

Online ADA Quick Guide

Accessibility and Color

By the Online ADA Auditing Team

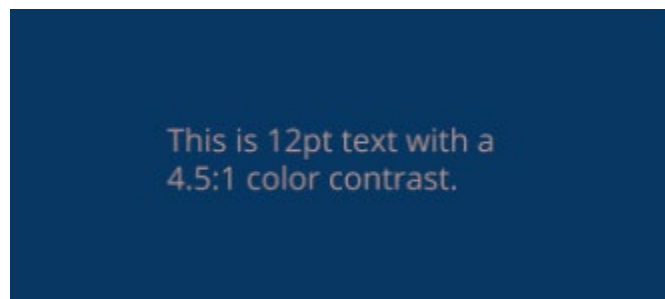
Some of the most common accessibility problems are color contrast and color use issues. Color contrasts and inappropriate use of color are accessibility issues that can be a significant barrier to users with a wide range of visual impairments and cognitive challenges, but that are easy to identify using automated accessibility programs. For many reasons, it is critical to identify and remedy color contrast problems wherever they may occur and to be aware of other color-perception problems such as the different types of color blindness.

Color Contrasts

WCAG does firmly define requirements for color contrasts for text and interactive elements on a page (links, buttons, form fields, etc.). Contrast requirements are Level AA guidelines, so if you want your webpage to conform to WCAG Level AA, you must meet them.

Regular Text

Regular text is defined in Success Criterion 1.4.3 as text that is smaller than 14pt/18px with a font weight of 400 or lower. Regular text must meet a 4:5:1 contrast ratio with its background.

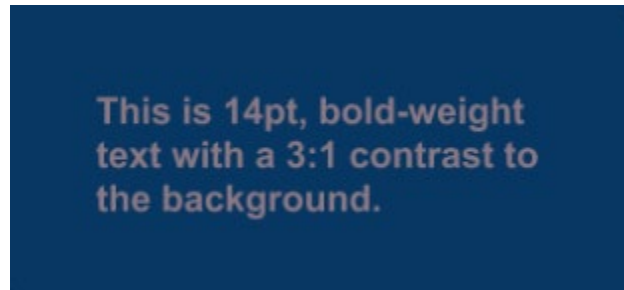


The colors used here are #073763 (background) and #C0948E (foreground).

This 4:5:1 contrast ratio is a minimum, so it's fine to make regular text higher contrast, just not lower contrast.

Large and/or Bold Text

Large text is defined in Success Criterion 1.4.3 as text that is 18pt/24px or larger, or 14pt/18px or larger and bold weight (600 or higher). Large text must meet a 3:1 contrast ratio with its background.

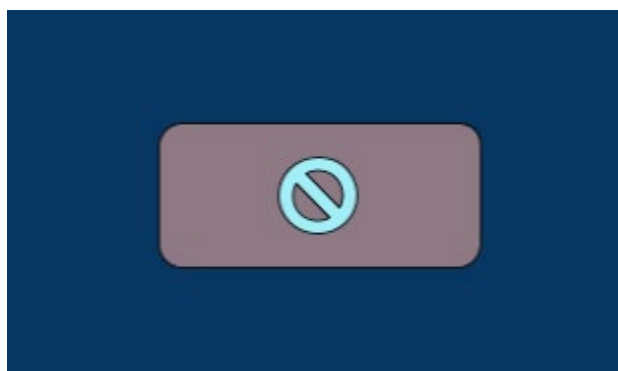


The colors used here are #073763 (background) and #8E7984 (foreground).

As with regular text, the 3:1 contrast ratio is a minimum, so making the contrast ratio higher is fine. 3:1 can sometimes seem to be a bit dim, visually, and it's important to note that certain color combinations may run into problems with visual impairments such as color blindness.

Non-Text Contrast

The non-text contrast ratio requirement applies to user interface components such as buttons and to non-text graphical elements that are required to understand the content, such as information and warning icons. WCAG Success Criterion 1.4.11 gives the requirement for non-text contrast as a 3:1 ratio with all colors the element touches. A button with a graphic on it, therefore, must meet a 3:1 contrast ratio with both the main page background and the graphic.



