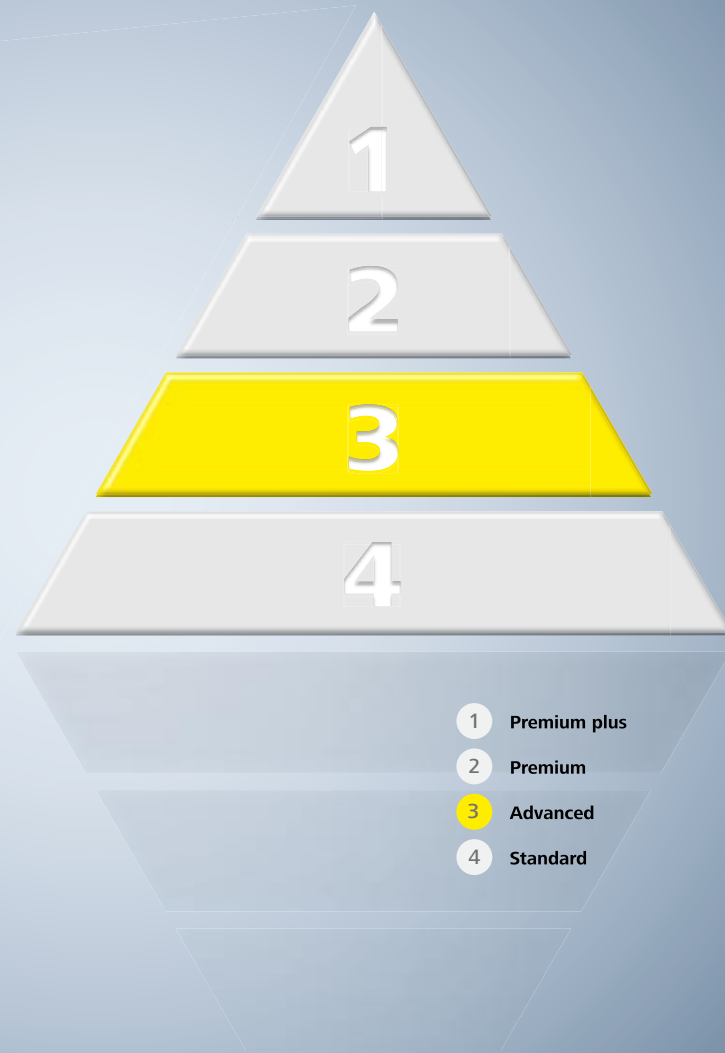


▶▶▶ Locking System | ICS Inner Code System





EVVA recommends ICS for complex, company-oriented lock systems. It exhibits a high level of key copying protection.

## The EVVA Trinity Principle

The EVVA consulting concept is based upon the EVVA trinity principle, which takes into account aspects of organisation, convenience and security within a property. Only by incorporating these three aspects at the outset of the planning phase can the most appropriate and cost-effective security solution be realised for the respective building, user and administrative structure.

## EVVA's innovative strength

Today EVVA has a multitude of patented key systems at its disposal. EVVA's extensive research program makes it possible to continuously develop new key technologies that differ from the market's known operating principles. This is the only way to keep pace with ever-increasing security and organisational requirements.

## ICS – Technology and aesthetics united

The unique ICS technology not only fulfils the highest demands for convenience and design but its security technology also ranks prominently within the EVVA security pyramid. This means that complex organisational key systems can be realised with reversible keys which provide a high level of key copying protection. The ICS key has a slim, elegant design that is captivating. The key's tip is beautifully rounded. A combination of three different blocking technologies ensure a high level of lock cylinder security.

All good things are threefold.

