



## PANIC & EMERGENCY EXIT DEVICES EUROPEAN STANDARDS UPDATE DECEMBER 2009

Architects and Specifiers are now increasingly influenced to specify only CE marked products for fire and escape doors. It is the best way to ensure that a product complies with the essential requirements of the Construction Product Regulations.

To help remove the complexities of specifying panic and emergency exit hardware, we have produced this Technical Bulletin to help users understand the very latest requirements of EN1125: 2008 or EN179: 2008 and assist specifiers to select the correct Strand Antipanic exit device in full confidence of compliance with the standards and the knowledge that they are ensuring "THE BEST WAY OUT"

### Specifications and Testing

All the devices of Panic Hardware (with full width cross arm or touch bar) have been tested and certified to EN 1125: 2008. This type of device is suitable for all public buildings such as hotels, schools, shops, hospitals, nightclubs etc. where people are unfamiliar with the surroundings. All the devices of Emergency Exit Hardware (with push pad) have been tested and certified to EN 179: 2008. This type of device is suitable for offices and premises where people are familiar with the surroundings and the hardware and therefore a panic situation is unlikely to develop. All devices are CE marked and include the classification information. They are designed to operate with the minimum force: the actual force required for opening devices featuring pullman latches is very low. In addition, the hardware has passed strenuous wear and durability tests, successfully completing the 200,000 cycles required.

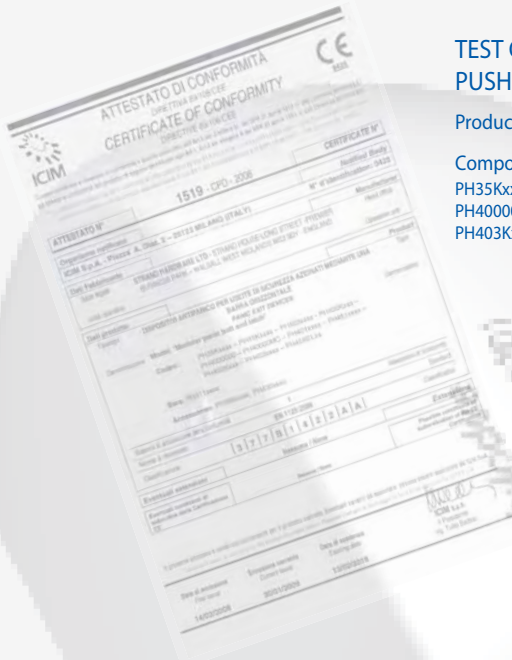
### Certification

Certification of the products has been carried out in Italy by ICIM (the Certification Institute for the Mechanical Engineering Industry) Copies of certificates are available on request.



# THE LATEST EUROPEAN STANDARDS EXPLAINED

Both EN1125: 2008 and EN179: 2008 now have a new 10 character classification that gives architects, specifiers and end users more information about the exit devices for escape routes. The test certificates with new classifications can be seen below.



## TEST CERTIFICATE 1519 for PUSH BAR PANIC EXIT DEVICES

Products tested and certified

Component codes

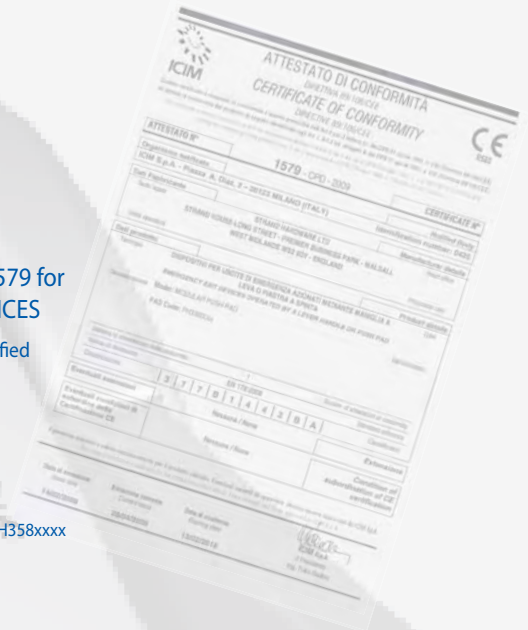
PH35Kxxxx PH45Kxxxx PH453xxxx PH400Kxxxx  
 PH400000 PH4000MC PH401xxxx PH451xxxx  
 PH403Kxxx PH403xxxx PH45KELxx

