

# ***European Guideline***

CFPA-E Guideline No 2:2007 - Appendix

Appendix No: 1

Panic & emergency exit devices



## FOREWORD

This Appendix offers technical solutions according to table 8.1 in the European Guide Line "Panic & Emergency devices"

These technical solutions apply for exit doors, not sliding doors, both with and without a fire separating function, which shall normally be locked from the outside and/or provide the means of controlling the passage of persons from the inside/outside.

This Appendix has been compiled by Guidelines Commission and adopted by all fire protection associations in the Confederation of Fire Protection Associations Europe.

Zurich, 27 April 2007  
CFPA Europe

Dr. Hubert Rüegg  
Chairman

Stockholm 27 April 2007  
Guidelines Commission

Tommy Arvidsson  
Chairman





## Contents

1.1	DOOR N 1, Single fire door	4
1.2	DOOR N 2, Single door, not a fire door	5
1.3	DOOR N 3, Single door with/without fire separating function depending on choice of electric striking plate	6
1.4	DOOR N 4, Single fire door	7
1.5	DOOR N 5, Single door with/without fire separating function depending on choice of electric striking plate	8
1.6	DOOR P 1, Single fire door	9
1.7	DOOR P 2, Single fire door	10
1.8	DOOR P 3, Single fire door	11
1.9	DOOR P 4, Single door with/without fire separating function depending on choice of electric striking plate	12
1.10	DOOR P 5, Single fire door	13
1.11	DOOR P 6, Single fire door	14
1.12	DOOR NP 1, Pair of fire doors	15
1.13	DOOR NP 2, Pair of doors with no fire separating function	16
1.14	DOOR NP 3, Pair of doors with/without fire separating function depending on choice of electric striking plate	17
1.15	DOOR NP 4, Pair of fire doors	18
1.16	DOOR NP 5, Pair of doors with/without fire separating function depending on choice of electric striking plate	19
1.17	DOOR PP 1, Pair of fire doors	20
1.18	DOOR PP 2, Pair of fire doors	21
1.19	DOOR PP 3, Pair of fire doors	22
1.20	DOOR PP 4, Pair of doors with/without fire separating function depending on choice of electric striking plate	23
1.21	DOOR PP 5, Pair of fire doors	24
1.22	DOOR PP 6, Pair of fire doors	25
2	EXAMPLES OF CONTROL ROUTINES	26
2.1	Control routines	26



## 1.1 DOOR N 1, Single fire door

### Fittings on the inside

Emergency exit device

Door closer. Can be fitted with electromechanical hold-open device

### Functions on the inside

The exit handle, operated with one hand, secures exit

Option of authorised passage via a key

### Fitting on the outside

Lever handle

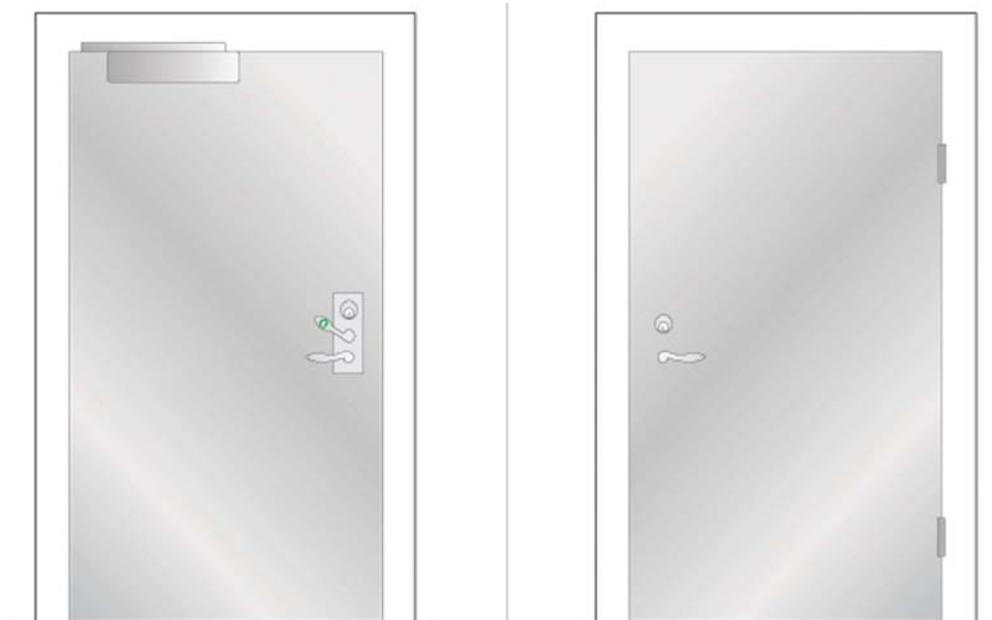
### Functions on the outside

Lever handle secures return

Option of authorised passage via a key

### Extra lock

When intruder protection locking is needed, this can be connected to the function essential for the activity





## 1.2 DOOR N 2, Single door, not a fire door

### Fittings on the inside

Emergency exit button

Door holder magnet/electromechanical door bolt with standby power

Door closer. Can be fitted with electromechanical hold-open device

### Functions on the inside

Exit via emergency exit button

Option of authorised passage via key switch

Option of automatic unlocking via fire alarm. (Not as the only function)

### Fittings on the outside

Pull handle

Pulse generator, e.g. card reader

### Functions on the outside

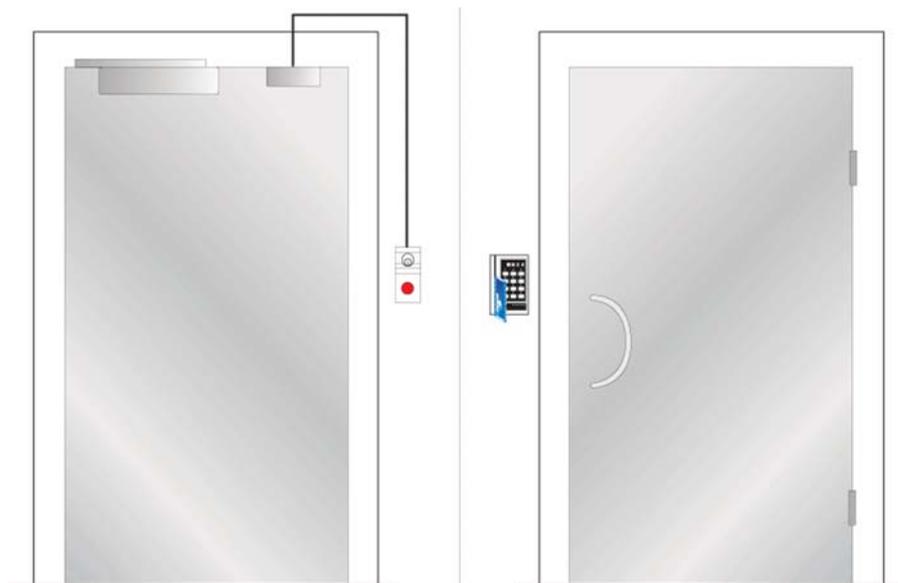
Return via pull handle after exit or activation of fire alarm

