

# What is the IP water resistance standard? A guide to finding the correct information.

What is the IP water resistance standard? Discover the meaning of water and dust resistance ratings on electronic devices and the difference between IP67 and IP68. Check it out now!

You've just bought an expensive device but are always worried it will break if you accidentally drop it in the rain or spill a glass of water on it? The IP rating is a protection code indicating the level of protection against solid and liquid ingress into the device. This article from GearVN will help you decipher the most common IP ratings in detail, making it easier to choose a durable product that suits your practical needs.

## Key points

1. The IP rating system is a system for evaluating dust and water resistance, helping users understand the actual durability of a device.
2. The two digits in IP indicate the level of dust resistance (0 - 6) and water resistance (0 - 9), accurately reflecting the level of protection.
3. Common standards such as IP54, IP65, IP67, and IP68 are suitable for various environments, from basic to harsh.
4. Do not overuse the water resistance feature; real-world conditions differ from laboratory conditions and may affect the device warranty.

## 1. What is the IP water resistance rating?

The IP standard is a classification system for the level of protection of electronic equipment, issued by the International Electrotechnical Commission according to IEC 60529. It is an objective international scale for evaluating the ability of a device's casing to protect against environmental factors such as dust and liquids.

The numbers in IP ratings provide accurate technical information about equipment durability. This international technical standard helps users understand the safety limits of a product instead of relying on vague advertising jargon.



*The IP rating helps assess dust and water resistance.*

## **2. Simple ways to read IP standard specifications**

### **2.1. First digit: Dirt and dust resistance level**

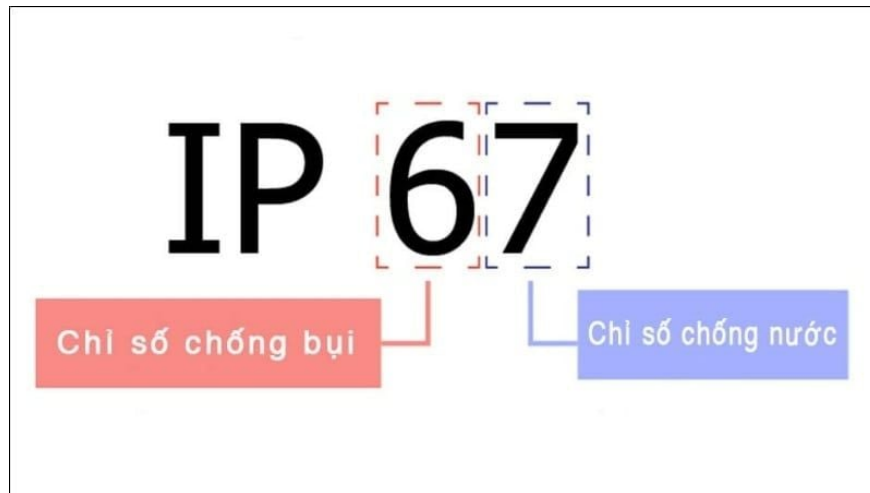
The first digit indicates the device's ability to protect the casing from solid objects and dust. This scale runs from 0 to 6:

1. **Level 0:** No protection whatsoever.
2. **Levels 1 to 4:** Blocks solid objects larger than 50mm to 1mm (such as hands, fingers, small tools, electrical wires).
3. **Level 5:** Prevents most dust and dirt. Dust may still get in, but it will not affect the machine's operation.
4. **Level 6:** Absolutely airtight. The device is 100% protected against the ingress of all types of fine dust.

