

### Graphics Standards

Images (e.g., photographs, icons, and illustrations) can communicate a great deal of information while adding visual appeal to Web pages. At the same time, images on the Web cause increased download time and accessibility issues, potentially causing users to leave without seeing your content. The following sections provide guidelines on how to prepare your graphics for fast and accessible delivery on your Web site. If you have HTML coding questions about graphics, such as alt tags or height and width tags, see the Coding Graphics section below.

#### General

- Store and reference all images from a subdirectory labeled "images" or "graphics".
- As with all files, images should use a lowercase naming convention with no spaces i.e., blue\_house.jpg.

#### Photo Treatment Style

Photos should not be over optimized or degraded in any way. If degradation is noticeable in a photo, that photo should not be used. A better quality original should be found, or an alternative photo should be used in these cases.

#### Section 508

##### Graphic Text

Color contrast - Section 508 accessibility guidelines state that there must be sufficient contrast between foreground and background colors to prevent problems for those who have color deficits.

##### Flickering Images

People with photosensitive epilepsy can have seizures triggered by flickering or flashing in the 4 to 59 flashes per second (Hertz) range with a peak sensitivity at 20 flashes per second. Use care when design animated GIF images or other refreshing content.

#### Best Practices

##### Use Only GIFs and JPEGs When Making Graphics

Consider the following when choosing GIF or JPEG.

- JPEGs retain a full spectrum of color and are good for gradients, but compressing them makes them lose pixels. When compressing a JPEG, do not go below setting 6 (high). Compression lower than 6 degrades the picture.
- GIFs are better for solid colors and text but can be used for photos as well. Because few colors are used, gradients can become banded. GIFs generally have smaller file sizes than JPEGs.
- Test the design/layout on the standard browser set (see the Browser Testing section for more information), checking for consistent color, layout, display and relationships among elements.

Carefully consider download time when cutting larger images into many smaller sections.

- Small graphics download faster, but if there are many of them, the download slows because the browser keeps going back to the server for each piece.
- A medium-sized, single graphic can also work within a strict download time, because the browser goes to the server just once.
- Testing both options is often necessary for specific situations.

### Optimize Graphics for Faster Download Time

All graphics files destined for the Web should be saved at 72 dpi. The ideal physical size of a Web graphic is 250 pixels wide or less. The ideal file size would be 25 kb or less, preferable 15 kb or less. In Photoshop the best optimization procedure is to choose File > Save for Web > and then follow the guidelines below:

For GIFs:

- Index colors at 256 or lower.
- Turn off interlacing (it adds to the file size).

For JPEGs:

- Compress file at no lower than setting 6 (high). Compressing a JPEG more than that can cause the quality of the graphic to degrade.
- Note that using "Progressive Scan" will add bytes to the file size.
- Use either "Baseline Standard" or "Optimized" under "Format Options."

### Using Transparency in GIFs

Using transparency adds to the size of the file, so gauge the use of this against the importance of download time.

Use transparency when the graphic is over a tiled or bin-hex colored background, or when the white of the graphic's background is giving a "halo" (off-color) effect.

## Coding Graphics

The following section provides information about coding graphics in HTML documents.

### Section 508

#### Alt Tags

Alt tags are used to provide an "alternative" description for Web visitors who cannot see the images. Screen readers can read the alt tag so the users know what the graphic depicts. Section 508 essentially requires us to provide good alt tags that follow these guidelines:

1. For spacer gifs and images that do not stand on their own as a representation of something (e.g., a line, border, or part of a graphic) use empty alt tags.

Example:

```

```

2. For simple, decorative, or incidental images, a brief description is all that is necessary.

Example: A simple drawing of a farm could be:

```

```

If it's a photo, the alt tag could be:

```

```

If more information would be useful to the site visitor — such as the photo's location or names and titles of individuals in the photo — be sure to include it in your alt tag. If the information would benefit the sighted user as well, consider using a text caption in addition to the alt tag.

Captions are not required but are very helpful to give your images context. A visitor using a screen reader will hear both the alt tag and the caption, so do not duplicate the information. A simple alt tag such as the ones above will suffice.

3. If the image is linked, you must describe the destination or purpose of the link — not the image.
4. Provide a text alternative if you use a graphical representation of text. If your graphic says "Wind Power," your alt tag should also say "Wind Power".

Example:

```

```

5. Images that have associated image maps should include alt tags in the image map. Use empty alt tags (alt="") for the image if the text in the image's alt tag would be redundant with text in the image map alt tags. If the image contains information that is not in the image map alt tags, include an alt tag that describes the unrepresented information.
6. If the information contained in the image is important to the meaning of your page (i.e., some important content would be lost if the image were removed), you must provide a longer description of any important content in the graphic to the user (the alt tag allows 1,024 characters).

Example: Chart with sales for ice cube trays in certain years:

```
<a href="icecube_graph.gif" alt="Graph: Freezy Corporation Ice Cube Sales by Year: 1996 -132,000; 1997 - 148,000.">
```

7. A good test to determine if a text equivalent is useful is to imagine reading the document aloud over the telephone. What would you say upon encountering this image to make the page comprehensible to the listener?
8. When you are constructing alt tags, capitalize the first word and any proper nouns (sentence style).

Example: This organic farm is located in Missoula, Montana.

### **Best Practices**

#### **Using Height and Width Tags in HTML**

Make graphics the correct size for use on the Web site. Using HTML to resize a graphic affects download time because it takes time to download a larger graphic and then resize it. The one exception to the rule is using spacers to fill an area. A 1 pixel x 1 pixel image can be stretched to fill an area and still retains its relatively small download overhead.

#### **Enter File Info Details**

In Photoshop, it is recommended to enter specific details about the graphic, especially photos, that include caption details, copyright information and special notes. File > File Info.

*Adapted from U.S. Department of Energy - Energy Efficiency and Renewable Energy Communication Standards & Guidelines.*