## ICS technology – security in consummate form

### Key security

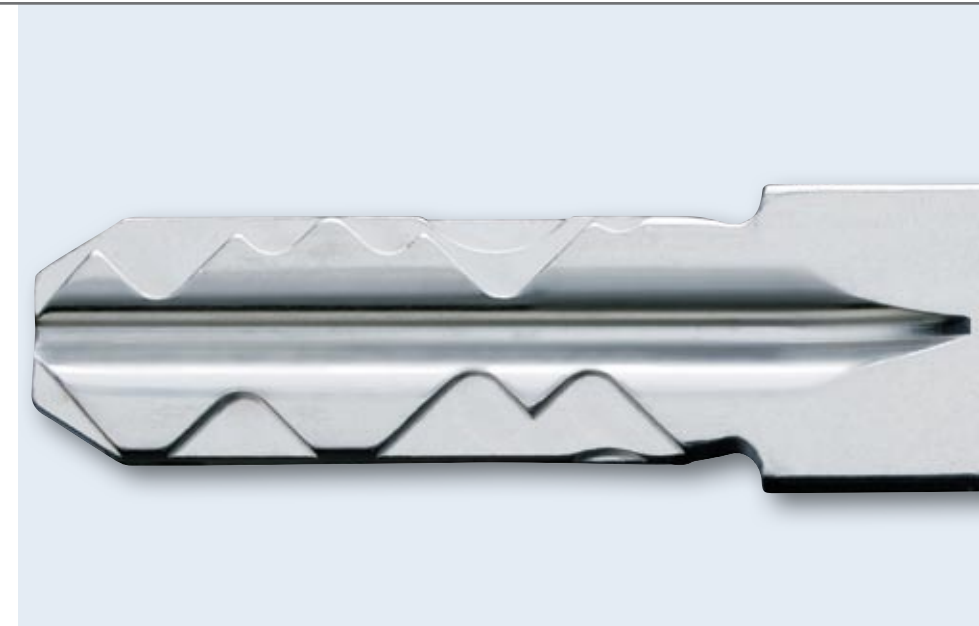
The ICS key body features concealed, inner recesses which make unauthorised fabrication of duplicate keys virtually impossible. The key's bevelled tip, a proprietary development, makes insertion into the cylinder particularly easy.

### Functional security

The reversible key system offers great security by virtue of three blocking technologies: the proven curve system, a robust lengthwise profile and a pin system improved with inner recesses. Lock authorisation requests are performed in three rows through a total of 13 spring-loaded blocking pins and additionally via the specially formed lengthwise profile. -2 rows of pins on the side with 10 non-split blocking pins sense the curves on the key's sides. -1 centred row of pins with 3 tracking pins test the concealed, inner recesses on the key's narrow sides.

### Wear resistance

A special nickel-silver alloy makes the key and the lock cylinder very durable and wear resistant. With the additional surface finish of the locking elements, the highest degree of wear resistance is guaranteed in daily use.



### Combinations

The 10 blocking pin positions (5 pins per side) make a myriad of different locking elements available. The concealed recesses on the key's back are sensed by 3 split tracking pins. This permits complex organisational locking systems with overlapping hierarchies to be implemented. The concealed, inner recesses and independent key curves are simultaneously scanned by 13 spring-loaded locking elements.



EVVA's mechanical systems, from left to right: EPS, ICS, 3Ksplus and MCS



I just cannot be copied!

Innovative technology – down to the finest detail



High technology key copying protection  
with ICS

### Key copying protection

For protection against key duplication, illegal copies and key manipulation, ICS has three different protection mechanisms that always complement each other in their effectiveness.

#### Organisational protection

Keys are fabricated by EVVA or EVVA dealers only for authorised persons having appropriate proof of legitimacy (e.g. security card).

#### Legal protection

The commercial fabrication of keys is done exclusively by EVVA and in EVVA-authorised specialist companies. Furthermore, EVVA protects against the unauthorised manufacture of ICS keys by means of patented features on the key. This enables EVVA to take legal action against unauthorised commercial fabrication of a duplicate key.

#### Optimal technical protection

ICS keys include technical features which require special machines and a high level of expertise for their manufacture. Illegal fabrication is only possible with extensive overhead and is therefore not economically viable.

### Lock cylinder security

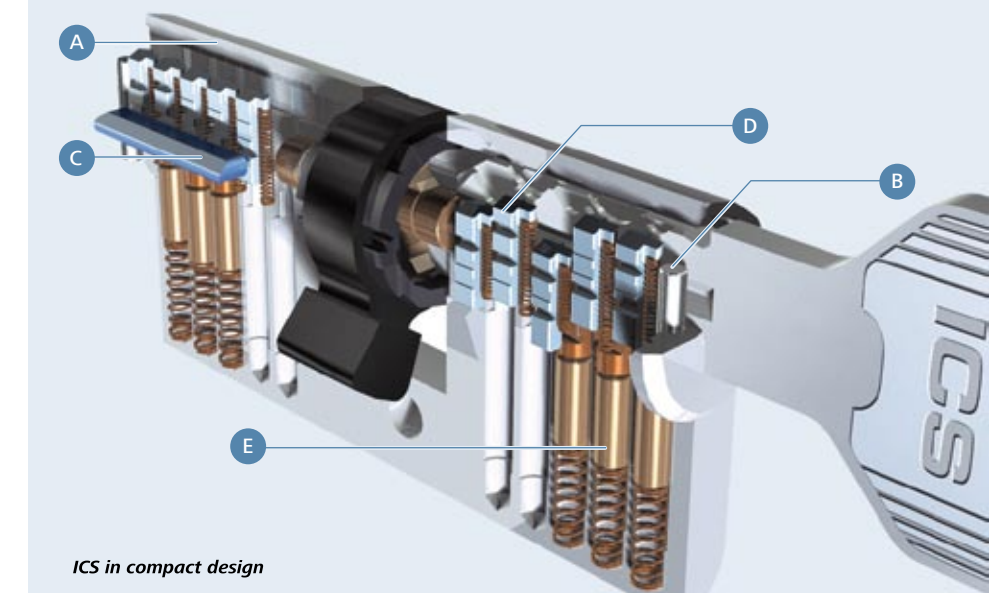
Staying ahead of illegal opening methods with new functional principles is a continuous race against time. Only truly innovative technology is able to provide sustained protection against known and future lock-cracking methods. All of the technical measures employed have one goal, to make lock-cracking difficult.

