



# Unit 8

## Emergency Escape Lighting, Signs and Notices

### Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Understand and explain the importance of emergency escape lighting systems
- ✓ Ensure that emergency escape lighting systems are functional and regularly tested
- ✓ Discuss the basics of emergency escape route signage and communication

## Unit 8

### Emergency Escape Lighting, Signs and Notices

The primary purpose of emergency escape lighting is to illuminate escape routes but it also illuminates other safety equipment.

The size and type of your premises and the risk to the occupants will determine the complexity of the emergency escape lighting required.

Borrowed lighting may be suitable in small premises where the light is from a dependable source, e.g. street lamps, and it will adequately illuminate escape routes. Where borrowed lighting is not suitable, then a number of torches, in strategic positions, can be considered.

Single 'stand-alone' escape lighting units may be sufficient in small premises and these can sometimes be combined with exit or directional signs (Figure 54). The level of general illumination should not be significantly reduced by the sign.

In larger more complex premises a more comprehensive system of fixed automatic escape lighting is likely to be needed. This will be particularly true in premises with extensive basements or where there are significant numbers of staff or members of the public.

You will have identified the escape routes when carrying out your fire risk assessment and need to ensure that they are all adequately lit. If there are escape routes that are not permanently illuminated by normal lighting, such as external stairs, then a switch, clearly marked 'Escape lighting', or some other means of switching on the lighting should be provided at the entry to that area/stairs.

An emergency escape lighting system should normally cover the following:

- each exit door;
- escape routes;
- intersections of corridors;
- outside each final exit and on external escape routes;
- emergency escape signs;
- stairways so that each flight receives adequate light;
- changes in floor level;
- windowless rooms and toilet accommodation exceeding 8m<sup>2</sup>;
- firefighting equipment;
- fire alarm call points;
- equipment that would need to be shut down in an emergency;
- lifts; and
- areas in premises greater than 60m.

It is not necessary to provide individual lights (luminaires) for each item above, but there should be a sufficient overall level of light to allow them to be visible and usable.

Emergency escape lighting can be both 'maintained', i.e. on all the time, or 'non-maintained' which only operates when the normal lighting fails. Systems or individual lighting units



*Figure 8.1: Luminaires*

(luminaires) are designed to operate for durations of between one and three hours. In practice, the three-hour design is the most popular and can help with maintaining limited continued use of the premises during a power failure (other than in an emergency situation).

Emergency escape lighting (luminaires) can be stand-alone dedicated units or incorporated into normal light fittings. There are highly decorative versions of these for those areas that demand aesthetically pleasing fixtures. Power supplies can be rechargeable batteries integral to each unit, a central battery bank or an automatic start generator.

To complement emergency escape lighting, people, especially those unfamiliar with the premises, can be helped to identify exit routes by the use of way-guidance equipment. Way-guidance systems usually comprise photo-luminescent material, lines of LEDs, or strips of miniature incandescent lamps, forming a continuous marked escape route at lower level (Figure 8.2). These systems have proved particularly effective when people have to escape through smoke, and for partially-sighted people. They can be particularly useful in premises where they can provide marked routes on floors and in multi-storey premises they can direct people to escape routes which are seldom used.

If you decide that you need to install emergency escape lighting or to modify your existing system, any work should be carried out by a competent person in accordance with the appropriate standards. Further guidance is given in BS 5266-1 and BS 5266-8.



Figure 8.2: A 'way-guidance' system

Maintenance and testing of emergency escape lighting. All emergency escape lighting systems should be regularly tested and properly maintained to an appropriate standard. Most existing systems will need to be manually tested. However, some modern systems have self-testing facilities that reduce routine checks to a minimum.

Depending on your type of installation you should be able to carry out most of the routine tests yourself. The test method will vary. If you are not sure how to carry out these tests you should contact your supplier or other competent person.

