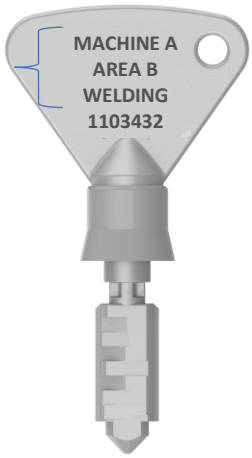
Key Information When Designing Trapped Key

Our locks have over 200,000 different lock combinations. Each different key combination is allocated with an engraving (code) onto the lock and the key. The engraving can be up to a maximum of 30 characters (3 lines of 10 characters).

What to consider when Ordering Trapped Key Products?

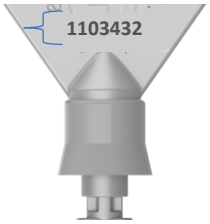


All Keys must have an engraving for identification. The **Engraving (code)** features on the front of locks and keys and **must be supplied by the customer**. All codes are engraved in capitals only. When supplying the engraving a backslash (/) indicates that the following details are to be carried over to the next line*.

i.e. **MACHINE A/AREA B/WELDING** would be engraved as:
1st line: **MACHINE A**
2nd line: **AREA B**
3rd line: **WELDING**

(*Unless requested otherwise, i.e. “E/SW” to be engraved on one line only.)

The images below show how engravings will be laid out on the front of locks. Where a dustcover is present (standard or padlock-able), engravings will be displayed on the front surface.



Key Numbers *(differ)* consist of 7 numbers and are generated and recorded by Fortress. Key numbers are allocated to the engraving supplied once orders are placed. Master and Sub Master series consists of 7 letters in length and are also generated and recorded by Fortress.

Use of the term ‘differ’ is allocated to the specific cuts given to a key which enable it’s use with a specific lock. The numerical digits associated with a key determine the design of the key cuts.

What Information does Fortress require when supplying Key Codes?

Fortress records engravings (code) and key numbers (differ) in accordance with **ISO/TS 19837: 2018** which states that for all trapped key systems, '*there shall be means to prevent unintentional duplication of key codes… the essential requirement* [of trapped key systems] *is that codes are not unintentionally duplicated'.*

As the manufacturer of these key codes we take great care in maintaining our register of key codes. **ISO/TS 19837: 2018** states *'Where the manufacturer or machine builder controls the register, special care **shall** be taken when selling through third parties (**such as distributors**) to ensure the final location of the lock and key is known … per location and organisation.'*

In order to generate a key code within our database, it is critical we know the following information on where the product will be used and to which organisation it has been supplied.

- **End User Organisation Name**: to be used as a reference for the coding.
- **End User Address**: The location the devices are in operation including any details of the specific site name.
- **Engraving Required**: Reference for this code of up to three lines of 10 characters.

Re-ordering Existing Codes / Modifying Coding Details

When reordering locks and keys to suit existing systems, the exact detail must be provided as once an engraving is allocated to a key number it cannot be altered.

Supply of Keys for a Pre-Existing System

Supply of duplicate keys must **only** be allowed for '*replacement of lost or damaged keys'*. If a spare or master key is used within the key exchange system, it '*shall be under management control and this shall be taken account of in the risk assessment.'*

In Summary

Trapped key is highly reliable but requires care when selecting key codes. Fortress helps to maintain the integrity of our end users' systems by keeping a record of key codes per location preventing the chance on duplicated codes. As per ISO/TS 19837: 2018, where Fortress is not supplied end user information, it is the responsibility of third-party suppliers to keep a record of the location of their use.

See over leaf for an Example System demonstrating the risks of key mismanagement.

Example System

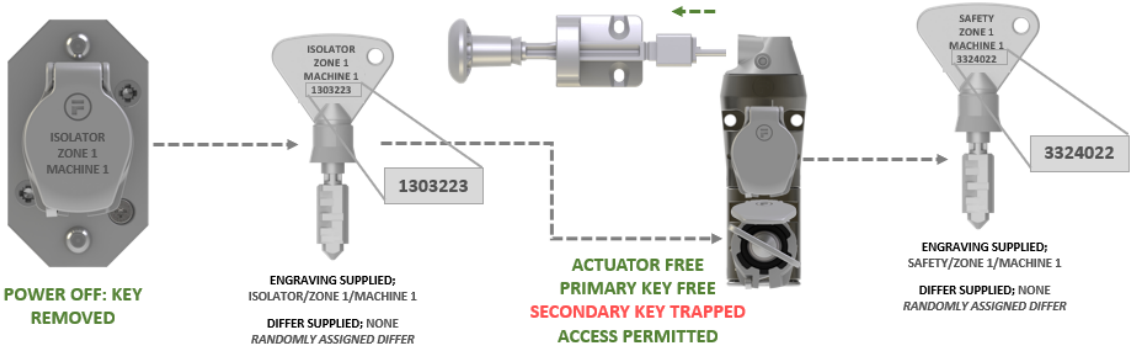
Machine Operating State

This example system consists of a power isolating switch and a door module for access.

