms, and restricted zones.

Implementing traceable, flexible access and cutting unauthorized access with the latest digital solutions



Operating more efficiently, often on a 24/7 basis, enabling everyone to move around seamlessly

Automating door entry, including with hygienic touchless solutions, saves time when staff need specific access



Ensuring confidentiality and privacy for patients, critical for effective medical care

Secure door and access solutions help prevent unauthorized access and reduce theft from your premises



Meeting the demands of compliance and regulations, both local and regional

ASSA ABLOY solutions are designed to meet regulatory standards for security, fire safety, accessibility and more

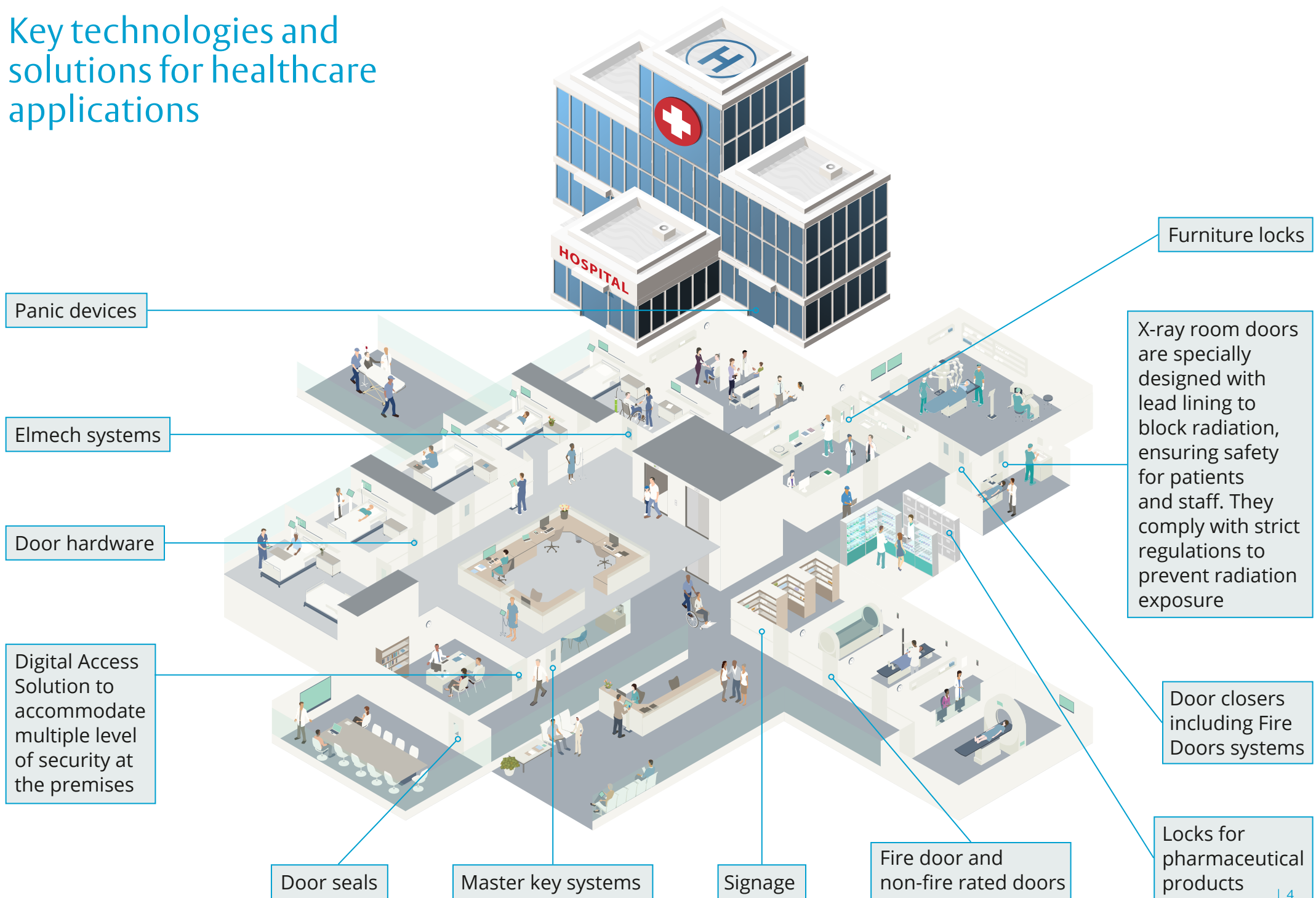


Reducing the cost of ongoing repair and replacement of doors and related solutions

High traffic leads to wear and tear, but ASSA ABLOY solutions are designed and tested for durability, minimizing maintenance



Key technologies and solutions for healthcare applications



The low-impact, cost-efficient way to add or extend digital access control

ASSA ABLOY deploys secure door opening solutions in a wide spectrum of health care environments, from **hospitals and elderly care centres to university medical faculties, laboratories and research centres.**

With Aperio® wireless battery-powered devices, sensitive information including medical records is secured around the clock. Access is restricted

using flexible permissions that facility managers can update online at any time, as and when needed.

