

Chapter 8. Labeling

In this chapter are guidelines for labeling controls and other workspace elements.

362. WHEN TO USE:

Labels (including legends and other markings) should be provided wherever it is necessary for a user to identify a control or display; to interpret how a control operates and/or its function, or determine what a display is used for; to follow procedures; and/or to avoid hazards in the use of systems, equipment, or facilities. Labels are unnecessary where the item and its use are obvious to the observer. (Based on reference 14.)

363. USE OF ABBREVIATIONS:

Use whole words instead of abbreviations wherever space permits. If abbreviations are used, create a standard list of abbreviations that is appropriate for the system users. Acronyms should be used sparingly and only if their meanings have been well established.⁽¹⁰⁾

364. PERMANENCE:

All labels should be made wear resistant, damage resistant, and as permanent as possible.⁽¹⁰⁾

365. NUMBER OF WORDS:

On a label, use as few words as necessary to convey the intended meaning. Consider using special markings and/or symbols (e.g., icons) when they will unambiguously convey meaning in a more direct manner than several words.⁽¹⁰⁾

366. BASIS FOR CHOOSING WORDS AND SYMBOLS:

Choose words and symbols on the basis of user familiarity whenever possible, provided the words or symbols express exactly what is intended.⁽¹⁴⁾

367. GENERAL CONTENT:

A label should express exactly what action is intended. It should be brief but unambiguous; punctuation should generally be omitted.⁽⁴⁹⁾

368. NOMENCLATURE CONSISTENCY:

Match the nomenclature printed on labels with that used in procedures.⁽⁴⁸⁾

369. GENERAL RULES FOR LOCATING LABELS:

Locate labels as follows:

- a. Avoid locating labels where they will be blocked by equipment, the control, or the user.
- b. When a control is above eye level, put its label below it; when a control is below eye level, put its label above it.
- c. Be consistent in label positioning throughout a control panel(s).
- d. Labels should be placed on or very near the items they identify; any confusion with other items and labels should be eliminated.
- e. A label should not appear on the control itself when an adjustment or manipulation will require the user's hand to obscure the label or will rotate or move the label into an unnatural reading position,^(10,14,48)

370. ROTATING CONTROLS:

Do not put labels on rotating controls.⁽¹⁰⁾

371. TYPE OF WORDS:

Labels should use familiar words; overly technical or difficult words should be avoided.⁽¹⁴⁾

372. ORIENTATION OF WORDS:

Words should be printed so they read horizontally, not vertically. Exception: Vertical arrangements of letters on labels may be used only where space is limited and when they are not critical for personnel safety or task performance. Vertical labels should read from top to bottom.⁽¹⁴⁾

373. UNRELATED CONTROLS AND DISPLAYS:

Highly similar names for functionally unrelated controls and/or displays should be avoided.⁽¹⁴⁾

374. CONTROLS AND DISPLAYS USED TOGETHER:

When controls and displays must be used together, appropriate labels should indicate their functional relationships.⁽¹⁴⁾

375. IDENTICAL FUNCTION AND APPLICATION:

When function and application are identical, words or abbreviations should be identical.⁽¹⁴⁾

376. LETTER CASE:

Capital letters should be used in labels. Exception: If the label has

several long lines of text, upper- and lower-case letters should be used.⁽¹⁴⁾

377. BOLD FACED LETTERS:

Bold faced letters should be used only for short words or phrases that require emphasis.⁽¹⁴⁾

378. CHARACTER HEIGHTS:

The height of letters and numbers should conform to the specifications shown in table 29. (Based on reference 13.)

Table 29. Heights of label characters.

| | Luminance | |
|--|--|--|
| | $\leq 3.5 \text{ cd/m}^2$ (1 fl) | $> 3.5 \text{ cd/m}^2$ (1 fl) |
| For critical markings with position variable (e.g., numbers on counters) | $\frac{5 \text{ (viewing distance)}}{710}$ to $\frac{8 \text{ (viewing distance)}}{710}$, where height and viewing distance are in millimeters. | $\frac{3 \text{ (viewing distance)}}{710}$ to $\frac{5 \text{ (viewing distance)}}{710}$, where height and viewing distance are in millimeters. |
| For critical markings with position fixed (e.g., numbers on a control) | $\frac{4 \text{ (viewing distance)}}{710}$ to $\frac{8 \text{ (viewing distance)}}{710}$, where height and viewing distance are in millimeters. | $\frac{2.5 \text{ (viewing distance)}}{710}$ to $\frac{5 \text{ (viewing distance)}}{710}$, where height and viewing distance are in millimeters. |
| For noncritical markings (e.g., identification labels) | $\frac{2.1 \text{ (viewing distance)}}{710}$ to $\frac{5 \text{ (viewing distance)}}{710}$, where height and viewing distance are in millimeters. | $\frac{2.1 \text{ (viewing distance)}}{710}$ to $\frac{5 \text{ (viewing distance)}}{710}$, where height and viewing distance are in millimeters. |

379. HEIGHT-TO-WIDTH RATIOS:

Label character height-to-width ratios should be as follows:

- a. For letters: 1:l to 5:3.
- b. For numbers: 5:3.