Option of authorised passage via pulse generator

Option of automatic unlocking via fire alarm. (Not as the only function)

### Extra lock

When intruder protection locking is needed, this can be connected to the function essential for the activity





### 1.3 DOOR N 3, Single door with/without fire separating function depending on choice of electric striking plate

#### Fittings on the inside

Emergency exit device  
Electric striking plate  
Pulse generator, e.g. card reader  
Door closer

#### Functions on the inside

The exit handle, operated with one hand, secures exit  
Option of authorised passage via pulse generator/key  
Option of automatic unlocking via fire alarm, with fire separating function retained depending on choice of electric striking plate. (Not as the only function)

#### Fittings on the outside

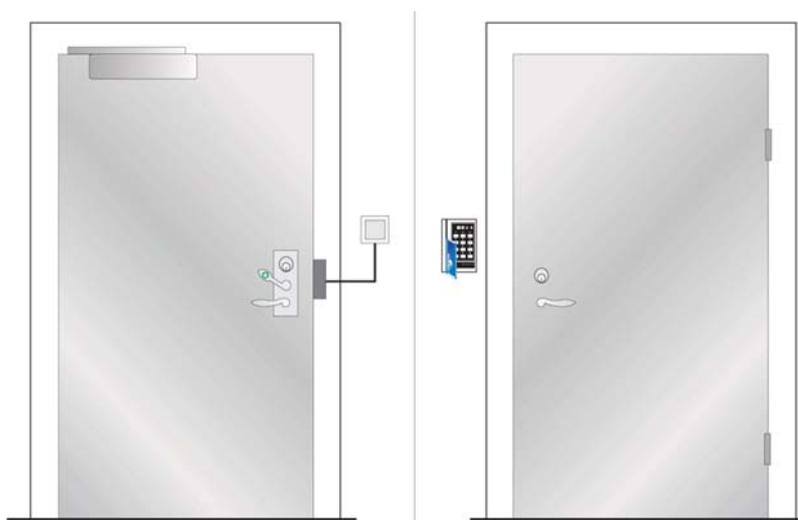
Lever handle  
Pulse generator, e.g. card reader

#### Functions on the outside

Lever handle secures return  
Option of authorised passage via pulse generator/key  
Option of automatic unlocking via fire alarm, with fire separating function retained depending on choice of electric striking plate. (Not as the only function)

#### Extra lock

When intruder protection locking is needed, this can be connected to the function essential for the activity





#### 1.4 DOOR N 4, Single fire door

##### Fittings on the inside

Emergency exit device, as push pad

Door closer. Can be fitted with electromechanical hold-open device

##### Functions on the inside

The push pad, operated with one hand, secures exit

Option of authorised passage via a key

##### Fitting on the outside

Option 1: See figure. Plain outside face

Option 2: Cylinder + pull handle

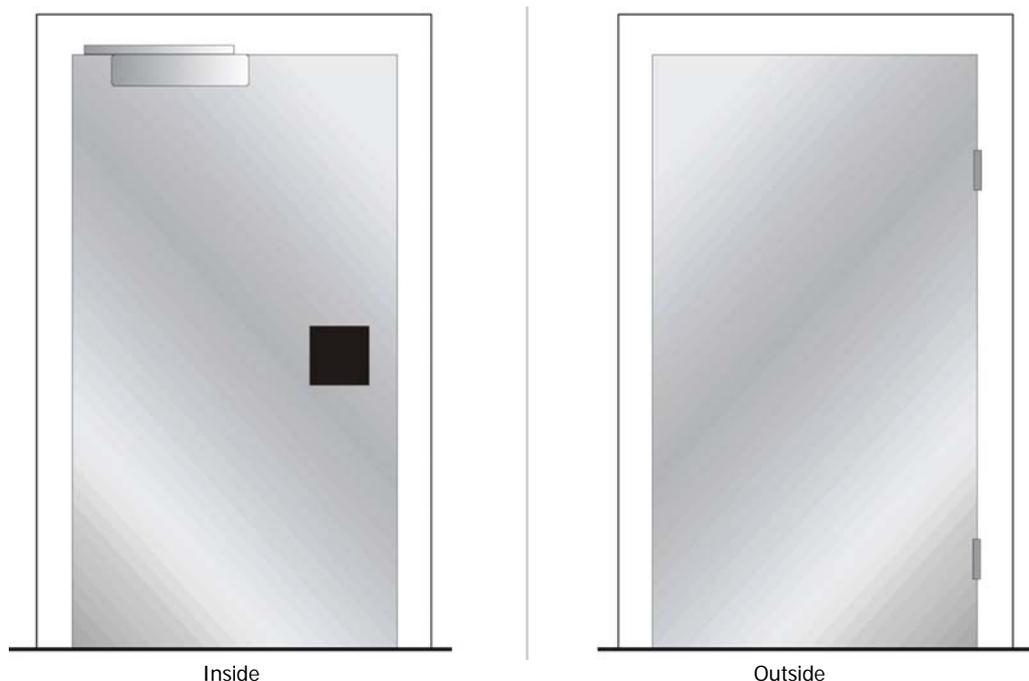
##### Functions on the outside

Option 1: See figure. No return

Option 2: No return but authorised passage via key

##### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity





### 1.5 DOOR N 5, Single door with/without fire separating function depending on choice of electric striking plate

#### Fittings on the inside

Emergency exit device as push pad  
Electric striking plate  
Pulse generator, e.g. card reader  
Door closer

#### Functions on the inside

The push pad, operated with one hand, secures exit  
Option of authorised passage via pulse generator/key  
Option of automatic unlocking via fire alarm, with fire separating function retained depending on choice of electric striking plate. (Not as the only function)

#### Fittings on the outside

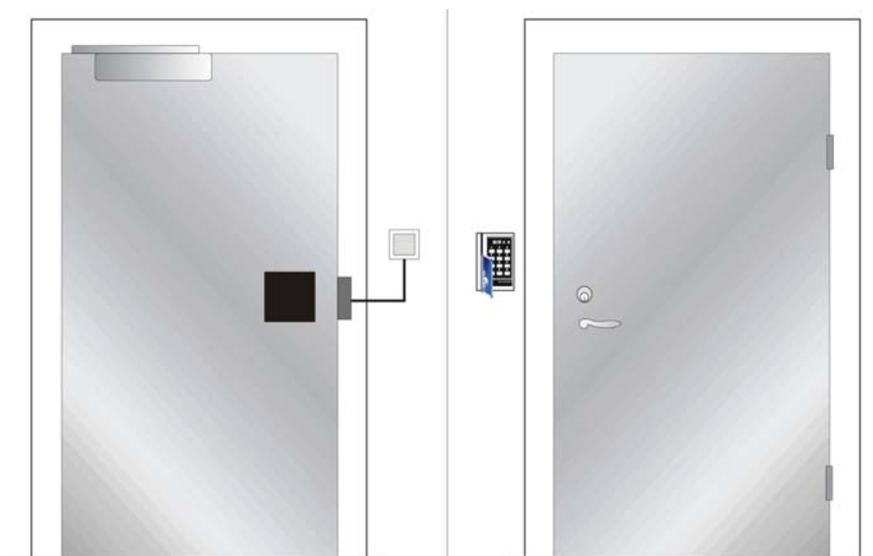
Lever handle  
Pulse generator, e.g. card reader

