

Microsoft Excel 2010

MISA AODA Web Accessibility Toolkit



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Creating Accessible Documents in Microsoft Excel 2010

Best Practices for Excel Documents

This document details steps to help improve the accessibility of Microsoft Excel spreadsheets; it also outlines some “best practices.”

Some best practices to keep in mind include:

- Use row and column headers extensively; make them clear and self-explanatory
- Set the font-size to the recommended minimum of 12pt for normal text
- Provide descriptive text for images
- Place charts and graphs on separate worksheets
- Hyperlinks are useful to allow users to jump to locations within a workbook - Include meaningful descriptions with your hyperlinks; avoid vague instructions such as “click here”
- Identify natural language and any changes in language
- Consider creating an index to all relevant elements of the workbook using hyperlinks

Create dense documents

- Do not use blank cells for formatting purposes
- Densely pack data into the workbook and then use Excel’s native formatting techniques

Use colour responsibly (colour contrast is important)

Many users with vision impairment rely on high contrast between text and the background to read cells; when the contrast between background and foreground colours is not sufficient the document can be difficult or impossible for some users.

Avoid publishing as HTML

Workbooks published using the HTML export are not generally accessible to assistive technologies and should be avoided; use accessible PDF instead.

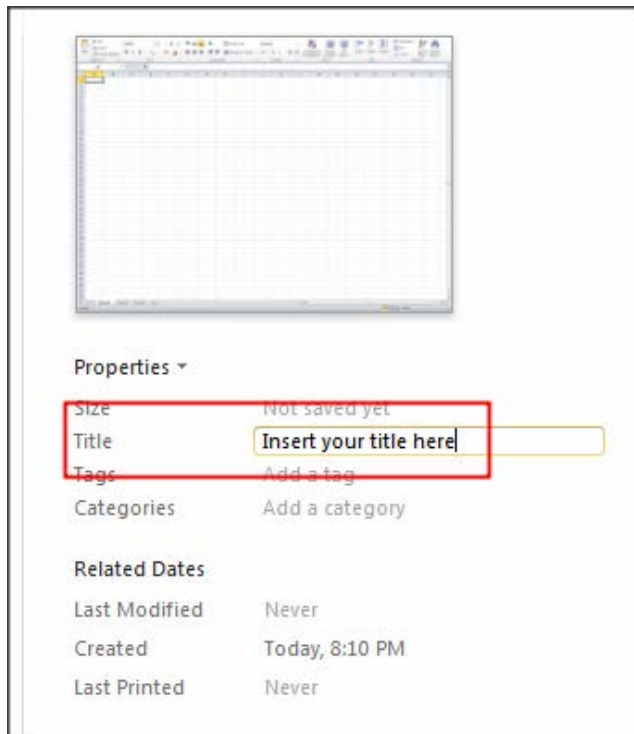
Fill in the document properties

Filling out the Document Properties will assist all people in finding and using your document.

When completing the Document Properties panel:

- For author, follow your municipality's practices. To protect the privacy of individuals, it is a good practice to use something other than a personal name as the author. A business name, branch, or organization is better.
- Choose keywords that fit the subject matter
- Whatever you put as the subject can be included in the keywords or tags.

Choose File > Info > Fill in the title under the Properties panel.



Title and Subject are extremely important towards making a document more accessible.

“Title” is a WCAG requirement under S.C. 2.4.2 (Page Titled) - Level A

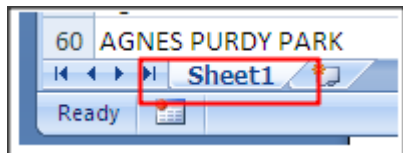
Note: To protect the privacy of individuals, it is a good practice to use something other than a personal name as the author. A business name, branch, organization etc. is better.

Success Criterion:

2.4.2 Page Titled – Level A, 3.1.1 Language of Page – Level A

Give ALL Worksheets a Descriptive Name

All worksheets in your Excel document should be given a unique name that provides information about what can be found on that particular worksheet. Unique sheet names make it easier to navigate through a workbook. Note that worksheet names are limited to 31 characters and have restrictions on using special characters (e.g. slashes, commas, etc.).



To rename a sheet, Right-click (Shift+F10) the sheet tab, then click Rename. Type a brief unique name that describes the sheet's contents.

Any blank sheets in a workbook should also be deleted. To do this, Right-click (Shift+F10) the sheet tab, and then click Delete.

Also consider creating an index to all relevant elements of the workbook using hyperlinks.

