



A General Guide to Emergency Lighting

by Andrew Orange, May 2011

Emergency lighting has always been a topic most of us like to avoid – I mean they are ugly things that we stick in the corner somewhere surely? The challenge sometimes as designers is to specify emergency lights that are aesthetically pleasing!



Before we explore the creative side – let's first bring you up to speed with some basics. This is our general guide – not an alternative to reading of the regulations in depth!

What is 'emergency lighting'?

When there is a power failure to the lighting circuits, there must be an independent back up power to keep the interior of the building lit. For quick evacuation there must be a series of light fittings to direct the building's occupants to the nearest exit.

What buildings require them?

A quick answer is any publicly shared buildings.

What kind of emergency lights are there?

Maintained: These are dedicated emergency lights that remain off until a

power failure. Generally functional in form.

Non Maintained: where emergency lamps are illuminated at all times using the same lamp for both normal and emergency operation. The lamp is operated from a battery which is charged from the mains lighting system.

Sustained: a combination of the above and includes two sets of lamps. One operating on mains 240V AC supply, and the other from the battery supply in the event of mains failure, in short, a non-maintained system which can also be operated with mains lamps whenever the premises are occupied.

Slave: to a central battery system where only the lamp (and an inverter if fluorescent) is located within the luminaire body and the supply on power failure is fed from a centralised point.



'Snake' Emergency Battery Pack

Where do the batteries go?

This is a key question!

Dedicated emergency lights have everything required built in and ready to go, you do not need to consider such a question.

However, generally the more aesthetically pleasing luminaires can sometimes be retrofitted with a battery pack. Be careful however as the conversion of standard fittings to include integral battery packs can struggle to avoid the extra kit casting shadows and causing dark spots within the fitting.

The batteries can also be connected to the light and located externally. Be careful though as the majority of common areas and stairwells in public buildings have concrete walls and soffits



and no recess to conceal them. The battery location must allow for regular maintenance checks where a connected LED indicator lamp reveals if the pack is keeping it's charge. The law requires regular testing and documentation of the emergency lighting system.

How long does the battery have to last?

Refer to the reg's for each specific area, but the longest is 3 hrs so if that is included then any reg is satisfied.

Where do I need to place emergency lights?

There must be a common sense approach to providing illumination to the quickest route out of a building, paying particular attention to;

- 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 8m²;
- firefighting equipment;
- fire alarm call points;
- equipment that would need to be shut down in an emergency;
- lifts and areas in premises greater than 60m².



What kind of lamp needs does an emergency luminaire require?

Lamping must be considered as the light levels are important, so in general a decent wattage compact fluorescent is the common lamp backed up. However, LED's are very useful in some areas for their efficiency and small size. The battery size is dependant on how much power is required to keep the lamp lit for the 1hr or 3hrs stipulated.



What choices do I have for better looking emergency lighting?

Design conscious interiors such as apartment common areas and restaurants require suitably chosen fittings.

External batteries: Determine whether the back up pack has to be integral to the fitting? If not then your choice widens. Where there is a recess depth to the luminaire, backed up downlights are a common choice.

Integral batteries: For surface mounted wall and ceiling lights, most commonly the batteries are integral. The choice is limited but there are fittings that are manufactured with the option of emergency batteries if required. We source and can propose decorative fittings that are designed to take back up packs as an option.

Contact us on 01279 812350
studio@andreworange.co.uk
www.houseoforange.co.uk

Building Regulations also state that all kinds of emergency lighting systems must comply with the British Standard BS 5266: Part 1: 2005, and IEE wiring regulations.

Further reading:
<http://www.firesafe.org.uk/html/fsequip/emerglght.htm>