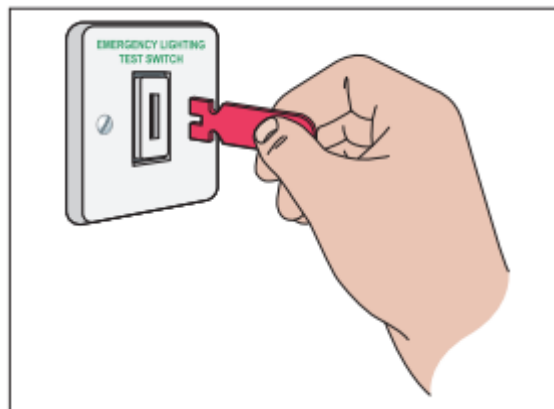


Figure 8.3: A test key

Test facilities often take the form of a 'fishtail' (Figure 8.3) key inserted in a special switch either near the main fuse board or adjacent to relevant light switches.

Typically, testing would include:

- a daily visual check of any central controls;
- a monthly function test by operating the test facility for a period sufficient to ensure that each emergency lamp illuminates; and
- an annual full discharge test.

Particular care needs to be taken following a full discharge test. Batteries typically take 24 hours to re-charge and the premises should not be re-occupied until the emergency lighting system is fully functioning unless alternative arrangements have been made. See BS 5266-8 for more information.

It is good practice to keep a record of tests.

## Escape Signs

### Signs and Notices

#### Signs

Signs must be used, where necessary, to help people identify escape routes, find firefighting equipment and emergency fire telephones. These signs are required under the Health and Safety (Safety Signs and Signals) Regulations 1996 and must comply with the provisions of those Regulations.

A fire risk assessment that determines that no escape signs are required (because, for example, trained staff will always be available to help members of the public to escape routes), is unlikely to be acceptable to an enforcing authority other than in the smallest and simplest of premises where the exits are in regular use and familiar to employees and visitors.

For a sign to comply with these Regulations it must be in pictogram form (see Figure 8.4). The pictogram can be supplemented by text if this is considered necessary to make the sign more easily understood, but you must not have a safety sign that uses only text.



Figure 8.4: BS-type sign

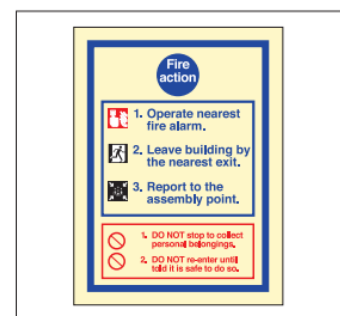


Figure 8.5: Simple fire action notice

Where the locations of escape routes and firefighting equipment are readily apparent and the firefighting equipment is visible at all times, then signs are not necessary. In all other situations it is likely that the fire risk assessment will indicate that signs will be necessary.

### Notices

Notices must be used, where necessary, to provide the following:

- instructions on how to use any fire safety equipment;
- the actions to be taken in the event of fire; and
- help for the fire and rescue service (e.g. location of sprinkler valves or electrical cut-off switches).

All signs and notices should be positioned so that they can be easily seen and understood.

### Checklist



- Where necessary are escape routes and exits, the locations of firefighting equipment and emergency fire telephones indicated by appropriate signs?
- Have you provided notices such as those giving information on how to operate security devices on exit doors, those indicating doors enclosing fire hazards that must be kept shut and fire action notices for staff and other people?
- Are you maintaining all the necessary signs and notices so that they continue to be correct, legible and understood?
- Are you maintaining signs that you have provided for the information of the fire and rescue service, such as those indicating the location of water suppression stop valves and the storage of hazardous substances?

### Installation, Testing and Maintenance

New fire precautions should be installed by a competent person.

You must keep any existing equipment, devices or facilities that are provided in your premises for the safety of people, such as fire alarms, fire extinguishers, lighting, signs, fire exits and fire doors, in effective working order and maintain fire separating elements and the prevention of smoke into escape routes.

You must ensure regular checks, periodic servicing and maintenance are carried out whatever the size of your premises and any defects are put right as quickly as possible.

You, or a person you have nominated, can carry out certain checks and routine maintenance work. Further maintenance may need to be carried out by a competent service engineer. Where contractors are used, third party certification is one method where a reasonable assurance of quality of work and competence can be achieved.

The following are examples of checks and tests that should be carried out. The examples of testing and maintenance given are not intended to be prescriptive and other testing regimes may be appropriate.

