

The classic system with
robust technology:
mechanical locking systems



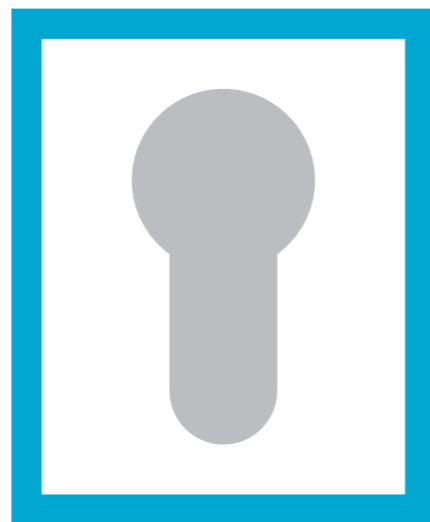
Future-proof solutions,
perfect in quality

IKON
ASSA ABLOY

IKON – The locking systems specialist since 1926

ASSA ABLOY, the global leader
in door opening solutions

Our invention and expertise –
 IKON is the original and has been shaping
 developments in lock and security
 technology for over 80 years.



Since inventing and patenting the profile cylinder over 80 years ago, IKON locking cylinders have been setting standards in many countries throughout the world. When the patent was granted, it gave rise to the age of what is known as the security cylinder. This is a legacy which we are committed to and which we are proud of.

The profile locking cylinder is almost always used wherever doors are locked and need to be secured against unauthorised entry. Today, this cylinder represents the key component in lock and door security systems. We are still supplying keys and lock cylinders today for locking systems which were installed as far back as eighty years ago.

Content

An IKON mechanical locking system: a worthwhile investment in your safety and security	4
An IKON-brand locking system is always tailor-made – designed by professionals and customised to your needs	5
The world of locking cylinders: systems, profiles, types	6
For every kind of use: IKON-brand locking cylinders are always the right choice	8
Little engineering marvels: IKON mechanical locking cylinder systems	12
System SK6 Vector Profile Security Class 1 and 2	13
System SK6 Multi-Profile plus	14
System SK6 Blocking wave undercut with extra code level	15
The intelligent solution for all TK and SK locking systems: mechanical key with and without transponder function	16
An aid to better understanding: our brief glossary on locking cylinders	17
Comprehensive key security thanks to professional management – the useful functions in SAM make key management easier	20
Much more than a locking system: integrated security technology for the whole building	22

An IKON mechanical locking system: a worthwhile investment in your safety and security

IKON mechanical locking systems have been proving their worth for decades in countless buildings - on company premises, in institutions or in residential buildings. Almost no other manufacturer in Germany has more locking systems on the market or is able to install larger and more complex systems than IKON. IKON mechanical locking systems impress due to their reliable technology, perfect precision, optimum quality and proven long life cycle. No specific expertise is required to manage a mechanical locking system, so building operators can do it themselves or ask an IKON specialist dealer to do it on their behalf. Each IKON locking system

is supplied with a locking plan, security card and its own security number. Replacement keys and new locking cylinders can only be ordered from the factory through an IKON specialist dealer and if a security card is shown. IKON locking cylinders offer optimum protection against common break-in techniques. They meet the requirements of various DIN classes and are optionally supplied with VdS certification. No matter how large or complex your locking system becomes, our service is there to assist you for a lifetime. IKON mechanical locking systems are thus future-proof solutions and undeniably a worthwhile investment.

An option for a later stage: an upgrade to +CLIQ will meet increases in requirements

Situations may arise where your mechanical locking system requires reinforcement from mechatronic components. Such situations could include a higher security level being required for sensitive areas in your building or the need for greater flexibility for access authorisations. The solution lies in IKON +CLIQ technology. This system integrates chip technology into mechanical locking cylinders and their corresponding keys. As a result, access or locking is controlled on two levels: by mechanical locking and through electronic identity.

+CLIQ is a mechatronic locking system for upgrading existing IKON mechanical locking systems.

An IKON-brand locking system is always tailor-made – designed by professionals and customised to your needs

A locking system is always a unique affair. No locking system is ever the same as any other. A multitude of different factors play a role even at the needs analysis and planning stage. Such factors include precise requirements and size and the structure and use of the building or system in question. For example, what is known as a central locking system is preferable in a residential complex while a hierarchical locking

system is more suitable for industrial premises or an administration building. Cost issues also play a decisive role. Last but not least, the locking system must be open and flexible with regard to accommodating any future requirements. Regardless of individual requirement profiles, one thing is certain: you will always make the right choice with an IKON locking system.

A locking system's structure exclusively depends on individual requirements.

Questions you need to answer before the planning stage:

- How is your building used?
- What is your organisational structure like?
- How strict are your security requirements?
- What other requirements need to be satisfied? - for instance, with regards to insurance.

