Accessibility of Simple Tables in Microsoft Products, Adobe PDF, and HTML

➔ Definition and Applicability

The definition of a simple data table is one in which each data cell relates to only one row and/or column header and applies across several content types: Word, PowerPoint, Excel, PDF, or HTML.

Note: Data must be contained in separate data cells. The use of merged data cells changes a simple table to a complex table.

➔ Requirements

Requirement	HHS ID(s) / Checklist(s)
Do not use table structure to design the visual layout of text. An example would be columns of unrelated information. This includes not using spaces or the TAB key to simulate the appearance of a table.	4N / PDF 4F / WebApps
Create data tables using the built-in Insert Table feature (Microsoft Office). Use the <Table> tag (PDF and HTML) for data tables. Note: If formatting in Excel, it is imperative that tables are created using the **Insert Table** feature; the default spreadsheet is <u>not</u> in table format.	4E / Excel 4I / PDF 4E / PowerPoint 4B / WebApps 4H / Word
Identify data table headers.	4F & 4H / Excel 4J & 4K / PDF 4F / PowerPoint 4J & 4K / WebApps 4I / Word
All header cells must contain content. If necessary, header cells can use "-" to indicate empty header cells.	4G / Excel 4G / PowerPoint 4J / Word
Do not wrap text around tables. The order of the content that is interpreted by **Assistive Technology (AT)** may combine table data with a portion of the wrapped text.	4N / Word
Do not insert pictures of data tables. Each cell must be navigable.	4I / Excel 4H / PowerPoint 4K / Word

➔ **Best Practices**

- Develop an accessible simple table in the authoring/source format before converting to PDF.
- Provide captions and descriptions of a table, if necessary, to provide additional information about the purpose and what is contained in a table. Captions provide all users an opportunity to determine whether the contents of a table are relevant to the user's needs.
- Render data in separate cells within the rows and columns.
- When possible, convert complex tables to simple tables as in the example below:

Complex Table:

Department of Health & Human Services (HHS)		Congress	
StaffDiv	**OpDiv**	**Senate**	**House**
Data Cell 1	Data Cell 2	Data Cell 3	Data Cell 4
Data Cell 5	Data Cell 6	Data Cell 7	Data Cell 8

Complex Table Converted into Simple Table:

HHS - StaffDiv	HHS - OpDiv	Congress - Senate	Congress - House
Data Cell 1	Data Cell 2	Data Cell 3	Data Cell 4
Data Cell 5	Data Cell 6	Data Cell 7	Data Cell 8

➔ **How To's**

Instructions are based on inserting a simple table into a Microsoft Word or PowerPoint document and then converting the completed Word or PowerPoint document into a PDF using Adobe Acrobat Pro DC.

Inserting a Simple Table in Word / PowerPoint

How to insert a simple table in Word / PowerPoint:

1. Navigate to the **Insert** tab from the ribbon.
2. Select the **Table** menu item and activate **Insert Table**.
3. Enter the desired **Number of rows** and **Number of columns**.
4. Highlight the **top row**, which is identified as the columns header row.
5. Activate (or right click) the context menu and select **Table Properties**.
6. Select the **Row** tab and check "**Repeat as Header Row at the top of each page**."
7. Activate the **OK** control when finished.
8. Highlight the **entire table**.
9. Activate (or right click) the context menu and select **Table Properties**.
10. Select the **Row** tab and uncheck "**Allow row to break across pages**."
11. Activate the **OK** control when finished.
12. Enter data into the table.

Why is using the Insert > Table function important?

Using the Insert > Table function makes the table structurally accessible for AT users. If using the TAB key or spacing to create the table, AT will not read the table appropriately and it will not be considered accessible. Additionally, designated header rows make it easier for AT (such as a Screen Reader) to navigate through the table, associating the data to a particular header element.

Refer to the OS Microsoft Word Accessibility Reference and the OS Microsoft PowerPoint Accessibility Reference for further information about inspecting simple tables for conformance.

Converting Microsoft Office Content to PDF

How to convert a document to PDF:
1. Navigate to **File** > **Save As**.
2. Choose PDF from the "**Save as type**" drop down.
3. Navigate to and activate the **Options** control.
4. In **Options** ensure the following are checked:
   a. **Create bookmarks using** > **Headings**.
   b. **Document properties**.
   c. **Document structure tags for accessibility**.
5. Navigate to and activate **OK**.
6. In the **Save As** dialog, enter a name in the **File Name** field.
7. Navigate to and activate **Save**.

Important: Never use **Print to PDF**! This option will not bring over necessary structure.

Why is converting a Microsoft Office document to PDF important?
It prevents user edits to the document. Additionally, when the Word document becomes more complex (i.e., includes text boxes, graphics, text wrapping, etc.), it is easier to make the document conformant when it is in PDF format.

Table Structure

Table structure for simple tables in Adobe Acrobat Pro DC must include the following tags:
1. Table (Main Table tag)
2. TR (Table Row tag)
3. TH (Table Header tag)
4. TD (Table Data tag)

Why is table structure important?
Using accessible table structure allows AT to convey the data associations as the author intends. Additionally, using table captions (shown above the table and in **bold** below) identify the purpose of the table.

Example of a Simple Table:

Table Row 1, Table Header Cell 1	Table Header Cell 2
Table Row 2, Table Data Cell 1	Table Data Cell 2
Table Row 3, Table Data Cell 3	Table Data Cell 4

Note: Avoid using a table to design the visual layout of text. Tables are used for displaying data and contain relationships between headers and cells.

Refer to the OS Adobe PDF Accessibility Reference to learn more about inspecting tables for conformance.

Table Editor

How to set table scope:

1. Highlight a **<Table>** tag in the Tags Pane.
2. Activate the context menu (or right click) and select **Table Editor**. Confirm the entire table is highlighted.
3. Activate (or right click) on a cell that is intended to be a header cell and select **Table Cell Properties**.
4. Ensure the **Header Cell** radio button is selected.
5. In the **Scope** drop-down, select **Column** (or **Row** if there are also row headers).
6. Repeat steps 3-5 for each column and/or row header cell.
7. Activate the **OK** control when finished.

Why is setting table scope important?

Simple data tables must provide the proper cell type and scope. This allows AT users to properly identify table headers versus table data and correctly associate the data cells to the appropriate header cells.

Proper Tag Structure

The tag structure for the earlier "Example of a Simple Table" is as follows:

```
<Table>
     <TR> (Child of <Table>) First Row = Table Row 1
          <TH> (Child of <TR>)
               Text of Table Header Cell 1
          <TH> (Sibling of <TH>)
               Text of Table Header Cell 2
     <TR> (Sibling of <TR> tag above) = Table Row 2
          <TD> (Child of <TR>)
               Text of Table Data Cell 1
          <TD> (Child of <TR>)
               Text of Table Data Cell 2
     <TR> (Sibling of <TR> tag above) = Table Row 3
          <TD> (Child of <TR>)
               Text of Table Data Cell 3
          <TD> (Child of <TR>)
               Text of Table Data Cell 4
```

Why is proper tag structure important?

Proper tag structure ensures that the table's data is delivered in a clear and succinct manner.

Proper tag structure must also be considered for tables that flow on to another page or pages. The tag structure for tables that span across pages should maintain one <Table> tag for the entire table. For example, when a table spans from page one to pages two and three, the Tsags pane should show one <Table> tag containing all the table rows (<TR>) for the table content from page one through page three. The tags for the visually repeated table row headers on pages two and three must be hidden (or changed to artifacts). For more information about artifacts, refer to the OS Adobe PDF Accessibility Reference.