### **2.2. Second digit: Water resistance level**

The second digit indicates the device's water and dust resistance rating when exposed to liquids. This scale runs from 0 to 9:

1. **Level 0:** Not waterproof.
2. **Levels 1 to 4:** Protects against vertically falling water droplets, angled splashes, and small amounts of water sprayed from all directions.
3. **Levels 5 and 6:** Resistant to low-pressure and high-pressure water jets from all directions.
4. **Level 7:** Withstands water pressure when submerged at a maximum depth of 1 meter for 30 minutes.
5. **Level 8:** Withstands submersion in water deeper than 1 meter for extended periods. Detailed specifications will be provided by the manufacturer.
6. **Level 9 (IPX9):** Protects the device from high-pressure water jets and high temperatures.



*The IP address structure consists of two digits that indicate the level.*

### **3. Common IP standards on current technology devices.**

#### **3.1. IPX4 and IP54 standards: Basic level of sweat and splash water resistance.**

This is a basic standard commonly found on inexpensive audio devices or phones. The device can withstand accidental splashes of hand sanitizer or light rain.

#### **3.2. IP65 Standard: Absolute dustproof and low-pressure spray resistant**

This standard ensures the device is completely dustproof and can withstand moderately pressurized water jets. This feature is essential for products installed outdoors, facing wind, dust, and heavy rain.



*IP65 protection ensures the device is completely dustproof and can withstand moderate pressure water jets.*

#### **3.3. IP67 Standard: Short-term submersion capability**

The IP67 rating means the device is securely sealed and can withstand direct submersion in water at a depth of 1 meter for up to 30 minutes. This standard ensures the device survives if it accidentally falls into a bathtub or a deep puddle.

### 3.4. IP68 Standard: The highest level of protection on mobile devices.

The difference between IP67 and IP68 lies in the depth and duration of submersion. IP68 is the maximum level of protection for commercial equipment today. The actual immersion distance ranges from 1.5 meters to 6 meters, depending on the manufacturer's design.



*IP68 provides good water and dust resistance.*

## 4. Advice on selecting IP-rated equipment based on actual needs.

1. **Students and office workers:** Devices with IP53 or IP54 ratings are sufficient. Indoor environments don't require high water resistance, saving you money on purchasing additional equipment.
2. **For athletes:** Prioritize headphones or watches with IPX4 or IP54 ratings. These devices are highly resistant to body sweat and sudden rain showers while running.
3. **Outdoor workers and delivery drivers:** It is mandatory to choose a phone that meets IP67 or IP68 standards. Dustproof and waterproof electronic devices will perform best in harsh, constantly humid environments.
4. **Streamers and Gamers:** Focusing on water resistance ratings isn't as important as prioritizing the cooling system. Gaming PCs and laptops prioritize airflow over airtightness.



*Choosing the right IP rating helps strike a balance between durability and cost.*

## **6. Frequently Asked Questions**

### **6.1. Can IP68-rated phones be taken swimming?**

Absolutely not recommended. The IP68 standard is tested under static water conditions. When you swim, swing your arms, or dive, dynamic water pressure hits the charging port and speaker much more forcefully than in still water, making it easier for water to penetrate the protective membrane.

### **6.2. What to do if an electronic device falls into water?**

To protect electronic devices from water damage, immediately retrieve them and turn them off. Use a soft cloth to dry the outer surface, gently shaking to remove water from the charging port. Then, place the device in a well-ventilated area to air dry or take it to a service center immediately. Absolutely do not use a high-temperature hairdryer as this will melt the waterproof sealant inside.

### **6.3. Why does the manufacturer refuse warranty coverage when the device gets wet?**

The meaning of the numbers in the IP standard only applies under laboratory conditions. In real-world use, the machine is subjected to natural wear and tear, drops, and cracks in the rubber seals. Litmus paper is always kept inside the machine; if the litmus turns red, it indicates that liquid has leaked into the motherboard, and manufacturers will refuse warranty coverage.



*Equipment damaged by water is usually not covered under warranty.*

*The IP water resistance rating is a reliable indicator for choosing technology devices suitable for various environments. However, this feature is purely for protection and should absolutely not be misused for underwater testing.*

You finished reading the article "**What is the IP water resistance standard? A guide to finding the correct information.**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.