

Color and Digital Accessibility

The University of California is committed to providing an electronic environment that is accessible to everyone, including individuals with disabilities. In digital environments, color plays a big role in accessibility — the greater the contrast, the better the readability. Following standards set by the Americans with Disabilities Act (ADA), UCSF offers edited color specifications to our master palette for optimal levels of readability across interactive deliverables.

The W3C's Web Content Accessibility Guideline (WCAG) presents a set of color contrast standards that make content more accessible to a wider range of people with visual disabilities, including blindness and low vision. UCSF's interactive color formulas have been created to provide opportunities for greater contrast to meet WCAG's AA level color contrast standards. These interactive color formulas should only be used in specific interactive situations, detailed on the following pages.

Interactive Color Usage

The UCSF color palette offers flexibility and a range of possibility for expressing the brand through color. The palette has been customized for print and interactive applications. In general terms, the medium of a deliverable will determine which color specification to use — although **elements such as logos or logo expressions should always retain the master palette color specifications.** See sample uses outlined in the grid to the right. For projects that span both print and digital processes, color formulas and usage should be customized with the final use in mind.

The UCSF color palette formulas are the default set of specifications for any application that will be printed through offset, lithography, screen printing, digital printing or color copy. The formulas in the palette offer a clarity that is ideal for any in-hand or physical deliverable.

Interactive color formulas have been developed and should be implemented for applications that will be viewed solely on a screen for internal or external audiences. Updated color specifications in this palette provide a safe contrast ratio for readability in specific type sizing while maintaining the intensity of the UCSF color palette.

Master Color Formulas

Uses include logos or logo expressions and anything printed

Interactive Color Formulas

Uses include digital art

All logos and lock-ups	•	
Editorial expressions (including those that appear within web graphics)	•	
Advertising that appears on digital channels owned outside of UCSF (e.g. consumer advertising running on digital outdoor billboards, advertising that would be placed in external media like SF Gate)	•	
PPT presentations	•	
PDFs	•	
Fact sheets	•	
Booths or printed display/standing graphics	•	
Social media avatars	•	
Posters or flyers	•	
Website design elements		•
Web graphics		•
Web promos or banners		•
Electronic newsletters or announcements		•
Apps		•
Digital display graphics/kiosks		•

Color Contrast Ratios

About

Following WCAG guidance, the interactive color formulas for the UCSF color palette conform to an AA level contrast standard, which requires that color combinations meet a minimum contrast ratio for text. Below are guidelines and best practices to meet the required contrast with interactive/digital text.

4.5:1 Contrast Ratio

Normal-sized text in digital applications, such as 12pt text, requires a 4.5:1 contrast ratio. Type can either be on a white background or knocked out of a solid color. Only certain colors from our interactive color formulas achieve a 4.5:1 contrast ratio. For lighter colors, such as yellow and neutrals, use black text to achieve a 4.5:1 ratio.

3:1 Contrast Ratio

Larger text in digital applications, such as 14pt bold or 18pt regular or larger, only requires a 3:1 contrast ratio. Type can either be on a white background or knocked out of a solid color. Some of our interactive color formulas, such as green and orange, can only achieve a 3:1 contrast ratio and should not be used with normal-sized text.

4.5:1 CONTRAST RATIO

The UCSF ACHD Clinic brings together expert cardiologists, heart and vascular surgeons and other health professionals with deep experience diagnosing and treating adults with congenital heart disease.

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3:1 CONTRAST RATIO

Translating science into precision medicine

Translating science into precision medicine

Translating science into precision medicine

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Interactive Colors

The interactive color formulas provide five additional darker versions of UCSF's color palette to meet required contrast ratios. All other specifications for UCSF brand colors, tints and neutrals remain unchanged.

All of the colors and tints shown here conform to the WCAG AA level contrast standard, which requires that the color combination meets a minimum contrast ratio.

4.5:1 = normal text (12pt)

3:1 = large text (18pt or 14pt bold, or larger)

Each color formula includes relevant contrast ratio to white (#FFFFFF) or to black (#000000).