ASSA ABLOY's healthcare solutions are suited to a variety of uses across the sector. Aperio locks integrate seamlessly with access control systems via the AADP protocol or Wiegand hub, with no need for database integration.



Aperio digital access products for healthcare environments



E100
Battery powered Escutcheon designed for high-traffic doors in healthcare facilities, such as wards, emergency rooms, and administrative offices



H100
Sleek, battery-powered Handle suited to interior doors in hospitals including medical records areas, staff lounges, and consultation rooms



P100
This weather-resistant digital Padlock is perfect for securing portable assets and storage units any healthcare setting, such as mobile medical equipment or supply cabinets



L100
The innovative, battery-powered wireless security lock that offers an easy way to extend an existing access control system to doors with higher security levels



C100
This wireless digital Cylinder is ideal for securing critical areas within hospitals such as patient rooms, medical offices, and medication storage areas



KL100
Compact, battery-powered lock designed for furniture such as cabinets, lockers, and drawers in healthcare facilities



DR100
Robust access management for high traffic doors

Aperio advantages for healthcare

Every ASSA ABLOY Aperio device is designed to enhance security, boost efficiency and ensure compliance in healthcare environments.

By choosing Aperio, you can be confident that sensitive areas and confidential information are properly protected.



Effortless Installation

No wiring required, making it perfect for quick, minimum or no drilling upgrades or retrofits in healthcare environments



Greater Security

Provides real-time access control and audit trails, ensuring only authorized personnel access sensitive areas



Low Maintenance

Long-lasting battery life minimizes the need for frequent replacements, reducing maintenance disruptions



Seamless Integration

Easily integrates with your existing access system, upgrading security without an infrastructure overhaul



Enhanced Privacy

Available with a PINpad and other multi-factor options for added patient privacy and sensitive areas



Durability

Built to withstand the rigorous demands of hospital environments, ensuring long-term reliability



Multi-credential Support

Compatible with multiple RFID and mobile technologies, providing flexible access options for staff



Energy Efficiency

Uses standard batteries, minimizing operational costs and ensuring continuous operation



Smart Credential Handling

Can store up to 1,000 credentials, ensuring emergency access and efficient management of staff permissions



Control for Electronic Prescribing and Medicines Administration (EPMA) carts, bedside cabinets, POD lockers and medicine stores

The robust, road-tested, battery powered Aperio **KL100** makes cabinets, EPMA carts, medicine drawers and almost any other any small opening an integral part of a digital access system. An adjustable cam makes it a straightforward retrofit solution for patient-accessed medication or “*POD*” lockers and bedside cupboards. This digital device also consumes very little energy: Powered by one battery, it only “*wakes up*” when a credential is presented and needs no specialist maintenance.

In line with the rest of the Aperio range, the KL100 brings flexibility over physical keys. It is compatible with **smartcards and fobs using all major RFID technologies, as well as smartphone unlocking via Bluetooth LE and NFC**. The device can accept multiple credential technologies simultaneously, in parallel, so security managers can roll out mobile keys at their own pace, or to appropriate employees only.



Aperio case study

Seamless integration of wireless solutions

Centre Hospitalier Métropole Savoie (CHMS)
Chambéry, France

Challenge

Centre Hospitalier Métropole Savoie (CHMS) wanted to streamline the management of their security – to help staff work more efficiently and to keep premises safe around the clock.

Solution

They turned to ASSA ABLOY and their Aperio digital locking system, integrated seamlessly with an ARD access management solution. This allowed CHMS to manage both wired and wireless access points together, providing real-time management logs, remote door opening, and free time slot management.

Feedback

Alain Gestin, CHMS's IT Systems Architect, explains: *"We have implemented internal HR management procedures, creating badges that are automatically integrated into ARD's operating software."* Additionally, the compatibility of Aperio and ARD with the French government's electronic Health Professional Card (CPS) has greatly enhanced staff convenience. This comprehensive approach by ASSA ABLOY addressed CHMS's security challenges, creating a more secure and efficient care environment.

Aperio devices installed

- 1,300 Aperio battery-powered digital door devices
- 301 Aperio readers
- 228 Aperio wireless communication hubs



Straightforward key-based system which transforms mechanical to high-security digital access management

Hospitals and healthcare facilities now experience unprecedented foot traffic. Are these individuals – staff, patients, visitors, contractors and many others – being kept safe?