#### Functions on the outside

No return but authorised passage via pulse generator/key  
Option of automatic unlocking via fire alarm, with fire separating function retained depending on choice of electric striking plate

#### Extra lock

When intruder protection locking is needed, this can be connected to the function essential for the activity





Inside

Outside

### 1.6 DOOR P 1, Single fire door

#### Fittings on the inside

Panic bolt

Door closer. Can be fitted with electromechanical hold-open device

#### Functions on the inside

Panic bolt secures exit.

Option of authorised passage via key

#### Fitting on the outside

Lever handle

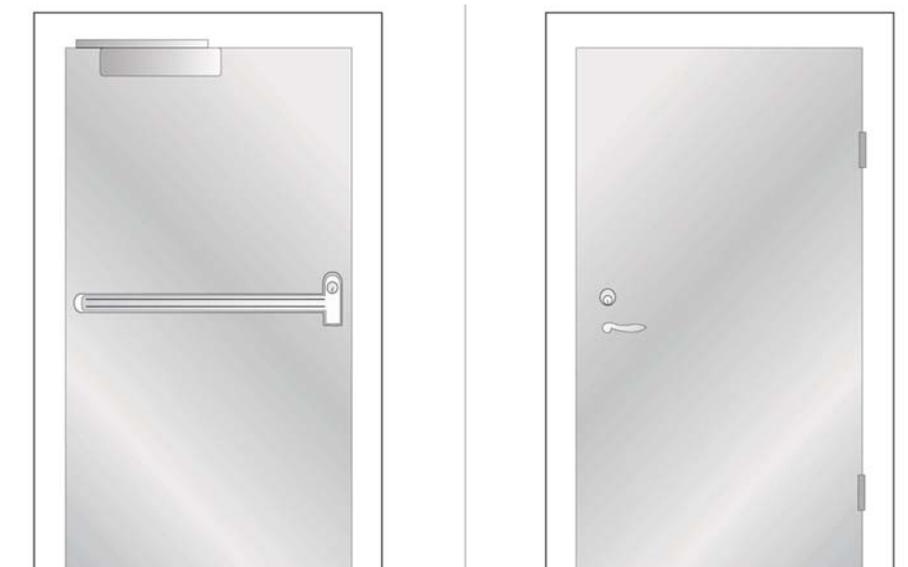
#### Functions on the outside

Lever handle secures return

Option of authorised passage via key

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity





### 1.7 DOOR P 2, Single fire door

#### Fittings on the inside

Panic bolt

Door closer. Can be fitted with electromechanical hold-open device

#### Functions on the inside

Panic bolt secures exit

Option of authorised passage via key

#### Fittings on the outside

Option 1: See figure. Plain outside face

Option 2: Cylinder + pull handle

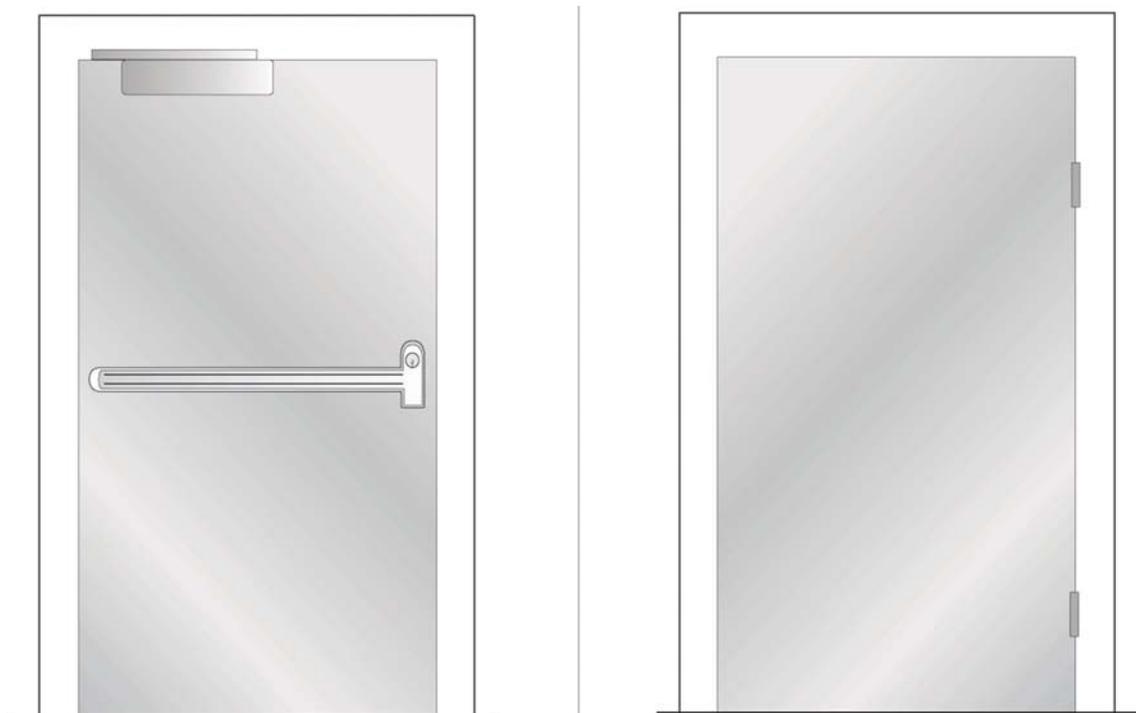
#### Functions on the outside

Option 1: See figure. No return

Option 2: No return but authorised passage via key

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity



Option 1 of 2



## 1.8 DOOR P 3, Single fire door

### Fittings on the inside

Panic bolt with micro switch

Door holder magnet/electromechanical door bolt

Door closer. Can be fitted with electromechanical hold-open device

### Functions on the inside

Panic bolt secures exit

Micro switch secures opening of door holder magnet/electromechanical door bolt

Option of automatic unlocking via fire alarm, with fire separating function retained. (Not as the only function)

### Fittings on the outside

Option 1: Lever handle

Option 2: See figure. Lever handle + pulse generator, e.g. card reader

### Functions on the outside

Option 1: Lever handle secures exit

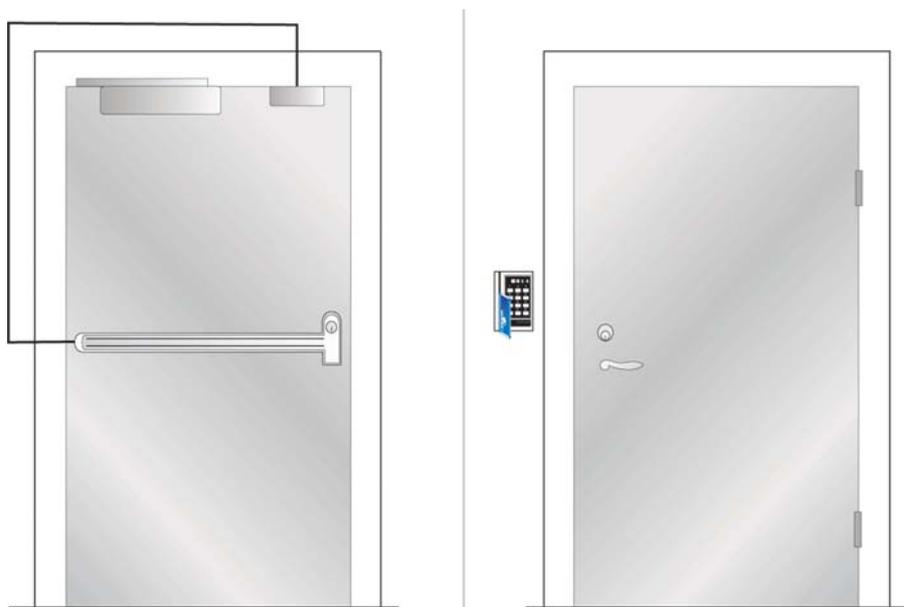
Option 2: See figure. Lever handle secures return

Option of authorised passage via pulse generator/key

Option of automatic unlocking via fire alarm, with fire separating function retained. (Not as the only function)

### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity



Option 2 of 2



### 1.9 DOOR P 4, Single door with/without fire separating function depending on choice of electric striking plate

#### Fittings on the inside

Panic bolt  
Electric striking plate  
Pulse generator, e.g. card reader  
Door closer

#### Functions on the inside

Panic bolt secures exit  
Option of authorised passage via pulse generator  
Option of automatic unlocking via fire alarm, with fire separating function retained depending on choice of electric striking plate. (Not as the only function)

#### Fittings on the outside

Lever handle  
Pulse generator, e.g. card reader

#### Functions on the outside

Lever handle secures return  
Option of authorised passage via pulse generator  
Option of automatic unlocking via fire alarm, with fire separating function retained depending on choice of electric striking plate. (Not as the only function)

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity





## 1.10 DOOR P 5, Single fire door

### Fittings on the inside

Panic bolt with electrical opening  
Pulse generator, e.g. card reader  
Door closer. Can be fitted with electromechanical hold-open device

### Functions on the inside

Panic bolt secures exit  
Option of authorised passage via pulse generator

### Fittings on the outside

Pull handle  
Pulse generator, e.g. card reader

### Functions on the outside

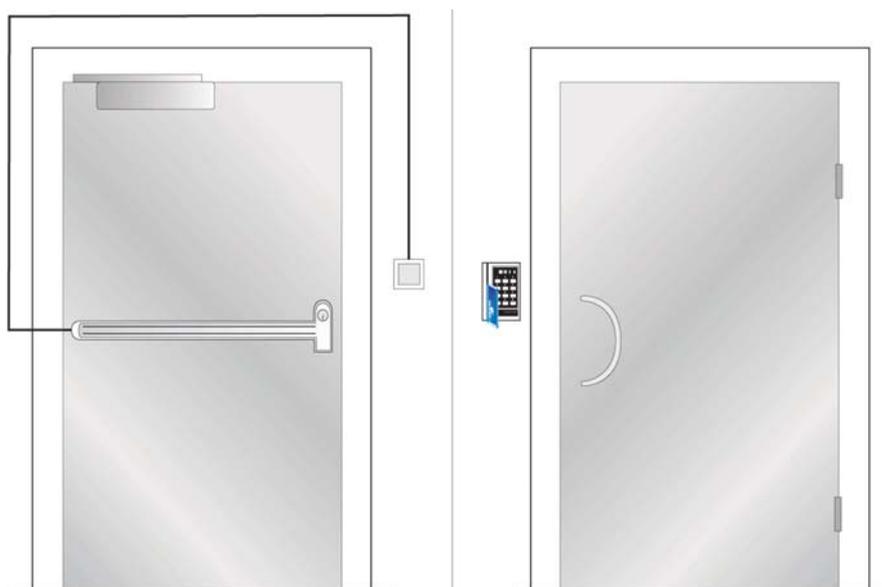
No return  
Option of authorised passage via pulse generator

### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

### Note

The panic bolt shall not be electrically held open. It shall be electrically open only at the time of passage





### 1.11 DOOR P 6, Single fire door

#### Fittings on the inside

Panic bolt with electrical opening and micro switch  
 Door holder magnet/electromechanical door bolt  
 Pulse generator, e.g. card reader  
 Door closer. Can be fitted with electromechanical hold-open device

#### Functions on the inside

Panic bolt secures exit  
 Micro switch secures opening of door holder magnet/electromechanical door bolt  
 Option of authorised passage via pulse generator  
 Option of automatic unlocking via fire alarm, with fire separating function retained. (Not as the only function)

#### Fittings on the outside

Lever handle  
 Pulse generator, e.g. card reader

#### Functions on the outside

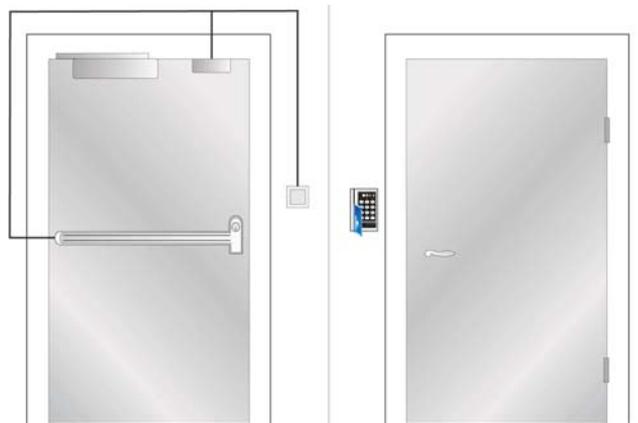
Lever handle secures return  
 Option of authorised passage via pulse generator  
 Option of automatic unlocking via fire alarm, with fire separating function retained. (Not as the only function)

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

#### Note

The panic bolt shall not be electrically held open. It shall be electrically open only at the time of passage  
 Can be fitted with door automatics





## 1.12 DOOR NP 1, Pair of fire doors

### Fittings on the inside

Emergency exit devices, active leaf  
Automatic flush bolts, inactive leaf  
Inactive leaf fitted with tailpiece for the door coordinator function