Exceptions: The 4 should be one stroke width wider; the 1 should be one stroke width wide.⁽⁴⁸⁾

380. BETWEEN-WORDS SPACING:

The minimum spacing between words should be one-half the width of one character; the preferred spacing is one character width. Exceptions: To avoid confusion, greater width is required between words that begin or end with l's, i's, and l's (because those characters are less wide than other characters).⁽¹⁴⁾

381. BETWEEN-LINES SPACING:

Minimum spacing between lines should be one-half the height of one character.⁽¹³⁾

382. ILLUMINATED LABELS:

Provide illuminated labels for all controls, not just those to be operated in the dark.⁽¹⁰⁾

383. CHARACTER POLARITY:

Where the ambient illuminance will be above 9.7 lx (0.9 fc), use dark characters on a light background.⁽¹³⁾

384. UNITS OF MEASUREMENT:

Units of measurement (e.g., mi/h) should be labeled where needed on all panels, displays, and controls.⁽¹³⁾

385. EXTENDED INSTRUCTIONS:

Extended instructional or procedural information for labels should be concise, but understandable to the intended user. Omit words that are unnecessary to convey the meaning of the message. When procedural steps are implied, place each procedural step on a separate line and use numbers, bullet points, dots, or other technique to emphasize the beginning of each step.⁽¹⁴⁾

386. HIERARCHICAL SCHEME:

A hierarchical labeling scheme should be used to reduce confusion, user search time, and redundancy. Labels should not repeat information contained in higher level labels. Character sizes for hierarchical labels

should conform to the specifications shown in tables 30, 31, and 32 (and see figure 28). (Based on reference 48.)

Table 30. Hierarchical-labels character heights: component labels.

| | Control Marking Label | Component Label | |
|--|-----------------------|---|---|
| | All luminance levels | < 3.5 cd/m ² (1 fl) | > 3.5 cd/m ² (1 fl) |
| For critical markings with position variable (e.g., numbers on counters) | See table 23 | 6.3 (viewing distance) | 3.8 (viewing distance) |
| | | 710 | 710 |
| | | to 10 (viewing distance) | to 6.3 (viewing distance) |
| | | 710 | 710 |
| | | where height and viewing distance are in millimeters. | where height and viewing distance are in millimeters |
| For critical markings with position fixed (e.g., numbers on a control) | See table 23 | 5 (viewing distance) | 3.1 (viewing distance) |
| | | 710 | 710 |
| | | to 10 (viewing distance) | to 6.3 (viewing distance) |
| | | 710 | 710 |
| | | where height and viewing distance are in millimeters | where height and viewing distance are in millimeters. |
| For noncritical markings (e.g., identification labels) | See table 23 | 2.6 (viewing distance) | 2.6 (viewing distance) |
| | | 710 | 710 |
| | | to 6.3 (viewing distance) | to 6.3 (viewing distance) |
| | | 710 | 710 |
| | | where height and viewing distance are in millimeters | where height and viewing distance are in millimeters <i>(Table continued on next page)</i> |

Table 31. Hierarchical-labels character heights: subsystem/functional group labels.

| | Subsystem/Functional Group Label | |
|--|--|---|
| | $\leq 3.5 \text{ cd/m}^2$ (1 fl) | $> 3.5 \text{ cd/m}^2$ (1 fl) |
| For critical markings with position variable (e.g., numbers on counters) | $\frac{7.8 \text{ (viewing distance)}}{710}$ | $\frac{4.8 \text{ (viewing distance)}}{710}$ |
| | to | to |
| | $\frac{12.5 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. | $\frac{7.8 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. |
| For critical markings with position fixed (e.g., numbers on a control) | $\frac{6.3 \text{ (viewing distance)}}{710}$ | $\frac{3.9 \text{ (viewing distance)}}{710}$ |
| | to | to |
| | $\frac{12.5 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. | $\frac{7.8 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. |
| For noncritical markings (e.g., identification labels) | $\frac{3.3 \text{ (viewing distance)}}{710}$ | $\frac{3.3 \text{ (viewing distance)}}{710}$ |
| | to | to |
| | $\frac{7.8 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters | $\frac{7.8 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. |