Addressing the challenge requires more than just a key. When a mechanical key is misplaced, it poses a **security threat** to your premises, rectifiable only by replacing locks. This process is costly and labour-intensive, particularly if a master key is lost.

The CLIQ® system combines patented, high-end mechanical and electronic protection. It is based on programmable smart keys that work with a wide range of cable-free cylinders. Easy to install and straightforward to run, CLIQ **simplifies security for healthcare premises** of every size and type.

Control your building

You decide who goes where and when, by issuing individual access for each site user

Save everyone's time

No more managing multiple keys, changing the locks, or searching for a keyholder

Fit fast and wire-free

Swap an existing locking cylinder for a CLIQ device and secure it with just one screw

Protect everywhere

Cylinders and padlocks secure doors, gates, cabinets and more; lost keys are cancelled with a click



CLIQ case study

Cost savings and reduced risk

Raigmore Hospital
Inverness, Scotland, UK



Challenge

Raigmore Hospital, occupies a big site which requires a large facilities management team. They needed a solution which removed many of the risks associated with lost keys, and time and money wasted on re-keying. Access is controlled to plant rooms, high- and low-voltage rooms, maintenance roof hatches and even a helipad where the air ambulance lands.

Solution

After easy, wire-free installation of digital cylinders, Raigmore enjoys the benefits of ASSA ABLOY eCLIQ digital access. Authorized staff carry a single, programmable key which is loaded with all their appropriate personal access permissions. Missing keys are quickly deleted via the central CLIQ software.

Feedback

“eCLIQ locks combined with the benefits that connectivity offers have proved a great asset,” explains Colin McEwen, Design Lead – Estate Management at NHS Raigmore. *“The system made it far easier to see who is accessing rooms, proving essential to hospital security. Previously, when a key was lost or stolen, the only way to ensure security was to change our cylinders; eCLIQ has negated this, saving us money and time”.*

Devices installed

- 42 eCLIQ programmable keys
- 82 eCLIQ cylinders



Plug-and-play mobile access for small healthcare premises and care homes

Care homes present distinctive security challenges. Foremost, a residence must offer an open, inviting atmosphere. It should function seamlessly for the residents and provide an amiable environment for welcoming family and visitors. It must be a home in every way.

At the same time, administrators must **safeguard the premises, including its staff, sensitive data, and areas storing medications.** Immediate awareness of unauthorized access attempts is imperative. For residents with dementia or other

complex conditions, it is vital caregivers know their whereabouts. Thus, sophisticated digital access systems, **barrier-free and intuitively operable** by all, offer substantial benefits.

A system like SMARTair® capable of providing real-time feedback to site managers can significantly enhance quality of care. It enables staff to swiftly locate residents, respond to incidents promptly, and streamline staff workflows, **minimizing time wasted on key management.**



SMARTair case study

From historic building to state-of-the-art facility

Lion Health
NHS GP Surgery in Stourbridge, UK

Challenge

Converting a historic Victorian-era foundry to a modern health centre required an access solution able to meet heritage guidelines while also offering responsive, efficient protection for 30 consulting rooms, an enhanced nursing suite, minor operations theatre, physio gym and rehabilitation area, a small lecture theatre and an onsite pharmacy.

Solution

Fast, cost-efficient, cable-free installation and flexible operation convinced architects that ASSA ABLOY's SMARTair access solution was the right choice. Now staff, contractors and authorized visitors open doors using keyless, contactless technology. Their RFID smartcards

are pre-programmed with personalized access permissions, using the straightforward, secure SMARTair Web Manager tool. Facility staff can monitor footfall around the health centre, reassured that private offices and other sensitive areas are protected.

Feedback

"There was no need to install complicated software, making for an efficient installation process, and allowing the project to progress quickly," says Graham Sunderland at Abacus Chartered Architects, who led the conversion project.

Devices installed

- SMARTair wall readers
- Wireless escutcheons fitted to 64 doors



Door Closers

Barrier-free access and innovative ASSA ABLOY Door Closers

Sometimes the best medicine is calm. Peace and quiet gives a patient's body and mind time to heal. That's why hospitals and other healthcare facilities need doors that close not only securely and reliably, for every user, but also quietly.

ASSA ABLOY's innovative range includes Cam-Motion® and Close-Motion® Door Closers which ensure secure, comfortable door closing for all kinds of interior and exterior doors. They help **reduce unnecessary touchpoints** around your hospital or clinic, assisting you in implementing hygiene protocols.

Unlike traditional rack-and-pinion guide rail systems, ASSA ABLOY Cam-Motion guide rail door closers require a push-force that falls rapidly. This patented technology guarantees **ergonomic and convenient opening for everyone.**

ASSA ABLOY Cam-Motion door closers also offer optional closing delay, giving users extra time to pass through. To protect the frame and prevent banging into walls – and to help protect your investment in doors and door solutions over the long term – backcheck function as standard slows the door's final opening section.