✱ = indicates color specific to interactive use

Ⓛ = indicates AA compliant only with large text

UCSF PRIMARY PALETTE SHOWING MODIFIED FORMULAS FOR INTERACTIVE USE

Pantone 7463 C R5 G32 B73 #052049 Contrast to FFFFFFFF = 16.04:1	AA 4.5:1 Interactive Teal ✱ R5 G132 B136 #058488 Contrast to FFFFFFFF = 4.5:1	AA 4.5:1 Interactive Blue ✱ R0 G124 B190 #007CBE Contrast to FFFFFFFF = 4.54:1	AA 3:1 Interactive Orange Ⓛ ✱ R242 G109 B4 #F26D04 Contrast to FFFFFFFF = 3.02:1
	AA 3:1 Interactive Green Ⓛ ✱ R110 G164 B0 #6EA400 Contrast to FFFFFFFF = 3.01:1		

UCSF SECONDARY PALETTE SHOWING MODIFIED FORMULAS FOR INTERACTIVE USE

Pantone 2665 C R113 G111 B178 #716FB2 Contrast to FFFFFFFF = 4.55:1	AA 4.5:1 Interactive Red ✱ R235 G9 B60 #EB093C Contrast to FFFFFFFF = 4.53:1	Pantone 123 C R255 G221 B0 #FFDD00 Contrast to 000000 = 15.59:1
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NEUTRAL PALETTE

Process Black R0 G0 B0 #000000 Contrast to FFFFFFFF = 21:1	White R255 G255 B255 #FFFFFF Contrast to 000000 = 21:1	Pantone 427 C R209 G211 B211 #D1D3D3 Contrast to 000000 = 13.97:1	Pantone 428 C R180 G185 B191 #B4B9BF Contrast to 000000 = 10.63:1
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Interactive Primary Colors and Tints

The five additional darker interactive colors complement and extend UCSF's existing color palette and tints specifically for interactive use, and meet accessibility requirements.

All of the colors and tints shown here conform to the WCAG AA level contrast standard, which requires that the color combination meets a minimum contrast ratio.

4.5:1 = normal text (12pt)

3:1 = large text (18pt or 14pt bold, or larger)

Each color formula includes relevant contrast ratio to white (#FFFFFF) or to black (#000000).

★ = indicates color specific to interactive use

Ⓕ = indicates AA compliant only with large text

INTERACTIVE PRIMARY COLORS

Pantone 7463 C R5 G32 B73 #052049 Contrast to FFFFFFFF = 16.04:1	AA 4.5:1 Interactive Teal ★ R5 G132 B136 #058488 Contrast to FFFFFFFF = 4.5:1	AA 3:1 Interactive Green Ⓕ ★ R110 G164 B0 #6EA400 Contrast to FFFFFFFF = 3.01:1	AA 4.5:1 Interactive Blue ★ R0 G124 B190 #007CBE Contrast to FFFFFFFF = 4.54:1	AA 3:1 Interactive Orange Ⓕ ★ R242 G109 B4 #F26D04 Contrast to FFFFFFFF = 3.02:1
	Pantone 320 C R24 G163 B172 #18A3AC Contrast to 000000 = 6.87:1	Pantone 390 C R144 G189 B49 #90BD31 Contrast to 000000 = 9.51:1	Pantone Process Blue C R23 G140 B203 #178CCB Contrast to 000000 = 5.65:1	Pantone 158 C R244 G128 B36 #F48024 Contrast to 000000 = 7.96:1

INTERACTIVE PRIMARY TINTS – SAME AS MASTER PALETTE TINTS

70% Pantone 7463 C R80 G99 B128 #506380 Contrast to FFFFFFFF = 6.11:1	70% Pantone 320 C R93 G191 B197 #5DBFC5 Contrast to 000000 = 9.72:1	70% Pantone 390 C R177 G209 B111 #B1D16F Contrast to 000000 = 12.22:1	70% Pantone Process Blue C R93 G175 B219 #5DAFDB Contrast to 000000 = 8.62:1	70% Pantone 158 C R247 G166 B101 #F7A665 Contrast to 000000 = 10.6:1
40% Pantone 7463 C R155 G166 B182 #9BA6B6 Contrast to 000000 = 8.52:1	40% Pantone 320 C R163 G218 B222 #A3DADE Contrast to 000000 = 13.64:1	40% Pantone 390 C R211 G228 B173 #D3E4AD Contrast to 000000 = 15.47:1	40% Pantone Process Blue C R162 G209 B234 #A2D1EA Contrast to 000000 = 12.84:1	40% Pantone 158 C R251 G204 B167 #FBCCA7 Contrast to 000000 = 14.3:1
10% Pantone 7463 C R230 G233 B237 #E6E9ED Contrast to 000000 = 17.24:1	10% Pantone 320 C R232 G246 B247 #E8F6F7 Contrast to 000000 = 18.96:1	10% Pantone 390 C R244 G248 B234 #F4F8EA Contrast to 000000 = 19.46:1	10% Pantone Process Blue C R232 G244 B250 #E8F4FA Contrast to 000000 = 18.75:1	10% Pantone 158 C R254 G242 B233 #FEF2E9 Contrast to 000000 = 19.09:1

Interactive Secondary Colors and Tints

The five additional darker interactive colors complement and extend UCSF's existing color palette and tints specifically for interactive use, and meet accessibility requirements.