Table 32. Hierarchical-labels character heights: system/workstation labels.

| | System/Workstation Label | |
|--|--|---|
| | $\leq 3.5 \text{ cd/m}^2$ (1 fl) | $> 3.5 \text{ cd/m}^2$ (1 fl) |
| For critical markings with position variable (e.g., numbers on counters) | $\frac{9.8 \text{ (viewing distance)}}{710}$ | $\frac{6.0 \text{ (viewing distance)}}{710}$ |
| | to | to |
| | $\frac{15.6 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. | $\frac{9.8 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. <i>(Table continued on next page.)</i> |

Table 32. Hierarchical-labels character heights: system/workstation labels (continued).

| | System/Work station Label | |
|--|--|---|
| | $\leq 3.5 \text{ cd/m}^2$ (1 fl) | $> 3.5 \text{ cd/m}^2$ (1 fl) |
| For critical markings with position fixed (e.g., numbers on a control) | $\frac{7.9 \text{ (viewing distance)}}{710}$ to $\frac{15.6 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. | $\frac{4.9 \text{ (viewing distance)}}{710}$ to $\frac{9.8 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. |
| | $\frac{4.1 \text{ (viewing distance)}}{710}$ to $\frac{9.8 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. | $\frac{4.1 \text{ (viewing distance)}}{710}$ to $\frac{9.8 \text{ (viewing distance)}}{710}$ where height and viewing distance are in millimeters. |

AHS CONTROL PANEL 1

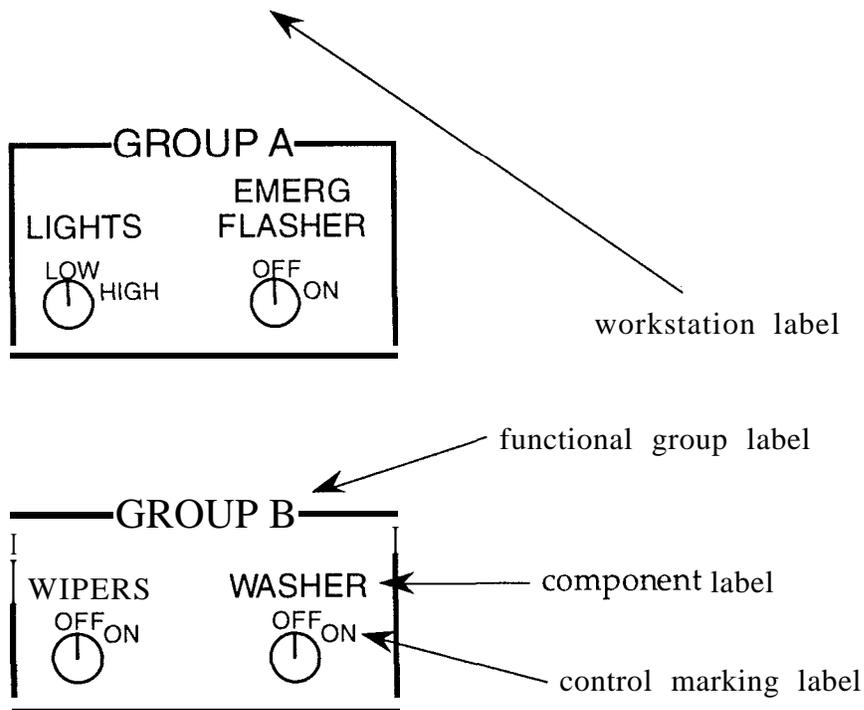


Figure 28. Example hierarchical labeling scheme.

387. CONTROL-POSITION LABELING:

Control-position labeling should indicate the direction of motion (e.g., increase, decrease) for continuous motion controls and the positions of discrete controls.⁽⁴⁸⁾

388. FUNCTIONAL GROUPS OF CONTROLS AND DISPLAYS:

Labels should be used to identify functionally grouped controls and displays; the labels should be centered above the functional groups they identify. When demarcation is used to set off a functionally related group (see guideline 355b), the label should be located either in a break of the demarcation line or just below the line.⁽¹⁴⁾

389. SHADOWS AND GLARE:

Labels should not be placed in shadowed positions and care should be taken to eliminate glare on or from them.⁽⁴⁸⁾

390. BETWEEN-LABELS SPACING:

Adjacent labels should be separated by sufficient space so that they are not read as one continuous label.⁽⁴⁸⁾