Door Closers

Why choose an ASSA ABLOY Door Closer?



Enhanced Security

Our door closers provide reliable operation and can be combined with an ASSA ABLOY digital access solution for even greater security control



Energy Efficiency

Our door closers help reduce energy waste, contributing to more sustainable, energy-efficient hospital operations



Barrier-free Access

Ensuring accessibility for all, our door closers meet standard CEN/TR 15894 and help you offer barrier-free healthcare



Standards Compliance

Our door closers comply with a range of important standards including EN 1154 for fire and smoke protection



Easy Installation

The symmetric cam design enables fitting to either frame or door, on hinge or non-hinge side, simplifying retrofits



Durability and Versatility

Our door closers are known for their high durability, corrosion resistance, versatile applications, and ergonomic designs

ASSA ABLOY Door Closers for healthcare applications

Cam-Motion

Make opening doors easier, especially for the elderly and those with limited strength, because force required to open the door decreases significantly after the initial push, making it accessible for everyone. Doors close safely and slowly, reducing risk of injury.

Close-Motion

Doors close quietly and securely, which is crucial in healthcare settings where noise reduction is important for patient comfort. The soft closing mechanism minimizes the risk of trapped fingers, making it ideal for hospitals and care homes.

Free-Motion

Combines Cam-Motion with a free-swing function so doors open with almost zero force, even heavy fire doors. This protects the elderly and less able, including in care settings. For access and safety, doors remain in free-swing mode until powered off.

Floor Springs & Concealed Closers

Equip high-traffic entrances and heavier doors. Concealed under the floor, they make a sleek impression while maintaining control. Particularly suited to areas like a hospital or ward entrance where unobstructed floor space may be critical.

Security Door Closer

Easily retrofit fire doors with access control to enhance security while ensuring compliance with fire safety regulations. Designed to integrate seamlessly with access systems, providing extra security without compromising accessibility.



Door Closers case study

A door solution which ensures quiet closing

Ulm Day Clinic
Ulm, Germany

Challenge

The Ulm Day Clinic specialises in sensitive eye surgery. Clearly a calm and quiet environment is necessary for the specialists to do their work. Every time a door slams, it causes vibrations and can potentially impact concentration. It was critical for clinic staff to find an effective door solution to make both opening and closing smooth, secure and silent.

Solution

To foster tranquility and concentration, practice managers selected the Close-Motion® Door Closer from ASSA ABLOY. This device operates almost silently, swiftly closing a door until a small gap remains. Then, the mechanism gently dampens the door's movement before it slowly and securely shuts with only a subtle click. Close-Motion® technology merges security, barrier-free

access, and convenience into a single, integrated component within the door closer housing. This maintains the door's aesthetics while significantly reducing environmental noise, making it the perfect retrofit solution for noisy healthcare settings.

Feedback

“Even highly sensitive operations can now be carried out in peace and quiet, without disturbing vibrations,” says Dr. Hans Treiber, Ulm Day Clinic's Managing Director. *“Our doctors can carry out their operations calmly and receptionists are happy that their conversations and phone calls with patients are no longer disturbed by a loud closing door.”*

Device installed

DC700G-CM Door Closer



Door Closers

Saving energy and maintaining hygiene: Planet Drop Seals

Hospitals and other healthcare facilities are often designed to be 'open'. To welcome people within bright, light-filled interiors, or even to make parts of the inside transparent to the outside world. This type of design, of course, can be a challenge from an **energy efficiency** perspective.

A straightforward way to mitigate energy loss — while reducing costs and enhancing the building's sustainability performance — is to **ensure that doors are properly closed**. Installing intelligent ASSA ABLOY door closers at strategic openings is one solution. These guarantee reliable, secure closure while maintaining barrier-free access around the building.

However, neither door closers nor a digital access system can fully seal an opening. Inevitably, **“door gaps” – spaces between the bottom edge of a door and the floor – compromise the door’s thermal barrier**.

The energy-efficiency advantages of a properly closed door are obvious. A tightly shut door also helps maintain temperature differentials, which may be critical in medical premises – between a testing lab and the corridor, for example. Closed interior doors alleviate stack pressure, undesired inward airflow on the ground floor caused by rising warm air inside the building.

In addition to energy benefits, properly sealed doors help to maintain hygiene on the inside by blocking one potential route for germs to enter.



Code Handle

Simple, software-free PIN security for storerooms, and more

In any healthcare facility, it is imperative that access to various rooms be restricted. Unfettered entry to consultation rooms is unacceptable; physicians and patients demand and deserve a **sense of privacy**. With Code Handle®, this expectation is met.