The blue background is #073763, the main button color is #8E7984, and the icon color is #A2EFF9. Each element has a 3:1 contrast ratio with those it touches.

One contrast ratio not explicitly included in the 1.4.11 Success Criterion is the focus indicator, which is the method used by a browser to indicate the location of keyboard focus on the page. The focus indicator is most often an outline, but also can be signaled by a color change or size change. Though there is currently no defined contrast level for focus indicators, the next release of WCAG 2.2 will have a requirement that focus indicators have a 3:1 contrast ratio with all elements they touch. In light of this, we recommend meeting the 3:1 contrast requirement with focus indicators as well.

Color Blindness

Color blindness is an issue distinct from other visual impairments that requires special consideration. The contrast ratio requirements will help color blind users to some degree, but to fully address potential barriers for those individuals, one needs to also take care with how colors are used to communicate information.

The two most relevant WCAG Success Criteria for color blindness are 1.3.3, Sensory Characteristics, and 1.4.1, Use of Color. These two Success Criteria require that color (or other sensory characteristics) never be the sole method for conveying information or a change in an element's status. This often comes up in relation to form fields with errors; they cannot simply change from a white to a red background, but must also have text that describes the error that was identified. The appearance of the text causes a visual change in addition to the color change that some users might not perceive clearly. If set up correctly, that text will also be accessible to screen readers to read aloud.

General Advice

There are some general practices to follow if you're trying to prevent color use from causing accessibility issues. Problems can be easy to prevent, but it helps to have everyone on the design and technical teams on board.

1. Make sure that designers understand the need for appropriate color palettes from the beginning. Getting the design team on board with creating accessible color palettes is an important first step to preventing contrast and color blindness-related problems, especially when it comes to developing a brand palette.
2. Develop a specific palette with paired foreground-background colors that meet the contrast requirements and use it consistently. There are many different shades of gray, and they do not all pass contrast requirements on a white or black background! Having a set palette with designated color pairs can help to prevent the "what shade of gray is supposed to work on this background?" problem. An accessible palette builder can be a great asset for this part of the process.

3. Create consistent text and choose consistent colors for marking form errors and other status messages that might otherwise be communicated only through color. Make sure the text is a different color than the background for these (not just a different hue/shade of the same color).

Conclusion

There are a range of potential accessibility issues related to use of color, but fortunately they can be easy to identify and prevent or fix. Including, as a target user group, individuals who are sighted but have some range of visual impairment can save your users frustration (the minimum contrasts help even people with unimpaired vision) and make it more likely they will come back to your site.

Sources & Resources

[Accessible Color Palette Builder](https://toolness.github.io/accessible-color-matrix/). Open source, hosted on GitHub. 2017.
<https://toolness.github.io/accessible-color-matrix/>

[Colour Blindness](https://www.colourblindawareness.org/colour-blindness/). Colour Blind Awareness. 2010.
<https://www.colourblindawareness.org/colour-blindness/>

[Understanding Success Criterion 1.3.3: Sensory Characteristics](https://www.w3.org/WAI/WCAG21/Understanding/sensory-characteristics.html). W3C Web Accessibility Initiative (WAI). 2018. <https://www.w3.org/WAI/WCAG21/Understanding/sensory-characteristics.html>.

[Understanding Success Criterion 1.4.1: Use of Color](https://www.w3.org/WAI/WCAG21/Understanding/use-of-color.html). W3C Web Accessibility Initiative (WAI). 2018. <https://www.w3.org/WAI/WCAG21/Understanding/use-of-color.html>

[Understanding Success Criterion 1.4.3: Contrast \(Minimum\)](https://www.w3.org/WAI/WCAG21/Understanding/contrast-minimum.html). W3C Web Accessibility Initiative (WAI). 2018. <https://www.w3.org/WAI/WCAG21/Understanding/contrast-minimum.html>