



The IP Rating system (or Ingress Protection rating) is a scale of how waterproof and airtight an item is, as specified by international standard IEC/EN 60529.

Words like 'waterproof' can be fairly vague so using the IP system gives a clear and concise guide to ensure that an item is suitable for the environment it will be installed in.

Each IP rating is made up of two numbers; the first being its protection from solid objects, ranging from body parts to dust, and the second being its protection from water, ranging from dripping water to complete submersion. For example, if you were to install an electrical product in a dusty environment like a beach or desert you would need the first number to be at least 5 or 6 to protect the products electrical circuits from being damaged by dust ingress. Or if you were installing an electrical product in a marine area where it might end up under water, you would need the second number to be at least 7 or 8.

Without the IP rating system you could order something 'waterproof' that might be protected from heavy rain, but would fill with water if submerged. And this is why the IP Rating system is so widely used and extremely helpful to save time and money.

The table below shows this in more detail:

Protection from Solid Objects	Protection from Liquids
0 – No protection	0 – No protection
1 – Protected from objects larger than 50mm	1 – Protected from vertical dripping water
2 – Protected from objects larger than 12mm	2 – Protected from water spray at 15°
3 – Protected from objects larger than 2.5mm	3 – Protected from water spray at 60°
4 – Protected from objects larger than 1.0mm	4 – Protected from water splashing all over
5 – Dust protected (no harmful ingress)	5 – Protected from low-pressure water jets
6 – Dust tight (no ingress at all)	6 – Protected from strong jets of water
	7 – Protected from immersion between 0.15m & 1.0m
	8 – Protected from longer periods of immersion