Locking system planning step by step:

- Individual needs analysis
- Design of macrostructure
- Drafting of an organisational chart
- System checked and accepted by users, client, architects and planners
- Decision on installation type, system and profile
- Design of locking plan
- Locking plan checked and accepted by users, client, architects and planners

The world of locking cylinders: systems, profiles, types

If you talk about systems in a locking cylinder, you are first referring to the number of pin tumblers and other security encodings. A system's profile is featured on the key's long side and runs parallel to the key's spine. It varies according to its security category and

whether it is a Vector Profile, Multi-Profile or Locking Wave Profile. A cylinder type refers to its exterior structural shape. It is selected according to type of use and can accommodate different systems and their respective profiles.

Locking system organisational structures: hierarchic or central

Different access rules apply in companies and administration buildings to those in residential buildings. This is why we make a distinction between hierarchic systems and central locking systems. In hierarchic locking systems (GM,M), access authorisations are regulated in accordance with clear structures. This enables each employee to have a key to their office while managers have keys to their departments and executive managers hold the general master

key for all doors. In the case of central locking systems (C,CM) in residential buildings, the key opens one of the smallest units - for instance, an apartment - as well as access to the apartment, associated units, such as mail boxes and basements, and higher level doors such as the main entrance. There is no access to other units, such as other apartments or mail boxes. In order to satisfy all conceivable requirements, different hierarchical system and central locking system functions can also be combined in a single system (ComMC).

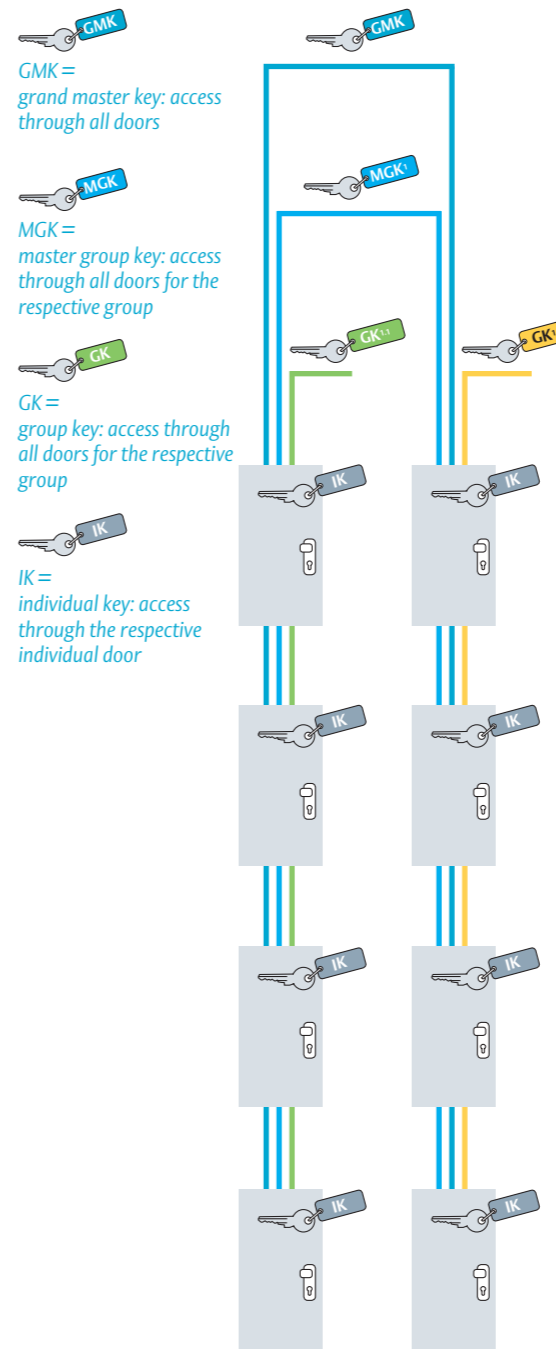
The security card

A security identity card is supplied with every IKON locking system. This security identity card is used for verification purposes when re-ordering keys and locking cylinders from the manufacturer or requesting locking system data and locking plans. It must be shown to the specialist dealer when re-ordering components from the factory.