### Functions on the inside

Exit handle, operated with one hand, secures exit via active leaf  
Option of authorised passage via key

### Fittings on the outside

Lever handle  
Door closer with coordinator. Can be fitted with electromechanical hold-open device

### Functions on the outside

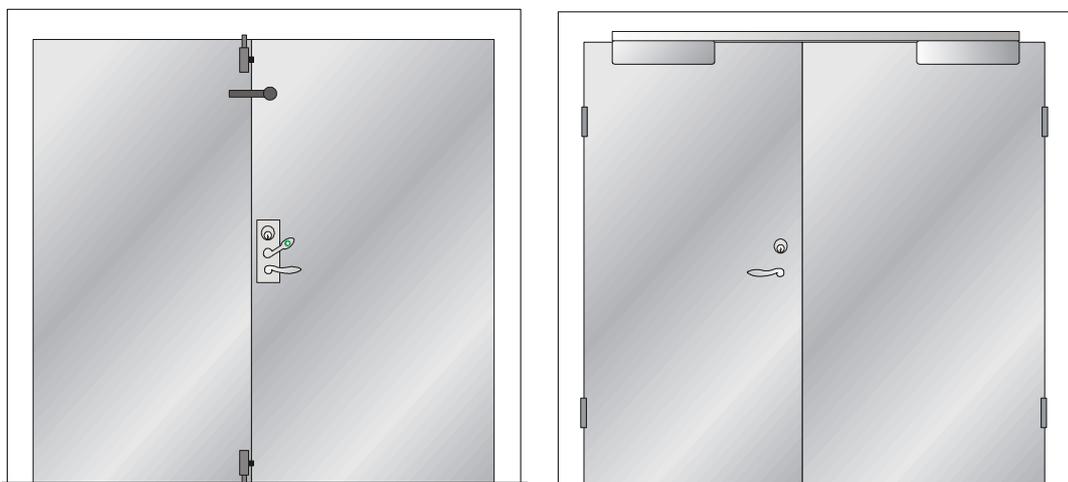
Lever handle secures return  
Option of authorised passage via key  
Door closer with coordinator closes the leaves in the right order

### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

### Note

The inactive leaf shall not form part of the escape route





### 1.13 DOOR NP 2, Pair of doors with no fire separating function

#### Fittings on the inside

Emergency exit button

Option 1: See figure. Rebated doors fitted with door holder magnet/electromechanical door bolt with standby power

Inactive leaf fitted with tailpiece for the door coordinator function

Option 2: Not rebated doors fitted with double door holder magnets/ electromechanical door bolts with standby power

#### Functions on the inside

Exit via emergency exit button

Option of authorised passage via key switch

Option of automatic unlocking via fire alarm. (Not as the only function)

#### Fittings on the outside

Pull handle

Pulse generator, e.g. card reader

Option 1: See figure. Rebated doors fitted with door closer and coordinator

Can be fitted with electromechanical hold-open device

Option 2: Not rebated doors fitted with door closer. Coordinator not required. Can be fitted with electromechanical hold-open device

#### Functions on the outside

Return via pull handle after exit or activation of fire alarm

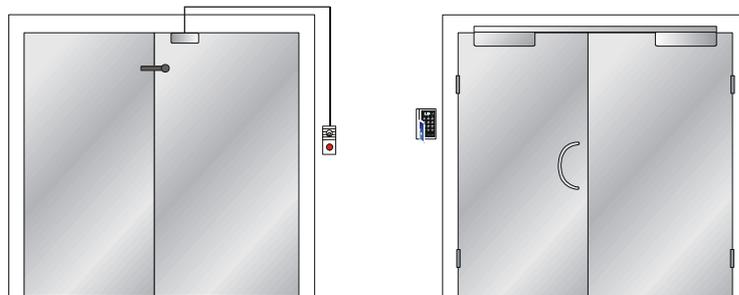
Option of authorised passage via pulse generator

Option of automatic unlocking via fire alarm. (Not as the only function)

Door closer with coordinator closes the leaves in the right order

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity



Option 1 of 2



### 1.14 DOOR NP 3, Pair of doors with/without fire separating function depending on choice of electric striking plate

#### Fittings on the inside

Emergency exit device  
 Electric striking plate in inactive leaf  
 Pulse generator, e.g. card reader  
 Automatic flush bolts in inactive leaf  
 Inactive leaf fitted with tailpiece for the door coordinator function

#### Functions on the inside

Exit handle secures exit via active leaf  
 Option of authorised passage via pulse generator/key  
 Option of automatic unlocking via fire alarm, with fire separating function retained, depending on choice of electric striking plate. (Not as the only function)

#### Fittings on the outside

Lever handle  
 Pulse generator, e.g. card reader  
 Door closer with coordinator

#### Functions on the outside

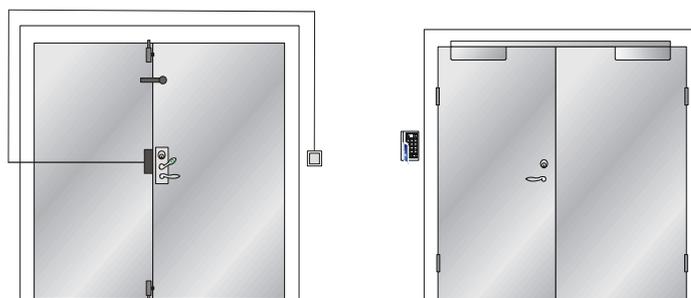
Lever handle secures return  
 Option of authorised passage via pulse generator/key  
 Door closer with coordinator closes the leaves in the right order  
 Option of automatic unlocking via fire alarm, with fire separating function retained, depending on choice of electric striking plate. (Not as the only function)

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

#### Note

Inactive leaf shall not form part of the escape route





### 1.15 DOOR NP 4, Pair of fire doors

#### Fittings on the inside

Emergency exit devices, as push pad  
Automatic flush bolts, inactive leaf  
Inactive leaf fitted with tailpiece for the door coordinator function

#### Functions on the inside

Push pad secures exit via active leaf  
Option of authorised passage via key

#### Fittings on the outside

Option 1: See figure. Plain outside face  
Door closer with coordinator. Can be fitted with electromechanical hold-open device  
Option 2: Cylinder + pull handle  
Door closer with coordinator. Can be fitted with electromechanical hold-open device

#### Functions on the outside

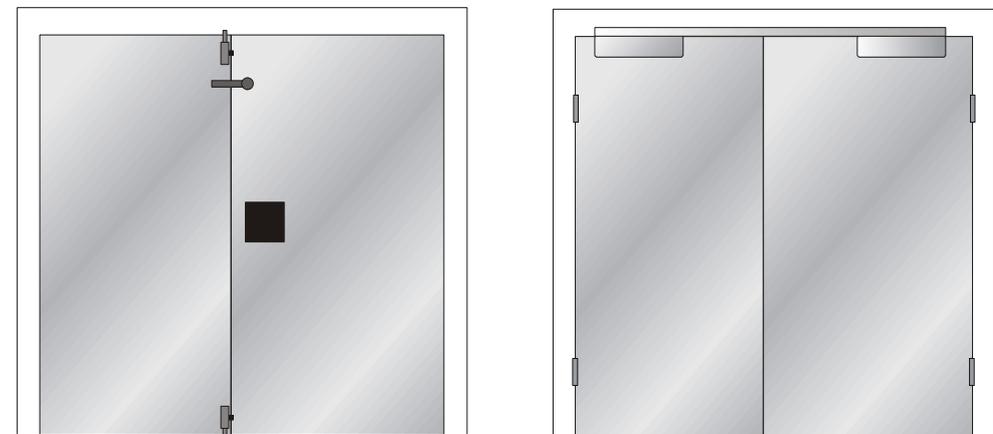
Option 1: See figure. No return  
Door closer with coordinator closes the leaves in the right order  
Option 2: No return but authorised passage via key  
Door closer with coordinator closes the leaves in the right order

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

#### Note

Inactive leaf shall not form part of the escape route





### 1.16 DOOR NP 5, Pair of doors with/without fire separating function depending on choice of electric striking plate

#### Fittings on the inside

Emergency exit device. as push pad  
 Electric striking plate in inactive leaf  
 Pulse generator, e.g. card reader  
 Automatic flush bolts in inactive leaf  
 Inactive leaf fitted with tailpiece for the door coordinator function

#### Functions on the inside

The push pad secures exit via active leaf  
 Option of authorised passage via pulse generator/key  
 Option of automatic unlocking via fire alarm, with fire separating function retained, depending on choice of electric striking plate. (Not as the only function)

#### Fittings on the outside

Pull handle  
 Pulse generator, e.g. card reader  
 Door closer with coordinator

#### Functions on the outside

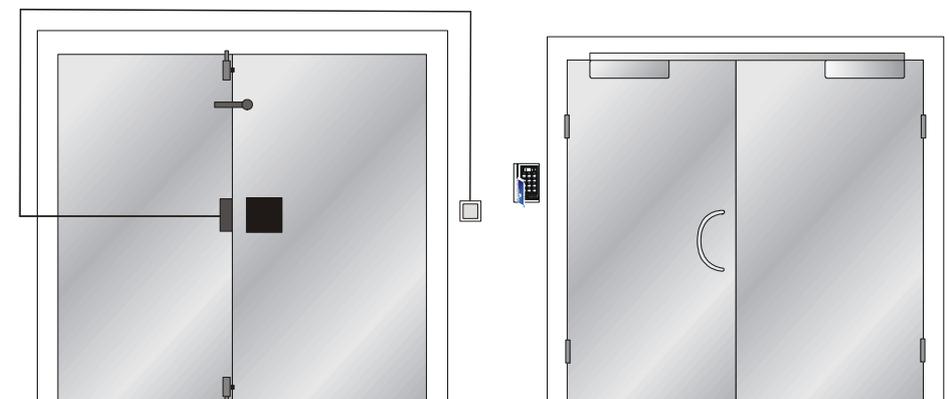
No return but authorised passage via pulse generator/key  
 Door closer with coordinator closes the leaves in the right order  
 Option of automatic unlocking via fire alarm, with fire separating function retained depending on choice of electric striking plate. (Not as the only function)

#### Extra lock

When intruder protection locking is needed, this can be connected to the function essential for the activity

#### Note

Inactive leaf shall not form part of the escape route





### 1.17 DOOR PP 1, Pair of fire doors

#### Fittings on the inside

Panic bolts

Inactive leaf fitted with tailpiece for the door coordinator function

#### Functions on the inside

Panic bolt secures exit

Option of authorised passage via key

#### Fittings on the outside

Lever handle

Door closer with coordinator. Can be fitted with electromechanical hold-open device

#### Functions on the outside

No return

Option of authorised passage via key

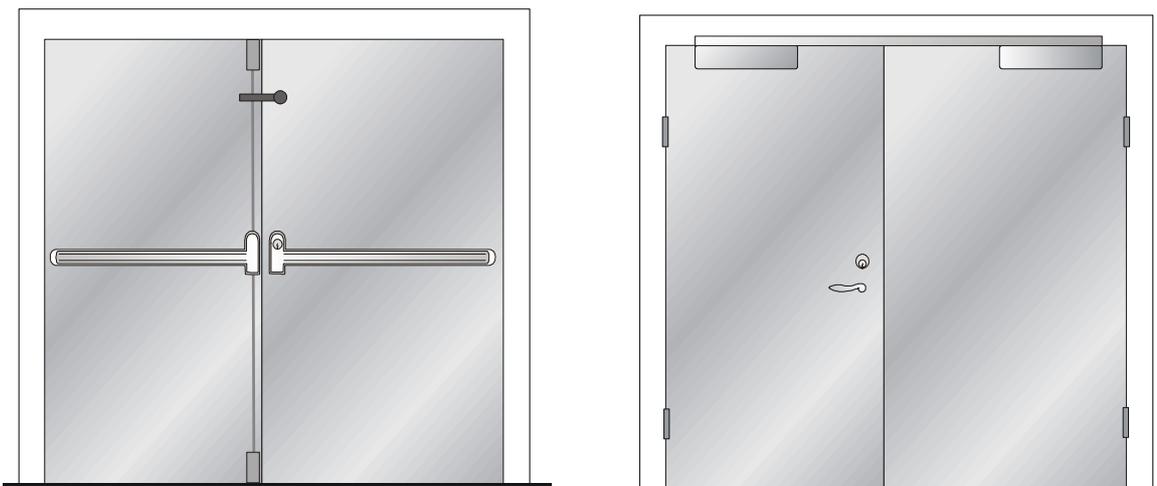
Door closer with coordinator closes the leaves in the right order

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

#### Note

Where the inactive leaf forms part of the escape route, its width shall not be less than 500 mm.





