

# Akvo Caddisfly: Strip Tests Field Guide

To obtain good results with the Strip Test method of the Akvo Caddisfly app, it is important to have good light conditions in the field. Improper lighting can lead to difficulties to complete the measurement, or to low quality results. This document gives guidance on how to reach optimum results.

**Most importantly, the measurement process requires sufficient, natural light, with an equal light distribution on the color reference card.**

## Points for consideration:

- Sufficient natural outdoor light. Light conditions outside are better than inside. Light from fluorescent lamps should be avoided.
- Homogenous light conditions on the color reference card are important. When the app shows blue squares in the image of the color reference card, it means the light intensity is unequal, for example because shadows are present. Make sure to have an equal light distribution.
- When used in direct sunlight, unwanted specular reflections can be present in the image. In that case, place the card in the shadow (while making sure the shadow lighting is homogenous).
- Keep the color reference card dry and clean (free from dirt).
- Place the smartphone camera straight above the color reference card, without tilt.
- The complete color reference should be captured by the smartphone camera image, including the four black squares in the corners.
- Hold the phone at a fixed distance from the color reference card until the camera focuses.
- If the 'image quality' bar does not proceed, it sometimes helps to restart the test, which forces the camera to start focusing again.
- The patch of the test strip should be facing to the left on the color reference card
- Make sure that the color reference card is not placed upside down. The black square should be at the bottom and akvo.org should be readable.



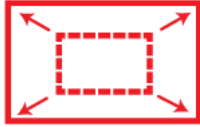
Color reference card including test strip with the patch facing left

## Additional remarks:

- Camera behavior varies between different phone brands and versions. If you have problems with a certain phone brand, please try to use a different brand or version. We advise to use the newer Samsung smartphones. We have developed a [whitelist](#) of smartphones that can be used for strip testing in Caddisfly.

## Symbols

When you see the symbols shown below, it means the positioning of the smartphone is not correct. Move the smartphone as indicated.



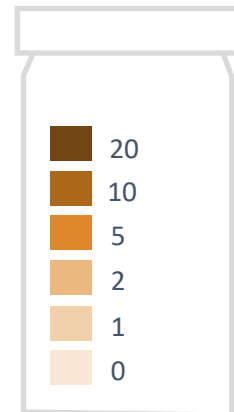
Move the smartphone closer to the color reference card.



Move the smartphone in the direction of the arrow.

## The accuracy of test strips readings

By their nature, test strips are not very precise, and should be used for screening purposes only. The colours indicated on test strip bottles define intervals of values, as shown in the illustration below. The intervals as shown are [0-1], [1-2], [2-5], [5-10], [10-20]. A result of a strip test measurement should always be understood as an indication of an interval. The Caddisfly app will display both a value, which is an interpolation inside an interval, and the relevant interval. The interval should be considered as the level of accuracy.



## Contact

If you still have questions or face difficulties please contact: [mert@akvo.org](mailto:mert@akvo.org)