Consider the **secure storage of controlled substances or hazardous waste**. By installing a Code Handle, you dispense with the cumbersome task of tracking physical keys or the inconvenience of changing locks. Treatment and examination rooms, often equipped with costly or potentially dangerous apparatus such as X-ray machines, dental tools, and specialized physiotherapy equipment, receive the security they warrant through Code Handle — all without the financial burden of complex access systems.

Code Handle is an effortlessly integrable, secure solution which **retrofits seamlessly over an existing locking cylinder**. The process is straightforward: replace the current door handle with the sleek, low-profile Code Handle and secure it with two screws to instantaneously introduce PIN security to any consultation room, medication storage area, or equipment cupboard.

This ingenious device requires **no wiring or access control** installation. Two standard CR2 batteries power the handle, typically sustaining up to 30,000 locking and unlocking cycles before replacement.

Each Code Handle includes a Master Code and supports up to nine distinct user PINs, **liberating staff from the hassle of managing mechanical keys**. PINs are easily configured and modified at the discretion of an office manager, eliminating the need for specialized external assistance.



Code Handle case study

Patient privacy and peace of mind dermatology clinic

**Dermatologie Nijlen
Belgium**

Challenge

When this Belgian medical clinic expanded, it sought modern, hassle-free door security to safeguard the practice and its team of five doctors and admin staff. Alongside security and convenience, Dermatologie Nijlen prioritized patient privacy. *“We frequently conduct full-body examinations, requiring patients to disrobe completely,”* explains Dr. Nele Cattaert, dermatologist and co-founder of Dermatologie Nijlen. *“Patients often glance anxiously at the door, wondering if someone might intrude.”*

Solution

ASSA ABLOY’s Code Handle door locks now secure practice rooms with straightforward, keyless locking, ensuring consultations remain confidential. This reassures patients and enhances

their peace of mind. Practice rooms are accessed via individual 4- to 6-digit PINs, entered on a PINpad integrated with the door handle. Administrative staff can issue up to nine different user PINs per lock, which can be cancelled or altered at any time. Code Handle simplifies the implementation of modern, digital security.

Feedback

“The main benefit to us was that the patient could feel at ease,” says Dr. Nele Cattaert. *“In addition, it is a beautiful handle. I did not know that a solution could be so small and compact. It doesn’t really stand out. Although patients frequently notice it, saying: Oh, it is a special lock, isn’t it, doctor?”*

Devices installed

- Code Handle Door locks



Master-key range

The ASSA ABLOY master-key range

In healthcare settings, our range of **mechanical master key systems** is an effective access solution which enhances security, operational efficiency, and compliance with regulatory standards.

Controlled Access to Sensitive Areas

Hospitals and clinics require restricted access to certain areas like pharmacies, medication rooms and laboratories. Our master key system enables precise control over who can enter these areas, minimizing the risk of unauthorized access and ensuring sensitive materials are protected.

Customizable Key Hierarchies

The system allows for different levels of access depending on roles. For instance, senior staff might have master keys granting them access to all areas, while individual department staff can be given sub-master keys that only open specific areas, such as operating rooms or administrative offices.

Emergency Access

In emergencies, designated personnel can use master keys to quickly access all critical areas, ensuring that time-sensitive interventions can be carried out without delays caused by locked doors.

