

# IP (Ingress Protection) Ratings



Doc: IP/01

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## Extract from IEC:60529 (IP Code)

IEC:60529 describes a system for classifying the degrees of protection provided by the enclosures of electrical equipment. The system uses a 2 number code, the combination of which indicates the degree of protection.

| Ist Code Number | Level of protection against the ingress of solid foreign bodies | 2nd Code Number | Level of protection against water |
|-----------------|---|-----------------|-----------------------------------|
| 0               | No protection   | 0               | No protection                     |
| 1               | ≥ 50mm diameter   | 1               | Vertical dripping                 |
| 2               | ≥ 12.5mm diameter   | 2               | Angled (15°) dripping             |
| 3               | ≥ 2.5mm diameter  | 3               | Spraying (light water splashes)   |
| 4               | ≥ 1.0 mm diameter   | 4               | Splashing (water splashes)        |
| 5               | Dust protected  | 5               | Jetting (water squirts)           |
| 6               | Dust tight  | 6               | Powerful jetting                  |
|                 |   | 7               | Temporary immersion               |
|                 |   | 8               | Continuous immersion              |

Further test details for most common codes:

| 2nd Code Number | Test means   | Water flow Litres/min | Duration of test                                   |
|-----------------|--|-----------------------|--|
| 5               | Water jet hose nozzle. Nozzle 6.3mm Ø<br>Distance 2.5 to 3 m                           | 12.5 ±5%              | 1 minute per m <sup>2</sup> for at least 3 minutes |
| 6               | Water jet hose nozzle. Nozzle 12.5mm Ø<br>Distance 2.5 to 3 m                          | 100 ±5%               | 1 minute per m <sup>2</sup> for at least 3 minutes |
| 7               | Immersion tank. Water level on enclosure:<br>0.15m above the top, 1 m above the bottom | N/A                   | 30 minutes   |
| 8               | Immersion tank. Water level by agreement   | N/A                   | By agreement                                       |