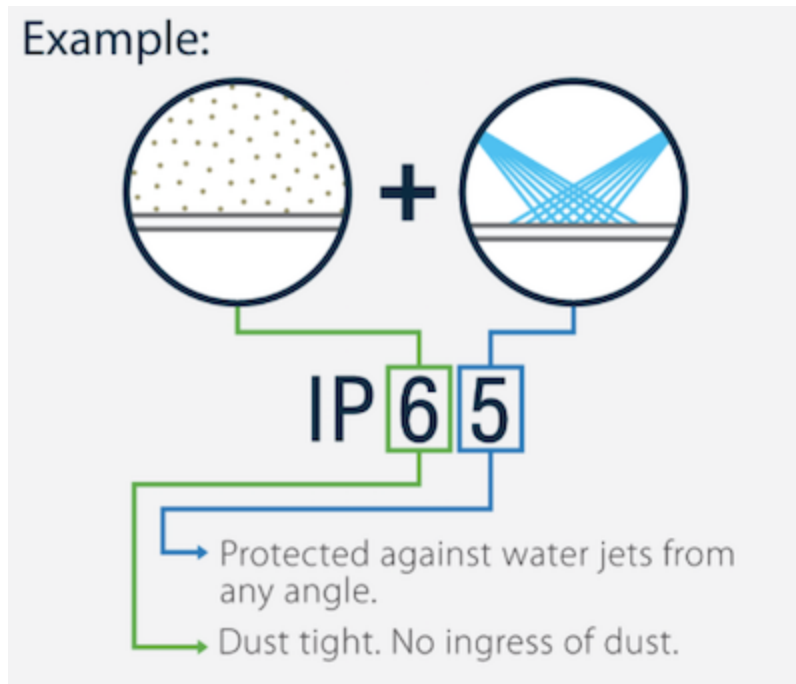


What are LED IP Ratings?

What does IP stand for?

IP is an acronym "Ingress Protection". It is a measurement of the protection an item will have against solid objects (dust, sand, dirt, etc.) and liquids.

An IP rating is comprised of 2 numbers. The first number refers to the protection against solid objects (dust, etc) and the second number refers to protection against liquids.



What is an IP Rating?

Each IP rating has two numbers, both of which give you information about the protection level. A higher number means greater protection against solids and liquids.

- The first number (0-6) refers to the level of protection against solid objects and moving parts, such as dust, debris, or other solid matter.
- The second number (0-8) references the level of liquid and moisture protection.

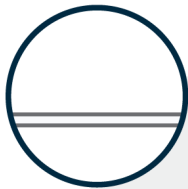
Take a look at the chart below to better understand the protection offered with each number.

IP Rating Chart

IP ratings are represented by combining the first and second digits of the following columns. See example below.

1st Digit - SOLID

Degree of protection against solid objects



No Protection

0



Protected against a solid object greater than 50mm, such as a hand.

1



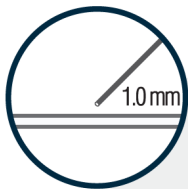
Protected against a solid object greater than 12.5mm, such as a finger.

2



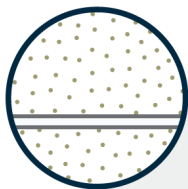
Protected against a solid object greater than 2.5mm, such as a wire.

3



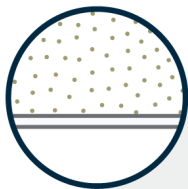
Protected against a solid object greater than 1.0mm, such as a thin strap.

4



Dust Protected. Prevents ingress of dust sufficient to cause harm.

5



Dust tight. No ingress of dust.

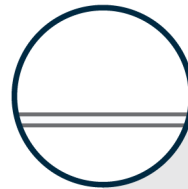
6

Example:



2nd Digit - LIQUID

Degree of protection against water



No Protection

0



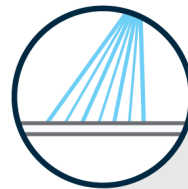
Protected against water drops.

1



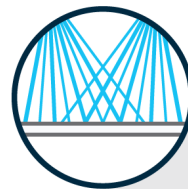
Protected against water drops at a 15 degree angle.

2



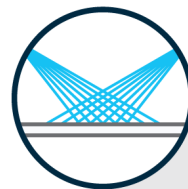
Protected against water spray at 60 degree angle.

3



Protected against water splashing from any angle.

4



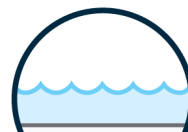
Protected against water jets from any angle.

5



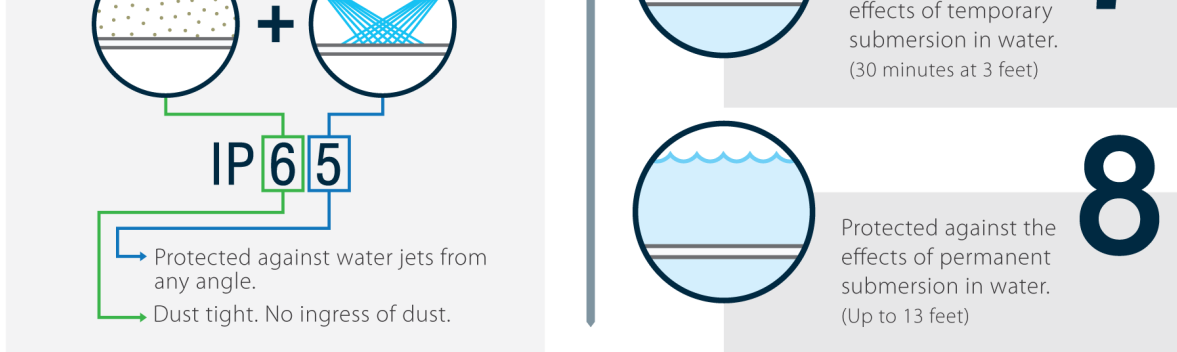
Protected against powerful water jets and heavy seas.

6



Protected against the

7



Example :With an **IP65 rating**, the LEDs can be used in an outside setting and are water-resistant but they are not waterproof and are not suitable to be submerged. An IP68 can be submerged in water.

What is the difference between IP65, IP67 & IP68?

The differences between commonly sold IP65, IP67, & IP68 strips are slight, but very important. Using the above chart as a guide, we can see that all strips are protected at the highest level from solids and dust. The variations come with the protection against liquids.

IP65 = Water resistant. “Protected against water jets from any angle” *Do NOT submerge IP65 LED lights, these are not waterproof.

IP67 = Water resistant plus. “Protected against the events of temporary submersion (10 minutes)”**Do NOT submerge IP67 LED lights for extended periods, these are not waterproof.

IP68 = Waterproof “Protected against the events of permanent submersion up to 3 meters”

What IP Rating Will You Need?

If you don’t anticipate a harsh environment that is extremely dusty or wet then a lower IP rating would suffice.

In places that will have a lot of dust, debris, or potential to be in contact with any solids or liquids, you’ll want to make sure that the IP ratings are high and that you have adequate water resistant or waterproof coatings on your LED strip lights.

Examples of IP Ratings and Uses

Low IP ratings are appropriate for:

- Indoor use
- Protected use inside sealed products
- Inside sealed signage
- When using aluminum extrusions

High IP ratings are appropriate for:

- Unsealed outdoor locations
- Places that have a lot of debris
- Areas with heavy foot traffic
- High splash areas
- High contact areas (people touching them)
- Wet locations