Compliance with Health and Safety Regulations

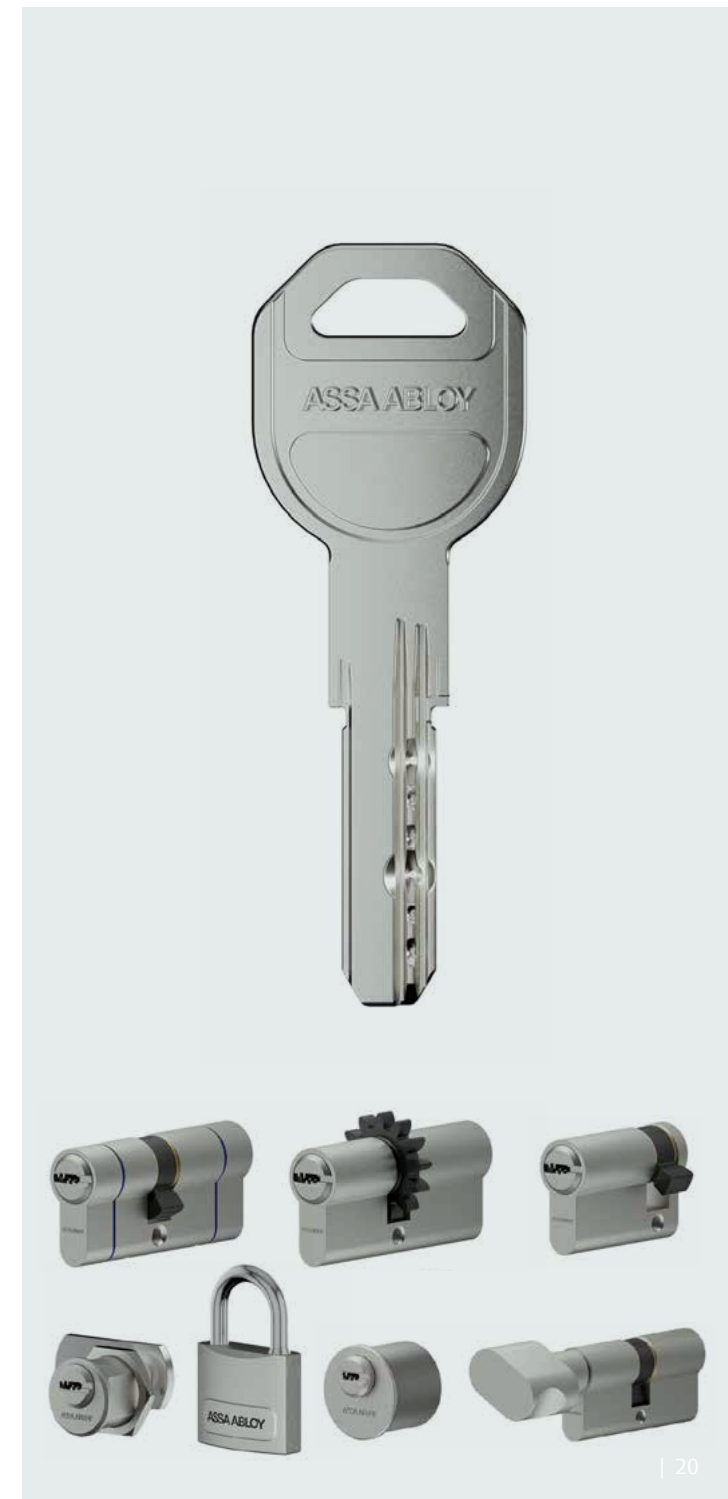
Healthcare facilities must comply with stringent security and privacy regulations, such as those related to patient data (GDPR in the EU). Our high-security master key systems help ensure that only authorized staff can access patient files, medication, or other regulated areas.

Integration with Electronic Systems

Our master key systems can be integrated with electronic access control solutions for a hybrid approach. For example, certain doors may be managed electronically, while others still use mechanical keys, providing flexibility and maintaining security even during power outages or system failures.

Durability and Hygiene

Healthcare environments are often subject to frequent cleaning and disinfecting. Our durable materials and designs are resistant to wear, ensuring long-lasting performance even in areas that are cleaned regularly to maintain hygiene standards.



Master-key range

Benefits for Healthcare Facilities



Improved Security

Control over who has access to sensitive areas, reducing the likelihood of breaches



Operational Efficiency

Fewer keys are required, simplifying access management and reducing the chance of lost or misplaced keys



Emergency Equipped

Swift access in critical situations where time is crucial, improving response times



Compliance

Helps facilities meet legal and regulatory requirements for security and patient privacy



Convenience

Single key access for multiple areas, simplifying staff operations and reducing the need to carry large sets of keys



Cost-Effectiveness

Reduces key management costs, enhancing operational efficiency and allowing better allocation of resources in healthcare facilities



Master-key range

Mechanical systems: flexible, affordable keys

Many leading mechanical locking manufacturers operate in-house laboratories with testing protocols. These are usually designed to push every device and component to discover its limit, long before it ever reaches the market. This process is critical to the development cycle of any security product.

In addition, stringent third-party testing of mechanical devices is important. A truly independent mark of quality and durability inspires consumer confidence in a solution they must trust to secure their workplace or home.

When specifying a new building or retrofitting an existing property to meet modern needs, compliance with security standards is a major component in local and regional building codes.

Regulatory approval will depend on installing locks which meet or exceed agreed industry standards.

Some certifications simply ensure that information is presented in a consistent, understandable way. Among these is DIN 18252: It defines terminology, dimensions, requirements, test methods and marking – all to ensure that Euro profile cylinders are standardized and so easily interchangeable and replaceable.

Other standards, however, tell consumers more about the qualities of mechanical devices they are considering. These may assess the performance and durability of the lock itself, including when placed under stress or deliberate attack.



Master-key range case study

Modern, flexible locking for a new flagship hospital

Tekirdağ City Hospital
Süleymanpaşa, Tekirdağ

Challenge

The new Tekirdağ City Hospital represents a landmark in medical care for north-west Türkiye. With almost 500 beds – more than 100 for intensive care – 124 clinics and 18 operating theatres, it is the Thrace region's most advanced health facility. It sought a modern access control solution suited to such a prestigious development: Security and user-friendliness were paramount.

