



Emergency Exit & Panic Device

Information & Testing

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1. Introduction

BS EN 14351-1 clause 4.10 requires that emergency exit devices and panic devices installed on external pedestrian doorsets in escape routes shall comply with EN 179, EN 1125, prEN 13633 or prEN 13637. All devices fitted to SWC pedestrian doorsets for use in escape routes are certified to these standards.

As purely a manufacturer and not an installer of these doorsets, SWC is not required to carry out force testing of these doors (only operational checks) as the doors require installation before force testing can be carried out.

Installers must carry out force testing once doors are installed in line with the guidance in this booklet. A force gauge is required to force test the exit/panic door post installation (Fig. 1). Force tests are to be recorded as described to ensure compliance with current regulations.

Fig 1. Force Test Meter



See Para 8 for details

2. Emergency Exit Devices

BS EN 179 cover devices which are to be used in emergency situations where the public are already familiar with the operations of an emergency exit, so a 'panic situation' is likely not to develop. Devices operated by a lever handle or push pad can then be used (Fig. 2). These devices are designed to give safe and effective escape through a doorway with one single operation to release the device.

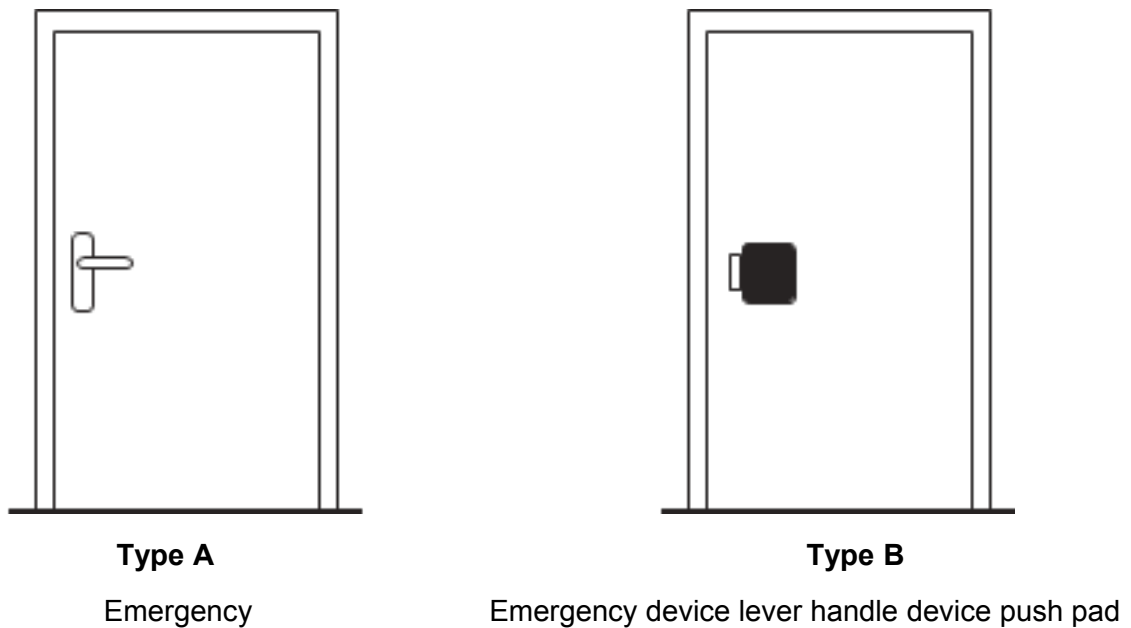
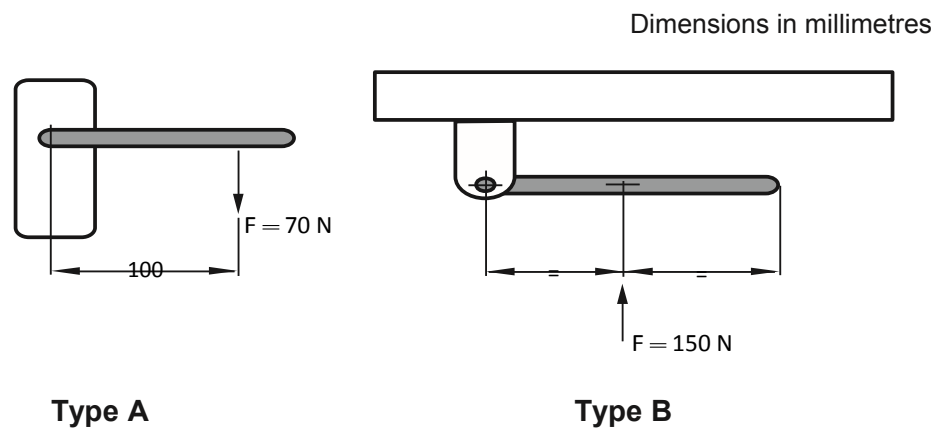
Both types of Emergency Exit Devices are to be tested in accordance with EN 14351 Clause 4.10 and have a maximum release force to operate safely, as identified below;

