

RESISTANCE INDEX


IP ratings


1st figure:
Protection against penetration by solid objects and contact with live parts.


2nd figure:
Protection against liquid penetration.

IP 0 .  No protection


IP . 0  No protection


IP 1 .  Protected against solid bodies larger than 50 mm (e.g. hand contact)


IP . 1  Protected against vertical water drops


IP 2 .  Protected against solid bodies larger than 12.5 mm (e.g. finger)

IP . 2  Protected against water drops up to 15° from the vertical


IP 3 .  Protected against solid bodies larger than 2.5 mm (e.g. tools, wires)

IP . 3  Protected against rain up to 60° from the vertical


IP 4 .  Protected against solid bodies larger than 1 mm (e.g. fine tools, nails)


IP . 4  Protected against water splashing from any directions


IP 5 .  Protected against dust

IP . 5  Protected against low-pressure water jets from any direction using a lance

IP 6 .  Totally protected against dust

IP . 6  Protected against high-pressure water jets from any direction

IP . 7  Protected against the effects of immersion

IP . 8  Equipment submersible under specified conditions

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VK[®] rating

VK[®] vandal resistance rating

| VK [®] rating | 1 st position | 2 nd position | (3 rd position) |
|------------------------|--------------------------|---|---|
| 0 | < 10 joules | no protection | no protection |
| 1 | 10 joules * | standard fastenings | flame resistance |
| 2 | 20 joules * | vandal-resistant fastenings (or secure closure) | graffiti resistance |
| 3 | 50 joules * | rip-out resistant | increased UV resistance (tropicalization) |
| 4 | 80 joules | rip-out-resistant + standard fastenings | resistance to marine environment |
| 5 | 120 joules | rip-out-resistant + vandal-resistant fastenings | - |
| 6 | 160 joules | anti-ligature + vandal-resistant fastenings | - |
| 7 | 200 joules | - | - |
| 8 | - | - | - |
| 9 | - | - | - |

By virtue of their characteristics, anti-ligature luminaires also resist ripping out.

The figure in the 3rd position is optional.

** Standardized values as per EN 62262: see IK rating*

IK rating

IK rating for resistance to mechanical impacts (EN 62262)

| Impact resistance | Mass / Drop height |
|----------------------|--------------------|
| IK 1 / 0.140 joule | 0.25 kg: 56 mm |
| IK 2 / 0.20 joule | 0.25 kg: 80 mm |
| IK 3 / 0.35 joule | 0.25 kg: 140 mm |
| IK 4 / 0.50 joule | 0.25 kg: 200 mm |
| IK 5 / 0.70 joule | 0.25 kg: 280 mm |
| IK 6 / 1 joule | 0.25 kg: 400 mm |
| IK 7 / 2 joules | 0.50 kg: 400 mm |
| IK 8 / 5 joules | 1.70 kg: 300 mm |
| IK 9 / 10 joules | 5 kg: 200 mm |
| IK 10 / 20 joules | 5 kg: 400 mm |
| IK 10+ / 50 joules | 10 kg: 500 mm |
| IK 10++ / 80 joules | 10 kg: 800 mm |
| IK 10++ / 120 joules | 15 kg: 800 mm |
| IK 10++ / 160 joules | 20 kg: 800 mm |
| IK 10++ / 200 joules | 25 kg: 800 mm |

The EN 62262 standard provides for a maximum resistance of IK10 = 20 joules, with the possibility of extending the test up to 50 joules.