Solution

ASSA ABLOY's CY110 mechanical locking system provides the hospital with affordable, modern security. The CY110 range has the flexibility to create a Master Key System for all types of locking points — not just doors — which suits

the hospital's needs and streamlines their workflows. To simplify day-to-day management, hospital administrators wanted a solution which could equip the whole site with one cylinder type. Another essential: A manufacturer and local partner who could be trusted to provide ongoing service.

Feedback

"Security and authorization to access points are very important in a big hospital," explains Emrah Babaoğlu, Senior Electrical Engineer at Tekirdağ City Hospital.

Devices installed

CY110 Master Key System with more than 3,050 Euro cylinders



Defending the premises: locking strength and resistance

Two critical European standards require an independent assessment of a lock or padlock's build quality and toughness. EN 1303:2015 is a wide-ranging standard for mechanical security which covers both cylinders and their keys. It assures performance on criteria including strength, security, durability and corrosion resistance.

EN 1303 uses an 8-digit coding which reports on performance tests. Each digit refers to a product feature measured against the standard's performance requirements. Among the most important for building specification are digits 2, 4, 6, 7 and 8 (see figure, below). Compliance with EN 1303 doesn't automatically indicate a high security standard: Precise gradings are decisive.









The highest grading a cylinder can achieve is 1-6-0-B-0-C-6-D and the lowest is 1-4-0-0-0-0-1-0.

Broadly similar, **EN 12320:2012** applies to padlocks, padlock fittings and their keys. It specifies performance requirements and describes test methods for strength, endurance, safety and general operation.

EN 12320 establishes six grades for security – from grade 1 (low security) to 6 (maximum, only for limited cases) – based on performance tests for corrosion resistance, durability, key-related security and resistance to various forms of attack. To achieve any grade, all its criteria must be met or exceeded.



Grading EN 1303

 Category of use	 Durability	 Door mass	 Fire resistance	 Safety	 Corrosion and temperature resistance	 Key-related security	 Attack resistance
<p>Grade 1: Keys shall resist a torque of 2.5 Nm and still be usable. This is for use by people with a high incentive to exercise care and with a small chance of misuse.</p>	<p>Grade 4: 25,000 test cycles</p> <p>Grade 5: 50,000 test cycles</p> <p>Grade 6: 100,000 test cycles</p>	<p>Grade 0: No requirement</p>	<p>Grade 0: Not approved for use on fire-resistant / smoke control door assemblies</p> <p>Grade A: Suitable for use on smoke control door assemblies</p> <p>Grade B: Suitable for use on fire-resistant and smoke control door assemblies</p>	<p>Grade 0: No requirement</p>	<p>Grade 0: No corrosion requirement, no temperature requirement</p> <p>Grade A: High corrosion resistance, no temperature requirement</p> <p>Grade B: No corrosion requirement, temperature requirement from -25°C to +65°C</p> <p>Grade C: High corrosion resistance, temperature requirement from -25°C to +65°C</p>	<p>Grade 1: Min. number of effective differs: 100 Min. number of movable detainers: 2 Torque resistance of plug/cylinder: 2.5 Nm</p> <p>Grade 2: Min. number of effective differs: 300 Min. number of movable detainers: 3 Torque resistance of plug/cylinder: 5 Nm</p> <p>Grade 3: Min. number of effective differs: 15,000 Min. number of movable detainers: 5 Torque resistance of plug/cylinder: 15 Nm</p> <p>Grade 4: Min. number of effective differs: 30,000 Min. number of movable detainers: 5 Torque resistance of plug/cylinder: 15 Nm</p> <p>Grade 5: Min. number of effective differs: 30,000 Min. number of movable detainers: 6 Torque resistance of plug/cylinder: 15 Nm</p> <p>Grade 6: Min. number of effective differs: 100,000 Min. number of movable detainers: 6 Torque resistance of plug/cylinder: 15 Nm</p>	<p>Grade 0: No resistance against drilling, no resistance against mechanical attack</p> <p>Grade A: 3/5 minute resistance against drilling Resistance against mechanical attack except plug/cylinder extraction</p> <p>Grade B: 5/10 minute resistance against drilling Resistance against mechanical attack except plug/cylinder extraction</p> <p>Grade C: 3/5 minute resistance against drilling Resistance against mechanical attack including 10 kN pulling resistance</p> <p>Grade D: 5/10 minute resistance against drilling Resistance against mechanical attack including 15 kN pulling resistance</p> <p><i>Mechanical attack includes chisel, twisting and plug/cylinder extraction.</i></p>