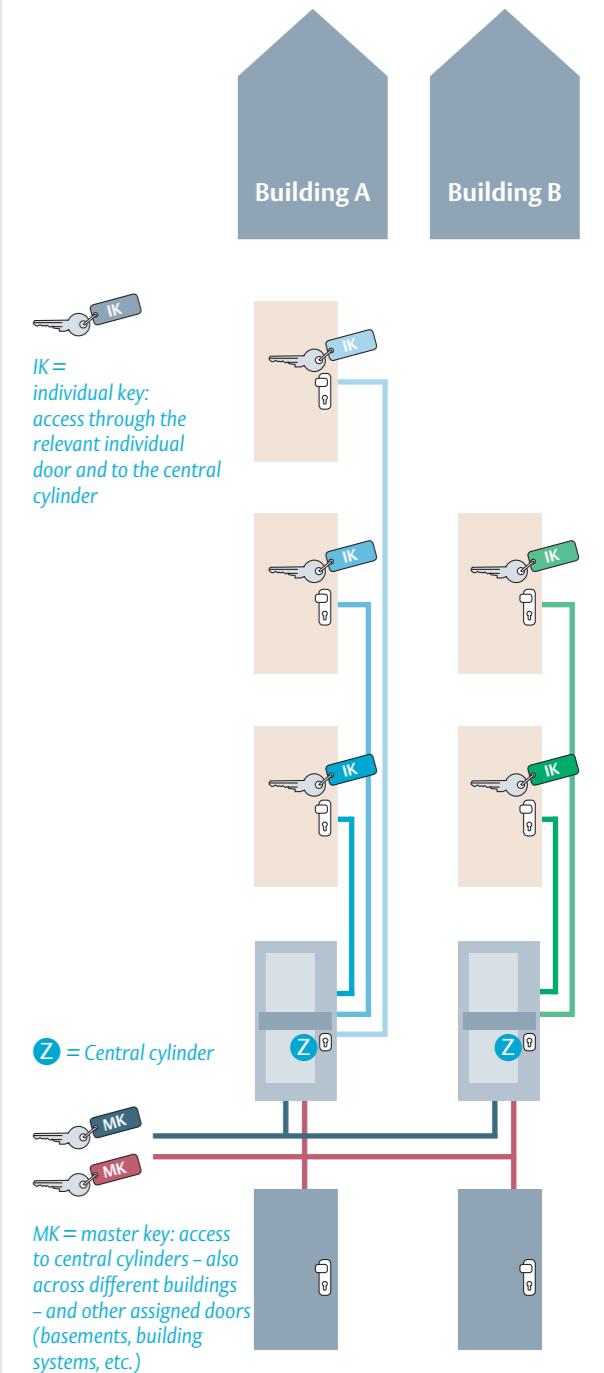


IKON locking systems are sophisticated systems down to the smallest detail.

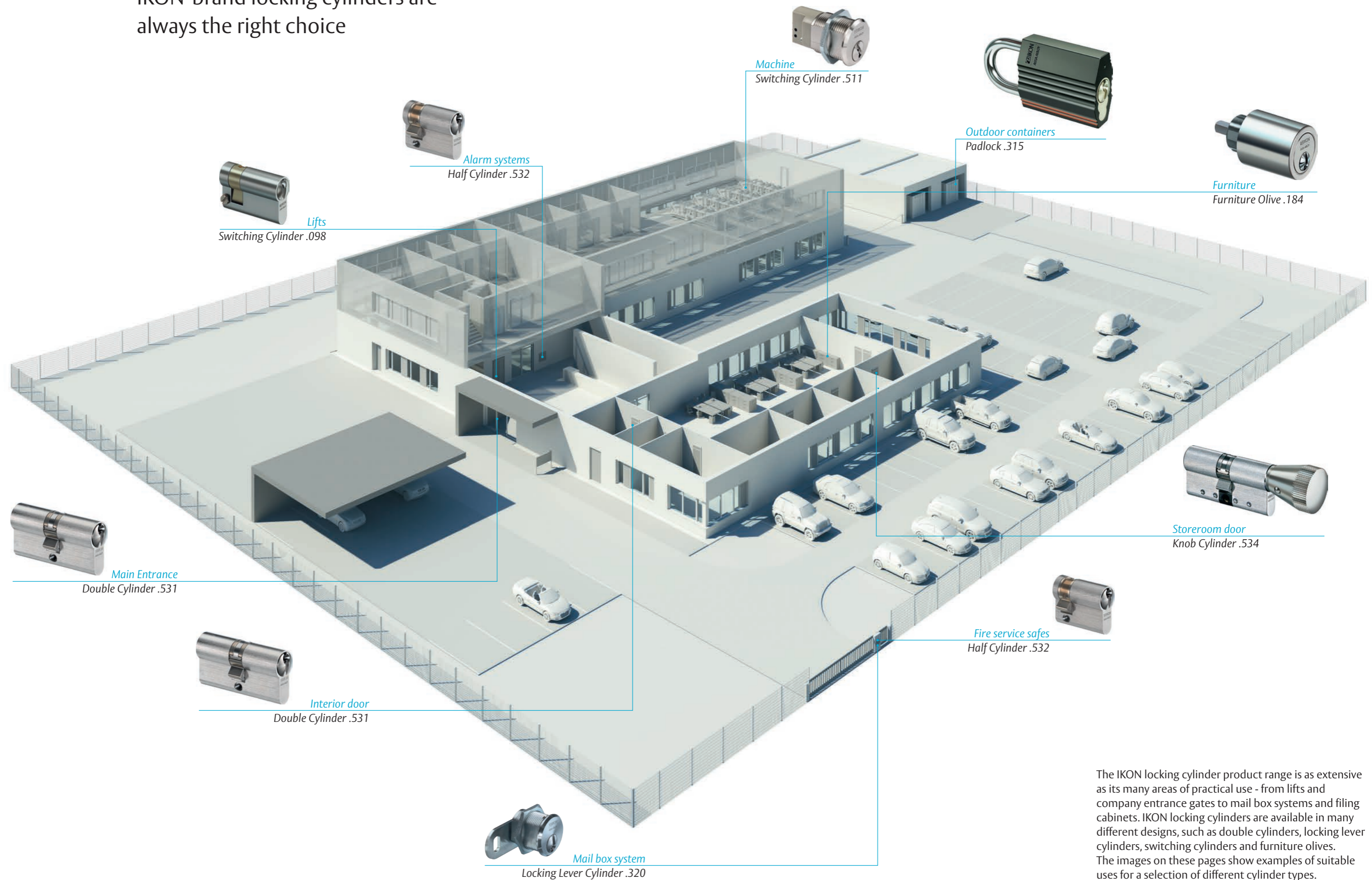
Lock plan for a general master key system (GM)



