



IET Wiring Regulations Locations Containing a Bath or Shower

The following briefly describes the installation rules for locations containing a bath or shower based on BS7671:2008 + Amd 1 (17th Edition IET Wiring Regulations + Amd 1).

Complete requirements are given in the 17th Edition IET Wiring Regulations + Amd 1 (BS7671:2008 + Amd 1) Requirements for Electrical Installations, copies of which may be obtained from :

The Institution of Engineering and Technology
Michael Faraday House
Six Hills Way
Stevenage
Hertfordshire
SG1 2AY
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IEE Requirements for Electrical Installations

Requirements for locations containing a bath or shower are specified in Section 701 which must be read in conjunction with the main text of the requirements. It is not 'stand alone' Section.

The requirements arrange the location into zones (as shown by example on the attached diagram) and specify certain restrictions relating to those zones.

A prime requirement is that the product must be safe for its intended use and be installed in such a way that it will operate safely without danger to persons, animals or its surroundings.

RCD Protection

All final circuits in a room containing a bath or shower must now be protected by a 30mA RCD



IP Ratings

The requirements make reference to 'IP' ratings. The abbreviation 'IP' stands for 'Ingress Protection' but is more commonly known as "Ingress Protection"

The letters 'IP' are followed by 2 numbers, the first of which relates to the degree of protection against the ingress of 'solid' objects and the second to the degree of protection against the ingress of 'moisture' or 'liquid'. The higher the number the greater the protection.

Requirements for IP ratings are given in the luminaire product standard BS EN 60598.

Locations containing a bath or shower are obviously expected to be moisture laden, therefore, the requirements make reference only to the second numeral, the first being denoted by the 'unspecified' value 'X'.

The minimum IP requirements are:

Zone 0 - IPX7

Zone 1 - IPX4 (or IPX5 if water jets are used e.g. for cleaning)

Zone 2 - IPX4 (or IPX5 if water jets are used e.g. for cleaning)

SELV

The abbreviation 'SELV' means 'Safety Extra Low Voltage'. This is a voltage, in this case less than 12V a.c or 30V d.c., supplied from a safety source usually being a safety isolating transformer.

Socket-outlets

Socket-outlets are now permitted in bathrooms provided they are located at least 3m horizontally from the boundary of Zone 1.

Luminaires

Luminaires are required to comply with the requirements of BS EN 60598.

Sinks and wash basins

The IET requirements do not make specific reference to wash basins or sinks.

Installations must, however, be safe, therefore, it is recommended that similar precaution be taken when installing luminaires in the vicinity of wash basins. The LA view is that wash basins should be treated as Zone 1/2 (i.e. IPX4).

Packaging Labels

Annex 2 gives examples of labels which may be attached to packaging in order to better assist customers. These labels are NOT part of the requirements, they are included here only as examples. An indication of the IP rating MUST be affixed to the product and is recommended to be visible on the packaging



Information Sheet

LIA IS 07

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For LIA members use only

Updated from LAIS 28

Brief resume of requirements

Zones	Requirements for equipment in the zones		
	Minimum degree of protection	Current-using equipment e.g. appliance or luminaire	Switchgear, controlgear and accessories
0	IPX7	Only 12V SELV fixed equipment that cannot be located elsewhere	None allowed
1	IPX4 (Electrical equipment exposed to water jets e.g. for cleaning purposes shall have a degree of protection of at least IPX5)	The following fixed and permanently connected current-using equipment if suitable for installation in Zone 1 according to the manufacturer's instructions: <ul style="list-style-type: none"> - Luminaires - Whirlpool units - Electric showers - Equipment protected by SELV or PELV at a nominal voltage not exceeding 25 V a.c. rms or 60 V ripple-free d.c. the safety source being installed outside Zones 0, 1 and 2. - Ventilation equipment - Towel rails - Water heating appliances 	Only switches of SELV circuits supplied at a nominal voltage not exceeding 12 V a.c. rms or 30 V ripple free d.c. shall be installed, the safety source being outside Zones 0, 1 and 2.
2	IPX4 (Electrical equipment exposed to water jets e.g. for cleaning purposes shall have a degree of protection of at least IPX5)	Current using equipment if suitable	Switchgear, accessories incorporating switches or socket-outlets shall not be installed with the exception of: <ul style="list-style-type: none"> (i) switches and socket-outlets of SELV circuits, the safety source being installed outside Zones 0, 1 and 2 (ii) shaver supply units complying with BS EN 61558-2-5
Outside Zones	No additional requirement but subject to Regulations 512.2	Current using equipment if suitable	Except for SELV socket-outlets complying with Section 414 and shaver supply units complying with BS EN 61558-2-5, socket outlets are prohibited within a distance of 3m horizontally from the boundary of Zone 1.