Cross arms  
 PH311xxxx

Strand product codes  
 PH350xxxx PH355xxxx PH357xxxx  
 plus other derivatives

NEW CLASSIFICATION  
 3-7-7-B-1-4-2-2-A-A

for more information please refer to our STRAND ANTIPANIC EMERGENCY AND PANIC EXIT DEVICES brochure August 2009



## TEST CERTIFICATE 1579 for PUSH PAD EXIT DEVICES

Products tested and certified

Component code

PH33500xx

Strand product codes  
 PH352xxxx PH356xxxx PH358xxxx  
 plus other derivatives

NEW CLASSIFICATION  
 3-7-7-B-1-4-4-2-B-A

### Some changes to EN 179 & EN 1125

- Most of the classification numbers remain the same, however some of the changes will have a significant impact on various aspects of our exit hardware.
- As from December 2009 any outside access device that is not specified by the manufacturer as designed to be compatible with the specific exit device shall not be considered to comply with the standards.
- The temperature range for materials used in the design of exit devices shall be suitable for operation between temperatures of -10°C and +60°C

### Summary of changes to EN 1125

- 1st and 2nd Characters (no changes)
- 3rd Character - Door mass - new grade 7: for doors over 200kg
- 4th Character – Suitable for use on fire / smoke door assemblies  
 The old grades of grade 0 (not suitable) and grade 1 (suitable) are replaced with
  - grade 0: not suitable
  - grade A: suitable for use on smoke door assemblies
  - grade B: suitable for use on fire and smoke door assemblies
- 5th 6th and 7th Characters (no changes)
- 8th Character – Projection of operating element  
 The old grade of standard projection is now large projection up to 150mm and the old grade 2 low projection is now grade 2: standard projection up to 100mm
- 9th Character (no change)
- There is now a new 10th Character – Field of application
  - Category A: single door, double door: active/inactive leaf
  - Category B: single door only
  - Category C: double door: inactive leaf only

### Summary of changes to EN 179

- 1st and 2nd Characters (no changes)
- 3rd Character - Door mass - new grade 7: for doors over 200kg
- 4th Character – Suitable for use on fire / smoke door assemblies  
 The old grades of grade 0 (not suitable) and grade 1 (suitable) are replaced with
  - grade 0: not suitable
  - grade A: suitable for use on smoke door assemblies
  - grade B: suitable for use on fire and smoke door assemblies
- 5th and 6th Characters (no changes)
- 7th Character – Security: four grades of security replace the old three grades
  - grade 2: 1000N
  - grade 3: 2000N
  - grade 4: 3000N
  - grade 5: 5000N
- 8th Character – Projection of operating element  
 The old grade of standard projection is now large projection up to 150mm and the old grade 2 low projection is now grade 2: standard projection up to 100mm
- 9th Character (no change)
- There is now a new 10th Character – Field of application
  - Category A: outward opening single door, double door: active/inactive leaf
  - Category B: outward opening single door only
  - Category C: outward opening double door: inactive leaf only
  - Category D: inward opening single door only



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# THE LATEST EUROPEAN STANDARDS EXPLAINED

Both EN1125: 2008 and EN179: 2008 now have a new 10 character classification that gives architects, specifiers and end users more information about the exit devices for escape routes. An explanation of the characters applicable to the two standards can be seen below.