## 1.18 DOOR PP 2, Pair of fire doors

### Fittings on the inside

Panic bolts

Inactive leaf fitted with tailpiece for the door coordinator function

### Functions on the inside

Panic bolt secures exit

Option of authorised passage via key

### Fittings on the outside

Door closer with coordinator. Can be fitted with electromechanical hold-open device

Option 1: See figure. Plain outside face

Option 2: Cylinder + pull handle

### Functions on the outside

Door closer with coordinator closes the leaves in the right order

Option 1: See figure. No return

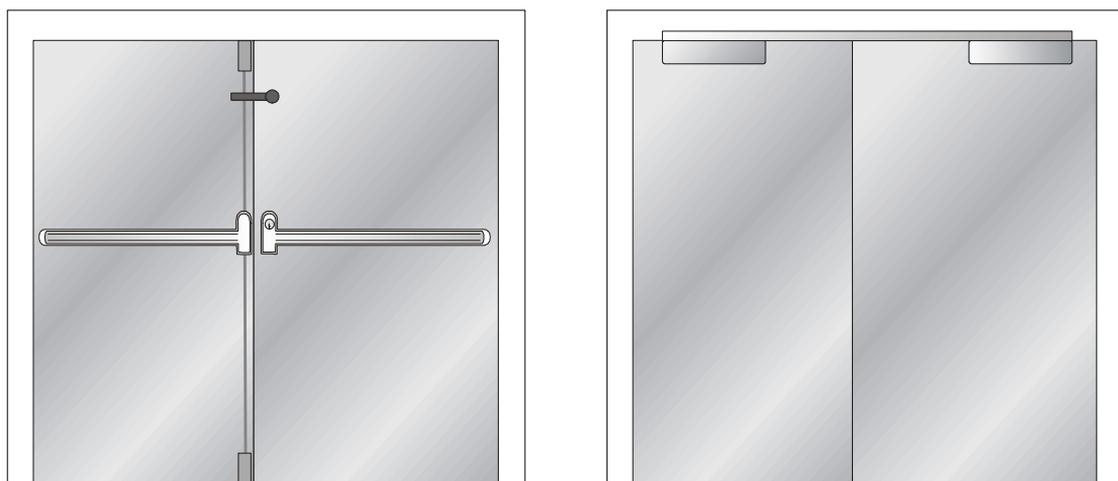
Option 2: No return but authorised passage via key

### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

### Note

Where the inactive leaf forms part of the escape route, its width shall not be less than 500 mm.



Option 1 of 2



### 1.19 DOOR PP 3, Pair of fire doors

#### Fittings on the inside

Panic bolts with micro switches

Door holder magnet/electromechanical door bolt in active leaf

Inactive leaf fitted with tailpiece for the door coordinator function

#### Functions on the inside

Panic bolts secure exit

Micro switches secure opening of door holder magnet/electromechanical door bolt

Option of automatic unlocking via fire alarm, with fire separating function retained, depending on choice of electric striking plate. (Not as the only function)

#### Fittings on the outside

Door closer with coordinator. Can be fitted with electromechanical hold-open device

Option 1: Lever handle

Option 2: See figure. Lever handle + pulse generator, e.g. card reader

#### Functions on the outside

Door closer with coordinator closes the leaves in the right order

Option 1: Lever handle secures return

Option 2: See figure. Lever handle secures return

Option of authorised passage via pulse generator/key

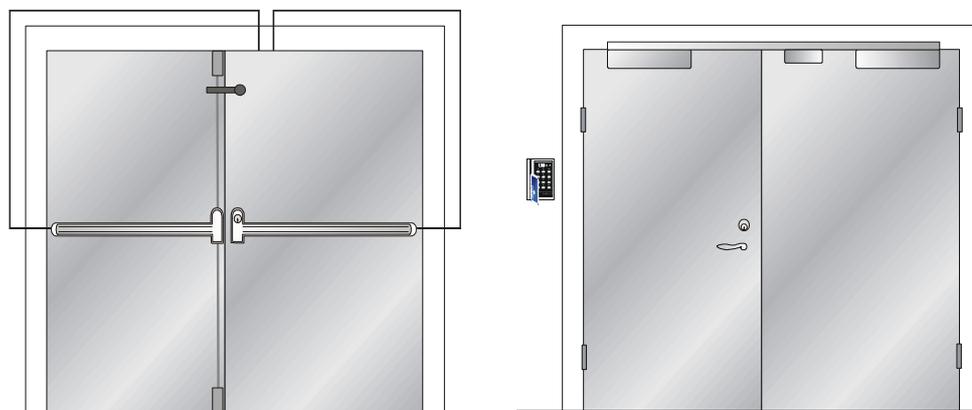
Option of automatic unlocking via fire alarm, with fire separating function retained. (Not as the only function)

#### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

#### Note

Where the inactive leaf forms part of the escape route, its width shall not be less than 500 mm



Option 2 of 2



## 1.20 DOOR PP 4, Pair of doors with/without fire separating function depending on choice of electric striking plate

### Fittings on the inside

Panic bolts with micro switches  
 Electric striking plate in inactive leaf  
 Pulse generator, e.g. card reader  
 Inactive leaf fitted with tailpiece for the door coordinator function

### Functions on the inside

Panic bolts secure exit  
 Option of authorised passage via pulse generator  
 Option of automatic unlocking via fire alarm, with fire separating function retained, depending on choice of electric striking plate. (Not as the only function)

### Fittings on the outside

Lever handle  
 Pulse generator, e.g. card reader  
 Door closer with coordinator

### Functions on the outside

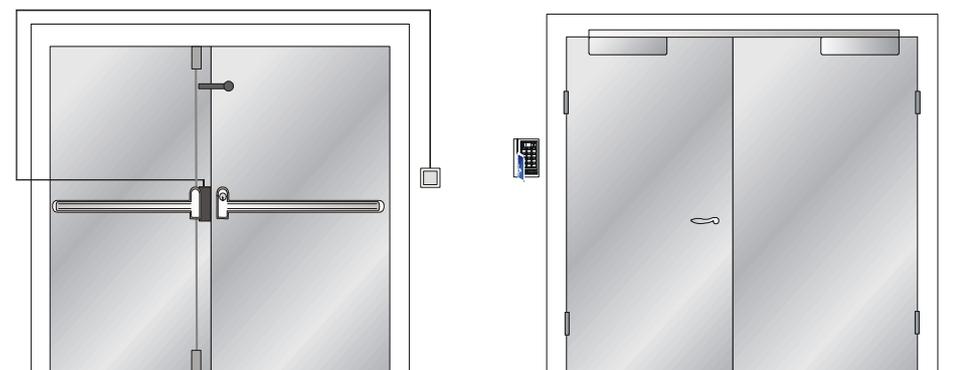
Lever handle secures return. (Depending on choice of electric striking plate)  
 Option of authorised passage via pulse generator  
 Option of automatic unlocking via fire alarm, with fire separating function retained, depending on choice of electric striking plate. (Not as the only function)  
 Door closer with coordinator closes the leaves in the right order

### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

### Note

Where the inactive leaf forms part of the escape route, its width shall not be less than 500 mm.