### Daily Checks

Remove bolts, padlocks and security devices from fire exits, ensure that doors on escape routes swing freely and close fully and check escape routes to ensure they are clear from obstructions and combustible materials. Check the fire alarm panel to ensure the system is active and fully operational. Where practicable, visually check that emergency lighting units are in good repair and working. Check that all safety signs and notices are legible.

### Weekly Tests and Checks

Test fire-detection and warning systems and manually-operated warning devices weekly following the manufacturer’s or installer’s instructions. Check the batteries of safety torches and that fire extinguishers and hose reels are correctly located and in apparent working order. Fire pumps and standby diesel engines should be tested for 30 minutes each week.

### Monthly Tests and Checks

Test all emergency lighting systems and safety torches to make sure they have enough charge and illumination according to the manufacturer’s or supplier’s instructions. This should be at an appropriate time when, following the test, they will not be immediately required.

Check that fire doors are in good working order and closing correctly and that the frames and seals are intact.

### Six-monthly Tests and Checks

A competent person should test and maintain the fire-detection and warning system.

### Annual Tests and Checks

The emergency lighting and all firefighting equipment, fire alarms and other installed systems should be tested and maintained by a competent person.

All structural fire protection and elements of fire compartmentation should be inspected and any remedial action carried out.

#### Checklist



- Do you regularly check all fire doors and escape routes and associated lighting and signs?
- Do you regularly check all your firefighting equipment?
- Do you regularly check your fire-detection and alarm equipment?
- Are those who test and maintain the equipment competent to do so?
- Do you keep a log book to record tests and maintenance?

In simple premises, a few signs indicating the alternative exit(s) might be all that is needed. In larger and more complex premises, a series of signs directing people along the escape routes towards the final exit might be needed.

Many people with poor vision retain some sight and are able to recognise changing or

contrasting colour to provide them with visual clues when moving around a building.\* 102It may sufficient to paint any columns and walls in a contrasting colour and to highlight changes in level by, for example, making the nosing to step and stair treads a contrasting colour (see BS 8300<sup>14</sup>).

For people with no sight, a well-managed 'buddy system', continuous handrails or a sound localisation system (which helps people to move towards an alert sound), or the installation of more tactile aids may be appropriate.

Exit signs should be clearly visible whenever the public, staff and contractors are present.

### Positioning of escape signs

The presence of other signs in shops (such as advertising and customer information) or shop dressing, can distract attention from, or obscure the visibility of escape signs. This could affect people's ability to see and understand escape signs, particularly if there is a fire evacuation. Always ensure that escape signs are not overwhelmed.

Escape signs should meet the following criteria:

- They should provide clear, unambiguous information to enable people to safely leave a building in an emergency.
- Every escape route sign should, where necessary, incorporate, or be accompanied by, a directional arrow. Arrows should not be used on their own.
- If the escape route to the nearest exit is not obvious then it should be indicated by a sign(s).
- Signs should be positioned so that a person escaping will always have the next escape route sign in sight.
- Escape signs should be fixed above the door in the direction of escape and not be fixed to doors, as they will not be visible if the door is open.
- Signs mounted above doors should be at a height of between 2.0m and 2.5m above the floor.
- Signs on walls should be mounted between 1.7m and 2.0m above the floor.
- Mounting heights greater than 2.5m may be used for hanging signs, e.g. in large open spaces or for operational reasons, but care should be taken to ensure that such signs are both conspicuous and legible. In such case larger signs may be necessary.
- Signs should be sited at the same height throughout the escape route, so far as is reasonably practicable.

### Escape Sign Design

For a sign to comply with safety signs and signals regulations it must be pictographic (see Figures 8.6 and 8.7). The pictogram can be supplemented by text if this is considered necessary to make the sign easily understood (BS-type sign), but you must not have a safety sign that uses only text. Either type of sign can be used but different types should not be mixed. Appropriate signs should take into account the needs of those who may need to use them.