Lock plan for a central locking system with master key (CM)



For every kind of use:
IKON-brand locking cylinders are
always the right choice



The IKON locking cylinder product range is as extensive as its many areas of practical use - from lifts and company entrance gates to mail box systems and filing cabinets. IKON locking cylinders are available in many different designs, such as double cylinders, locking lever cylinders, switching cylinders and furniture olives. The images on these pages show examples of suitable uses for a selection of different cylinder types.



*Your new locking system
is in the best hands from
start to finish with your local
specialist dealer*

Little engineering marvels: IKON mechanical locking cylinder systems

No matter how many mechanical locking cylinders and how many mechatronic ones are finally included in the plan for your new locking system, mechanical locking cylinder systems will always form a secure basis for your system. If their technical precision and quality are combined with high-capacity electronics, the result is a flexible mechatronic locking system.

IKON brand mechanical locking cylinder systems are divided into four different types and security levels: System SK6 with Vector Profile for Security Class 1 and 2, with a Multi-Profile and a Locking Wave Profile, which also features an undercut. These locking cylinder systems are described on this page and the following two pages.

The common characteristic of all IKON brand mechanical locking cylinder systems: certified quality



	Classifications
DIN 18252/2006	Class 80, 82; Class 82 tested with certification, with drilling protection and optional extra locking cylinder pulling protection
DIN EN 1303:2005	<ul style="list-style-type: none"> • Lock Security Class 6 • Attack Resistance Class 0 • (optional drilling and extraction protection, class 2) • Fire Resistance Class 1
DIN 18252/1999	Class P3, tested with certification
Optional	<ul style="list-style-type: none"> • VdS Approval Class B; with drilling protection, optional extra locking cylinder pulling protection • Enhanced drilling protection • Emergency mechanism • Core extraction protection and locking cylinder extraction protection

The most complex IKON locking system features 25,000 different locking configurations while the largest locking system consists of about 500,000 locking cylinders.

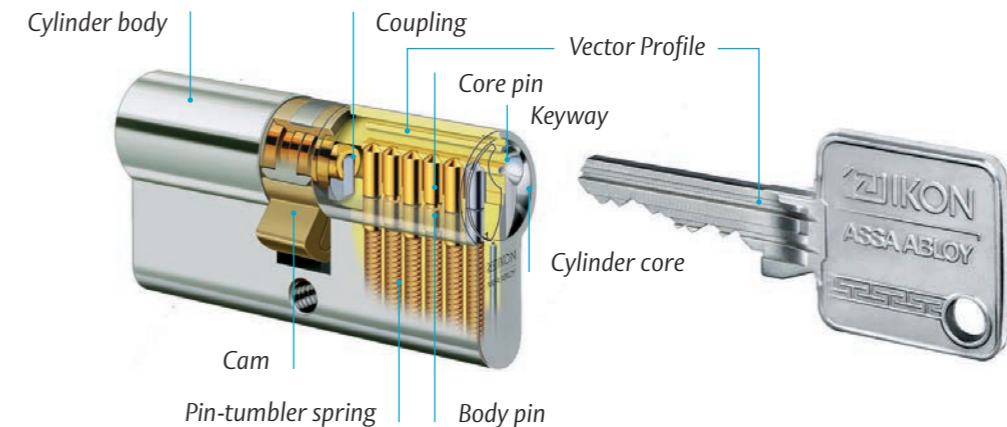
System SK6 Vector Profile Security Class 1 and 2

Paracentric key profile, Security Class 2: side drill holes, controlled by three springless blocking elements with blocking bars.

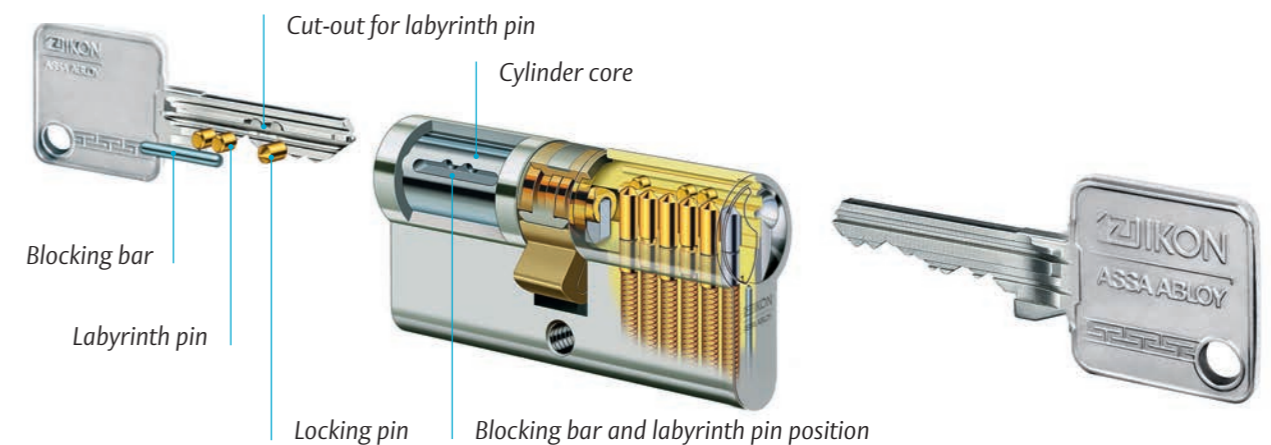
The key profile in Security Class 1 features a very special layout which impedes manual unauthorised entry techniques significantly. Compared with standard key profiles, the Vector Profile in Security Class 1 also stands out due to its optimum protection against lock picking, decoding and copying. The Vector Profile in Security Class 2 features an additional coding on