Success Criterion:

1.3.1 Info and Relationships – Level A

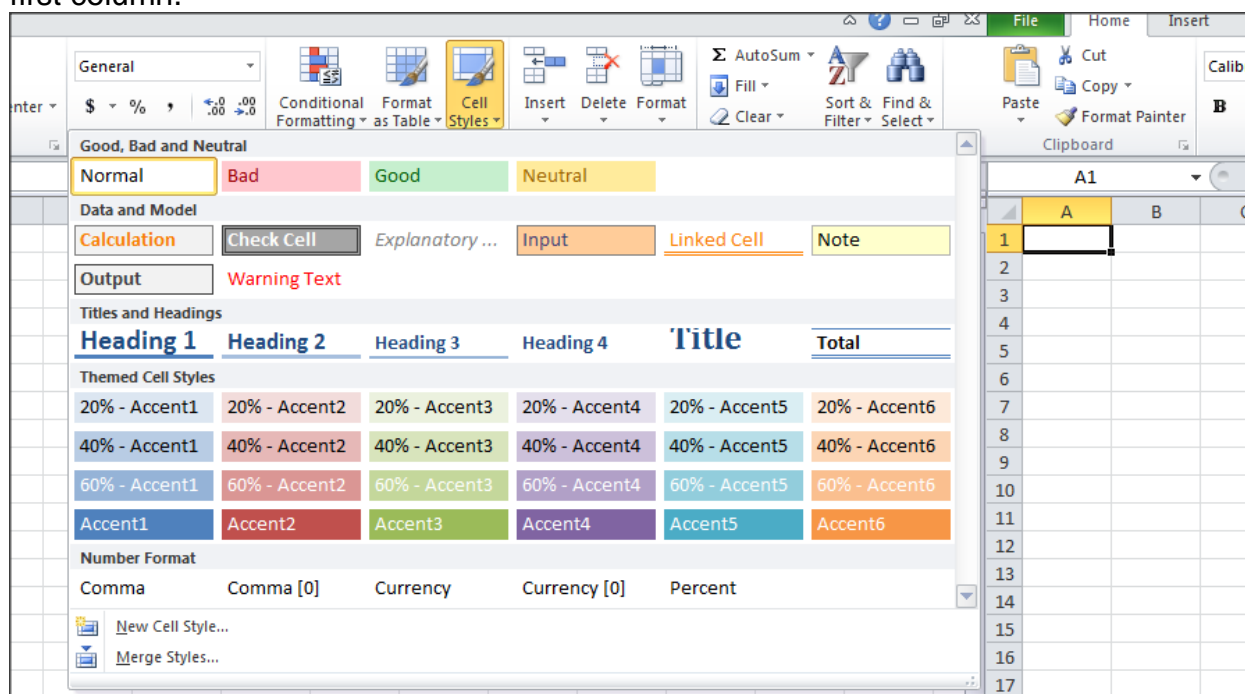
2.4.2 Page Titled – Level A

Row and Column Headers

Sighted users can scan a page in any order. A screen reader user does not have this option because their assistive device will start reading the page in the upper left and move through it in a linear order. For your document to be accessible it is important to provide proper structure behind its creation, so that it can reflow properly in any device.

Each table should have clear row and column headers; they provide context and assist in navigating the table's contents. No headers should be left blank, even if the meaning seems obvious to you.

To do this, identify the main title of your document as a Heading Level 1 using the cell styles option. **Always** make sure that the Heading 1 of your document begins in the first column. It can be centered within merged cells, but the beginning of the merged cells must be within the first column.



If there are further sub-sections or sub-topic headings they should be assigned the appropriate heading level in sequential order (Heading 2, Heading 3, etc.).

Using heading styles helps those with low vision and/or cognitive difficulties. Headings in Excel documents are NOT interpreted as such by SR's.

Success Criterion:

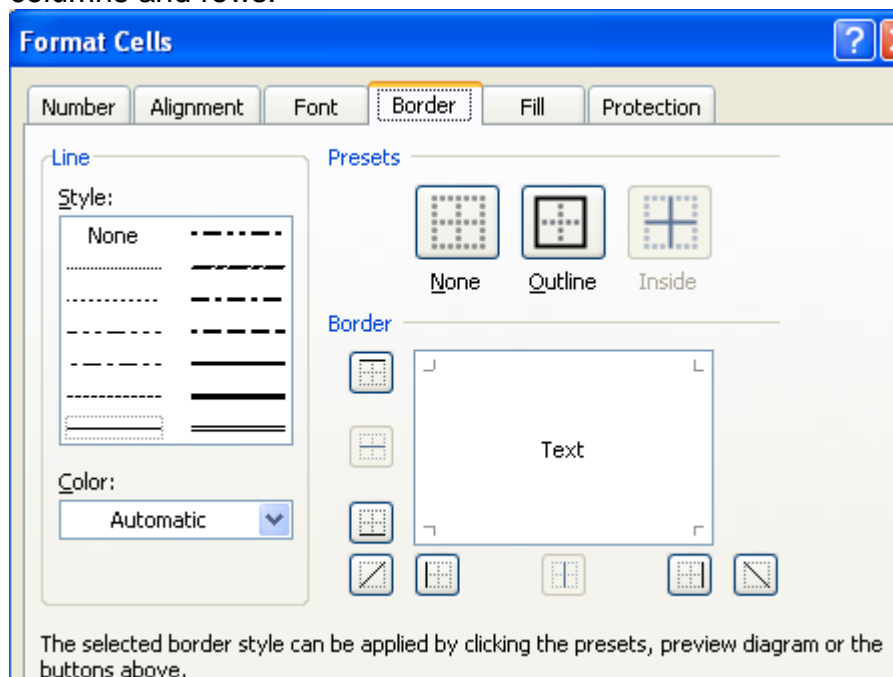
1.3.1 Info and Relationships – Level A

1.3.2 Meaningful Sequence – Level A

Avoid blank columns and rows

Blank columns and rows are problematic for Screen Reader users and those with low vision or cognitive difficulties who may rely on special references for guidance.

Use a combination of row height, column width and text alignment to create proper spacing within cells and then use “**Border**” tab under **Format Cells** to create definition between columns and rows.



When navigating by keyboard, a blank row, column or cell within an Excel worksheet might lead someone to believe there is nothing more in the table. If the cell really has no data, then you can put in it: “This cell intentionally left blank” or “No data.” This could be in normal text, or change the text colour to match the background so that only screen readers will read it.

Alternatively, simply delete any blank cells, rows and columns that are not necessary.

Success Criterion:

1.3.1 Info and Relationships – Level A

1.3.2 Meaningful Sequence – Level A

Merged header cells and redundant columns

This structure will create a problem because there are **two** separate columns but only one header. Screen readers may not interpret this correctly as they will continually hear “square feet” with no association to a column header

Total Floor Area of the Indoor Space in which Operation is Conducted	
361,280.00	Square feet
100.00	Square Feet

This is a case where a totally redundant column has been created. Why is the “square feet” column even necessary if every unit is measured in square feet? The recommendation would be to eliminate the column altogether and identify in the column header that the measurement is in square feet (i.e. “Total Floor Area (in square feet) of the Indoor.....”). Then put the burden on the person entering the data to convert the measurement to square feet IF it is provided in anything other than that.

A similar problem as noted above exists for the columns depicted below. There is no need to have dedicated columns for the unit measurement (Litre) if every result is the same. Change it so that there is ONE heading e.g. **Fuel Oil 1&2 (litres)** which then totally eliminates the need to have a separate “Litre” column.

Fuel Oil 1 & 2		Fuel Oil 4 & 6		Propane	
0.00000	Litre	0.00000	Litre	0.00000	Litre
0.00000	Litre	0.00000	Litre	0.00000	Litre

Colour

Ensure all documents that use colour are understandable for people who cannot perceive colour. Colour should not be the only way to provide information.

The following example appeared on an actual report:

Please fill in the mandatory fields indicated in red, in addition to submitting data on your energy usage.

It is always best to **use text to indicate mandatory (or required) fields**. Characters such as asterisks (*) are not interpreted by every screen reader or assistive technology.

If colour is used, use a high contrast between background colours and text colours. People with low vision or colour blindness may not be able to read text that does not have a high degree of contrast between the text and the background. Use light text on dark backgrounds and dark text on light backgrounds; a suitable colour contrast of 5:1 is suggested.

Operation Name	Operation Type	Address
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The red colour on this grey background would not meet required contrast standards. You would either need to darken the red significantly or lighten the grey background.

When using coloured text on a coloured background the combination **MUST** be measured for contrast ratio. Some possible tools to use include:

Contrast checker - <http://webaim.org/resources/contrastchecker/> (WebAim)

RGB to HEX Converter - <http://www.endprod.com/colors/rgb2hex.htm>

Success Criterion:

1.4.1 Use of Colour: Colour is not used as the only visual means of conveying information – Level A

1.4.3 Contrast (Minimum) – Level AA

Hyperlink Text

Hyperlinks are useful in allowing users to jump to locations within a workbook. Often people using screen reading software can navigate by going from “link” to “link.” Hyperlink text should provide a clear description of the link destination rather than just providing a Uniform Resource Locator (URL) or vague instructions such as “Click Here.” Meaningful text lets users know what is each link is for, and where it will take them.

To add a hyperlink to a table:

1. Place the cursor in the cell where the hyperlink is to be added.
2. From the Insert Ribbon Bar select Insert Tab | Links Group | Hyperlink to open the Insert Hyperlink dialogue box.
3. Enter a description in the Text to display box; if the content of the cell is numeric this should remain blank.
4. Enter the URL in the Address box. Click OK.

Success Criterion:

1.3.1 Info and Relationships – Level A

1.3.2 Meaningful Sequence – Level A