## EN1125: 2008

1st Character – Category of use

- grade 3: high frequency use

2nd Character – Durability

- grade 6: 100,000 test cycles
- grade 7: 200,000 test cycles

3rd Character – Door mass

- grade 5: up to 100kg
- grade 6: up to 200kg
- grade 7: over 200kg

4th Character\* – Suitable for use on fire / smoke door assemblies

- grade 0: not suitable
- grade A: suitable for use on smoke door assemblies
- grade B: suitable for use on fire and smoke door assemblies

Note: \*Annex B contains additional requirements for the devices to the grades above

5th Character – Safety

- grade 1: all devices have a critical safety function - therefore only the top grade is identified for these standards

6th Character – Corrosion resistance

- grade 3: 96 hours (high resistance)
- grade 4: 240 hours (very high resistance)

7th Character – Security

- grade 2: devices are primarily for the operation of a door from inside and security is secondary to that of safety

8th Character – Projection of operating element

- grade 1: large projection up to 150mm
- grade 2: standard projection up to 100mm

9th Character – Type of operator

- Type A: panic exit device with "push bar" operation
- Type B: panic exit device with "touch bar" operation

10th Character – Field of application

- Category A: single door, double door: active/inactive leaf
- Category B: single door only
- Category C: double door: inactive leaf only

Example of classification for EN1125: 2008

**3-7-7-B-1-4-2-2-A-A**

The classification denotes a panic exit device with the following characteristics:

[3] suitable for use in high frequency applications

[7] tested to 200,000 cycles

[7] for door mass over 200kg

[B] suitable for use on fire/smoke door assemblies\*

[1] safe for use on escape route doors

[4] very high corrosion resistance

[2] with grade 2 security level 1000N

[2] with horizontal bar projection up to 100mm

[A] a "push bar" type A panic exit device

[A] for use on outward opening single & double doors, active or inactive leaf

## EN179: 2008

1st Character – Category of use

- grade 3: high frequency use

2nd Character – Durability

- grade 6: 100,000 test cycles
- grade 7: 200,000 test cycles

3rd Character – Door mass

- grade 5: up to 100kg
- grade 6: up to 200kg
- grade 7: over 200kg

4th Character\* – Suitable for use on fire / smoke door assemblies

- grade 0: not suitable
- grade A: suitable for use on smoke door assemblies
- grade B: suitable for use on fire and smoke door assemblies

Note: \*Annex B contains additional requirements for the devices to the grades above

5th Character – Safety

- grade 1: all devices have a critical safety function - therefore only the top grade is identified for these standards

6th Character – Corrosion resistance

- grade 3: 96 hours (high resistance)
- grade 4: 240 hours (very high resistance)

7th Character – Security

- grade 2: 1000N
- grade 3: 2000N
- grade 4: 3000N
- grade 5: 5000N

Note: Additional tests may be carried out to prove a high level of security

8th Character – Projection of operating element

- grade 1: large projection up to 150mm
- grade 2: standard projection up to 100mm

Note: Grade 1 does not apply to type A operation

9th Character – Type of operator

- Type A: emergency exit device with "lever handle" operation
- Type B: emergency exit device with "push pad" operation

10th Character – Field of application

- Category A: outward opening single door, double door: active or inactive leaf
- Category B: outward opening single door only
- Category C: outward opening double door: inactive leaf only
- Category D: inward opening single door only

Example of classification for EN179: 2008

**3-7-7-B-1-4-4-2-B-A**

The classification denotes an exit device with the following characteristics:

[3] suitable for use in high frequency applications

[7] tested to 200,000 cycles

[7] for door mass over 200kg

[B] suitable for use on fire/smoke door assemblies\*

[1] safe for use on escape route doors

[4] very high corrosion resistance

[4] with grade 4 security level 3000N

[2] with projection up to 100mm

[B] a "push pad" type B emergency exit device

[A] for use on outward opening single & double doors, active or inactive leaf

## The NEW EUROPEAN standards

The new classification numbers are applicable from December 2009 and applies to any product supplied from manufacturer or CE mark extended supplier. Any existing stock on the shelves of distributors and wholesalers with pre December 2009 classifications can still be supplied to end users.