2.1. Emergency Exit Devices Operated by a Lever Handle (type A device)

Tested in accordance with para 3.1 and 3.2 of this document, the force required to release the emergency exit device shall not exceed 70 N (Fig. 2).

2.2. Emergency Exit Devices Operated by a Push Pad (type B device)

Tested in accordance with para 3.3 and 3.4 of this document, the force required to release the emergency exit device shall not exceed 150 N. For "pull pad" type B emergency exit device, reverse the direction of force applied (Fig. 3).

Fig 2. Emergency Exit Device Types**Fig 3. Release Forces**

3. Testing - Emergency Exit Devices

3.1. Type A - Single Sash Door

Prior to testing, the emergency exit device must be correctly installed on the doorset and the door set hung in place in order to ensure testing is valid. Any additional devices and fittings should be installed and operating to ensure that reliable release is achieved in all expected situations (for example, when a deadbolt is fitted, it should be engaged prior to the release test).

With no thrust or pressure on any part of the door and with the door secured, the lever handle should be actuated by a force of 70 N, applied at a distance of 100 mm from the pivot of the lever handle to release the emergency exit device (Fig. 3.).

This test shall be conducted three times and each test recorded.

3.2. Type A - Double Sash Door

The test should be carried out on each leaf, depending on the door application as detailed in para 3.1.

3.3. Type B - Single Sash Door

With no thrust or pressure on any part of the door and with the door secured, the lever handle should be actuated by a force of 150 N, applied at the midpoint of the push pad to release the emergency exit device. For type B emergency exit devices intended for use on inwardly-opening exit doors, apply the force in the direction of operation to enable exit.

NOTE The midpoint is considered to be the centre of the visible push / pull surface of the push pad.

3.4. Type B - Double Sash Door

The test should be carried out on each leaf, depending on the door application as detailed in para 3.3.