This is why we counteract the following opening methods:

- ▶ Destructive opening techniques: the lock cylinder is destroyed
- ▶ Detectable opening techniques: the lock cylinder remains functional, traces are visible
- ▶ Undetectable opening techniques: opening with locksmith tools

#### Picking and scanning protection

The use of split and non-split locking elements prevents the scanning positions from being recognized. This prevents the lock cylinder from being opened with locksmith tools. The pin rows on the side have fictitious opening positions which make a scan of the lock cylinder virtually impossible. The pin rows on the side are arranged at differing levels with respect to the tracking pins and this further increases scanning protection.



#### Drilling protection

Hard metal elements in the lock cylinder protect it against destructive opening techniques. A special alloyed silver steel pin in the lock cylinder housing offers optimal protection against drilling.

#### Plug-pulling protection

Hard metal elements protect against drilling out or into the cylinder plug. This also keeps plug extracting tools from being attached. Thus the plug cannot be pulled out of its cylinder housing.

### Conformity to standards

ICS lock cylinders conform to EN1303:2008, lock security class 6 and break-in resistance class 2. They are suitable as standard fittings for fire and smoke doors EI 90 and E 90.

- A Housing
- B Drilling protection
- C Control bar
- D Side locking elements
- E Tumblers







Combo key: The advantages of mechanics and electronics combined in one medium

## ICS integration capability

Mechanical locking systems are the foundation of organisational building security. In combination with electronically controlled security technology, all-encompassing security solutions are created.

### Integration of electronic identification technologies

Mechanical keys can be designed as Combi-Keys. These can be used as a carrier for non-touch (e.g. MIFARE, LEGIC) or touch-sensitive (iButton) identification technologies. The mechanical key is thereby transformed into an electronic identification medium to replace additional identification media, such as cards. Not only is the administration of identification media and keys much simpler and more secure – it is also a great deal more convenient for the user to handle just one medium. The mechanical key can only be destructively separated from the electronic ID. (Fig. A)

### ICS integration with motorised cylinder

Without modification to the fittings, fully integrated into the lock system, the cylinder lock can be bolted and unbolted with an electrically driven motor knob. In emergencies, the lock cylinders of outer area doors can be operated mechanically. (Fig. B)



We are matched to one another.

### Combination of mechanical and electronic locking systems

In practice, mechanical lock systems are often employed in combination with electronic lock systems for reasons of economics and security. For example, this enables property access to be kept under electronic surveillance whilst the doors in the inner area are organised and secured with a mechanical locking system.

### Mechanical emergency lock for electronic locking systems and access control systems

The robustness and stability of mechanical lock systems are irreplaceable. This is why mechanical cylinder locks are favoured for emergencies in electronic systems (e.g. mains power or battery failure). This is fundamentally recommended and often demanded for the particular property by emergency services e.g. fire brigade. (Fig. C)



## Lock cylinder special functions

Different special functions are necessary within a lock system, e.g. property access doors, escape doors and emergency exits, office and interior doors, cellar doors, garage doors, lift barriers, window handles, internal mailbox systems, balcony doors, safety deposit boxes or furniture locks. International certification makes it possible to use these lock cylinders throughout Europe.

**BSZ special function:**  
Even when a key is inserted on the opposite side, the cylinder can still be operated

ICS special functions	
Both-sides lockable cylinder function (BSZ)	•
Knob and anti-blocking function (SOSE)	•
Vario function AB	•
Dust cover (SSW)	•
Seawater protection (SEW)	•
Free-wheel function (FREI) FL1 and FL2	•
Cog wheel cam (ZR)	•
VdS BZ +	•*

\* in preparation





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