All of the colors and tints shown here conform to the WCAG AA level contrast standard, which requires that the color combination meets a minimum contrast ratio.

4.5:1 = normal text (12pt)

3:1 = large text (18pt or 14pt bold, or larger)

Each color formula includes relevant contrast ratio to white (#FFFFFF) or to black (#000000).

✱ = indicates color specific to interactive use

Ⓛ = indicates AA compliant only with large text

INTERACTIVE SECONDARY COLORS

Pantone 2665 C R113 G111 B178 #716FB2 Contrast to FFFFFFFF = 4.55:1	AA 4.5:1 Interactive Red ✱ R235 G9 B60 #EB093C Contrast to FFFFFFFF = 4.53:1	
Pantone 2665 C R113 G111 B178 #716FB2 Contrast to 000000 = 4.62:1	Pantone 192 C R236 G24 B72 #EC1848 Contrast to 000000 = 4.79:1	Pantone 123 C R255 G221 B0 #FFDD00 Contrast to 000000 = 15.59:1

INTERACTIVE SECONDARY TINTS – SAME AS MASTER PALETTE TINTS

70% Pantone 2665 C R156 G154 B201 #9C9AC9 Contrast to 000000 = 7.88:1	70% Pantone 192 C R242 G93 B127 #F25D7F Contrast to 000000 = 6.65:1	70% Pantone 123 C R255 G231 B77 #FFE74D Contrast to 000000 = 16.79:1
40% Pantone 2665 C R198 G197 B224 #C6C5E0 Contrast to 000000 = 12.46:1	40% Pantone 192 C R247 G163 B182 #F7A3B6 Contrast to 000000 = 10.87:1	40% Pantone 123 C R255 G241 B153 #FFF199 Contrast to 000000 = 18.29:1
10% Pantone 2665 C R241 G241 B247 #F1F1F7 Contrast to 000000 = 18.67:1	10% Pantone 192 C R253 G232 B237 #FDE8ED Contrast to 000000 = 17.94:1	10% Pantone 123 C R255 G252 B230 #FFFCE6 Contrast to 000000 = 20.32:1

Interactive Neutral Colors and Tints

Values for UCSF's neutrals and tints mirror the UCSF color palette with one addition, a dark screen of black.

All of the colors and tints shown here conform to the WCAG AA level contrast standard, which requires that the color combination meets a minimum contrast ratio.

4.5:1 = normal text (12pt)

3:1 = large text (18pt or 14pt bold, or larger)

Each color formula includes relevant contrast ratio to white (#FFFFFF) or to black (#000000).

For optimal body copy readability on a white background, we recommend using either 77% Process Black or 70% Process Black for the text color. Both maintain an accessible level of contrast, but they soften the harshness of 100% black type.

* = indicates color specific to interactive use

Ⓛ = indicates AA compliant only with large text

INTERACTIVE NEUTRAL COLORS

Process Black R0 G0 B0 #000000 Contrast to FFFFFFFF = 21:1	White R255 G255 B255 #FFFFFF Contrast to 000000 = 21:1	Pantone 427 C R209 G211 B211 #D1D3D3 Contrast to 000000 = 13.97:1	Pantone 428 C R180 G185 B191 #B4B9BF Contrast to 000000 = 10.63:1
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INTERACTIVE NEUTRAL TINTS

77% Process Black * R59 G59 B59 #3B3B3B Contrast to FFFFFFFF = 11.2:1	70% Pantone 427 C R223 G224 B224 #DFE0E0 Contrast to 000000 = 15.88:1	70% Pantone 428 C R203 G206 B210 #CBCED2 Contrast to FFFFFFFF = 13.3:1
70% Process Black R77 G77 B77 #4D4D4D Contrast to FFFFFFFF = 8.45:1	40% Pantone 427 C R237 G237 B238 #EDEDEE Contrast to 000000 = 17.95:1	40% Pantone 428 C R225 G227 B230 #E1E3E6 Contrast to 000000 = 16.33:1
40% Process Black R153 G153 B153 #999999 Contrast to 000000 = 7.37:1	10% Pantone 427 C R250 G251 B251 #FAFBFB Contrast to 000000 = 20.26:1	10% Pantone 428 C R248 G248 B249 #F8F8F9 Contrast to 000000 = 19.79:1
10% Process Black R229 G229 B229 #E5E5E5 Contrast to 000000 = 16.67:1		