Whilst power is being supplied, access is **not permitted**.

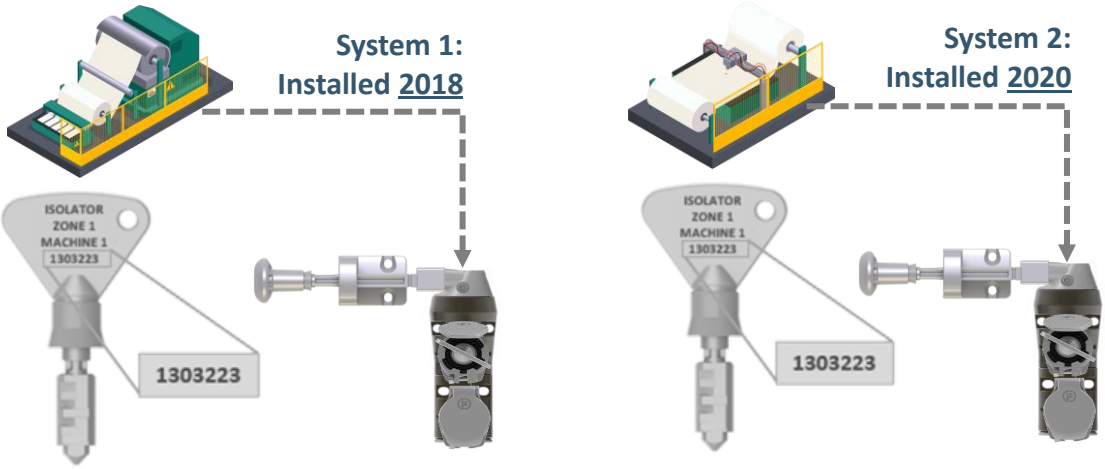
Maintenance State

When power is isolated, the trapped key sequence can be used to safely enable access. Insertion of the key from the isolator is entered into the door module to release a safety key. This key is taken on the users' person into the guarded cell.



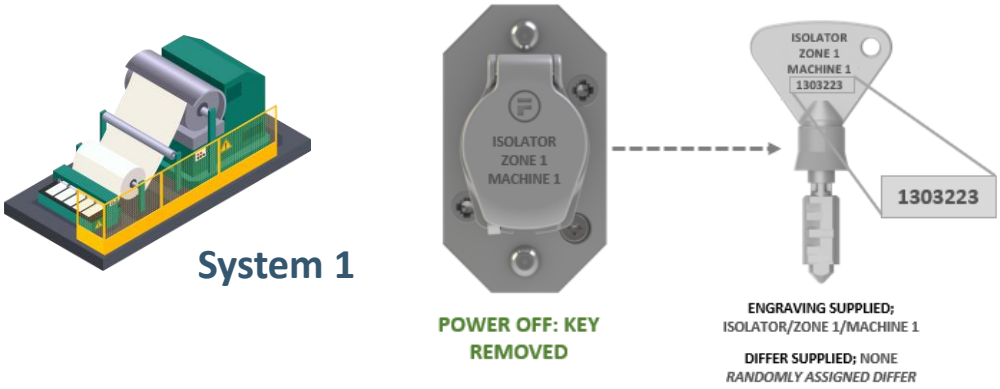
Managing Multiple Systems – Why is Key Differ Management Important?

If two systems are supplied to the same facility on separate occasions – one in 2018, one in 2020, there is a risk the keys used within these systems could be duplicated. Engravings (or codes as referenced in ISO/TS 19837: 2018) are used to denote a specific system. If a repeat engraving/ code is used for two systems adjoining there is a very high risk the keys in these systems are identical.



What happens when **two keys are identical**?

In theory, power could be isolated to *System 1* by removal of the key. Power to System 1 is now isolated and access is permitted via the door module.



If this key were to be taken to the adjoining *System 2* where power remains live, as it has the same key code, it can be used to access the guard on the machine whilst the machine is operational. Accessing the machine in *System 2* in this state could lead to serious injury or even fatal consequences. Every measure must be taken to prevent the possibility of this duplication.