LIA ADVICE FOR LOCATIONS CONTAINING A BATH OR SHOWER

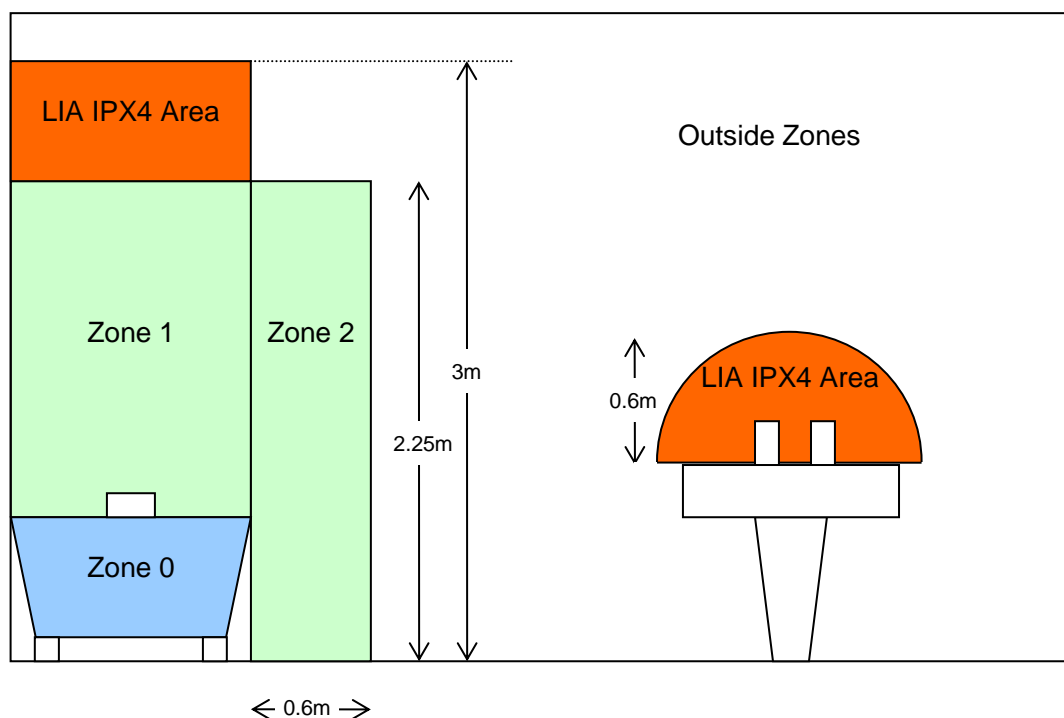
Further to the 2008 UK Wiring Regulations relating to locations containing a bathtub or shower basin the LIA, as a cautionary measure, advises the following which is beyond the scope of the regs.

The below advice is based on the real possibility of luminaires in the vicinity of baths and sinks being splashed with water and therefore the lamp being splashed if installed in an open luminaire. Lamp safety standards give guidance on which lamps are not suitable for splashing, these include GLS and GU10/GU5.3 halogen reflectors. Splashing of these lamps could cause failure of the lamp bulb and glass to fall from the luminaire.

Based on these considerations :

- **The LIA continues to advise members that the area around sinks (up to 60cm) should be treated as zone 1/2 and IPX4 luminaires should be installed.**
- **The LIA advises members that IPX4 luminaires should be used in the location above Zone 1 (over the bath or shower) up to a ceiling height of 3m.**

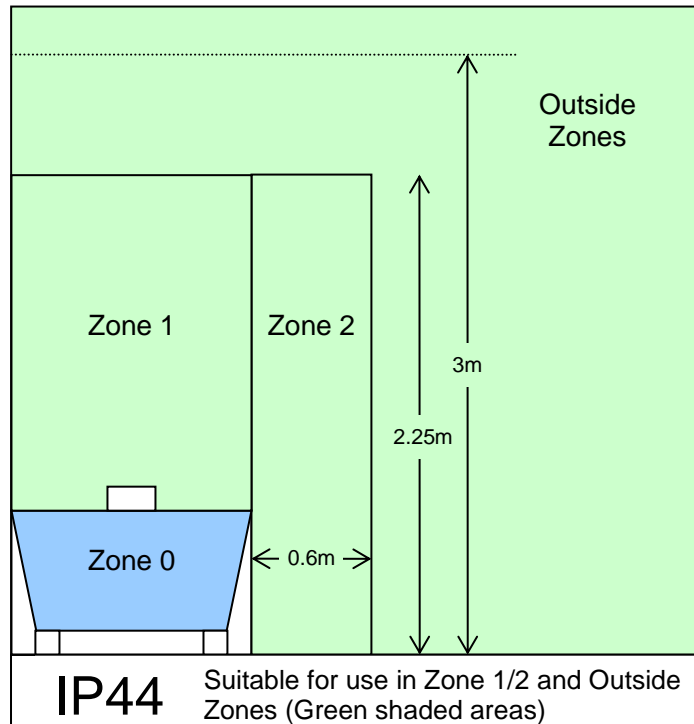
ANNEX 1 - Diagram of the Wiring Regs zones and the LIA IPX4 area :



* Note – the area under the bath is classed as outside zones if it is behind a panel that can only be accessed with the aid of a tool



ANNEX 2 – Example of a label (not compulsory)



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