Using Text – Color with White

The examples on this page show which type sizes and styles meet the minimum requirements for WCAG AA level accessibility when knocked out of a solid color or on a white background. Please note that the interactive green and interactive orange colors only work in the 18pt or larger text sizes, and the 14pt bold text.

Pantone 7463 C (#052049)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

70% Pantone 7463 C (#506380)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

AA 4.5:1 Interactive Teal (#058488)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

Pantone 2665 C (#716FB2)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

AA 3:1 Interactive Green (#6EA400)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

AA 4.5:1 Interactive Red (#EB093C)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

AA 4.5:1 Interactive Blue (#007CBE)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

Process Black (#000000)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

AA 3:1 Interactive Orange (#F26D04)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

70% Process Black (#4D4D4D)

18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
------------------------------------------------------------------	------------------------------------------------------------------

Using Text – Color with Black

Primary Colors

A large number of palette colors and tints are WCAG AA level compliant when used as a background for black text. The following examples show which ones meet the minimum requirements for accessibility.

40% Pantone 7463 C (#9BA6B6)	10% Pantone 7463 C (#E6E9ED)		
18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text		
Pantone 320 C (#18A3AC)	70% Pantone 320 C (#5DBFC5)	40% Pantone 320 C (#A3DADE)	10% Pantone 320 C (#E8F6F7)
18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
Pantone 390 C (#90BD31)	70% Pantone 390 C (#B1D16F)	40% Pantone 390 C (#D3E4AD)	10% Pantone 390 C (#F4F8EA)
18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
Pantone Process Blue C (#178CCB)	70% Pantone Process Blue C (#5DAFDB)	40% Pantone Process Blue C (#A2D1EA)	10% Pantone Process Blue C (#E8F4FA)
18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
Pantone 158 C (#F48024)	70% Pantone 158 C (#F7A665)	40% Pantone 158 C (#FBCCA7)	10% Pantone 158 C (#FEF2E9)
18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text

Using Text – Color with Black

Secondary Colors

A large number of palette colors and tints are WCAG AA level compliant when used as a background for black text. The following examples show which ones meet the minimum requirements for accessibility.

Pantone 2665 C (#716FB2)	70% Pantone 2665 C (#9C9AC9)	40% Pantone 2665 C (#C6C5E0)	10% Pantone 2665 C (#F1F1F7)
18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
Pantone 192 C (#EC1848)	70% Pantone 192 C (#F25D7F)	40% Pantone 192 C (#F7A3B6)	10% Pantone 192 C (#FDE8ED)
18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text
Pantone 123 C (#FFDD00)	70% Pantone 123 C (#FFE74D)	40% Pantone 123 C (#FFF199)	10% Pantone 123 C (#FFFCE6)
18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text	18pt text or larger 14pt bold text 12pt text

Using Text – Color with Black

Neutral Colors

A large number of palette colors and tints are WCAG AA level compliant when used as a background for black text. The following examples show which ones meet the minimum requirements for accessibility.

40% Process Black (#999999)

18pt text or larger
14pt bold text
12pt text

10% Process Black (#E5E5E5)

18pt text or larger
14pt bold text
12pt text

White (#FFFFFF)

18pt text or larger
14pt bold text
12pt text

Pantone 427 C (#D1D3D3)

18pt text or larger
14pt bold text
12pt text

70% Pantone 427 C (#DFE0E0)

18pt text or larger
14pt bold text
12pt text

40% Pantone 427 C (#EDEDEE)

18pt text or larger
14pt bold text
12pt text

10% Pantone 427 C (#FAFBFB)

18pt text or larger
14pt bold text
12pt text

Pantone 428 C (#B4B9BF)

18pt text or larger
14pt bold text
12pt text

70% Pantone 428 C (#CBCED2)

18pt text or larger
14pt bold text
12pt text

40% Pantone 428 C (#E1E3E6)

18pt text or larger
14pt bold text
12pt text

10% Pantone 428 C (#F8F8F9)

18pt text or larger
14pt bold text
12pt text