Grading EN 12320

Requirement	Grade	1	2	3	4	5	6	Unit
Minimum number of effective key differs		300	1,000	2,500	5,000	10,000	20,000	•
Non-interpassing of keys with just one interval differ		1	1	1.5	1.5	1.5	1.5	Nm
Resistance to force on cylinder plug or locking mechanism		•	•	4	5	10	15	kN
Resistance to torque on cylinder plug or locking mechanism		•	2.5	5	15	20	30	Nm
Resistance to pulling of shackle and staple		3	5	15	30	70	100	kN
Resistance to twisting of shackle and staple		40	100	200	450	1,200	2,500	Nm
Resistance to cutting of shackle and staple		6	15	25	35	70	100	kN
Resistance to impact on padlock body, shackle and staple at low temperature		•	•	-20 1,250 800	-20 3,050 1,000	-40 6,550 1,400	-40 7,150 1,500	°C g mm
Resistance to drilling of padlock body, shackle and staple		•	•	•	2	4	8	Min
Resistance to sawing of padlock body, shackle and staple		•	•	•	2	4	8	Min

Why patent protection matters in healthcare settings

Leading ASSA ABLOY mechanical locking solutions for healthcare applications (see opposite) offer certified mechanical security with active **patent protection stretching almost into the 2040s**. This long-term protection ensures that facilities of every type and size can rely on their locking system for many years.

Why is it more secure? Simply because **patented mechanical locking solutions make it harder for anyone to make unauthorized copies** of your keys.

Fewer copies

With patents in place, the likelihood of unauthorized key copies circulating is minimized, preventing unauthorized access to patient records, pharmacies and other restricted areas.

Harder to copy

If lock cylinder designs are generic or sold with expired patents, the risk of unauthorized access increases. Patents make it technically challenging to produce key blanks, ensuring only legitimate keys are in use, protecting staff and patients.

ASSA ABLOY master key systems for healthcare



CY110 dimple key system

Durable, high-performance locks and cylinders with 6-pin technology for complex or commercial buildings. **Robust, reversible keys save users time** and stress. A single key can unlock a variety of different locking points. Patent protected to 2036. Durable design with 96-hour corrosion resistance and tested for 500,000 lock/unlock cycles.



CYS10 sawn key system

Durable, high-performance locks and cylinders with 6-pin technology. The trusted sawn key design offers a **convenient user experience**. Double patent protection increases security. Patent protected to 2037. Durable design with 96-hour corrosion resistance and tested for 300,000 lock/unlock cycles.

Openings Studio

Mastering door solutions digitally with Openings Studio



Discover ASSA ABLOY's cutting-edge BIM software collaboration tool, Openings Studio™. Designed for seamless integration with platforms like Autodesk® Revit® and GRAPHISOFT® Archicad®, Openings Studio enables you to design, construct, and manage openings from a project's inception throughout the lifecycle of the building.

With Openings Studio, you can effortlessly craft parametric door families in real-time. View detailed 3D door models, complete with hardware, in an interactive building view or floor plan. As well as explore an extensive, non-proprietary product database with manufacturer list pricing to support budgeting and alternate comparisons.

In addition, you can easily access a wealth of product information, from PDF catalogs and technical sheets to sustainability details and wiring diagrams—all in one convenient platform.

Intelligent cloud-based software

Openings Studio's cloud-based platform ensures secure access to opening information from your phone, computer, or tablet, wherever you are. All openings information is stored in the cloud, simplifying sharing with all stakeholders throughout the process.

Openings Studio Mobile App

With the Openings Studio Mobile App, you can readily access and update your building projects from any smart device. The mobile app allows you to quickly document existing openings, update openings, and complete walkthroughs for new constructions. Throw away the pen and paper, use our app to efficiently perform compliance checks, including fire, egress, smoke, and storm shelter inspections.

With the mobile app:

- Create and affix unique smart tags to each opening
- Identify and flag issues on openings, door-by-door, floor-by-floor
- Take and upload photos, videos, and voice memos
- Access product catalogs, technical data sheets, wiring diagrams and templates
- All this and more...

All your information is synced to the Openings Studio cloud and accessible from your desktop computer.

Contact a BIM consultant | ASSA ABLOY

We put our team of experts at your disposal



We hope you have found this brochure useful. If you wish to receive more information, please contact us and one of our experts in your area will get in touch with you.

Our technical advisor will help you to:

- Improve the security of your business
- Reduce costs
- Find out about real examples of companies that are making use of all the advantages of our access control



Solutions for healthcare | ASSA ABLOY

The ASSA ABLOY Group is the global leader in access solutions. Every day, we help billions of people experience a more open world.

ASSA ABLOY Opening Solutions leads the development within door openings and products for access solutions in homes, businesses and institutions. Our offering includes doors, door and window hardware, locks, access control and service.

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