

Amanda Caliao & Kethi Neloe

H2notOkay

What truly is iPhone's relationship with water and other common liquids?



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The iPhone is one of the world's most revolutionary smartphones to date that has advanced in intelligence and technological innovation within the smartphone world. One of these technological innovations is high resistance to water. The phone world, however, is guilty of using the terms; waterproof and water-resistant, interchangeably, so it is no wonder that many iPhone users appear to mistake the distinction between waterproof and water-resistant. The most common water-resistant definition is "**impervious to water**". Not all smartphones are completely impervious to water, but instead are resistant to water in certain circumstances. What you would also be shocked to find is that those circumstances can be quite specific. But at the end of the day no phones are truly waterproof as electronics and water do not mix well together.

What specifically makes the iPhone water resistant? With the release of the iPhone 7, Apple has ensured applying seals throughout the phone to be the main method of resisting water entry. The most important feature was applying a considerable amount of **adhesive** between the display and the iPhone's chassis. **Rubber gaskets** and **plugs** have been used to seal the SIM card tray and other passages such as volume control buttons and the lightning port. The buttons on the iPhone 7 have also gotten tighter tolerances in the case of water exposure as well as the removal of iPhone 7's AUX port (which was considered to be another

incentive to water resistance). Although these features may display a sense of comfortability between the iPhone and its relationship with water, all of the water-resistant capabilities will inevitably wear down throughout time. The loss of water blocking abilities are by the slowly degrading rubber gaskets and adhesive followed by dismantling the screen from the chassis in such case of fixing the device.

The iPhone and other electrical devices with the water resistant feature are classified under IP rating, short for "**Ingress Protection**". IP rating interprets the degree of **sealing effectiveness** of any electrical component against foreign matters such as dust and moisture. Each IP rating includes two digits, the first digit ranging from 0 (or X) to 6 as intrusion protection and the second digit ranging from 0 (or X) to 9 (or K) representing moisture protection. Now the latest iPhone 11, iPhone 11 Pro and iPhone 11 Pro Max all have the resistance rating of **IP68**, the same as the previous iPhone XS and XS Max. This means the smartphone can withstand a maximum depth of **2 metres** and up to **30 minutes** of water exposure. However, experiments conducted by CNet have discovered that the iPhone 11 series can actually go deeper up to 4 metres. It is strongly recommended not to exceed Apple's recommended restrictions and capabilities as Apple has specifically tested their products in Apple's Reliability Testing Lab to enhance the durability of their designs

Image (below):

Adhesive used in between the iPhone's display and chassis.





and products. Particularly in regards the water resistancy, Apple goes to extreme lengths by performing chemical sensitivity tests to evaluate the ability of iPhone devices to stand up to accidental spillages.

In the event of an accidental spill, common liquids other than water such as coffee, beer, tea and juice are resisted by iPhone SE (2nd generation), iPhone 11, iPhone 11 Pro, iPhone 11 Pro Max, iPhone XS, iPhone XS Max and iPhone XR. Unfortunately, older models such as the iPhone 7 have only been resistant against fresh water. Referring back to the loss of iPhone's water-blocking abilities over time, Apple has strongly advised users to never intentionally expose any iPhone to liquids. The exposure of different liquids lead to decay towards the gaskets and mesh, eventually allowing further damage to the iPhone's chassis. Other listed advices by Apple state to **avoid** exposing iPhones towards **pressurised** or **high velocity** water such as showering, water skiing, surfing and so on. The resolution provided was to rinse other common liquids with fresh water and to wipe and dry the phone with a soft, lint-free cloth.

Although Apple continues to celebrate and promote the iPhone's water-resistant ability, their fineprint exclusively outlines its **exclusion** of **Liquid Damage** under their warranty. Like most advertisements, customers may have been given a higher expectation towards the launch, contributing to Apple's continuous success towards their marketing strategies and sales. This proves the importance of research that that customers must go through that they're willing to spend a considerable amount of money on. The water resistant features in conclusion should still be treated with a lot of care versus negligence by solely relying on its capabilities.

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1M
iphone 7
iphone 8 plus
iphone 8
iphone 8 plus
iphone X
iphone XR

2M
iphone XS
iphone XS Max
iphone 11

4M
iphone 11 Pro
iphone 11 Max
iphone 12