the key, which is read by extra blocking elements in the locking cylinder. This type of control on the side of the key profile ensures there are more options for combining and organising systems and also provides even greater protection against lock picking and key copying. If a key with missing or incorrect coding is used, the locking action will be blocked.

Security Class 1: 6 tumblers: suitable for system types C, CM, ComMC, M, GM



Security Class 2: 9 (6+3) tumblers: suitable for system types C, CM, ComMC, M, GM



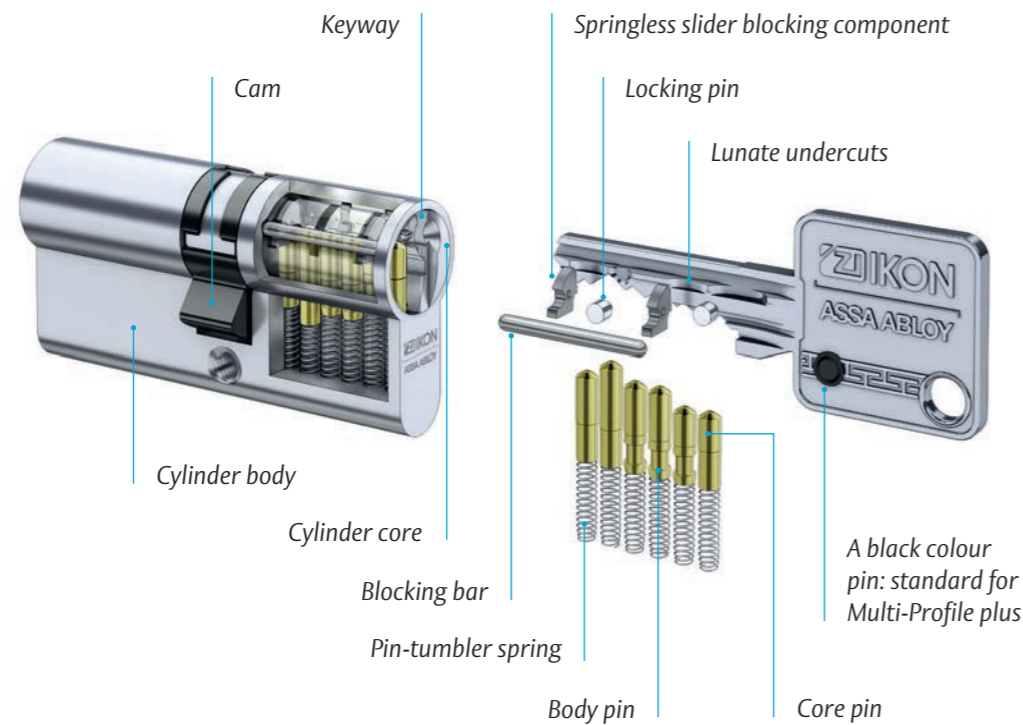
System SK6 Multi-Profile plus



Multi-Profile plus ensures even greater protection than the Vector profile. This high-quality IKON brand profile in the SK6 Special Class contains six active, spring-borne pin tumblers. A total of three different coding types are also positioned on one or both long sides of the key. These codings are read by special springless blocking elements in the locking

cylinder. If a key with missing codings is used, the locking action will be blocked. The special layout and shape of the codings on the key provide increased protection against key copying. Compared to conventional key profiles, the type of control in the key profile side provides significantly greater protection against lock picking and key copying.

System SK6 – Multi-Profile plus: suitable for system types GM, M, ComMC, C, CM



A black colour pin is standard in Multi-Profile plus.