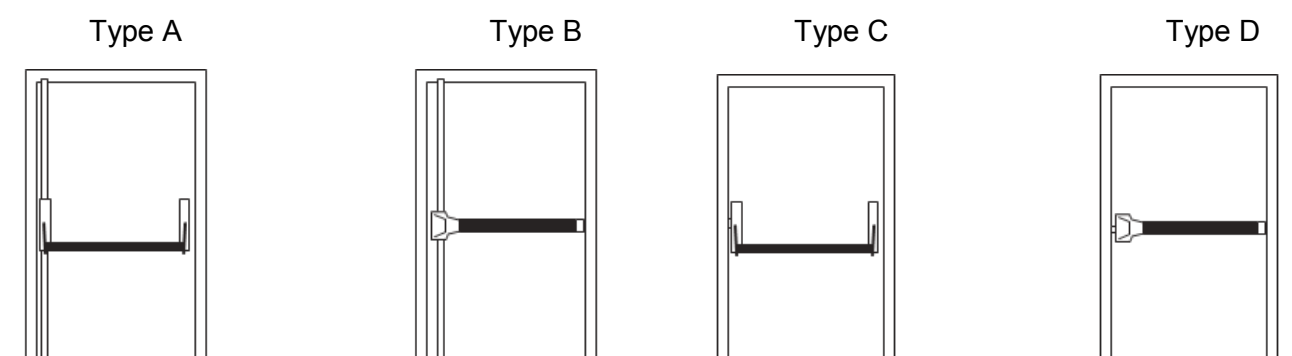
4. Panic Exit Devices

Doors at 'Final Exits' in public buildings such as places of entertainment and shops or shopping centres should be fitted with panic devices operated by a horizontal bar. The emphasis covered by BS EN 1125 is on safe exit as opposed to security (Fig. 4.).

The main purpose of the performance requirements of BS EN 1125 is to give safe and effective escape through a doorway with minimum effort and without prior knowledge of the device, i.e. for locked doors on escape routes where panic situations can be foreseen.

Note: The horizontal bar should normally be installed at a height of between 900 mm and 1 100 mm from 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 reducing the height of the bar.

Fig 4. Panic Exit Device Types



Type A: Panic bolt push bar

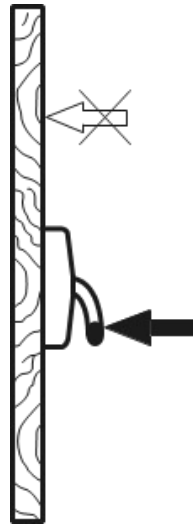
Type C: Panic latch push bar

Type B: Panic bolt touch bar

Type D: Panic latch touch bar

When a panic exit device is tested in accordance with para 4.1 and 4.2 of this document, the force required to release the panic exit device shall not exceed 80 N. The force must be applied in the direction of the arrow (on the device only) and in three different locations along the bar, with no additional force being applied to the door (Fig 5).

Fig 5. Release Application



5. Testing - Panic Exit Devices

5.1. Single Sash Door

Prior to testing, the emergency exit device must be correctly installed on the doorset and the door set hung in place in order to ensure testing is valid. Any additional devices and fittings should be installed and operating to ensure that reliable release is achieved in all expected situations (for example, when a deadbolt is fitted, it should be engaged prior to the release test).

With no thrust or pressure on any part of the door and with the door secured, the horizontal bar should be actuated by a force of 80 N, applied at three successive positions along the bar, midpoint and within a maximum of 25 (+10mm) from each end of the horizontal bar.

The test should be conducted three times at each location and each test recorded.

5.2. Double Sash Door

The test should be carried out on each leaf, depending on the door application as detailed in para 5.1.

6. Exit Device Door Final Inspections

Every door installed with an exit device product must be inspected and tested, and the client information and inspection results recorded by the installer. These records are to be retained by the installer for future reference, it is also recommended that a copy be issued to the customer.

The following details should be recorded:

- (1) Installation & Testing Date
- (2) Customer Order Number

- (3) Customer Name & Address
- (4) Site Installation Location & Address
- (5) Door Type: *Single or Double*
- (6) Door Size: *Width & Height*
- (7) Door Material: *PVC or Aluminium*
- (8) Exit Device Type & Brand: *Push Bar or Pad*
- (9) Force Gauge Readings
- (10) Any additional information relevant to the manufacture of the door, the fitting procedure or the location of the installation.

As best practice, a photograph should be taken of the internal side of the door as proof the exit device has been fitted correctly on installation. This shows all due care & attention has been performed to ensure the door is fit for purpose.

7. Disclaimer

This information is for guidance only. While SWC has been vigilant in ensuring compliance regarding the provision on the doorset and the devices, the installer is responsible for the installation, operation, recording and testing of the Emergency Exits and Panic Devices supplied by SWC Trade Frames Ltd.

8. Force Gauge Requirements

The force gauge shown at Fig 1 is the Sauter FK 1K Force Gauge 1000Hz, Range: 1000N, Resolution: 0.5 N (RS Stock No. 559-795 / Mfr. Part No. FK 1K) available from <https://uk.rs-online.com>. Any similar force gauge is required to carry out force testing as detailed in this document.



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