

## LEC's protection rating: IP67, IP68, IP69

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International standard, the protection rating is defined by the International Electrotechnical Commission. The rating format is given by IEC standard 60529, for example: IP67. The IP is followed by two digits:

- 1<sup>st</sup> digit (tens) = protection against dust
- 2<sup>nd</sup> digit (units) = protection against water

Figures indicate the conformity to the summarized conditions shown in the table below. When no criteria is met, the figure can be replaced by the letter X.

First digit: protection for electrical equipment against the ingress of solid objects (including dust)	Second digit: protection for electrical equipment against the ingress of water
0 no protection	0 no protection
1 diameter $\geq$ 50 mm	1 vertical dripping water
2 diameter $\geq$ 12,5 mm	2 dripping water (15° angle)
3 diameter $\geq$ 2,5 mm	3 rain
4 diameter $\geq$ 1 mm	4 splashed water
5 dust protected	4K splashed water under pressure
6 dust tight	5 water jets
	6 powerful water jets
	6K powerful water jets under pressure
	7 temporary immersion
	8 prolonged immersion
	9K high pressure cleaning / steam jet

### Underground fixtures IP68, IP69 and external adjustment

According to IEC standard 60598-2-13, underground fixtures must be IP67. However, LEC exceeds this requirement in line with real conditions on the ground. Because spotlights can be immersed for prolonged periods of time: river flooding or poor drainage, all our underground fixtures are therefore IP68. We also offer external adjustment without opening the device for lighting products requiring LED unit adjustment. Eliminating the risk of damage of watertightness during installation!

For cleaning purposes, LEC also offers products with the maximum protection level, i.e. IP69, which corresponds to high-pressure cleaning.

### Wall projectors IP67

In relation to mounted spotlights and beacons, IEC standard 60598-2-5, LEC offers lights with a minimum rating of IP67. Why? To prevent the device filling with water just by switching it on and off. Because if a spotlight is not completely watertight, it produces a "pump effect":

- When switched on, the internal air heats up, expands and is released from the device ;
- When switched off, the internal air contracts leading to the ingress of external air, which is often moisture-laden. Water therefore accumulates in the spotlight... which causes a lot of damage in the medium term.

### Fountains projectors IP68 + stainless steel

For fountains, IEC standard 60598-2-18, where the device is permanently under water, LEC's lights offer protection level IP68. Casing materials are chosen to meet the specific corrosive constraints of these environments: cleaning acids, redox. I.e. 316L stainless steel and special joints that guarantee complete protection.

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### **LEC's protection rating: IP67, IP68, IP69**

#### Tested for guaranteed reliability

LEC tests the watertightness of all its lights individually before they leave the factory to guarantee complete protection against submersion.

A chain is only as reliable as its weakest link. So the adequacy of the level of watertightness to the environment in which it is installed is not dependent solely on the spotlights. It is important that the same rigour is applied to connections, electrical boxes and cables.

LEC offers all the accessories you need to ensure the durability of your installations, for example, AD8 cables, standard NF C15-100, allowing permanent submersion, very often used for underground ducts.