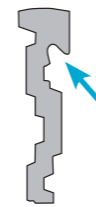
Pins are, of course, available in many other colours – also as an option for all SK6 systems. (see colour overview on next page)

System SK6 Blocking wave undercut with extra code level



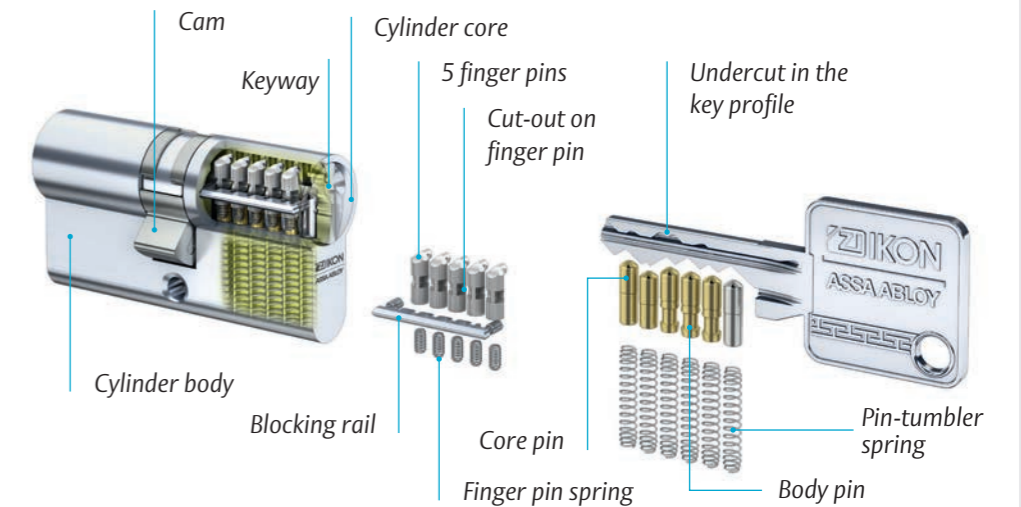
System SK6 with its locking wave profile undercut with an extra code level boasts one of the highest security classes of IKON mechanical locking cylinders. Acting as an extra coding feature, what is known as a locking wave is cut into the sides of the key length and is read by special spring-mounted tumblers in the locking cylinder. The IKON profile with extra code

level features eleven instead of the usual ten actively operating, spring-borne pin tumblers. This additional code level makes unlawful key copying difficult and increases protection against break-in and key bumping techniques. The undercut in the key profile also gives the key a complex shape. This increases protection against lock picking, break-ins and copying.



The additional undercut in the key profile makes the key more complex and consequently increases copying protection.

SK6 – blocking wave undercut extra code level: 11 (6+5) tumblers, suitable for GM and M type systems



A wide range of colour pins

RAL colours for colour clips

RAL 9004 Signal black	RAL 7047 Telegrey 4	RAL 6026 Opal green
RAL 1036 Bronze	RAL 3020 Orient red	RAL 8017 Chocolate brown
RAL 6032 Signal green	RAL 5017 Traffic blue	RAL 3015 Light pink
RAL 9010 Pure white	RAL 1018 Zinc yellow	RAL 5012 Light blue
RAL 4003 Heather violet	RAL 2004 Signal orange	RAL 4005 Blue lilac

Optional for all SK6 systems.

These colour pins will enable you to colour-code keys – to indicate locking authorisations, for example. That makes it much easier to manage keys.

The intelligent solution for all TK and SK locking systems: mechanical key with and without transponder function

A practical, flexible and economical solution. We offer keys with new plastic heads with or without a transponder function for all IKON brand TK and SK locking systems. With the integrated transponder, systems can be controlled for time recording, park management, identification or cashless payment. The mechanical key thereby becomes an electronic identification medium and replaces additional identification media,

such as cards. This combination is available for new systems and for retrofitting to existing TK and SK mechanical locking systems. The new key with transponder function combines mechanical locking properties with an electronic component integrated as a transponder in the key bow. The key thus enables identification at the access control while still retaining conventional locking authorisations.



The front with distinctive IKON brand curved strip

- Beautifully shaped plastic head for IKON brand mechanical locks
- Increased locking convenience thanks to enlarged, non-slip head
- Compatible with new and existing IKON brand mechanical locking systems TK5, SK5, TK6, SK6, SK7 and individually keyed locks in SK6
- Integration of a transponder for various electronic functions, such as access control, time recording or cashless payment
- Available for the following chip technologies: Legic® prime, Legic® advant, MIFARE™ Classic/Plus, MIFARE™ DESFire
- Flexible and extensible as required
- Simple management and user-friendliness, because only one identification medium is used
- The transponder is protected from mechanical stress and moisture



Key without transponder function



Key with transponder function

An aid to better understanding: our brief glossary on locking cylinders

• Decoding protection

Decoding protection refers to the degree of difficulty in determining tumbler locking codes in a locking cylinder surreptitiously, using suitable tools but without using undue force, in order to cut a duplicate key using the dimensions which have been identified.

• Drilling protection

IKON profile cylinders are fitted with drilling protection as standard. The hard metal pins used in the cylinder core and housing, for instance, prevent the locking cylinder from being drilled open. In order to meet specific security requirements for locking systems, mechanical cylinders are available with enhanced anti-drilling protection in security levels 1, 2 or 3 (3 not available with SK6 Extra Code blocking wave).