## 1.21 DOOR PP 5, Pair of fire doors

### Fittings on the inside

Panic bolts with electrical opening  
Pulse generator, e.g. card reader  
Inactive leaf fitted with tailpiece for the door coordinator function

### Functions on the inside

Panic bolts secure exit  
Option of authorised passage via pulse generator

### Fittings on the outside

Pull handle  
Pulse generator, e.g. card reader  
Door closer with coordinator. Can be fitted with electromechanical hold-open device

### Functions on the outside

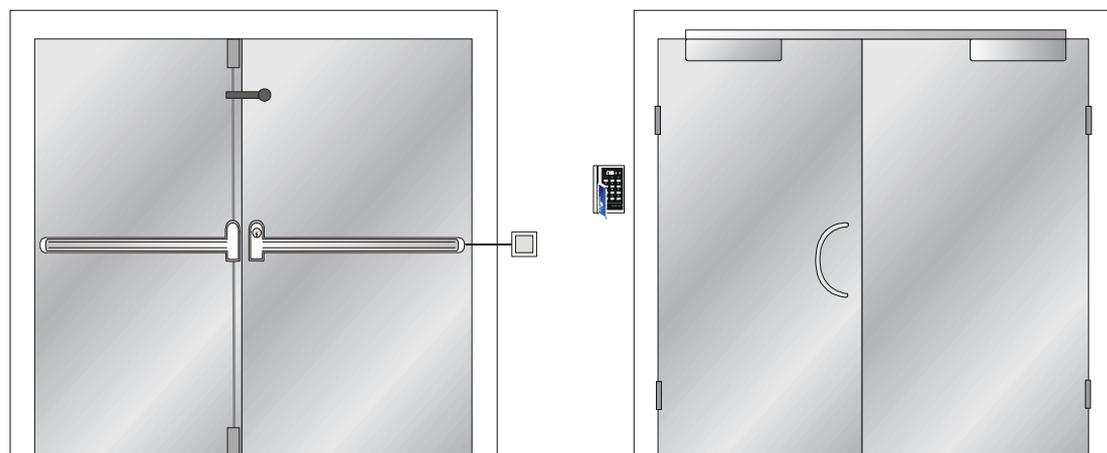
No return  
Option of authorised passage via pulse generator  
Door closer with coordinator closes the leaves in the right order

### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

### Note

Where the inactive leaf forms part of the escape route, its width shall not be less than 500 mm.  
Panic bolt shall not be electrically held open. It shall be electrically open only at the time of passage





## 1.22 DOOR PP 6, Pair of fire doors

### Fittings on the inside

Panic bolts with electrical opening and micro switches  
 Door holder magnet/electromechanical door bolt in active leaf  
 Pulse generator, e.g. card reader  
 Inactive leaf fitted with tailpiece for the door coordinator function

### Functions on the inside

Panic bolts secure exit  
 Micro switch secures opening of door holder magnet/electromechanical door bolt  
 Option of authorised passage via pulse generator  
 Option of automatic unlocking via fire alarm, with fire separating function retained, depending on choice of electric striking plate. (Not as the only function)

### Fittings on the outside

Lever handle  
 Pulse generator, e.g. card reader  
 Door closer with coordinator. Can be fitted with electromechanical hold-open device

### Functions on the outside

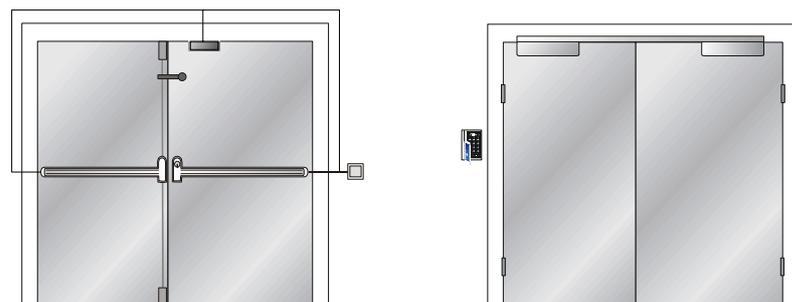
Lever handle secures return  
 Option of authorised passage via pulse generator  
 Door closer with coordinator closes the leaves in the right order  
 Option of automatic unlocking via fire alarm, with fire separating function retained. (Not as the only function)

### Extra lock

When intruder protection locking is needed, this shall be connected to the function essential for the activity

### Note

Where the inactive leaf forms part of the escape route, its width shall not be less than 500 mm.  
 Panic bolt shall not be electrically held open. It shall be electrically open only at the time of passage.  
 Can be fitted with door automatics





## 2 EXAMPLES OF CONTROL ROUTINES

Regular control should be carried out by the usufructuary, but an effort should be made to perform the control together with the property owner as often as possible. The aim of this is to become familiar with the building and to form an overall idea of the total security of escape, and to achieve a good dialogue with the property owner.

In order that control of the technical installation may be carried out in a satisfactory manner, the following checklist should be used in checking doors in, and to, an escape route.

How often controls should be carried out depends on the hazard situation and the general wear and tear in the building and premises. Control of escape facilities should be made every day.

### 2.1 Control routines

**For all doors in and to escape routes, regardless of whether they have, or have not, a fire compartment separating function, the following are to be checked.**

#### Function

- Check that the door can be easily opened without a key, code or card, and that it can be opened at least 90°
- Check that nothing is blocking the escape route
- Check that the force needed to open the door does not exceed 130 N (ca 13 kgf)
- Check that return into the premises is possible where so required

#### Maintenance

- When the door is opened, make a visual inspection of hinges, locks, handle, door frame, the attachment of glazed panels if any, any other damage, marking, the function of the door handle, etc

**For a door with a fire compartment separating function, the following is also to be checked**

#### Gastightness

- Check that the door is undamaged and closes so that there are no gaps, not even along the doorstep of a door opening into an escape route in a stairway
- Check that any intumescent strips that are fitted along the door are undamaged

#### Lock case

- A lock case with only a cylinder lock must not be fitted with a hold-open device
- Check the engagement of the spring bolt with the striking plate
  - Door of fire resistance class E/EI 30 - 7 mm
  - Door of fire resistance class E/EI 60 - 10 mm



**Foor doors that also have the following components fitted, the following shall also be checked:**

**Door closer**

- Open door ca 10 cm and let it go. Check that the door closes completely and that the spring bolt engages with the striking plate
- Check if there are any oil leaks
- Check for damage to the arm system that affects the door holder function
- Check the fixing of the door closer housing and the fixings of the arms
- NOTE that split-arm system or hold-open arms are not recommended for doors at fire compartment boundaries

• **Electromechanical hold-open device**

- Break the current, e.g. with the test button
- Check that the door closes completely and that the spring bolt engages with the striking plate
- Check that it is released in the event of power failure

**Extra lock, additional lock**

- When intruder protection locking is used, check that the essential function is activated via the micro circuit breaker of the extra lock

• **Automatic flush bolt for double doors**

- Check that the flush bolt moves easily in the striking plate
- Pull the handle and check that the doors do not open
- Check the fixing of the flush bolt and striking plate

**Coordinator for double doors**

- Check that the “correct” door closes first
- Check the fixing

• **Tailpiece for double doors**

- Check fixing and function

**Guidance marking**

- Assess whether the sign is fully visible from appropriate points in the premises
- Check that the sign is in place and that it is functioning, i.e. it is undamaged, illuminated, not concealed
- Check the emergency power supply, if any. This can be done on fluorescent signs with their own backup battery. Press the button on the light fitting or unscrew the fuse that supplies the light fitting, and check the emergency light