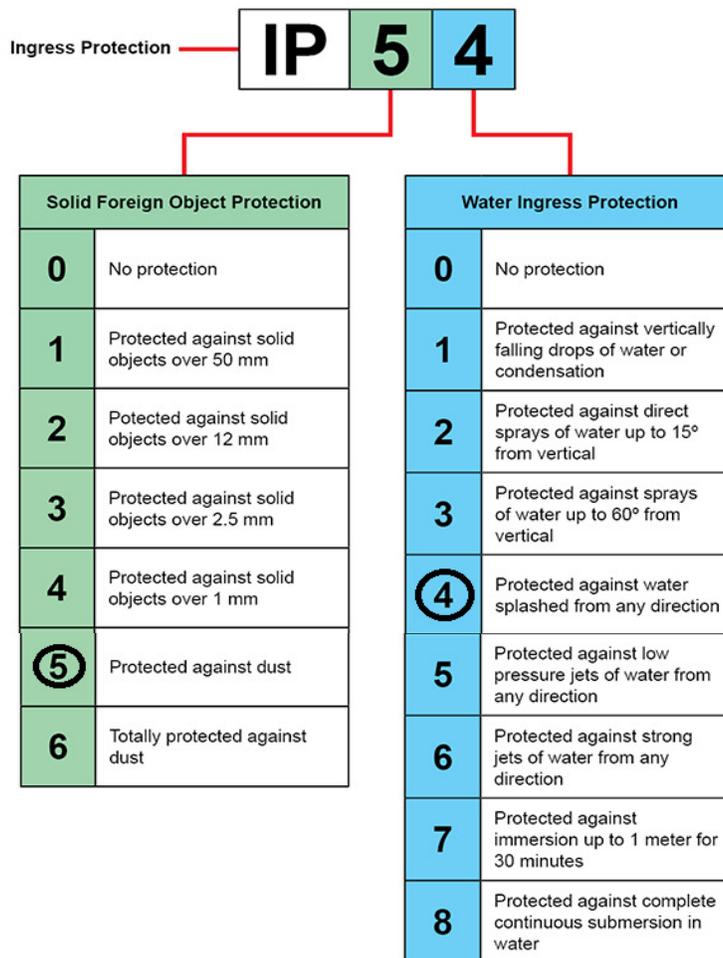


Lighting Engineering Article : IP Ratings in Bathroom Lighting

Almost all Architectures, designers, Engineers and general technical persons who engages with Lighting applications have general idea of IP Rating of the fittings and its application. But sometimes it is being noted over rated IP rating is requested or used in Bath Room lighting application. This article describes correct IP rating which should be used for a Bathroom as per IEE Wiring Regulation 18th Edition.

IP stands for **I**ngress **P**rotection, it is formed for two digits (eg. IP XX). The first digit indicates the level of protection against solid objects. The second digit indicates the level of protection against liquids.

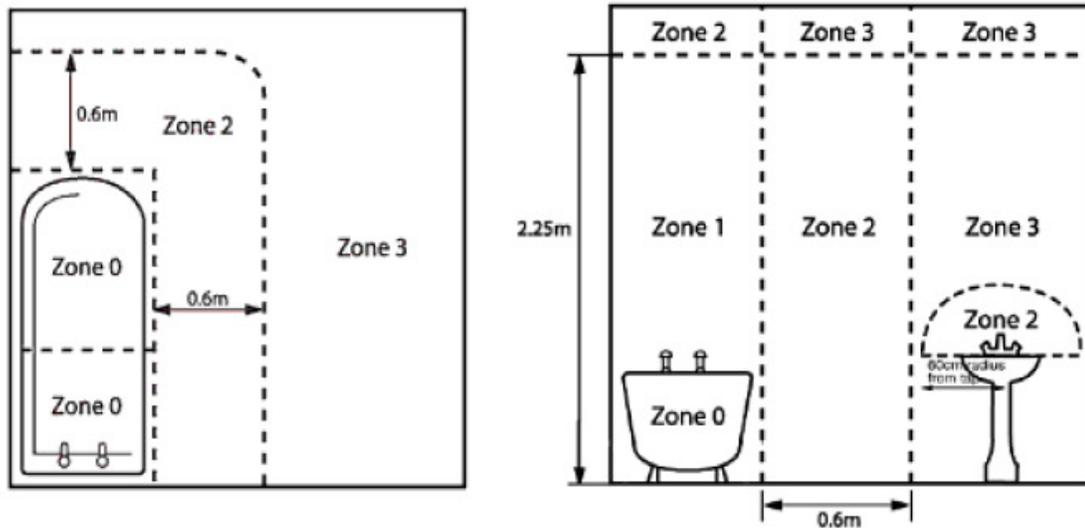


Great attention to be taken when selecting bathroom lights. Down lights, indirect LED strip cove lighting are used for general illumination in the bathroom. Mirror lights are used as a task lighting. Portable lights are not permitted in a bathroom.

The below diagram shows the Bathroom Zones. A bathroom is divided into four zones named 0,1,2 & 3.

Zone 0: This is inside the bath or shower itself. Any fitting used in this zone must be low voltage, (max 12v) and be rated at least IP67 which is total immersion proof.

Zone 1: This 1 is the area above the bath to a height of 2.25m from the floor. In this zone a minimum rating of IP44 is required. If the fitting is 240v a 30ma residual current device (RCD) must also be used to protect the circuit in this zone.



Zone 2: This is an area stretching 0.6m outside the perimeter of the bath and to a height of 2.25m from the floor. In this zone an IP rating of at least IP44 is required. In addition, it is good practice to consider the area around a wash basin, within a 60cm radius of any tap to be considered as zone 2.

Zone 3: This is anywhere outside zones 0,1 and 2 (subject to specific limits) and where no water jet is likely to be used. No IP rating is required. In addition to the above, if there is a likelihood of water jets being used for cleaning purpose in zones 1,2 and 3 a fitting rated a minimum IP65 must be used.

Zone	Description	Requirment - Lighting
0	The interior of the bath tub or shower basin.	Only SELV not exceeding 12v AC nominal voltage. Transformers must be sited outside Zones 0,1,2. IP rating must be at IP67.
1	Area immediately above bath or shower tray.	IP rating of at least IP44. Where water jets are likely to be used for cleaning purposes in communal baths & showers at least IP65 is required.
2	Within 0.6m of the outside edge of the bath or shower.	IP rating of at least IP44. Where water jets are likely to be used for cleaning purposes in communal baths & showers at least IP65 is required.
3	Anywhere outside Zones 0,1 & 2.	No specific IP rating unless where water jets are likely to be used for cleaning purposes in communal baths & showers at least IP65 is required.