• Lock picking protection

Lock picking protection refers to the degree of difficulty in unlocking the locking components in a locking cylinder with suitable tools without using the original key and without using undue force. IKON locking cylinders feature a whole range of precautionary measures to prevent attempted break-ins with picking tools: paracentric key profiles, blocking rails, blocking pins, finger pins and blocking wave mechanisms. IKON locking cylinders offer optimum protection against lock picking.

• Installation lengths

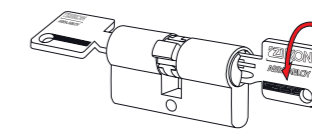
The basic length of a double profile cylinder is generally 61 mm (L = 30/30). Besides standard lengths which can be extended in 5 mm increments up to a total length of 140 mm, special lengths are also available in 10 mm increments up to a total length of 240 mm.

• DIN class



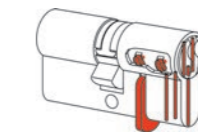
German Institute for Standardization (DIN) security classification. All the locking cylinders in this brochure comply with DIN EN 1303/DIN 18252 requirements. These standards, which define the requirements for high-grade locking cylinders, include measures such as key control as well as protection against lock picking, bumping, drilling and core extraction.

• Emergency mechanism



Each authorised emergency key within an IKON locking system can open or lock double profile cylinders fitted with an emergency mechanism, even when there is another key inserted in a lock position on the other side.

• Core extraction protection and locking cylinder extraction protection*



*For mechanical cylinders only

Core extraction protection and locking cylinder extraction protection with integrated drilling protection (VdS approved) are available for IKON mechanical profile cylinders to prevent the core or locking cylinder from being pulled out of the lock.

• Key copying protection

The large number of possible locking configurations and low manufacturing tolerances ensure the risk of an IKON locking cylinder being unlocked with a different key is kept to an absolute minimum.

• Security card



A security identity card is supplied with every +CLIQ locking system. This security identity card is used for verification purposes when re-ordering keys and locking cylinders from the manufacturer. It must be shown to the specialist dealer when re-ordering components from the factory.

• VdS class



Certification mark issued by VdS-Schadenverhütung, the German insurance industry's certification centre. All IKON mechanical locking cylinders described here can be optionally supplied with VdS certification.



*Secure and convenient:
central locking systems in
residential buildings*

Comprehensive key security thanks to professional management – the useful functions in SAM make key management easier

How can we keep an overview of the locking system and related building access at all times?

- Which rooms does a particular person have access to?
- Which user has authorisation to the manager's door?
- Which user still hasn't returned their key?



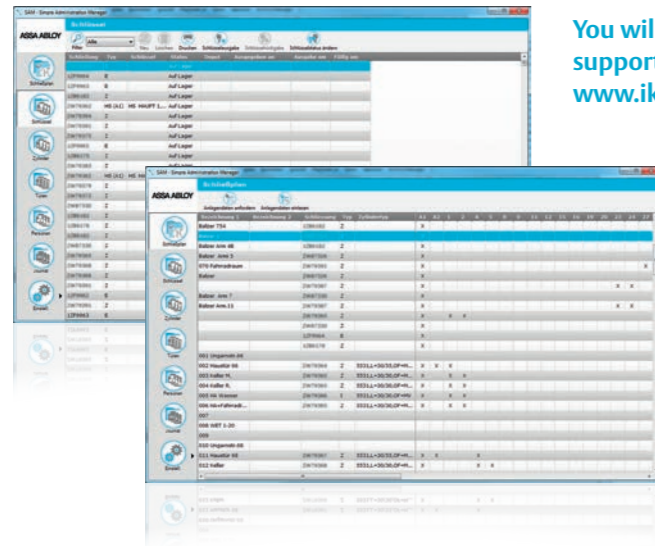
Different user groups do not represent a problem for effective locking system management.

Locking system management often entails a great deal of work. Individual, time-limited access authorisations must be entered into a database, doors must be monitored and key issuing must be coordinated.

The Simple Administration Manager software – SAM for short – now makes everything much easier. In addition to standard applications, the new IKON brand management program offers

convenient additional functions to search through, sort and filter data. SAM impresses thanks to its easy, intuitive operation. For example, existing person lists in CSV format can be easily imported, meaning there is no need to enter data manually. The program is suitable for different system sizes and all IKON mechanical locking systems.

You will find more information, downloads, support options and much more at www.ikon.de/sam.



Additional functions such as search, sorting and filter options help to provide an overview of all cylinders and keys, thus simplifying their management significantly.

SAM is easy to use and free of charge and thus suitable for everyone. You also receive system data free of charge for new systems.

Advantages at a glance:



• **Easy and unlimited:**
SAM is a locking systems management program which impresses thanks to its easy operation and allows use of an unlimited number of locking devices.



• **Free download**
Just download SAM and try it out – it is completely free! You will find the program at www.ikon.de/sam along with a sample system to test.



• **Free new system data**
You will receive data for SAM free of charge for each new system ordered. Just order your SAM system data at the same time.



• **Simple price model**
Keep data up to date at all times. We can provide data at affordable prices – on an individual basis or as yearly subscription.



• **Uncomplicated data import:**
Import IKON system data and SAM will generate a list of doors automatically from the locking plan. You can also use a CSV file to import people and door lists.