The legibility of escape signs is determined by the size of the sign, its level of illumination and the distance over which it is viewed. The use of signs within the same premises should follow a consistent design pattern or scheme. You should not rely on a few outsized signs which may

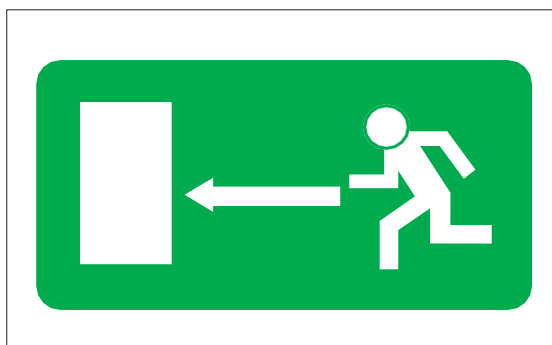
encourage people to travel to a particular escape route when other more appropriate routes should be used.

In multi-occupied premises, co-operation between the respective 'responsible persons' should be sought to ensure that, as far as possible, all signs in the building conform to a single pattern or scheme.

The Royal National Institute of the Blind estimates that only about 4% of visually impaired people are totally blind.



*Figure 8.6: BS-type sign*



*Figure 8.7: Euro sign*

### Other Safety Signs and Notices

A number of other mandatory signs such as 'Fire action' notices may also be necessary.

Fire doors that have been fitted with self-closing devices should be labelled 'Fire door – keep shut' (Figure 8.8) on both sides. fire-resisting doors to cupboards, stores and service ducts that are not self-closing because they are routinely kept locked should be labelled 'Fire door – keep locked' on the outside.

Signs should indicate non-automatic fire safety equipment if there is any doubt about its location, e.g. fire extinguishers that are kept in cabinets or in recesses.



*Figure 8.8: Fire door 'keep shut' notice*

A notice with the words 'Push bar to open' should be permanently displayed immediately above the push-bar on all doors fitted with a panic bolt or panic latch.

A notice with the words 'Fire escape – keep clear' should be permanently displayed at about eye level on the external face of all doors which are provided as a means of escape in case of fire and which, because they are not normally used, may become obstructed.

### **Staff Notices**

In simple premises where there are a limited number of escape routes, it may be reasonable to provide staff with verbal reminders of what they need to do if there is a fire. In some premises, you could consider providing this in a short written statement that could, for example, be delivered with staff pay slips every six months.

In multi-occupied, larger and more complex premises or where there is a high turnover of staff, a more considered approach for staff notices and instructions will be necessary. As well as positioning the fire instructions notice on escape routes adjacent to fire break-glass call points (Figure 8.9), put them where staff frequently assemble in the premises, e.g. the canteen and locker rooms.

If your premises are routinely expected to accommodate people whose first language is not English you may need to consider providing instruction in more than one language. The interpretation should always convey an identical message.

### **Illumination**

All signs and notices will need illumination to ensure they are conspicuous and legible. There are a number of options available to achieve this, such as:

- external illumination; and
- internal illumination.

The supplier or other competent person can give you further advice.

Signs or notices of the photo-luminescent type, i.e. where the active material making up the luminous parts of such signs or notices needs a period of exposure to light before they become visible in darkness (but get fainter with time), are not a substitute for appropriate

emergency lighting and should only be used where other forms of illumination are present.

Figure 60: Staff action notice

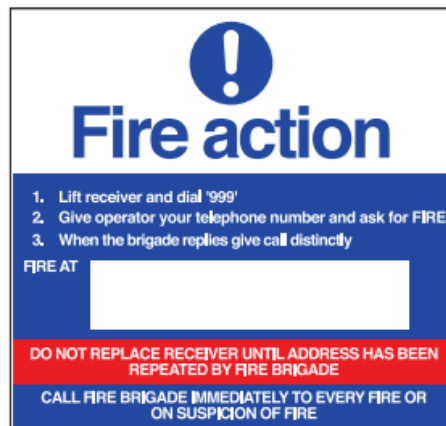


Figure 8.9 Staff action notice

### Further Reading:

- ✓ *Trial by Fire: A Devastating Tragedy, 100 Lives Lost, and a 15-Year Search for Truth Hardcover – October 27, 2020 by Scott James*
- ✓ *fire alarm log book 2021: Fire Alarm Testing Log Book, Health And Safety Compliance Record Book , Fire Alarm Checklist (Fire Inspection And Testing Log) Paperback – April 7, 2021 by MoodLog Books (Author)*