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# THE LATEST EUROPEAN STANDARDS EXPLAINED

Both EN 1125: 2008 and EN 179: 2008 now have further recommendations for Installation and fixing of the devices. These are shown below in Annex A (normative). There are now some very important requirements for fitting devices to fire / smoke door assemblies as set out in Annex B (normative). The European Standards now give additional recommendations for the Maintenance of exit devices for escape routes in Annex C (normative) shown below.

## ANNEX A (normative)

Recommendations for Installation and Fixing

**NOTE:** Exit devices manufactured in accordance with EN 1125 and EN 179 will provide a high degree of safety for people and reasonable security for property provided that they are fitted to doors and door frames in good condition. The safety features of the devices are of fundamental importance to ensure its compliance with the standards. No modifications of any kind other than those described in the Installation instructions are permitted.

Installation instructions specifying appropriate fixing arrangements for the various door types are included with each exit device.

Before fitting an exit device, the door should be checked to ensure correct hanging and freedom from binding. It is not recommended that exit devices should be fitted to hollow core doors unless specifically designed by the manufacturer for this type of door. It is recommended to verify that the door construction allows the use of device. i.e. to verify that offset hinges and engaging leaves allow both leaves to be opened simultaneously, or to verify that the gap between door leaves does not differ from that defined by the manufacturer, or to verify that the operating elements do not interfere etc.

Before installing an exit device to a fire/smoke door, the certification should be examined to ensure the suitability of the device for that door assembly. It is of utmost importance that an exit device is not used on a door assembly of a greater resistance time than approved for.

Care should be taken that any seal or weather-strip fitted to the door assembly does not inhibit the correct operations of the device.

On double door-sets with rebated meeting stiles and where both leaves are fitted with exit devices, it is essential to check that either leaf will open when its respective device is activated and also that both leaves will open freely when both exit devices are operated simultaneously.

Where exit devices are manufactured in more than one size please ensure the correct size is selected.

Category 2 (standard projection) exit devices should be used in situations where there is restricted width for escape, or where the doors are not able to open beyond 90°.

Where a device is fitted to a glazed door, it is essential that the glazing should be toughened or laminated glass.

Alternative fixing screws may be necessary for fitting devices to wood, metal, PVC-U or frameless glass doors. For more secure fixing, male and female through-door bolts can be used.

Exit devices are not intended for use on double action (double swing) doors unless specifically designed by the manufacturer.

The installation instructions must be carefully followed during installation. The instructions and maintenance booklet should be handed over to the end user, building occupier or the authorised representative after completion.

Normally the operating element (push bar or push pad) should be installed at a height of between 900mm and 1100mm above the finished floor level, when the door is in the secured position. Where it is known that the majority of the occupants of the premises will be young children, consideration should be given to reduce the height.

For panic devices the horizontal bar should be installed so as to provide the maximum effective length (never less than 60% of the door width).

The bolt heads, latches and strikers/keepers should be fitted so as to provide secure engagement. Care should be taken to ensure that no projection of the bolt heads or latches, when in the withdrawn position, could prevent the door swinging freely.

Where panic devices are to be fitted to double door-sets with rebated meeting stiles and self-closing devices, a door coordinator device according to EN 1158 should be fitted to ensure the correct closing sequence of the doors.

**Note:** This recommendation is particularly important with regard to fire/smoke door assemblies.

No additional devices for securing the door in the closed position other than specified herein should be fitted. This does not preclude the installation of self-closing devices.

If a door closing device is to be used to return the door to the closed position, care should be taken not to impair the use of the doorway by the young, elderly and infirm.

Only strikers, keeps or protection plates provided by the manufacturer should be fitted in order to ensure compliance with the European Standards.

Following installation, using a force gauge, measure and record the operating forces to release the exit device.

