

IP Ratings (Ingress Protection)

Rating for Equipment and Enclosures

An IP Rating consists of three digits, each representing a different form of environmental exposure. The third digit is often left out, when not applicable, resulting in a 2-digit IP Rating.

The **first digit** represents protection against ingress of solid objects.

The **second digit** represents protection against ingress of liquids.

The **third digit (optional)** represents protection against mechanical impact damage.

The larger the value of each digit, the greater the protection from that influence. As an example, a product rated as IP573 would be better protected against environmental factors than another similar product that was only rated as IP432.

IP Ratings Table			
	First Number (Solids)	Second Number (Liquids)	Third Number (Mechanical Impact)
0	No protection	No protection	No protection
1	Protected against solid objects over 50mm e.g. hands, large tools	Protected against vertically falling drops of water or condensation	Protected against 0.225 joule impact (150g @ 15cm)
2	Protected against solid objects over 12mm e.g. hands, large tools	Protected against direct sprays of water up to 15° from vertical	Protected against 0.375 joule impact (250g @ 15cm)
3	Protected against solid objects over 2.5mm e.g. wire, small tools	Protected against direct sprays of water up to 60° from vertical	Protected against 0.5 joule impact (250g @ 20cm)
4	Protected against solid objects over 1.0mm e.g. wires	Protected against water sprayed from any direction. Limited ingress permitted	N/A
5	Limited protection against dust ingress (no harmful deposit)	Protected against low pressure water jets from any direction. Limited ingress permitted	Protected against 2.0 joule impact (500g @ 40cm)
6	Totally protected against dust ingress	Protected against high pressure water jets from any direction. Limited ingress permitted (Shipdeck)	N/A
7	N/A	Protected against the effects of immersion between 15cm and 1M.	Protected against 6.0 joule impact (1.5Kg @ 40cm)
8	N/A	Protected against long periods of immersion under pressure.	N/A
9	N/A	N/A	Protected against 20 joule impact (5Kg @ 40cm) Protected against 0.225 joule impact (150g @ 15cm)