• **Combine, manage and log quickly:**
Combine doors and cylinders, manage key issuing and return, or log lost keys. Your actions are automatically recorded in the log. This ensures that your system status is traceable at all times.



• **Providing an overview:**
The search and filter options provide you with an overview, allowing you to identify overdue keys quickly, for example



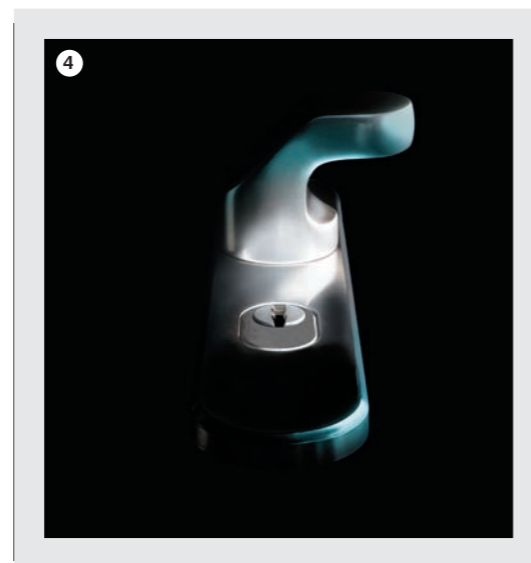
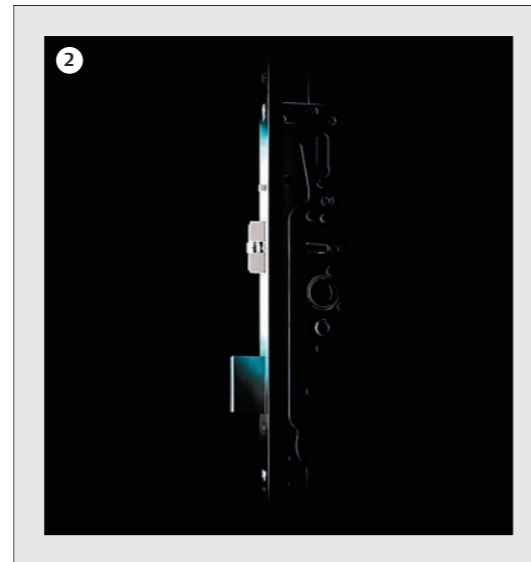
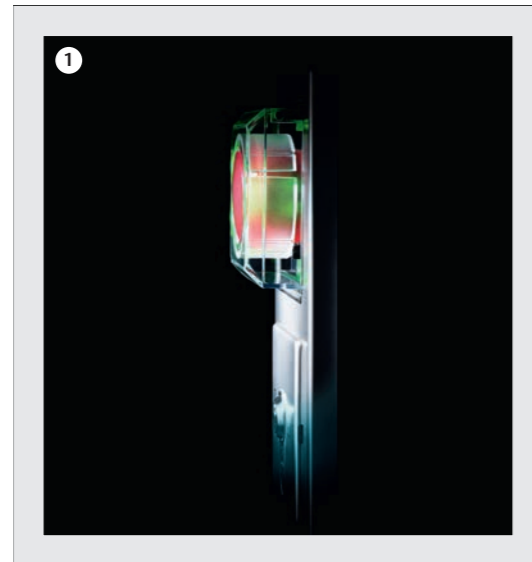
• **Platform-independent:**
As a general rule, the new database model will run safely and reliably on any PC using a Windows Vista operating systems or higher.

Much more than a locking system: integrated security technology for the whole building

Whether for companies, institutions, government agencies, industrial premises or administration buildings, you can always completely rely on IKON security technology. When installing a new locking system, it's exactly the right moment to consider security equipment which offers more than just access control. IKON door fittings protect against attacks on locking cylinders and mortise locks and fit securely into the leaf of your door. ASSA ABLOY also has a highly effective system solution for automatic door closing in its product range. The modular system structure enables a wide variety of model variations in

identical housing and thus uniform design. ASSA ABLOY door closers offer easy access through perfectly regulated closing and opening forces. With their anti-panic function and self-locking system, effeff security locks also guarantee maximum mechanical security combined with maximum convenience for users. If you also wish to provide for emergency situations, effeff brand escape route technology offers an ideal solution. Your new locking system is thus given a few extra dimensions and will bring comprehensive added benefits, which will prove to be a worthwhile investment, not only in the event of a burglary.

- 1 Escape route technology for emergencies: the effeff Escape Door Terminal 1385 can be seamlessly integrated into switch ranges by well-known manufacturers of electrical installation and intelligent building control systems.
- 2 Security locks
- 3 Door closers
- 4 Protection fittings



ASSA ABLOY, the global leader
in door opening solutions,
dedicated to satisfying
end-user needs for security,
safety and convenience



©ASSA ABLOY
This document supersedes previous documents.
Subject to technical changes. WS8228_b_GB 03.17

ASSA ABLOY
Sicherheitstechnik GmbH

Attilastrasse 61 – 67
12105 Berlin
GERMANY
Tel. +49 30 810 60
berlin@assaabloy.com

www.assaabloy.de