For EN 1125 a sign which reads "push bar to open" or a pictogram should be provided on the inside face of the door immediately above the horizontal bar.

For EN 179 a sign which reads "push to open" or a pictogram should be provided on the inside face of the door immediately above or adjacent to the push pad.

The surface area of the pictogram should be no less than 8000mm<sup>2</sup> and its colours should be white on green background. It should be designed as such that the arrow points to the operating element when installed.

## ANNEX B (normative)

Additional requirements for Exit Devices intended for use on fire/smoke door assemblies

The exit device intended for use on a fire/smoke resisting door assemblies shall meet additional requirements in accordance with its intended classification specified.

**Grade A:** Grade A exit devices representative of their type shall have been subjected to a successful evaluation proving their suitability for use on smoke resisting doors. All parts of the device responsible for keeping the door in the closed position shall be made of a material with a melting point of not less than 300°C. If the exit device comprises of a latch bolt and the latch bolt is the only part of the device that keeps the smoke door in the closed position, then the projection shall be at least 10mm. Alternatively the suitability for use on a smoke resisting door shall be determined by a successful test in accordance with EN1634-3. Installation instructions shall ensure that the engagement of the latch bolt inside the locking plate is not less than 6mm.

**Grade B:** Grade B exit devices representative of their type and including any outside access devices intended for fire door use shall have been subjected to a successful fire test conducted on both sides of the door in accordance with EN 1634-1 to prove the contribution of the exit device to the fire resistance of the complete door assembly. It should not be necessary for the exit device to be operable after such a fire test.

**NOTE:** Although the exit devices referred to in this annex are suitable for use on fire/smoke resisting door assemblies, the safety aspect and ease of escape remains the utmost importance

An exit device intended for use on self-latching doors shall include an automatic re-latching device. This requirement shall not apply where the exit devices are intended for use on self-closing fire resisting door-sets and where the fire test evidence required by B.1 has been obtained from un-latched fire resisting door-set assemblies.

Details of the inclusion or otherwise of an automatic re-latching device in the fire test samples shall form a part of the final fire test report.

An exit device intended for use on self re-latching fire resisting doors shall not include a dogging mechanism or other means of holding the bolt heads in the withdrawn position unless such means are capable of reliable release of the bolt heads in conjunction with a fire/smoke alarm system.

This requirement shall not apply where the exit devices are intended for use on self-closing fire/smoke resisting door-sets and where the fire test evidence required by B.1 has been obtained from un-latched fire/smoke resisting door-set assemblies. Regardless of whether a dogging mechanism is operated or not, the device shall not prevent the door from self closing. Details of the inclusion or otherwise of a dogging mechanism in the fire test samples shall form a part of the final fire test report. If a device intended for use on self re-latching fire/smoke resisting doors allows for automatic re-bolting, it shall be designed to avoid accidental re-bolting while the door is opened which could prevent the self closing of the door.

## ANNEX C (normative)

Recommendations for Maintenance

**NOTE:** To ensure performance in accordance with EN 1125 and EN 179 the following routine maintenance checks should be undertaken at regular intervals.

### WEEKLY

A visual inspection and operation of the device to ensure that all components working correctly.

Ensure that the strikers are free from obstruction, latches move freely and pass by the striker when operated.

Check for any loose components - tighten if necessary.

### MONTHLY

Check operation of device with door open several times - then again with door closed.

Ensure that the strikers are free from obstruction and latches are fully extended when in the closed position.

Remove covers and check that all moving parts of mechanisms and latches are lubricated.

Check operation of device with covers removed for any obstructions.

Check tightness of all fixing screws and replace covers.

Check that no additional locking devices have been added to the door since its original installation.

Check that all components of the complete system are still correct in accordance with the list of approved components originally supplied with the system.

Check that the operating element is correctly tightened and, using a force gauge, measure the operating forces to release the exit device. Check that the operating forces have not changed significantly from the operating forces recorded when originally installed.

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