



Alliance Remedial Supplies Ltd

*Supplies of specialist building materials
and renovation treatment products*

BS 7671:2008 Requirements for Electrical Installations

IEE Wiring Regulations 17th Edition

Guide to Siting Equipment in a Location Containing a Bath or Shower

Zone 0

Applies to inside the bath or shower. Here electrical products must be low voltage (a maximum of 12V) and be IPX7, i.e. can withstand total accidental immersion.

Zone 1

Applies to the area around the bath or shower up to a height of 2.25m above the floor and at a radius of 1.2m from the water outlet. A minimum rating of IPX4 is required. If the fitting is 240V a 30mA residual current device (RCD) must also be used to protect the circuit in this zone, i.e. SELV with the transformer located beyond zone 2.



Zone 2

Applies to the area beyond Zones 0 and 1, 0.6m horizontally and up to 2.25m vertically, including any recessed window with a sill next to the bath. This area requires electrical products to be IPX4 or better, or SELV with the transformer located beyond zone 2. It is advisable to consider the area around a wash basin, within a 60cm radius of any tap as Zone 2.

Extractor Fans

A suitable 230V extractor fan may be installed both in zones 1 and 2, and outside the zones. If an extractor fan is installed in zone 1 or 2 it must be protected against the ingress of moisture to at least IPX4 and be suitable according to manufacturer's instructions. Regulation 701.512.2 requires that equipment exposed to water jets (for example, for cleaning purposes), shall have a degree of protection of at least IPX5.

An extractor fan supplied from a lighting circuit for a bathroom without a window should have its own means of isolation, as otherwise replacement or maintenance of the fan would have to be carried out in the dark. An isolation switch for a fan with an overrun facility will need to be triple-pole (switch wire, line and neutral), and must be installed outside zones 0, 1 and 2.

RCD Protection

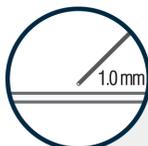
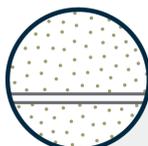
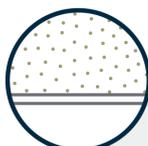
Regulation 701.411.3.3 requires that additional protection shall be provided for all circuits of the location by the use of one or more RCDs having the characteristics specified in Regulation 415.1.1. This means that all circuits, including lighting, electric showers, heated towel rails, etc. require RCD protection not exceeding 30 mA.

IP Rating Chart

IP ratings are represented by combining the first and second digits of the following columns. See example below.

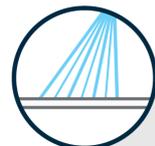
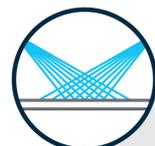
1st Digit - SOLID

Degree of protection against solid objects

	No Protection	0
	Protected against a solid object greater than 50mm, such as a hand.	1
	Protected against a solid object greater than 12.5mm, such as a finger.	2
	Protected against a solid object greater than 2.5mm, such as a wire.	3
	Protected against a solid object greater than 1.0mm, such as a thin strap.	4
	Dust Protected. Prevents ingress of dust sufficient to cause harm.	5
	Dust tight. No ingress of dust.	6

2nd Digit - LIQUID

Degree of protection against water

	No Protection	0
	Protected against water drops.	1
	Protected against water drops at a 15 degree angle.	2
	Protected against water spray at 60 degree angle.	3
	Protected against water splashing from any angle.	4
	Protected against water jets from any angle.	5
	Protected against powerful water jets and heavy seas.	6
	Protected against the effects of temporary submersion in water. (30 minutes at 3 feet)	7
	Protected against the effects of permanent submersion in water. (Up to 13 feet)	8

Example:

