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**Harmonized Processes for Section 508 Testing:** **Baseline Tests for Accessible Electronic Documents—*MS Word 2010***

January 2015 | Version 1.0

## About the AED COP

In October 2012, subject matter experts from several federal agencies developed an Accessible Electronic Document Community Of Practice (AED COP). The following goals were set:

* Increase awareness of the importance of access to Accessible Electronic Documents across the federal community.
* Promote successful strategies which increase the ability of federal employees to create accessible electronic documents.
* Advance the field of accessibility for all participating agencies by creating a repository of accessibility artifacts.
* Identify and improve the alignment of requirements defining accessible electronic documents across for all participating agencies.
* Promote successful strategies which create the highest level of accessibility for documents at the lowest cost.
* Identify and supply best practices to the CIO Council Accessibility Committee Best Practices Subcommittee.[[1]](#footnote-1)

The result of the collaboration between agencies is reflected in the current document, and associated documents:

## Associated Documents from the AED COP

* **Baseline Tests for Accessibility**—The Baseline Tests represent interagency agreement on what to test and how to test. The Baseline Tests are a set of individual requirements and test steps for Section 508 conformance. The Baseline Tests do not make up a ‘test process’ per se; instead, conformance test processes and authoring guidance is created from the Baseline Tests.
* MS Word 2010 *(the current document)*
* MS PowerPoint 2010
* MS Excel 2010
* PDF (Portable Document Format)
* Adobe LiveCycle
* **Section 508 Conformance Test Process**—for use by Section 508 testers, these documents contain *only* the necessary information for conducting a test of an already-authored, already-formatted document.
* MS Word 2010
* MS PowerPoint 2010
* MS Excel 2010
* PDF (Portable Document Format)
* Adobe LiveCycle
* **Authoring guides**—for people who are authoring documents (creating content and formatting). Contains guidance on creating accessible documents from scratch, and guidance on how to test a document for conformance with the Baseline requirements.
* MS Word 2010
* MS PowerPoint 2010
* MS Excel 2010
* PDF (Portable Document Format)
* Adobe LiveCycle

# Document status, review comments, and feedback

The current version 1.0 is ***approved*** for distribution by the AED COP. Please send review comments and feedback to Holly.Anderson@ed.gov.

In memory of Paul P. Schafer



April 12, 1962 - April 20, 2014

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# Introduction

## Baseline Tests

This document contains baseline tests (tests) which establish the minimum steps required to determine whether an electronic document produced in Microsoft Office Word 2010[[2]](#footnote-2) passes or fails Section 508 requirements. These tests have been agreed upon by the Accessible Electronic Document Community of Practice (AED COP) and while each agency maintains responsibility for determining 1) if additional tests are necessary and 2) if test outcomes result in an accepted document, members have agreed that these tests are the minimum steps necessary to determine compliance.

This document is intended for people who create test processes for federal agencies **and is not intended for end-users.** However, this document does contain information that may be used to create resources for end-users such as requirements, user-guides, contract language and training materials etc.

The tests have been agreed upon as part of an effort to provide a unified approach for Section 508 testing, to increase consistency across government, and to build confidence in test results shared between agencies. The tests include:

* General requirements, rationale and related standards that pertain to all electronic documents,
* Test steps and failure conditions for published Microsoft Word 2010 documents, and
* Tips for developing a streamlined test process.

Agencies are encouraged to adopt the tests, to create additional resources using the baseline, and to incorporate additional agency-specific test criteria if necessary.

Section 508 requirements, at the time of this writing, are under a revision process. It is likely that the revised standards will follow closely the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines 2.0 (WCAG 2.0).[[3]](#footnote-3) Therefore, these tests also include, or at least align with[[4]](#footnote-4) most of the WCAG 2.0 Level A and Level AA success criteria. A cross reference mapping the tests to Section 508 and to WCAG 2.0 standards is provided in an attachment starting on page 64.

## Background

In October 2012, subject matter experts from several federal agencies developed an AED COP and the following goals were set:

* Increase awareness of the importance of access to accessible electronic documents across the federal community.
* Promote successful strategies which increase the ability of federal employees to create accessible electronic documents.
* Advance the field of accessibility for all participating agencies by creating a repository of accessibility artifacts.
* Identify and improve the alignment for the definition of requirements for accessible electronic documents across federal government for all participating agencies.
* Promote successful strategies which create the highest level of accessibility for documents at the lowest cost.
* Identify and supply best practices to the CIO Council Accessibility Committee Best Practices Subcommittee.[[5]](#footnote-5)

While all federal agencies are required to publish accessible electronic documents, agencies have different accessibility requirements. Inconsistency causes the following problems: 1) frustration for citizens and federal employees seeking information, 2) confusion for vendors producing accessible documents shared across the federal government and applying different requirements to meet the same legal standards, and 3) inability of agencies to easily reuse accessibility artifacts.

In an effort to improve Section 508 testing for electronic documents across government, the harmonized baseline test process has been developed as part of a collaborative project by subject matter experts from the following agencies:

* Department of Defense (DOD)
* Department of Education (ED)
* Department of Health and Human Services (HHS)
* Department of Homeland Security (DHS)
* Department of Justice (DOJ)
* Department of Labor (DOL)
* Department of State
* Department of Transportation (DOT)
* Department of Veterans Affairs (VA)
* Federal Reserve Board (FRB)
* Internal Revenue Service (IRS)
* National Aeronautical Space Administration (NASA)
* National Archives and Records Administration (NARA)
* National Institute of Health (NIH)
* Social Security Administration (SSA)
* US Access Board

In addition, tests align to WCAG 2.0 as AED COP members anticipate technology changes. Since the W3C has high-level guidance on applying WCAG to non-web content ICT[[6]](#footnote-6) the tests emphasize methods and techniques that increase consistency of results and reduce ambiguity.

This document contains a set of tests that cover Section 508 standards and align with applicable WCAG 2.0 Level AA success criteria. These tests can be incorporated in distinct, practical, and systematic processes for Microsoft Word 2010 documents. Additional WCAG 2.0 harmonization may be investigated as the Section 508 refresh, software and testing tools advance.

## Test Composition

The selection criteria for requirements and tests included:

* **Derivable:** The requirements were derived from standards (both current and emerging) or addressed specific, documented, high-risk accessibility issues such as complaints.
* **Testable:** Tests were validated by AED COP members and produced reliable and repeatable results.
* **Repeatable:** Individual tests contained sufficient information and instruction to make a consistent and unambiguous measurement independent of other tests.
* **Usable:** Usability testing was performed on validated tests.

### Application

The tests have been established using Microsoft Word 2010 running on the Microsoft Windows operating system. While there are many versions of Microsoft Word and Word supported formats, such as “.doc”, “.docm” and “.rtf”, only the Word 2010 “.docx” format has been validated. Agencies that use different versions of Microsoft Word are encouraged to develop an equivalent process for their test environments. Contact the AED COP representatives (see contact details at the front of this document) with additional test processes which may be adopted and shared once the results have been verified.

### Baseline Tests

There are 23 distinct requirements with associated tests. Each test contains the following information:

###### Generic to all electronic documents:

* **Numbered Requirement:** How the component(s) should function in order to meet the related standards.
* **Rationale:** An explanation of the elements/components the requirement is addressing (technical aspect in layman’s terms), effects on accessibility, consequences of incorrect implementation on accessibility (AT functionality), and the benefits of correct implementation.
* **Related Standards:** Applicable Section 508 standards and alignment with relevant WCAG 2.0 success criteria. *Note:* A 508 standard or WCAG criteria may be addressed by multiple tests.[[7]](#footnote-7)

###### Specific to Microsoft Word 2010 documents:

* **Tools Necessary:** Formatting panes, dialog boxes, etc. used in the test.
* **Test Instruction 1 - Finding Applicable Components:**
* **Test Instruction 1a:** Manual Find of Applicable Components: How a tester would manually find the document element that needs to be tested.
* **Test Instruction 1b:** Accessibility Checker Find of Applicable Components: How a tester would find the document element that needs to be tested, using the built in Accessibility Checker (where available).[[8]](#footnote-8)
* **Test Instruction 2 - Inspecting/Using Components:**
* Test Instruction 2a: Manual check for Inspecting/Using Components: How a tester would determine whether the element found in instruction 1a or 1b meets the requirement.
* Test Instruction 2b: Accessibility Checker for Inspecting/Using Components: How a tester would determine whether the components found in instruction 1b meet the requirement.
* **Test Instruction 3 - Failure conditions:** A list of possible outcomes from instruction 2 and what to report.
* **3a – Section 508 Failure Conditions:** The technical requirement and/or functional performance criteria that should be marked as failures in test results.
* **3b - WCAG2 Failure Conditions:** The A or AA criteria that should be marked as failures in test results.
* **3c - Baseline Requirement Test Results:** A summary of pass and not applicable conditions for each requirement. Note that any failure in 3a means that the baseline requirement fails.[[9]](#footnote-9)

Each test contains "**Tips to enhance and streamline test processes**" that provide helpful information about combining or enhancing tests. Again, it is not recommended doing all the tests in sequence, as they are listed in an arbitrary fashion. Rather, users are encouraged to develop the streamlined test process that bests suits their agency from this baseline.

## Use of Tests by Federal Agencies and Other Groups

Federal agencies and other groups are encouraged to adopt these tests (and may develop additional tests if necessary). In addition, the AED COP developed a recommended test process and agencies are encouraged to review the test document for reuse prior to developing a new document.[[10]](#footnote-10)

To comply with the baseline, agencies MUST:

* Incorporate each baseline requirement into their test process and report results when sharing documents.[[11]](#footnote-11)
* Report clearly and separately tests that are agency specific.

Test processes that do not include all baseline requirements are not considered in conformance and should not be promoted as such by agencies.

## Baseline Assumptions and Disclosures

The tests are only part of a comprehensive Section 508 program. Additional contextual issues to consider include:

* This document does not address policies or processes necessary to develop a Section 508 program.
* This document does not include criteria for acceptance of vendor deliverables. However, test results can assist in acceptance decisions of contract deliverables. The results may be used to notify vendors or others of defects and help the vendor with planning and/or remediation. This document does not address remediation. While the correct method for formatting may be *inferred* from the test processes, that is not the intention of the test processes as they are written.
* This document does not address editing errors such as links that lead to the wrong target website, inconsistent use of styles, or editing comments embedded as hidden text).
* The test methodology does not include tests with assistive technology (AT). Agencies must decide the role assistive technology plays in testing accessible electronic documents. Because AT testing can result in false-positives and false-negatives, defects must always be confirmed with the corresponding baseline tests. Additional testing with AT may reveal conclusive insights, but caution is urged as AT testing is effective only with experienced, well-trained testers.
* Test results can be regarded as one factor of a conformance determination; other factors include, but are not limited to: 1) legal issues related to acquisition,[[12]](#footnote-12) 2) technical issues of compatibility with existing systems, and 3) business needs.
* The tests harmonize requirements across several federal agencies; however, determination of conformance remains with the agency publishing the document. This determination flexibility allows agencies to move toward a harmonized process over time. However, this flexibility also creates risk if an agency publishes a document with a failed test. Therefore, agencies should carefully evaluate the risks associated with publishing documents that do not conform to the tests.

# Developing a Streamlined Test Process from this Baseline—a Primer

The following notes give a primer on issues to consider while developing a streamlined testing process.

## Examine Published Test Processes First

The AED COP has published a recommended test process so consider using these first. See page 2 for a link related to publications.

## Examine Advisory Notes

Each test has a row entitled "**Advisory: Tips to enhance or streamlined test processes**" These are helpful tips about how tests may be combined or enhanced, etc.

## Target Audiences, Requirements, and Test Instructions

The tests have been written with the following assumptions about end-users or testers:

* They have basic skills in accessibility and Microsoft Word;
* They have skills to evaluate subjective information in context such as the suitability of alternate text for images; and
* They have proper documentation, test plans, demonstrations, and access to authors for clarifications and explanations as appropriate.

## Modifications to Tests

Users are encouraged to adopt the tests and create a streamlined test process suitable for their agency. This development process might require some modification to the tests. The following guidance identifies what to do and what not to do when modifying baseline content.

### Include all tests

Agencies agree to incorporate each test; deleting any test is not allowed. The following list is the minimum that must be adopted in order to comply with the tests:

* Numbered Requirement
* Test Instruction 1 - Finding Applicable Components
* Test Instruction 2 - Inspecting/Using Components
* Test Instruction 3a - Section 508 Failure Conditions
* Test instruction 3c - Baseline Requirement Test Results

### Wording changes

Changing words in the baseline is allowed when creating instructions for end-users or testers; however, users should be careful that the intended meaning remains. For example, "The distinct destination, function or purpose of links and user controls must be described in the link/control name or surrounding text " may be reworded to “Provide the distinct destination, function or purpose of links and user controls and describe this information in the link/control name or surrounding text” depending on the target audience. Also, additional instruction may be added to tests. For example, each test lists tool(s) used such as formatting panes, dialog boxes, etc. The tests provide high-level instruction regarding tool use but may include more detailed instruction.

### Test order

Tests are not intended to be performed in the order presented here and should be changed or combined for efficiency For example, data table headers and cell-header association tests might be done at the same time or seldom used test information may be listed at the end.

### Additional agency-specific tests

If necessary, agencies may modify test processes to include more than the baseline. For example, an agency may decide that "reports and memos over 1,500 words must include headings to enhance readability and accessibility". Therefore, the test becomes:

* Are existing headings programmatically marked and
* Do headings exist to break up text over 1,500 words long.

When sharing test results with other agencies, the agency-specific test:

* Must be clearly marked as a non-baseline test and
* Must be included with the other baseline results.

### Testing preconditions

**Precondition #1 – .docx format:** In order to conduct the tests described in this document, including running the MS Word 2010 built-in Accessibility Checker, the document must be in a “.docx” format. Note that documents in the older format “.doc” will need to be converted (saved as) “.docx”. Also note that “Macro-enabled” documents (“.docm”) are generally used to provide programmed content that behaves more like an application. Use a Software test process for Macro-enabled documents.

**Precondition #2 – Restricted documents:** It is possible to restrict or secure a document in a way that interferes with accessibility testing. If the document is restricted, ribbon elements in Word will be mostly grayed out. Restrictions prevent the ability to perform the majority of the tests. Therefore, it is necessary to turn off restrictions. When these restrictions are enforced with a password, it may be necessary to obtain the password or an unrestricted document from the author. Guidance on handling restricted documents should be included as a testing precondition. To check restriction settings in MS Word, open the Review Tab > Protect Group. Restrict Editing will be highlighted. Select the “Restrict Editing” button to open the pane. Select “Stop Protection” to turn off the restrictions.

## Reporting Results

Each test includes three test results: Section 508 result (3a), WCAG 2.0 result (3b), and baseline result (3c). The Section 508 result and the test result must always be reported; however, reporting the WCAG 2.0 result is optional.

Wording used to report failures may differ from the baseline. For example, a failure currently in the baseline:

All meaningful objects must have text describing their purpose or function.

Fails 1194.22(a): Equivalent text descriptions

could be written in a streamlined process as:

Meaningful object not properly conveyed in alt-text. Fail 22a

Failures must be explained in the report and typically will contain information such as: failure type, location, and supporting screen captures. Reports may also describe the peer review processes used. When sharing reports between agencies, a checklist should be included but the conformance determination is not required.

# *The Baseline Tests (#1 - #22)*

#### Inline Elements

|  |  |
| --- | --- |
| Requirement[All Documents] | 1. Meaningful text and objects must be placed inline.  |
| Rationale[All Documents] |  |
| …technical aspects | Text and objects can be formatted in documents to be ‘inline’ or ‘floating’ / ‘wrapping’. Inline text and objects can be accessed by moving the keyboard cursor from element to element. Floating objects can be placed in front or, behind, or wrapping around the inline objects but they cannot be reached via the keyboard cursor.  |
| …effects on accessibility | AT relies on the keyboard cursor to move through text and objects. Therefore, AT users cannot access floating objects. |
| …consequences | Floating content such as images overlapping inline text or tables that are surrounded on all sides by continuous text are not accessible via the keyboard cursor and therefore not accessible to AT users.  |
| …benefits | Placing meaningful text and objects inline means all document content can be read and accessed by those who rely on navigation via the keyboard cursor. |
| …rationale summary | Summary:Text and objects can be formatted as inline or floating/wrapping. Floating text and objects are not accessible via the keyboard cursor and therefore not accessible to AT users. |
| Related Standards[All Documents] | 508 1194.21 SW (a): Keyboard Accessibility508 1194.31 FPC (a): Use Without Vision508 1194.31 FPC (b): Use With Low Vision508 1194.31 FPC (f): Use With Physical LimitationsWCAG2 1.3.1: Info and RelationshipsWCAG2 2.1.1: Keyboard |
| Tools Necessary[Word 2010] | Physical System Keyboard, Draft view, Accessibility Checker |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Set the document view to ‘Print Layout’ (View Tab > Document Views > Print Layout). Examine the document for meaningful text and objects. Objects include:
* Meaningful images/pictures (including images of text and images in tables)
* Shapes (Call out boxes)
* SmartArt
* Chart (Diagrams)
* Tables
* Text boxes
* Icons with hyperlink
* Other objects

Note:* In Word 2010, text is always placed inline.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | 1. Run the Accessibility Checker and look for “Object Not Inline” errors.
 |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Set the document view to ‘Draft’ (View Tab > Document Views > Draft). Compare objects that show in Print Layout view to objects that do not show in Draft View. Objects that do not show in Draft view may not be inline.

Note:* Images and text boxes that are inline may show a placeholder in Draft View, even though the actual content may not display.
* Decorative objects do not need to be inline.
* Running Header and Running Footer content (including page numbers) do not need to be inline - see test for Running Headers & Footers, #12.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | 1. Errors are listed under “Object Not Inline”.

Note:* Decorative objects do not need to be inline.
* Running Header and Running Footer content (including page numbers) do not need to be inline - see test for Running Headers & Footers, #12.
 |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Meaningful text or objects are not inline.
	+ Fails 1194.21(a): Keyboard Accessibility.
	+ Fails 1194.31(a): Use Without Vision
	+ Fails 1194.31 (b): Use With Low Vision
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Meaningful text and objects are not inline.
	+ Fails 2.1.1: Keyboard
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #1
* Meaningful text and objects are inline).
	+ Passes Baseline Requirement #1
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * For those creating a streamlined process from this Baseline, review the guidance in “
* *Developing a* Streamlined” starting on page 11.
* Grouping multiple associated objects is a best practice.
 |

#### Reading Order

|  |  |
| --- | --- |
| Requirement[All Documents] | 2. The visual and/or logical reading order of meaningful content must be programmatically maintained.  |
| Rationale[All Documents] |  |
| …technical aspects | When the placement of content uses formatting elements such as text in columns, call-outs, tables, images etc., an intended reading order is visually and/or logically apparent. Text and objects can be accessed by moving the keyboard cursor from element to element. The programmatic order in which the cursor moves depends on the placement of content. |
| …effects on accessibility | AT users rely on the keyboard cursor to move through text and objects. |
| …consequences | When the placement of objects causes the programmatic order to differ from the intended reading order, content may be read out of order and therefore not comprehensible.  |
| …benefits | A match between the intended reading order and the programmatic order provides comparable access for AT users.Note:To be in the reading order, objects usually need to be placed ‘inline’ (see test #1.) |
| …rationale summary | Summary:Text and objects must be placed so that there is a match between their intended and programmatic reading order |
| Related Standards[All Documents] | 508 1194.31(a): Use Without VisionWCAG2 1.3.2: Meaningful Sequence |
| Tools Necessary[Word 2010] | Physical System Keyboard, Draft view, Accessibility Checker |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Examine the document for content that has irregular layout.
2. Examine the document for text using column formatting.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A.Note:* If tables are used for layout, the error ‘Check Reading Order’ may display. However, this check only displays when the table is formatted with ‘Table Normal’ style and not with ‘Table Grid style’. The application and setting of the different styles is hidden from most authors, so they do not know what this setting is and whether it is set ‘correctly’. Therefore, manual checks 1a a & b should be used to check reading order.
 |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Determine whether table formatting has been used for visual layout purposes. Place the keyboard cursor in any text that has irregular layout. Open the Reveal Formatting Pane (Shift + F1). If there is content under the ‘Table’ section of the Reveal Formatting Pane then tables have been used for layout.
2. If table formatting has been used for layout, check the visual/logical content order. Place the cursor in the first cell of the table (upper left). Use the Tab key to move between the table cells. Check that the Tab order matches the visual/logical order of the content.
3. Place the keyboard cursor in any text that appears to use column layout. Open the Reveal Formatting Pane (Shift + F1). If the text is correctly formatted there will be information under ‘Section / columns’ or ‘Table’ in the Reveal Formatting Pane.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * The reading (Tab) order of text formatted with table layout does not match the visual/logical order.
	+ Fails 1194.31(a): Use Without Vision
* Text in columns is improperly formatted (uses spaces or Tab characters instead of column formatting)
	+ Fails 1194.31(a): Use Without Vision
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * The reading (Tab) order of text formatted with table layout does not match the visual/logical order.
	+ Fails WCAG2 1.3.2: Meaningful Sequence
* Text in columns is improperly formatted (uses spaces or Tab characters instead of column formatting)
	+ Fails WCAG2 1.3.2: Meaningful Sequence
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #2
* Text in columns uses table or column formatting and the order of text in layout tables matches the visual/logical order.
	+ Passes Baseline Requirement #2
* There is no text in columns and no layout tables,
	+ Not Applicable Baseline Requirement #2.
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * It may be useful to provide additional advice to testers for checking Header Associations on tables that span multiple pages.
* The Show/Hide button can be used to visually determine where space and tab characters have been used to create columns instead of the built in Columns format feature. The automated checker error ‘Repeated blank characters’ may highlight columns formatted with repeated spaces and tab characters, but only if multiple characters are used. The automated checker is unreliable at determining incorrect column formatting throughout the “repeated blank character” error.
* An inability to test for Reading Order may be a result of the document being restricted. See “*Testing preconditions*” page 12.
 |

#### Document Title (Filename)

|  |  |
| --- | --- |
| Requirement[All Documents] | 3. The filename must identify the document or its purpose.  |
| Rationale[All Documents] |  |
| …technical aspects | In addition to being used to locate and open documents, filenames are also used when switching between documents and between applications during work tasks.  |
| …effects on accessibility | Windows-based operating systems show thumbnail / preview images which speed up the task of locating and switching between files. For screen reader users, the preview is unavailable but the filename is.  |
| …consequences | If the filename does not properly identify the document or its purpose (such as “Document 7”or“Directions”), people with disabilities have to expend extra time to open and read the file’s content to identify it.  |
| …benefits | Having a filename that adequately identifies the document and its purpose (such as “Hiring Policy [Document 7])”; “Directions to AED-COP HQ”) helps provides comparable access during typical work tasks. |
| …rationale summary | Summary:People with disabilities rely on a descriptive filename to locate, open and switch between documents and applications during work tasks.  |
| Related Standards[All Documents] | 508 1194.31(a): Use Without Vision508 1194.31(b): Use With Low VisionWCAG 2.4.2: Page Titled |
| Tools Necessary[Word 2010] | None |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Look at the filename in Windows Explorer or the title bar in Word.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Check that the filename identifies the document or describes the purpose of the content.
 |
| Test Instruction 2b: Automated Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * No descriptive filename.
	+ Fails 508 1194.31(a): Use Without Vision
	+ Fails 508 1194.31(b): Use With Low Vision
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * No descriptive filename.
	+ Fails WCAG 2.4.2: Page Titled
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #3
* The filename identifies the document or its purpose.
	+ Passes Baseline Requirement #3
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * It is good practice to set other relevant attributes and information fields (such as full document title, author, subject matter, keywords / tags, etc.) in Document Properties.
 |

#### Headings

|  |  |
| --- | --- |
| Requirement[All Documents] | 4. Headings must be programmatically identified and match the visual outline level. |
| Rationale[All Documents] |  |
| …technical aspects | Headings are used to aid content navigation in terms of locating required content, and determining the importance or hierarchy of content (such as major section, section, sub-section). In addition to visual text formatting (such as bold, italic, underline, or combinations), programmatic formatting can identify the presence of a heading and its outline level. |
| …effects on accessibility | Assistive technologies such as screen readers and voice dictation systems rely on programmatic formatting to navigate between headings ( for example, there is no way to automatically determine whether bold underlined text is a heading, or merely a point of emphasis). |
| …consequences | Without programmatic formatting of headings, a document containing many visually apparent headings appears to AT as a document containing no headings.  |
| …benefits | Assigning programmatic formatting that includes both the presence of and the and outline level of headings provides comparable access in terms of the comprehensibility of the content.Notes:* The requirement should not be construed to require headings in place of headers in data tables.
* This requirement does not mean that headings be added; it means that where headings are identifiable through visual formatting, they must be programmatically identified.
* Any visual representations of heading level (e.g. major section, section, subsection) must be matched by the programmatic heading level (e.g. major section = level 1, section = level 2, sub-section = level 3).
 |
| …rationale summary | Summary:Programmatic formatting provides AT a means to identify the presence of a heading and its outline level. |
| Related Standards[All Documents] | 508 1194.31(a): Use Without Vision508 1194.31(b): Use With Low Vision508 1194.31(f): Use With Physical LimitationsWCAG2 1.3.1: Info and Relationships |
| Tools Necessary[Word 2010] | Accessibility Checker, Navigation Pane |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find where formatting has been used to logically divide and structure the document. Visually identify where headings are used in a document through text formatting, use of white space, boxes or other visual separators.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | 1. Run the Accessibility Checker: “Unstructured Document” will show if no headings are used.

Note:* The above check only works on documents of about 1200 words or more.
 |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Open the Navigation pane (Ctrl + F).
2. The headings in the Navigation Pane should be selectable to go to any heading in the document. Verify that all headings found in Step 1a.a are reachable via the Navigation Pane.
3. The hierarchy of the headings in the document should be indicated in the Navigation Pane. The hierarchy should match the visual outline level of the headings.

Note:* For step c, the heading “Outline Level” of a paragraph can also be verified using the Reveal Formatting Pane (Shift + F1).
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | 1. Run the Accessibility Checker: “Unstructured Document” will show if headings are not set correctly on a long document.
2. Conduct manual test 2a.c to check that the hierarchy of the headings matches the visual outline level.

Note:* The above check only works on documents of about 1200 words or more. If headings are used on shorter documents, use the manual check described above.
 |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Visually apparent headings are not programmatically identified.
	+ Fails 1194.31(a): Use Without Vision.
	+ Fails 1194.31(b): Use With Low Vision.
	+ Fails 1194.31(f): Use With Physical Limitations
* Programmatically identified heading levels do not match the visual outline level.
	+ Fails 1194.31(a): Use without vision.
	+ Fails 1194.31(b): Use with low vision.
	+ Fails 1194.31(f): Use With Physical Limitations
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Visually apparent headings are not programmatically identified.
	+ Fails 1.3.1: Info and Relationships
* Programmatically identified heading levels do not match the visual outline level.
	+ Fails 1.3.1: Info and Relationships
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #4
* Visually apparent headings are programmatically identified AND heading levels match the visual outline level.
	+ Passes Baseline Requirement #4
* There are no visually apparent headings.
	+ Not applicable (Baseline Requirement #4)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * If a page appears to have logical separable sections, but there are no headings, it might be worth informing authors that identifying such sections through headings and adding heading text might be useful for all users.
* Section headings are used to provide structure on a page, facilitating faster comprehension. However, some designers may use programmatic headings for non-heading purposes, such as text styling to call visual attention to content. Such uses deviate from the primary purpose of headings, which is to provide information on how the content on the page is structured. It might be worth informing designers that using programmatic heading for non-headings can cause confusion for non-visual users.
* Examples may be helpful to illustrate headings that do and do not match their visual structure.
* Mapping to the visual outline does not necessarily imply using a hierarchical structure (in the case where the author intentionally is not using a logical hierarchy). However, it might be worth informing authors that a logical hierarchy is a best practice.
* Using built-in or custom headings based on “Heading 1”, “Heading 2” etc. is a best practice.
 |

#### Section Language

|  |  |
| --- | --- |
| Requirement[All Documents] | 5. Sections that use language other than the default must be programmatically identified (except for proper names, technical terms, or foreign words that have become part of the vernacular). |
| Rationale[All Documents] |  |
| …technical aspects | Passages or phrases can be programmatically marked as a specific language. Programmatic marking of language can be useful in editing documents (for example, to enable spell check tools to access the appropriate dictionary). |
| …effects on accessibility | Screen reading AT also accesses the programmatic language setting to provide the appropriate pronunciation while speaking that section of the document. |
| …consequences | If the language is not programmatically set (for example, in an English language document a section is written in Spanish but the entire document is programmatically set as English), then the speech of the screen reader could be incomprehensible to a Spanish speaker. |
| …benefits | For multilingual documents, properly setting the appropriate language changes enables the content to be delivered as the author intended for screen reader users. |
| …rationale summary | Summary:Sections can be marked as a specific language. Screen reader AT accesses the language setting to provide the appropriate pronunciation. |
| Related Standards[All Documents] | 508 1194.31(a): Use Without Vision508 1194.31(b): Use With Low VisionWCAG2 3.1.2: Language of Parts |
| Tools Necessary[Word 2010] | Reveal Formatting Pane |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Identify the intended and predominant language of the document.
2. Identify any sections that differ from the intended and predominant language.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Check that the intended and predominant language for sections is programmatically identified:
* Select a section of text.
* Open Review Tab > Language Group > Language Button > Set Proofing Language
* Check that the highlighted language matches the actual language of the section.

Note:* The language setting for the passage can be shown in the Reveal Formatting Pane (Shift + F1). However, if there are multiple language settings in the document, the information in the Reveal Formatting Pane is unreliable.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * The intended and predominant language for sections is not programmatically identified.
	+ Fails 1194.31(a): Use Without Vision
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * The intended and predominant language for sections is not programmatically identified.
	+ Fails 3.1.2: Language of Parts.
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #5.
* All sections that do not match the intended and dominate language are programmatically identified.
	+ Passes Baseline Requirement #5.
* There are no changes in language.
	+ Not applicable (Baseline Requirement #5).
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * Spanish text should generally be set to “Spanish (International Sort)”.
 |

#### Document Language

|  |  |
| --- | --- |
| Requirement[All Documents] | 6. The document language must be programmatically identified. |
| Rationale[All Documents] |  |
| …technical aspects | A document can be programmatically marked as a specific language. Programmatic marking of language can be useful in editing documents  |
| …effects on accessibility | Screen reading AT also accesses the programmatic language setting to provide the appropriate pronunciation while speaking the document. |
| …consequences | If the language is not programmatically set (such as a document is written in Spanish but the document is programmatically set as English), then the speech of the screen reader could be incomprehensible to a Spanish speaker. |
| …benefits | Setting the appropriate language enables the content to be delivered as the author intended for screen reader users. |
| …rationale Summary | Summary:Documents can be marked as a specific language. Screen reader AT accesses the language setting to provide the appropriate pronunciation. |
| Related Standards[All Documents] | 508 1194.21(d): Role, Name, State508 1194.31(a): Use Without Vision508 1194.31(b): Use With Low VisionWCAG2 3.1.1: Language of PageWCAG2 3.1.2: Language of Parts |
| Tools Necessary[Word 2010] | None |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | N/A (See Advisory tips). |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | N/A (See Advisory tips). |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | N/A (See Advisory Tips) |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | N/A (See Advisory Tips) |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Document language cannot be set in MS Word.
	+ Not Applicable Baseline Requirement #6.
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * There is no setting that defines “the” language for a document in Microsoft Word. While there is an option in Word to “Set the proofing language” (Review Tab > Language Group > Language), this setting can apply multiple languages to a Word document.
* Although this option is Not Applicable in Word, there is an accessibility issue only if (a) end-users change the default settings in Word to anything other than “detect language automatically” (in the dialog box Open Review Tab > Language Group > Language Button > Set Proofing Language) and (b) they change the default option to set their screen reader AT to detect language changes automatically.
 |

#### Links and User Controls

|  |  |
| --- | --- |
| Requirement[All Documents] | 7. The distinct destination, function or purpose of links and user controls must be described in the link/control name or surrounding text. |
| Rationale[All Documents] |  |
| …technical aspects | Selectable links and controls can be visually represented as ambiguous text (such as “click here | click here | click here”), or as plain language text (such as “Holiday Dates”), or as ‘code’ (such as “http://www.dxds.tv/h2013.html”.), or as images (such as “►”). Combinations are also possible (such as “Play audio file ►”; “Holiday Dates (http://www.dxds.tv/h2013.html)”. |
| …effects on accessibility | To be able to understand the purpose of a link / control, screen readers must be able to convey an unambiguous name. |
| …consequences | If a link does not have an unambiguous name or description in surrounding text, then Screen reader AT will only be able to provide ambiguous text, code or images. |
| …benefits | Unambiguous names for links and user controls provides screen reader users with the ability to navigate and use content. |
| …rationale summary | Summary:It is important to provide unambiguous names or context for link and user controls so that AT can correctly identify information. |
| Related Standards[All Documents] | 508 1194.31(a): Use Without Vision508 1194.31(b): Use With Low VisionWCAG2 2.4.4: Link Purpose (In Context) |
| Tools Necessary[Word 2010] | Accessibility Checker, Go To Button |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Examine the content for the presence of links and user controls. Hover over a link with a mouse pointer to show a message with the link address and “Ctrl+Click to follow link”.
2. Examine Hyperlinks (Ctrl G> Field button > Hyperlink (from drop down list).

Note:* Include internal links such as Tables-Of-Contents, index and glossary links etc.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | 1. Run the Accessibility Checker. Look for “Unclear Hyperlink Text” error messages.

Note:* The checker will only highlight links that are coded as URLs. The checker will not reveal multiple instances of non-unique link names (such as ‘Click here’, ‘Click here’, ‘Click here’).
 |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Check that each link/user control in the document has a unique text name that describes the destination, function, and/or purpose of the control or that such functions are determinable within context.

Note:* If an image is formatted as a link, the alt-text can contain the link purpose, function or destination.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | * Follow the manual test procedure in 2a.
 |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * The destination, function, and/or purpose of a link/control is not conveyed in the screen text or link name.
	+ Fails 1194.31(a): Use Without Vision.
	+ Fails 1194.31(b): Use With Low Vision.
* Each link/control is not uniquely identified.
	+ Fails 1194.31(a): Use Without Vision.
	+ Fails 1194.31(b): Use With Low Vision.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * The destination, function, and/or purpose of a link/control is not conveyed in the screen text or link name.
	+ Fails 2.4.4: Link Purpose (In Context)
* Each link/control is not uniquely identified.
	+ Fails 2.4.4: Link Purpose (In Context)
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #7
* The destination, function, and/or purpose of the link is contained in the screen text AND each link is uniquely identified.
	+ Passes Baseline Requirement #7
* There are no links or user controls.
	+ Not applicable (Baseline Requirement #7)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * Documents that are also meant to be published in print form must be allowed to use the full URL address.
 |

#### Lists

|  |  |
| --- | --- |
| Requirement[All Documents] | 8. Bulleted, numbered, and multi-level lists must be programmatically identified. |
| Rationale[All Documents] |  |
| …technical aspects | Bulleted, numbered, and multilevel lists are used to present content in parts. Although lists can be represented with plain text (such as preceded by a bullet character “●”, “□”, “◊”), they are easier to edit and manage when they are identified programmatically. |
| …effects on accessibility | When lists are programmatically identified the list parts can be navigated using screen reader AT. |
| …consequences | When lists are formatted using plain text only, they visually appear as a list but there is no equivalent functionality for screen reader AT. |
| …benefits | By using programmatically identified lists, screen reader AT functions allow equivalent navigation of list parts. For example, knowing how long the list is (is it 20 items? 200 items? or 2000 items?); understanding the relationship between levels (e.g. major item versus sub-level item); and being able to jump out of the list to the next part of the document (i.e. the next regular non-list paragraph).  |
| …rationale summary | Summary:Lists that are programmatically identified provide equivalent functionality (such as knowing the list length and understanding relationships between levels) for use with screen reader AT. |
| Related Standards[All Documents] | 508 1194.31(a): Use Without Vision508 1194.31(b): Use With Low VisionWCAG2 1.3.1: Info and Relationships |
| Tools Necessary[Word 2010] | Reveal Formatting Pane |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find instances of lists (bulleted, numbered, and multi-level items with a hierarchy, such as 2.a.iv).
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Select various list items in the document.
2. Open the Reveal Formatting pane: SHIFT + F1.
3. If the list is programmatically set, the Reveal Formatting Pane will contain information under the Bullets and Numbering heading.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Lists are not programmatically identified.
	+ Fails 1194.31(a): Use Without Vision.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Lists are not programmatically identified.
	+ Fails 1.3.1: Info and Relationships.
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #8
* Lists are programmatically identified.
	+ Passes Baseline Requirement #8
* There are no lists.
	+ Not applicable (Baseline Requirement #8)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * Authors must create a bullet style to programmatically identify lists when built-in lists are not used.
 |

#### Flashing (Reserved)

##### Requirement[All Documents]

9. Sections(s) of the screen should not flash at or above 3Hz.

###### Note:

Agencies must include an evaluation of flashing/blinking content in their test processes. However, as of the publication of the current version of the tests, there is no agreed-upon testing method.

For more information and advisory notes, see the attachment at the end of this document.

#### Data Tables (Headers)

|  |  |
| --- | --- |
| Requirement[All Documents] | 10. Header cells must be programmatically identified in data tables. |
| Rationale[All Documents] |  |
| …technical aspects | To understand the data stored in a cell, or in groups of cells, it is necessary for the reader to be able to connect the data with the information in one or more headers. Typically, visual formatting is used, such as borders, bold fonts and shading to designate cells as being ‘headers’.  |
| …effects on accessibility | To screen reader AT, visual formatting of headers has no inherent meaning. However, programmatic formatting can also be applied to cells to designate them as ‘headers’. |
| …consequences | When programmatic formatting is not applied to headers, AT is not able to identify the relationship between data cells and/or their associated headers.  |
| …benefits | When programmatic formatting is properly applied, it becomes possible for screen reader AT users to access the same logical data-header content relationships that are typically provided via visual formatting.Notes:* Data tables are those tables where the information in a cell requires a row or column header to adequately describe the cell's contents. If a table is used for placement of components on the page for visual aesthetics, then it is a layout table. This test applies to data tables only.
* This test applies to simple tables as well as complex data tables. Complex data tables are defined as those that have two or more levels of headers, and/or include split or merged cells.
 |
| …rationale summary | Summary:To understand the data stored in a cell, or in groups of cells, it is necessary for the reader to be able to connect the data with the information in one or more headers. When programmatic formatting is properly applied, it becomes possible for screen reader AT users to access the same logical data-header content relationships that are typically provided via visual formatting.  |
| Related Standards[All Documents] | 508 1194.22(g): Row and Column Headers508 1194.22(h): Associate Data – HeadersWCAG2 1.3.1: Info and Relationships |
| Tools Necessary[Word 2010] | Accessibility Checker, Reveal Formatting Pane |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find data tables. Data tables are those tables where the information in a cell requires a row and/or column header to adequately describe the cell's contents.

Note:* If a table is used for placement of components on the page, then it is a layout table and not applicable to this test.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | 1. Run the Accessibility Checker, and look for “No Header Row Specified” errors.

Note:* The Accessibility Checker in MS Word 2010 checks only the rows that are set as “Repeat as Header Row” within the table properties Row window.”. The error ‘No Header Row Specified’ will display if this feature is not checked. However, this check only displays when the table is formatted with ‘Table Grid’ style, and not with ‘Table Normal style’. The application and setting of the different styles is hidden from most authors, so they do not know what this setting is and whether it is set ‘correctly’. Furthermore, the test applies only to the first row, and not to the subsequent rows. It also does not apply to the first or subsequent columns used as headings. Therefore the automated check is unreliable as a test, and the manual checks 1a and 2a should be used instead.
 |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. For any data table that has one row of column headers:
* Open the Reveal Formatting Pane (Shift + F1)
* Place the cursor anywhere in the text of the row.
* Check that the Table Row property is set as “Repeat as Header Row”
1. If the Reveal Formatting Pane does not show any text formatting information, inspect whether the table is an image. Select the table and check whether ‘Picture Tools’ appears in the Ribbon.

Note:* MS Word only allows authors to set entire rows as column headers, it does not allow to set individual columns as row headers, nor does it allow to assign association between data cells and header cells.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | Follow the steps in 2a. |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * A data table has one row of column headers that are not marked as “Repeat as Header Row”
	+ Fails 1194.22(g): Identify Row and Column Headers.
* A data table has column(s) containing row headers or both row and column headers, OR has split/merged header cells
	+ Fails 1194.22(g): Identify Row and Column Headers.
	+ Fails 1194.22(h): Associate Data-Headers
* An image of a data table is found
	+ Fails 1194.22(g): Identify Row and Column Headers.
	+ Fails 1194.22(h): Associate Data-Headers
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * A data table has one row of column headers that are not marked as “Repeat as Header Row
	+ Fails 1.3.1: Info and Relationships.
* A data table has column(s) containing row headers, both row and column headers, or has split/merged header cells
	+ Fails 1.3.1: Info and Relationships.
* An image of a data table is found
	+ Fails 1.3.1: Info and Relationships.
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #10
* There are only data tables with column header rows and these rows are marked as “Repeat as Header Row.”
	+ Passes Baseline Requirement #10
* There are no data tables in the document.
	+ Not applicable (Baseline Requirement #10)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * If there are data tables with column and row headers or split/merged header cells, then the document must be converted to an accessible format. There is no programmatic setting for these items in MS Word 2010.
* Data table captions (the name of the table) should be immediately prior to or following the table and programmatically linked.
* Authors may include alternative text for tables. The Accessibility Checker includes a Missing Alt Text: Tables test, which is a good practice, but not part of the Baseline test. Also note that since Alt Text on tables is a relatively new feature added to Word 2010, some AT cannot access it yet.
 |

#### Data Tables (Cell-Header Association)

|  |  |
| --- | --- |
| Requirement[All Documents] | 11. Data cells must be programmatically identified with their associated header cells in complex tables. |
| Rationale[All Documents] |  |
| …technical aspects | To understand the data stored in a cell of a complex data table, it is necessary for the reader to be able to connect the data with the information in more than one header. Typically, multiple headers can be visually represented using layers of rows and columns, as well as split and merged header cells.  |
| …effects on accessibility | To screen reader AT, visual formatting of headers has no inherent meaning. However, programmatic formatting can also be applied to data cells in complex tables to designate which headers the data is associated with. |
| …consequences | When programmatic formatting is not applied to headers, screen readers are not able to identify the relationship between data cells and/or their associated headers.  |
| …benefits | When programmatic formatting is properly applied to complex data tables, it becomes possible for screen reader AT users to access the same logical data-header content relationships that are typically provided via visual formatting.Notes:* Data tables are those tables where the information in a cell requires a row or column header to adequately describe the cell's contents. If a table is used for placement of components on the page for visual aesthetics, then it is a layout table. This test applies to data tables only.
* This test applies to complex data tables only. Complex data tables are defined as those that have two or more levels of headers, and/or include split or merged cells.
 |
| …rationale summary | Summary:To understand the data stored in a cell of a complex data table, it is necessary for the reader to be able to connect the data with the information in more than one header. When programmatic formatting is properly applied to complex data tables, it becomes possible for screen reader AT users to access the same logical data-header content relationships that are typically provided via visual formatting.  |
| Related Standards[All Documents] | 508 1194.22(g): Row and Column Headers508 1194.22(h): Associate Data – HeadersWCAG2 1.3.1: Info and Relationships |
| Tools Necessary[Word 2010] | Accessibility Checker, Table Layout Tab |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find data tables. Data tables are those tables where the information in a cell requires a row and/or column header to adequately describe the cell's contents.

Note:* If a table is used for formatting elements on the page, then it is a layout table and not applicable to this test.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | 1. Run the Accessibility Checker, and look for “Merged or Split Cells” errors on data tables.
 |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Check for the presence of Merged or Split Cells. A visual inspection may reveal this. To examine each data cell: Use the Tab key to move between the table cells. Check that while Tabbing the cursor count does not have a different number of cells to other rows and columns (a different number would indicate the presence of merged or split cells).

Note:* You can also show the table gridlines by selecting Table Tools Layout Tab > Table Group > View Gridlines button as a way to verify.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | 1. Run the Accessibility Checker, and look for “Merged or Split Cells” errors on data tables.
 |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * A complex data table has merged or split cells.
	+ Fails 1194.22(g): Identify Row and Column Headers.
	+ Fails 1194.22(h): Associate Data with Headers.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * A complex data table has merged or split cells
	+ Fails 1.3.1: Info and Relationships.
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #11
* Data tables have no merged or split cells.
	+ Passes Baseline Requirement 11
* There are no data tables present.
	+ Not applicable (Baseline Requirement #11)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * If there are data tables with multiple column/row headers, or merged/split cells, then you may simplify the table in Word or the document must be converted to an accessible format. There is no programmatic setting for these items in MS Word 2010.
* The test of multiple rows or columns being used as headers is covered by the Data Tables (Headers) test #10.
* The error message for the automated checker on “Merged or Split Cells” advises that to resolve the problem, the table should be ‘simplified’. This advice stems from the limitation of MS Word 2010 that data cells cannot be programmatically set with cell-header associations. This is not the case for other, more accessible document formats.
 |

#### Running Headers, Footers, and Watermarks

|  |  |
| --- | --- |
| Requirement[All Documents] | 12. Vital information contained in running headers and footers or watermarks must also be located at or near the start of the related information in the main content area.  |
| Rationale[All Documents] |  |
| …technical aspects | By default, running headers, running footers and watermarks are programmatically separate from the main content or body of the document. |
| …effects on accessibility | Watermarks and other content placed in running headers and footers are accessible to users with disabilities but not read by screen reader AT unless the user makes a deliberate choice to visit these areas.  |
| …consequences | If a user cannot see a “CONFIDENTIAL” watermark, they will not know the sensitivity of the information and be significantly and adversely impacted if they share the information with others. Or, if the running header on an instruction document reads “Response required within 60 days or benefits may be terminated”, then the reader may be significantly impacted if they do not know the information is there. For visual users, accessing information in running headers, footers and watermarks does not require any deliberate extra actions on their part. For screen reader AT users, they would have to do a great deal of extra work of examining whether there are running headers, running footers and watermarks for every page or section of every document just to find out whether vital information pertains to them. |
| …benefits | When vital information contained in the watermark and the running header and footer sections appears at least once at or near the start of the related information in the main content area, screen reader AT users have an equivalent level of access as sighted users.**Notes:*** In determining if the information is “vital”, consider if the reader will be negatively impacted if they do not read or are never aware of the information.
* Automatically generated information does not need to be included in the main content. For example, page and section numbers are automatically generated by the application, and can be obtained by the reader via the application.
 |
| …rationale summary | Summary:Watermarks and other content placed in running headers and footers are by default not read by screen reader AT. When vital information (such as “CONFIDENTIAL; DO NOT DISTRIBUTE”) appears at least once at or near the start of the related information in the main content area it will be read by screen reader AT. |
| Related Standards[All Documents] | 508 1194.31(a) Use Without VisionWCAG2 1.3.2: Meaningful Sequence |
| Tools Necessary[Word 2010] | None |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Examine the document for user-generated running header and running footer and watermark information (such as Respond by X Date, Confidential, or Do Not Distribute etc.).

Note:* Running headers and running footers show grayed out on screen in Print Layout view (View Tab > Document Views Group > Print Layout). If in doubt as to whether something is in the header or footer, go in to ‘edit’ it (Insert Tab > Header & Footer Group > Header/Footer)
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Go to the start of the content to which the information applies such as the start of the document, the chapter, or the section etc.
2. Check that vital information contained in the running headers and footers or watermarks is also located at or near the start of the related information in the main content area.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Vital information in running headers and footers or watermarks is not located at or near the start of the related information in the main content area.
	+ Fails 1104.31(a): Use Without Vision
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Vital information in running headers and footers or watermarks is not located at or near the start of the related information in the main content area.
	+ Fails 1.3.2: Meaningful Sequence.
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #12
* Vital information in running headers and footers or watermarks is also located at or near the start of the related information in the main content area.
	+ Pass Baseline Requirement #12
* There is no vital information in running headers and footers or watermarks.
	+ Not applicable (Baseline Requirement #12)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * Page numbers may be added by a user into running headers or running footers, but they are not considered ‘vital’ since they are automatically set by the application. Screen reader users can query the application for the current page number, and therefore page numbers do not need to be checked here.
* Watermarks may also need to be checked for contrast (see Color Contrast test, #15).
* In Word, watermarks are programmatically linked to the running header area.
 |

#### Images and Other Objects

|  |  |
| --- | --- |
| Requirement[All Documents] | 13. All meaningful objects must have text describing their purpose or function.  |
| Rationale[All Documents] |  |
| …technical aspects | Objects such as images, charts, and diagrams can be used to convey meaningful content that is necessary for understanding a document.  |
| …effects on accessibility | Screen reading AT can access text but cannot automatically interpret the meaning of images and other objects. Screen readers can read text that has been associated with images. |
| …consequences | If the meaning of an image or other object is not conveyed in text, there is no associated information that can be accessed by screen reader AT.  |
| …benefits | Providing text equivalents for images and other objects provides users of screen reader AT the intended meaning of a document’s content.Notes:* The meaning of visual information is inherently contextual. For example, a picture of a person running on a page about athletics is contextually different to the same picture of a person running on a page about data connection speeds. Therefore, instead of just describing a picture ("person running") a description is needed in context ("Come join the athletics team" versus "With our network speeds, you'll be ahead of the race").
* Images of text are sometimes used instead of screen text to achieve an artistic effect. When text is rendered as an image, the alt-text should be the same words verbatim.
* Some images are decorative and convey no information. Decorative components do not need a description.
 |
| …rationale summary | Summary:Screen reading AT can access text but cannot automatically interpret the meaning of images and other objects. Providing text equivalents for images and other objects provides users of screen reader AT the intended meaning of a document’s content. |
| Related Standards[All Documents] | 508 1194.22(a): Text DescriptionsWCAG2 1.1.1: Non-text ContentWCAG2 1.4.1: Use of Color |
| Tools Necessary[Word 2010] | Accessibility checker |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find objects such as Pictures/images (include text rendered as an image), Shapes, and Charts, etc.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | 1. Run the Accessibility Checker. Check for the Missing Alt Text: Picture.

Note:* Even if an image is decorative, the checker will flag it as an error, even though it should contain no alt-text.
 |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Examine the text on images and other objects:
* Select images and other objects and open the context menu (right click). Select Format Picture, and open the Alt Text part of the dialog box. Examine the text in the Description field (ignore the text in the Title field).
* If there is no alt-text, examine any caption associated with the image and other objects for a text description;
* If there is no caption associated with the image and other objects, examine the surrounding text on (either before or after) for text that describes the image and other objects.
1. Examine the descriptive text to determine whether the purpose and/or function of the image and other objects has been conveyed. It may be necessary to check the surrounding text and other content to determine whether the descriptive text makes sense in context.
2. Examine the descriptive text on text rendered as an image and ensure the texts match verbatim.
3. Examine the descriptive text on decorative images for a single space or “ “ (quote/single space/quote).
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | 1. Run the Accessibility Checker. Check for the Missing Alt Text.
2. Perform the manual checks in 2a (a-d) to verify that alt-text is appropriate (be sure to check images and not just the ones flagged as the Accessibility Checker cannot flag incorrect alt-text).
 |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * The purpose and/or function of a meaningful image or other object is not properly conveyed in descriptive text.
	+ Fails 1194.22(a): Equivalent Text Descriptions.
* The descriptive text on text rendered as an image does not match verbatim
	+ Fails 1194.22(a): Equivalent Text Descriptions.
* Alt-text contains a description on a decorative image.
	+ Fails 1194.22(a): Equivalent Text Descriptions.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * The purpose and/or function of a meaningful image or other object element is not properly conveyed in descriptive text.
	+ Fails 1.1.1: Non-text Content.
* The descriptive text on text rendered as an image does not match verbatim
	+ Fails 1.1.1: Non-text Content.
* Alt-text contains a description on a decorative image.
	+ Fails 1.1.1: Non-text Content.
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #13
* Meaningful images have an alt-text description AND its meaning, and/or purpose is sufficiently described.
	+ Passes Baseline Requirement #13
* There are no images.
	+ Not applicable (Baseline Requirement #13)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * Background images and watermarks should be tested for color contrast, see test #15.
* Meaningful images should be placed inline (see Inline Elements test #1).
* Providing alternate/descriptive text is a subjective task, requiring consideration of factors such as subject matter knowledge.
* Images of scanned text should be converted to accessible text.
* Alt-text should be 250 characters or less. For complex images, it is a best practice to contain the description in the body of the document or an appendix.
 |

#### Color and Other Sensory Characteristics

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| --- | --- |
| Requirement[All Documents] | 14. Information conveyed through sensory characteristics (such as color, size, shape, and location) must also be provided in text.  |
| Rationale[All Documents] |  |
| …technical aspects | A sensory characteristic can be used to convey information. For example, a dot in a table cell is green for 'project on schedule', orange for 'delayed', and red for 'past due'. In this case color is the sensory characteristic that changes. |
| …effects on accessibility | For any given sensory characteristic, some users will not be able to rely on that characteristic. For example, non-visual users cannot rely on visual size, shape and location. If an instruction for interactive content says “press the bigger dot to the right move forward, and the smaller dot to the left return to the beginning”, non-visual users will not be able to discern the visual differences between the controls. |
| …consequences | When sensory characteristics are the only means used to convey information, people who are blind, color blind or have low vision do not have equal access to the information.  |
| …benefits | When information that is being conveyed by sensory characteristics is also available in a textual format (such as in a control’s text name), it can be accessed using screen reader AT.Note:This requirement does not mean that sensory characteristics cannot be used; it means they cannot be the only means of conveying the information. |
| …rationale summary | Summary:When information is being conveyed by sensory characteristics such as color, size, shape and location it must also be available in a textual format so that it can be accessed by users who are blind, low-vision or colorblind. |
| Related Standards[All Documents] | 508 1194.22(c): Color Dependence508 1194.31(a): Use Without Vision508 1194.31(b): Use with low visionWCAG2 1.3.3: Sensory CharacteristicsWCAG2 1.4.1: Use of Color |
| Tools Necessary[Word 2010] | None |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find where sensory characteristics are used to convey meaning, indicate an action, or prompt a response. Include:
* Text color
* Images, charts and diagrams
* Links and user controls
* Data table cell contents (such as status indicators)
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Where sensory characteristics are used to convey meaning, determine if meaning is also present via screen text.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Information conveyed through color is not conveyed textually.
	+ Fails 1194.22(c): No Color Dependence to Convey Information
* Information conveyed through a sensory characteristic (other than color) is not conveyed textually.
	+ Fails 1194.31(a): Use Without Vision
	+ Fails 1194.31(b): Use With Low Vision
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Information conveyed through a sensory characteristic (including color) is not conveyed textually.
	+ Fails 1.3.3: Sensory Characteristics
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #14
* All information conveyed through sensory characteristics (including color) is also conveyed textually.
	+ Passes Baseline Requirement #14
* There is no information conveyed through sensory characteristics (including color).
	+ Not applicable (Baseline Requirement #14)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * This test is closely related to, and may be combined with, the test for Color (Contrast) #15.
 |

#### Color (Contrast)

|  |  |
| --- | --- |
| Requirement[All Documents] | 15. Text and Images of text must have contrasting colors/shades at a ratio of 4.5:1 for discerning between background and foreground and at a ratio of 3:1 for large text (14pt bold or 18pt regular). Exclude incidental text, text overlaid on images, and logotypes. |
| Rationale[All Documents] |  |
| …technical aspects | Color/shade choices that do not contrast well with each other may be deliberate (i.e. artistic preference), or they may be the result of programmatic features (e.g. a button's text is black on white, but the text turns yellow in a certain mode, and the background remains white). |
| …effects on accessibility | Visual contrast sensitivity reduces as people age. Screen brightness, ambient light, color blindness and some types of low vision are also contributing factors to perceived contrast levels. |
| …consequences | Having a low level of contrast between foreground text and the background will mean that some people will be unable to see the content as intended. |
| …benefits | In general, the higher the level of contrast used, the more people will be able to see and use the content.Note:Large text is defined here as 14pt bold font or larger, or 18pt regular font or larger. |
| …rationale summary | Summary:Having a higher level of contrast between foreground text and the background results in more people will being able to see and use the content. |
| Related Standards[All Documents] | 508 1194.31(b): Use With Low VisionWCAG2 1.4.3: Contrast (Minimum) |
| Tools Necessary[Word 2010] | See Attachment E – Color Contrast Analyzers |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Examine text or images of text for areas that may have low background to foreground contrast. Include:
* Text in foreground versus background.
* Links (especially visited links that may be grayed out).
* Text in images.
* Text in foreground versus background images and watermarks (the watermark should not interfere with the foreground text, as can happen when there is too little contrast).
1. Use one of the color contrast analyzing tools identified in the Glossary to identify color contrast issues.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Perform a color contrast test on items to ensure that there is sufficiently high contrast for text:
* 4.5:1 for regular text
* 3:1 for large text (14pt bold or 18pt regular).

Note:* Exclude incidental text, text overlaid on images, and logotypes.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Contrast ratio for text and images of text is less than 4.5:1 (3:1 for large text), except for incidental text, text overlaid on images, and logotypes.
	+ Fails 1194.31(b): Use With Low Vision.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Contrast ratio for text and images of text is less than 4.5:1 (3:1 for large text), except for incidental text, text overlaid on images, and logotypes.
	+ Fails 1.4.3: Contrast (Minimum).
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #15
* Contrast ratio for text and images of text is 4.5:1 (3:1 for large text) or greater, except for incidental text, text overlaid on images, and logotypes.
	+ Passes Baseline Requirement #15
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * Proper formatting of text colors may make text more accessible when the page is viewed in high contrast mode (an accessibility feature in the MS Windows Operating System).
* Watermarks in MS Word are stored as part of the Header/Footer area of the document.
 |

#### Audio (Transcripts)

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| --- | --- |
| Requirement[All Documents] | 16. Meaningful audio-only content must be accompanied by a text transcript.  |
| Rationale[All Documents] |  |
| …technical aspects | Embedded audio-only content (such as speeches and recorded meetings) can contain meaningful information necessary to understand a document. . |
| …effects on accessibility | Some users will not be able to rely on audio. |
| …consequences | If there is no text equivalent to the audio, the meaning contained in the content will not be available.  |
| …benefits | Providing a text only version of what is being said, and/or a description of the relevant sounds gives equivalent access to the content for people who are unable to rely on audio.Notes:* Audio-only content may be delivered as an embedded file, as streamed file, or other means.
* Other short sounds such as confirmation beeps and error notifications are not included in this requirement.
* ‘Decorative’ audio would include background music that conveys no content.
 |
| …rationale summary | Summary:Providing a text only version of what is being said and/or a description of the relevant sounds gives equivalent access to the content for people who are deaf or hard of hearing. |
| Related Standards[All Documents] | 508 1194.22(a): Text Descriptions508 1194.31(c): Use Without HearingWCAG2 1.1: Non-text ContentWCAG2 1.2.1: Audio-only and Video-only (Prerecorded) |
| Tools Necessary[Word 2010] | None  |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find interface components that play audio-only content when activated. Look for links, controls (buttons), audio file icons etc.
2. Find other audio content that plays automatically (upon opening a document).

Note:* An audio-only file may be stored in a synchronized media format. For example, a speech is stored in a file where the video is simply a static graphic of the speaker's name and location. If the video component is static, and the information displayed in the video is also available as screen text, then treat the file as audio-only.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Check that the transcript is accessible screen text (i.e. an image of a transcript without alt-text would fail this test).
2. Open the transcript and play the audio-only content, Compare that the information in the transcript is an accurate and complete representation of the audio-only content. Note the inclusion or absence of relevant associated sounds in addition to any dialogue/narration, such as doors banging or sirens wailing.

Note:* MS Word 2010 does not include any native controls for playing media. The controls will most likely be part of an embedded player’s file (e.g. Flash).
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 fail conditions[Word 2010] | * Audio-only content is not accompanied by a transcript.
	+ Fails 1194.22(a): Equivalent Text Descriptions.
* Audio-only content is accompanied by a transcript that is inaccurate or incomplete.
	+ Fails 1194.22(a): Equivalent Text Descriptions.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Audio-only content is not accompanied by a transcript.
	+ Fails: 1.1.1: Non-Text Content.
	+ Fails 1.2.1: Audio-only and Video-only (Prerecorded).
* Audio-only content is accompanied by a transcript that is inaccurate or incomplete.
	+ Fails: 1.1.1: Non-Text Content
	+ Fails 1.2.1 Audio-only and Video-only (Prerecorded)
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #16
* Audio-only content has a transcript supplied AND the transcript is an accurate and complete representation of the audio-only content.
	+ Passes Baseline Requirement #16
* There are no audio-only files.
	+ Not applicable (Baseline Requirement #16)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * If audio is synchronized with video, slides, animations, or other time-based visual media, then use the synchronization test instead.
* The proximity of the audio content to any control to reveal the transcript is covered by the Reading Order test (such as whether there is a logical order for content).
* Testing of media players is usually a software test of the plug-in.
 |

#### Video (Descriptions)

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| --- | --- |
| Requirement[All Documents] | 17. Meaningful video-only content must be accompanied by a description.  |
| Rationale[All Documents] |  |
| …technical aspects | Embedded video-only content (such as animations and slideshows.) can contain meaningful information necessary to understand a document. . |
| …effects on accessibility | Some users will not be able to rely on video. |
| …consequences | If there is no text equivalent to the video, the meaning contained in the content will not be available.  |
| …benefits | Providing a text only version of what is being shown, and/or a description of the relevant video gives equivalent access to the content for people who are unable to rely on video.Notes:* Short animation effects such as button activation highlights and file shrink/disappear on closure are not included in this requirement.
* ‘Decorative’ video includes background images that convey no content.
 |
| …rationale summary | Summary:Providing a text only version of what is being shown and/or a description of the relevant video gives equivalent access to the content for people who are blind or low vision. |
| Related Standards[All Documents] | 508 1194.21(h): Animation508 1194.22(a): Text descriptions508 1194.31(a): Use Without Vision508 1194.31(b): Use with Low visionWCAG2 1.1: Non-text ContentWCAG2 1.2.1: Audio-only and Video-only (Prerecorded) |
| Tools Necessary[Word 2010] | None |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find interface components that play video-only content when activated. Look for links, controls (buttons), video file icons etc.
2. Find other video content that plays automatically (e.g. upon opening a document).

Note:* A video-only file may be stored in a synchronized media format. For example, an animation is stored in a file where the audio is absent or can be considered incidental (e.g. background music that does not influence the comprehension of the animation). If the audio component is absent or incidental, then treat the file as video-only.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Check that the description is available:
* as accessible screen text (i.e. an image of a description without alt-text would fail this test); or
* as an audio file.
1. Open the description and play the video-only content. Check that the information in the description is an accurate and complete representation of the video-only content.

Note:* When accompanying a video-only file with an audio description file, the files do not have to be synchronized.
* MS Word 2010 does not include any native controls for playing media. The controls will most likely be part of an embedded player’s file (e.g. Flash).
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A  |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * A video-only file does not have a description.
	+ Fails 1194.21(h): Animation.
* A video-only file has text descriptions that are inaccurate or incomplete.
	+ Fails 1194.21(h): Animation.
	+ Fails 1194.22(a): Equivalent Text Descriptions.
* A video-only file has audio descriptions that are inaccurate or incomplete.
	+ Fails 1194.21(h): Animation.
	+ Fails 1194.24(d): Video descriptions.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Video-only content does not have a description.
	+ Fails: 1.1.1: Non-Text Content.
	+ Fails 1.2.1: Audio-only and Video-only (Prerecorded).
* Video-only content has text descriptions that are inaccurate or incomplete OR audio descriptions that are inaccurate or incomplete.
	+ Fails: 1.1.1: Non-text Content.
	+ Fails 1.2.1: Audio-only and Video-only (Prerecorded).
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #17
* Video-only content has descriptions supplied AND the descriptions are an accurate and complete representation of the video-only content.
	+ Passes Baseline Requirement #17
* There is no video-only (/animation) content.
	+ Not applicable (Baseline Requirement #17)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * If video is synchronized with audio, meaningful sounds, narration, or other time based visual media, then use the synchronization test instead.
* The proximity of the video content to any control to reveal the description is covered by the Reading Order test (i.e. whether there is a logical order for content).
* Testing of media players is usually a software test of the plug-in.
 |

#### Synchronized Media (Captions)

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| --- | --- |
| Requirement[All Documents] | 18. Synchronized media must have captions that are time-synchronized with the dialog and relevant sounds. |
| Rationale[All Documents] |  |
| …technical aspects | Embedded media content includes time-synchronized video and audio (such as movie clips, spoken presentations, and narrated slide-shows) can contain meaningful information necessary to understand a document. . |
| …effects on accessibility | Some users will not be able to rely on audio. Therefore, there needs to be a synchronized text only version of what is being said, and/or a description of the relevant sounds. |
| …consequences | If there are no captions for the audio, the meaning contained in the content will not be available.  |
| …benefits | Providing time-synchronized captions of what is being said, and/or a description of the relevant sounds gives equivalent access to the multimedia content for people who are unable to rely on audio.Notes:* Captions need to be available, but are not required to be turned on by default. For example, users who need captions can switch them on with a control. If there is no means of switching modes, then the captions must be always on (i.e. the content is ‘open captioned’).
* The captions must allow understanding of the relevant information. For example, captions might include loud bangs, floorboards creaking, or alarms sounding.
* Synchronization is required for the Alternative presentation modes. Because captions must be synchronized, a text transcript will not meet this requirement. Synchronized media content cannot be played and then followed by a summary of the sounds. Instead, the auditory events must be conveyed as they are happening.
 |
| …rationale summary | Summary:Providing time-synchronized captions of what is being said, and/or a description of the relevant sounds gives equivalent access to the multimedia content for people who are deaf or hard of hearing. |
| Related Standards[All Documents] | 508 1194.22(b): Synchronized Alternative508 1194.24(c): Captions508 1194.31(c): Use Without HearingWCAG2 1.2.2: Captions (PrerecordedWCAG2 1.2.4: Captions (Live) |
| Tools Necessary[Word 2010] | None  |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find interface components that play synchronized media when activated. This includes embedded media files and links to streaming live events.
2. Find other synchronized media content that plays automatically (e.g. upon opening a document).

Note:* A synchronized media file may be used to store non-synchronized media format. For example, a speech is stored in a synchronized media file where the video is simply a static image of the speaker's face with a caption. If the video component is static, and the information displayed in the video is also available as screen text, then treat the file as audio-only rather than synchronized media.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Enable the captioning for the synchronized media.
2. Play the synchronized media content. Check that the information in the captions is an accurate, synchronized and complete representation of the dialogue and other relevant sounds in the synchronized media.

Note:* MS Word 2010 does not include any native controls for playing media. The controls will most likely be part of an embedded player’s file (e.g. Flash).
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Synchronized media does not have captions.
	+ Fails 1194.24(c): Captions.
* Synchronized media has captions that are inaccurate or incomplete.
	+ Fails 1194.24(c): Captions.
* Synchronized media has captions that are not synchronized with dialog and relevant sounds.
	+ Fails 1194.22(b): Synchronized Alternatives.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Synchronized media does not have captions.
	+ Fails 1.2.2: Captions (Prerecorded).
* Synchronized media has captions that are inaccurate or incomplete.
	+ Fails 1.2.2: Captions (Prerecorded).
* Synchronized media has captions that are not synchronized with dialog and relevant sounds.
	+ Fails 1.2.2: Captions (Prerecorded).
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #18
* Synchronized media has captions AND the captions are an accurate, synchronized and complete representation of the audio contained in the synchronized media.
	+ Passes Baseline Requirement #18
* There is no synchronized media.
	+ Not applicable (Baseline Requirement #18)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * Testing synchronized media is different to testing audio-only content (test #16).
* Testing synchronized captions AND synchronized descriptions at the same time may be more time effective, so long as both are given equal weight.
* It is preferable to have the media on the main page for all users captioned and audio described, as current technology permits this. It is acceptable to have separate files for captioned and/or audio described versions.
* Testing of synchronized media players is usually a software test of the plug-in.
 |

#### Synchronized Media (Descriptions)

|  |  |
| --- | --- |
| Requirement[All Documents] | 19. Synchronized media must have audio descriptions that are time-synchronized with the video. |
| Rationale[All Documents] |  |
| …technical aspects | Embedded media content includes time-synchronized video and audio (such as movie clips, spoken presentations, and narrated slide-shows) can contain meaningful information necessary to understand a document. . |
| …effects on accessibility | Some users will not be able to rely on video. Therefore, there needs to be a synchronized auditory version of what is being shown, and/or a description of the relevant visual events. |
| …consequences | If there are no audio descriptions for the video, the meaning contained in the content will not be available.  |
| …benefits | Providing time-synchronized audio descriptions of what is being shown, and/or a description of the relevant visual events gives equivalent access to the multimedia content for people who are unable to rely on video.Notes:* Descriptions need to be available, but are not required to be turned on by default. For example, users who need descriptions can switch them on with a control. If there is no means of switching modes, then the descriptions must be always on.
* The descriptions must allow understanding of the relevant information. For example, descriptions might include the looks on people’s faces, people handing items to each other, or who has entered the room.
* Synchronization is required for the Alternative presentation modes. Because descriptions must be synchronized, a separate text description will not meet this requirement. Synchronized media content cannot be played and then followed by a summary of the visual events. Instead, the visual events must be described as they are happening.
 |
| …rationale summary | Summary:Providing time-synchronized audio descriptions of what is being said, and/or a description of the relevant visual events gives equivalent access to the multimedia content for people who are blind or low vision. |
| Related Standards[All Documents] | 508 1194.22(b): Synchronized Alternative508 1194.24(d): Descriptions508 1194.31(a): Use Without Vision508 1194.31(b): Use with Low VisonWCAG2 1.2.3: Audio Description or Media Alternative (Prerecorded)WCAG2 1.2.5: Audio Description (Prerecorded) |
| Tools Necessary[Word 2010] | None  |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find interface components that play synchronized media when activated. This includes embedded media files, and links to streaming live events.
2. Find other synchronized media content that plays automatically such as upon opening a document.

Notes:* A synchronized media file may be used to store non-synchronized media format. For example, an animation is stored in a synchronized media file where the audio is absent or can be considered incidental (e.g. background music that does not influence the comprehension of the animation). If the audio component is absent or incidental, then treat the file as video-only.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Enable the audio descriptions for the synchronized media.
2. Play the synchronized media content.
3. Check that the audio description is an accurate, synchronized and complete representation of the relevant visual events in the synchronized media.

Note:* MS Word 2010 does not include any native controls for playing media. The controls will most likely be part of an embedded player’s file (e.g. Flash).
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Synchronized media is not audio described.
	+ Fails 1194.24(d): Descriptions.
* Synchronized media is audio described, but the descriptions are inaccurate or incomplete.
	+ Fails 1194.24(d): Descriptions.
* Synchronized media is audio described, but the descriptions are not synchronized with video.
	+ Fails 1194.22(b): Synchronized Alternatives.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Synchronized media is not audio described.
	+ Fails 1.2.3: Audio Description or Media Alternative (Prerecorded).
	+ Fails 1.2.5: Audio Description (Prerecorded).
* Synchronized media is audio described, but the descriptions are inaccurate or incomplete.
	+ Fails 1.2.3: Audio Description or Media Alternative (Prerecorded).
	+ Fails 1.2.5: Audio Description (Prerecorded).
* Synchronized media is audio described, but the descriptions are not synchronized with video.
	+ Fails 1.2.3: Audio Description or Media Alternative (Prerecorded).
	+ Fails 1.2.5: Audio Description (Prerecorded).
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #19
* Synchronized media is audio described AND the descriptions are an accurate, synchronized and complete representation of the video contained in the synchronized media.
	+ Passes Baseline Requirement #19
* There is no synchronized media.
	+ Not applicable (Baseline Requirement #19)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * Testing synchronized media is different from testing video-only content (test #17).
* Testing synchronized captions AND synchronized descriptions at the same time may be more time effective, so long as both are given equal weight.
* It is preferable to have the media on the main page for all users captioned and audio described, as current technology permits this. It is acceptable to have separate files for captioned and/or audio described versions.
* Testing of synchronized media players is usually a software test of the plug-in.
 |

#### Forms

|  |  |
| --- | --- |
| Requirement[All Documents] | 20. Labels, instructions, directions and cues necessary to complete a form must be programmatically or textually associated with their respective input control.  |
| Rationale[All Documents] |  |
| …technical aspects | In order to correctly and accurately complete a form, it is necessary to follow instructions, directions and cues, as well as enter information in the correct fields. |
| …effects on accessibility | If cues are only visually associated with controls (e.g. by visual proximity), it may not be possible for users without vision, or with low vision, to find the related instructions for the current form component. If input controls are not textually identified, then users without vision, or with low vision, may find it difficult or impossible to be certain they are filling out the form correctly (e.g. is this field for my name, or my spouses name?). |
| …consequences | When forms are created that rely on visual cues only (i.e. there are no programmatic links between instructions and named form components), users who cannot rely on vision may find it difficult or impossible to fill out the form. |
| …benefits | Non-visual use of a form is facilitated when there is a programmatic association between all relevant instructions, directions and cues and their respective components/controls.Notes:* A given form component may be the subject of instructions that are not positioned next to the component (e.g. at the top of a form, the instruction is "If you are the home owner, complete parts a, b, and f"). In such cases, form designers will use visual layout and flow to direct the user. In such cases the user must be able to access all relevant instructions when using the given form component(s).
* Read-only (i.e. pre-filled) form fields are considered interactive, in that they need to be inline, and must be labeled.
* It is implicit in this requirement that the ability to read instructions and cues and fill in form components must be achievable in one mode of operation (i.e. there cannot be one mode to read the form’s instructions and another mode to fill in the form elements).
 |
| …rationale summary | Summary:In order to correctly and accurately complete a form, it is necessary to follow instructions, directions and cues, as well as enter information in the correct fields. Non-visual use of a form is facilitated when there is a programmatic association between all relevant instructions, directions and cues and their respective components/controls. |
| Related Standards[All Documents] | 508 1194.21(a): Keyboard Accessibility508 1194.21(l): Forms508 1194.22(l): Functional Text for Scripts508 1194.22(n): Labels for forms508 1194.31(a): Use without vision508 1194.31(b): Use with low visionWCAG2 1.3.1: Info and Relationships  |
| Tools Necessary[Word 2010] | None. |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Find all form input components. Examples include buttons, text fields, radio buttons, checkboxes, multi-select lists (combo boxes).
2. Find all instructions and cues (textual and graphical) that are related to form components/controls, including groupings, order of completion, special conditions or qualifiers, etc.
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | Check to see if fields are fillable. Use keyboard and mouse to:* Fill in text fields (such as name)
* Select radio buttons or check boxes
* Use dropdown (combo) boxes
* Update any other type of form field

**Note:*** Screen Reader users do not have access to logically read and fill in forms in MS Word.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * Form components are enabled (fillable) in 1a.
	+ Fails 1194.31(a): Use Without Vision.
	+ Fails 1194.31(b): Use Without Vision.
	+ Fails 1194.22(n): Labels for Forms.
* Form components are enabled (fillable) in 1a.
	+ Fails 1194.22(n): Labels for Forms.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * Form components are enabled in 1a.
	+ Fails 1.3.1: Info and Relationships.
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #20
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * By default, there is no reading mode for forms that works for screen reader users with MS Word documents, because there is no reading mode that allows Assistive Technology users to access both the instructions/directions and form-filling controls at the same time. 12, “*Testing preconditions*”.
* This Baseline requirement concerns fillable form using MS Word’s built-in form input controls. However, there are other methods to create technically “fillable forms” in MS Word. One example of this would be to use a data table that has an empty column for users to enter their data. Another example would be to use the underscore text character to signify where to enter data, such as: Your First Name: \_\_Fred\_\_\_\_.. Notes in streamlined test processes may be needed to direct testers on how to handle the various types of creative means that people employ to generate “forms”.
* If a form has been created in MS Word that the author asserts to be non-fillable and is only intended to be distributed, printed out, and filled in by hand, then the content still must be electronically accessible so that users can know what is in the form that they are printing out. To be accessible, form instructions/directions etc. must be readable in a non-restricted document.
* If a document contains fillable forms, testers should be directed to fail the document without completing the rest of the baseline tests.
 |

#### Focus (Revealing Hidden Content)

|  |  |
| --- | --- |
| Requirement[All Documents] | 21. Components that reveal hidden content (text boxes, thumbnail images, call-outs, comments, light boxes, pop-ups etc.) must either (i) shift focus to the content they reveal, or (ii) the component must describe that a change to the content will occur if selected. |
| Rationale[All Documents] |  |
| …technical aspects | Some components can be intentionally hidden to reduce visual clutter, requiring a user action to reveal the content. |
| …effects on accessibility | It is normally easy for visual users to see that content has been revealed. However, for non-visual users, the fact that content has been revealed may not be apparent, unless the focus moves to the revealed content. If focus does not move to the revealed content, then a description could be used to inform the user of what happens when that control is selected. |
| …consequences | If there is neither a shift in focus nor an a description of changes to content, then users of screen reader AT may be unaware that the visually revealed content exists. This content may be essential for understanding and using the document. |
| …benefits | Providing focus changes to the revealed content or describing the changes ensures that screen reader AT users will have access to the information as intended by the author. |
| …rationale summary | Summary:Some components can be intentionally hidden to reduce visual clutter, requiring a user action to reveal the content. Providing focus changes to the revealed content or describing the changes ensures that screen reader AT users will have access to the information as intended by the author. |
| Related Standards[All Documents] | 508 1194.31(a): Use Without Vision508 1194.31(b): Use With Low VisionWCAG2 2.4.3: Focus OrderWCAG2 3.2.2: On Input |
| Tools Necessary[Word 2010] | Physical System Keyboard |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | N/A (See Advisory tips) |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | * N/A (See Advisory tips).
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | N/A (See Advisory Tips) |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | N/A (See Advisory Tips) |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Document contains components that reveal hidden content.
	+ Not Applicable Baseline Requirement #21.
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * In order to produce content that is hidden and can be revealed by user actions, special formatting has to be programmed into the document (such as using Visual Basic, using Macros). Such formatting will only work in a ‘Macro-enabled document’ that will have a ‘.docm’ or ‘.dotm’ extension. However, this test process is only for ‘.docx’ documents. Therefore, this test process does not apply. Adding programmed formatting to a document effectively turns it into a software application. Software applications should be tested using appropriate software testing methods. Text that is formatted as ‘hidden’ is not included in this test.
* ‘Balloon comments’ are not included in this test.
* Links that open other external documents are not included in this test.
 |

#### Alternative Accessible Version

|  |  |
| --- | --- |
| Requirement[All Documents] | 22. An alternative accessible version must contain equivalent and up-to-date content when the primary document cannot be made accessible. |
| Rationale[All Documents] |  |
| …technical aspects | Some information is inherently visual in nature (e.g. geographic maps, organizational charts). |
| …effects on accessibility | There may be instances where an alternate version of a primary document is provided, because an agency has determined that the primary document cannot be made accessible (e.g. a complex organizational chart may have to be written in prose, and this prose cannot fit within the specified page limits of the primary document). |
| …consequences | When an alternative accessible version is supplied, if the content in the alternative version is not kept up-to-date, or is not equivalent, then users who rely on the alternative version will be at a disadvantage. For example, a policy specifies that when severe weather is anticipated a map is supplied to employees, and an alternate text-only version is supplied at the same time. Therefore, those in charge of releasing the severe weather bulletins must be trained to always create an equivalent, up-to-date text-only version. |
| …benefits | Providing an accessible version is only useful when the information is equivalent and up-to-date.Note:The information should be 'equivalent' but by definition this is not going to be 'exactly the same'. The main points, themes, concepts etc. that the authors are trying to convey in the primary content should also be present in the alternate format. For example, if a complex chart in the primary document shows a year with a small increase in Q2 earnings and a large decrease in Q3 and the text discusses why these trends occur, the alternative accessible version should convey the high and low data points of interest and the trends. An alternative accessible version that just gave all the data points with no mention of the trends would not be considered equivalent. |
| …rationale summary | Summary:There may be instances where an alternate accessible version of a primary document is provided, because an agency has determined that the primary document cannot be made accessible. Providing an alternative accessible version is only useful when the information is equivalent and up-to-date. |
| Related Standards[All Documents] | 508 1194.22(k): Alternative Versions508 1194.31(a): Use Without Vision508 1194.31(b): Use With Low VisionWCAG2: Conformance requirement #1: Conforming Alternate Version |
| Tools Necessary[Word 2010] | None |
| Test Instruction 1a: Manual Find of Applicable Components[Word 2010] | 1. Determine whether there are any alternate documents by examining the content (pay particular attention to content containing maps, directions, complex charts etc.).
 |
| Test Instruction 1b: Accessibility Checker Find of Applicable Components[Word 2010] | N/A |
| Test Instruction 2a: Manual check for Inspecting/Using Components[Word 2010] | 1. Compare the content of the primary document and the alternate format, noting any information differences and/or out-of date material.
 |
| Test Instruction 2b: Accessibility Checker for Inspecting/Using Components[Word 2010] | N/A |
| Test Instruction 3a: Section 508 Failure Conditions[Word 2010] | * An alternate version is provided, but the information is not equivalent to and up to date with the primary document.
	+ Fails 1194.22(k): Text Only or Alternative versions.
 |
| Test Instruction 3b: WCAG2 Failure Conditions[Word 2010] | * An alternate version is provided, but the information is not equivalent to and up to date with the primary document.
	+ Fails Conformance Requirement #1: Conforming Alternate Version.
 |
| Test Instruction 3c: Baseline Requirement Test Results[Word 2010] | * Any failure in 3a.
	+ Fails Baseline Requirement #22
* An alternate version contains equivalent, up-to-date information compared with the primary document.
	+ Passes Baseline Requirement #22
* The primary document(s) are accessible and no alternate versions are used.
	+ Not applicable (Baseline Requirement #22)
 |
| Advisory: Tips to enhance or streamline test processes[Word 2010] | * This is a test of equivalency of the information on an alternate format and not a test of whether or not there should be an alternative version.
* The alternate format version must pass all relevant tests for accessibility.
* The decision of whether to actually provide an alternate format or not will rest with individual agencies based on their policies.
* The definition of ‘up-to-date’ rests with individual agency (such as immediately with any changes, within an hour, within a day etc.).
 |

# Attachment A - Cross-Reference Tables

###### Note:

The names for Section 508 tests are provided as short-hand for reference in the tables that follow and are not the official names. Refer to the standards for the official text.

## Baseline Tests (cross-reference table)

| No. | Baseline test | Section 508 coverage | WCAG 2 (reference only) |
| --- | --- | --- | --- |
| 1. | Inline Elements | 21 SW (a): Keyboard Accessibility31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision | 2.1.1: Keyboard |
| 2. | Reading Order | 31 FPC (a): Use Without Vision | 1.3.2: Meaningful Sequence |
| 3. | Document Title Property (Metadata) | 31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision | 2.4.2: Page Titled |
| 4. | Headings | 31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision31 FPC (f): Use With Physical Limitations | 1.3.1: Info and Relationships |
| 5. | Section Language | 31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision | 3.1.2: Language of Parts |
| 6. | Document Language | 21 SW (d): Role, Name, State31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision | 3.1.1: Language of Page3.1.2: Language of Parts |
| 7. | Links and User Controls | 31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision | 2.4.4: Link Purpose (In Context) |
| 8. | Lists | 31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision | 1.3.1: Info and Relationships |
| 9. | Flashing (Reserved) | 21 SW (k): Blinking objects22 Web (j): No flickering Interface components. | 2.3.1 Three flashes or below threshold |
| 10. | Data Tables (Headers) | 22 Web (g): Row and Column Headers22 Web (h): Associate Data – Headers | 1.3.1: Info and Relationships |
| 11. | Data Tables (Cell-Header Association) | 22 Web (g): Row and Column Headers22 Web (h): Associate Data – Headers | 1.3.1: Info and Relationships |
| 12. | Running Headers, Footers, and Watermarks | 31 FPC (a): Use Without Vision | 1.3.2: Meaningful Sequence |
| 13. | Images | 22 Web (a): Text Descriptions | 1.1.1: Non-text Content1.4.1: Use of Color |
| 14. | Color and Other Sensory Characteristics | 22 Web (c): Color Dependence31 FPC (a): Use Without Vision31 FPC (b): Use With Low vision | 1.3.3: Sensory Characteristics1.4.1: Use of Color |
| 15. | Color (Contrast) | 31 FPC (b): Use With Low Vision | 1.4.3: Contrast (Minimum) |
| 16. | Audio (Transcripts) | 22 Web (a): Text Descriptions31 FPC (c): Use Without Hearing | 1.1: Non-text Content1.2.1: Audio-only and Video-only (Prerecorded) |
| 17. | Video (Descriptions) | 21 SW (h): Animation22 Web (a): Text descriptions24 Multimedia (d): Audio descriptions | 1.1: Non-text Content1.2.1: Audio-only and Video-only (Prerecorded) |
| 18. | Synchronized Media (Captions) | 22 Web (b): Synchronized Alternatives24 Multimedia (c): Captions31 FPC (c): Use Without Hearing | 1.2.2: Captions (Prerecorded1.2.4: Captions (Live) |
| 19. | Synchronized media (Descriptions) | 22 Web (b): Synchronized Alternative24 Multimedia (d): Descriptions31 FPC (a): Use Without Vision31 FPC (b): Use with Low Vision  | 1.2.3: Audio Description or Media Alternative (Prerecorded)1.2.5: Audio Description (Prerecorded) |
| 20. | Forms | 21 SW (a): Keyboard Accessibility21 SW (l): Forms22 Web (n): Labels for Forms31 FPC (a): Use without Vision31 FPC (b): Use with Low Vision | 1.3.1: Info and Relationships  |
| 21. | Focus Revealing Hidden Content | 31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision | 2.4.3: Focus Order3.2.2: On Input |
| 22. | Alternative Accessible Version | 22 Web (k): Alternative Versions31 FPC (a): Use Without Vision31 FPC (b): Use With Low Vision | Conformance requirement #1: conforming Alternate version |

## Section 508 (cross-reference table)

| Para. | Name | Baseline test |
| --- | --- | --- |
| 21 SW (a) | Keyboard Accessibility | 1. Inline Elements12. Running Headers, Footers, and Watermarks20. Forms21. Revealing Hidden Content |
| 21 SW (b) | Built-in Accessibility Features | N/A |
| 21 SW (c) | Visual Focus | N/A |
| 21 SW (d) | Role, Name, State | 5. Section Language6. Document Language |
| 21 SW (e) | Bitmap images | N/A |
| 21 SW (f) | Input text | N/A |
| 21 SW (g) | OS Individual display attributes | N/A |
| 21 SW (h) | Animation | 17. Video (Descriptions) |
| 21 SW (i) | No color dependence to convey information | N/A |
| 21 SW (j) | Variety of color selections | N/A |
| 21 SW (k) | Blinking objects  | 9. Flashing (Reserved) |
| 21 SW (l) | Forms | 20. Forms |
| 22 Web (a) | Equivalent text descriptions | 13. Images16. Audio (Transcripts)17. Video (Descriptions) |
| 22 Web (b) | Synchronized Alternatives | 18. Synchronized Media (Captions)19. Synchronized media (Descriptions) |
| 22 Web (c) | No color dependence to convey information | 14. Color and Other Sensory Characteristics |
| 22 Web (d) | Readable Style Sheets | N/A |
| 22 Web (e) | Redundant text links on server-side image maps | N/A |
| 22 Web (f)  | Client side not server side | N/A |
| 22 Web (g) | Identify row and column headers | 10. Data Tables (Headers)11. Data Tables (Cell-Header Association) |
| 22 Web (h) | Associate Data with Headers | 10. Data Tables (Headers)11. Data Tables (Cell-Header Association) |
| 22 Web (i) | Descriptive Frame Titles | N/A |
| 22 Web (j) | No flickering Interface components | 9. Flashing (Reserved) |
| 22 Web (k) | Text only or Alternative versions | 22. Alternative Accessible Version |
| 22 Web (l) | Functional Text for Scripts | 20. Forms |
| 22 Web (m) | Plug-ins | N/A |
| 22 Web (n) | Labels for forms | 20. Forms |
| 22 Web (o) | Method to Skip Repetitive Links | N/A |
| 22 Web (p) | Time out notification | N/A |
| 24 Multimedia (c) | Captions | 18. Synchronized Media (Captions) |
| 24 Multimedia (d) | Video descriptions | 17. Video (Descriptions)19. Synchronized media (Descriptions) |
| 31 FPC (a) | Use without vision | 1. Inline Elements2. Reading Order3. Document Title Property (Metadata)4. Headings5. Section Language6. Document Language7. Links and User Controls8. Lists14. Color and Other Sensory Characteristics15. Color (Contrast)17. Video (Descriptions)19. Synchronized media (Descriptions)20. Forms21. Revealing Hidden Content22. Alternative Accessible Version |
| 31 FPC (b) | Use with low vision | 1. Inline Elements3. Document Title Property (Metadata)4. Headings5. Section Language6. Document Language7. Links and User Controls8. Lists14. Color and Other Sensory Characteristics17. Video (Descriptions)19. Synchronized media (Descriptions)20. Forms21. Revealing Hidden Content22. Alternative Accessible Version |
| 31 FPC (c) | Use without hearing | 16. Audio (Transcripts)18. Synchronized Media (Captions) |
| 31 FPC (d) | Use with limited hearing | N/A |
| 31 FPC (e) | Use without speech | N/A |
| 31 FPC (f) | Use with physical limitations | 4. Headings |

## WCAG 2.0 (cross-reference table)

###### Note:

The following table is for reference only. The baseline tests align with, but do not necessarily cover WCAG 2.0 AA completely. Following the tests should not be considered equitable to WCAG conformance.

| No. | Name | Baseline test |
| --- | --- | --- |
| 1.1.1  | Non-text Content | 13. Images16. Audio (Transcripts)17. Video (Descriptions) |
| 1.2.1 | Audio-only and Video-only (Prerecorded) | 16. Audio (Transcripts)17. Video (Descriptions) |
| 1.2.2  | Captions (Prerecorded) | 18. Synchronized Media (Captions) |
| 1.2.3  | Audio Description or Media Alternative (Prerecorded) | 19. Synchronized media (Descriptions) |
| 1.2.4  | Captions (Live) | 18. Synchronized Media (Captions) |
| 1.2.5  | Audio Description (Prerecorded) | 19. Synchronized media (Descriptions) |
| 1.3.1  | Info and Relationships | 4. Headings8. Lists10. Data Tables (Headers)11. Data Tables (Cell-Header Association)20. Forms |
| 1.3.2  | Meaningful Sequence | 1. Inline Elements2. Reading Order12. Running Headers, Footers, and Watermarks |
| 1.3.3  | Sensory Characteristics | 14. Color and Other Sensory Characteristics |
| 1.4.1  | Use of Color | 13. Images14. Color and Other Sensory Characteristics |
| 1.4.2  | Audio Control | N/A |
| 1.4.3  | Contrast (Minimum) | 15. Color (Contrast) |
| 1.4.4  | Resize text | N/A |
| 2.1.1  | Keyboard | 1. Inline Elements12. Running Headers, Footers, and Watermarks |
| 2.1.2  | No Keyboard Trap | N/A |
| 2.2.1  | Timing Adjustable | N/A |
| 2.2.2  | Pause, Stop, Hide | N/A |
| 2.3.1  | Three flashes or below threshold | 9. Flashing (Reserved) |
| 2.4.1  | Bypass Blocks | N/A |
| 2.4.2  | Page Titled | 3. Document Title Property (Metadata) |
| 2.4.3  | Focus Order | 21. Revealing Hidden Content |
| 2.4.4  | Link Purpose (In Context):  | 7. Links and User Controls |
| 2.4.5  | Multiple Ways | N/A |
| 2.4.6  | Headings and Labels | 4. Headings |
| 2.4.7  | Focus Visible | N/A |
| 3.1.1  | Language of Page | 5. Section Language6. Document Language |
| 3.1.2  | Language of Parts | 5. Section Language6. Document Language |
| 3.2.1  | On Focus | N/A |
| 3.2.2  | On Input | 21. Revealing Hidden Content |
| 3.2.3  | Consistent Navigation | N/A |
| 3.3.1  | Error Identification | N/A |
| 3.3.2  | Labels or Instructions | N/A |
| 3.2.4  | Consistent Identification | N/A |
| 3.3.4  | Error Prevention (Legal, Financial, Data) | N/A |
| 4.1.1 | Parsing | N/A |
| 4.1.2  | Name, Role, Value | N/A |
| *N/A* | Conformance requirement #1: conforming Alternate version | 22. Alternative Accessible Version |
| *N/A* | Conformance Requirement #2: F*ull Pages* | N/A |
| *N/A* | Conformance Requirement #3: Complete Process | N/A |
| *N/A* | Conformance requirement #4: only accessibility ways | N/A |
| *N/A* | Conformance requirement #5: non-interference | N/A |

# Attachment B - Flashing Content Test Advisory Notes

Agencies must include an evaluation of flashing/blinking content in their test processes. However, as of the publication of the current version of the tests, there is no agreed-upon testing method. The test number 9 is reserved for a future version of this document when an agreed-upon test process will be included. The following are advisory notes relating to tests of flashing content.

## Why to Include a Flashing Content Test in a Test Process

Even though there is no baseline, there are two primary reasons to include a test: the Section 508 law, and the risk of injury to users.

The Section 508 standards require:

§ 1194.21 Software applications and operating systems (k) Software shall not use flashing or blinking text, objects, or other components having a flash or blink frequency greater than 2 Hz and lower than 55 Hz.

§ 1194.22 Web-based intranet and internet information and applications. (j) Pages shall be designed to avoid causing the screen to flicker with a frequency greater than 2 Hz and lower than 55 Hz.

The standards are in place as an attempt to reduce the likelihood of causing a seizure in a user with photosensitive epilepsy. It is therefore incumbent on agencies to apply due diligence to try to lower the likelihood of causing injury.

###### Note:

WCAG 2.0 also includes two related success criteria:

2.2.2 Pause, Stop, Hide

2.3.1 Three Flashes or Below Threshold

The WCAG 2.0 Web site contains advice, commentary, and links to further information relating to the above success criteria that may be useful to consult when developing a streamlined test process.

## Why There is No Baseline Test for Flashing

Despite exhaustive analysis efforts of DHS and SSA staff during the creation of the tests for Software & Web Accessibility,” the precursor document for this baseline, a reliable, repeatable method to determine the number of flashes or blinks per second could not be found or established by the time of publication. A resolution must be found. There are many candidate methods to try, and it may be possible to create a software tool that can be accepted in the future. Candidate methods that have already been studied included:

* Seeking the code from developers to show the programmed cycles per second. This test is considered as too advanced for most testers (cycle values have to be translated through formulas to get a Hz value). Further, other program and operating system functions can slow or speed up a programmed value to something that differs from the intended value (in our analysis, the majority showed flash rates that differed to the code).
* A tester visually following the flashing, along with some counting aid (counting in the head "one one thousand two one thousand" etc., using a stopwatch or countdown timer, using a metronome, and other methods). Each test involving human perception has its limitations and brings up inter-tester and intra-tester reliability questions.
* Using a software tool to blink at a known rate and placing it next to the flashing content to visually compare rates. Although this was promising, the ability of users varied in their capability of making measurements. After about 2.5 Hz, the testers could not reliably track both flashing objects. Further, getting the tool to blink at the desired rate on different computers was problematic.
* Using a software tool to capture and analyze the content displayed on screen. The tools proved unreliable, in part due to the mismatch between sampling frequency and the screen refresh rate. Interference can occur when flashes are in the process of being 'drawn' on the screen at the same time as the sampling is taking place.
* Using a video camera to capture the screen. This is considered a cumbersome test for general use, and it is subject to the same interference problems as with the screen capture software.

## Requirement and Draft Rationale

### Requirement

Sections(s) of the document should not flash at or above 3Hz.

###### Note:

Section 508 sets limits at 2Hz, but WCAG, produced later than Section 508, revises that figure to 3Hz based on research. It is likely that the Section 508 refresh will adopt the 3Hz figure, and so that requirement is adopted in the baseline.

### Rationale

*The following is advisory only. It will be finalized in future versions of this document when an agreed-upon test process is released.*

|  |  |
| --- | --- |
| Rationale[All Documents] |  |
| …technical aspects | A flashing / blinking component is one that is set to turn on and off continuously. The component can be anything on the screen, such as a piece of text, an indicator, a section of the screen, or the whole screen.  |
| …effects on accessibility | A component that flashes or blinks in the visual field can cause adverse reactions in people who have photosensitive epilepsy. The size, intensity and duration that causes seizures varies from individual to individual.  |
| …consequences | It is well established that objects flickering in the frequency range from 3Hz to 55Hz (from three times to 55 times per second) should be avoided. |
| …benefits | By avoiding flickering components in the specified range, the risk of inducing seizures is significantly reduced.Notes:* Scrolling ('marquee') text may cause a flashing effect under certain circumstances.
* At flash rates approaching and above 55Hz, flashing can be imperceptible to the naked eye (the component(s) will look like they have a steady state). For this reason there is no test that deals with the higher cut-off point of 55Hz.
 |
| …rationale summary | Summary:A component that flashes or blinks in the visual field can cause adverse reactions in people who have photosensitive epilepsy. It is well established that objects flickering in the frequency range from 3Hz to 55Hz should be avoided. |

## How to Report on Flashing Content

When developing test processes and reporting results agencies must include a test related to flashing, even though there is no baseline test.

* Results of tests should indicate the test method used.
* Results of tests for flashing can be accepted by individual agencies at their discretion.
* Agencies who adopt the baseline tests and share results with one another cannot reject another agency's test results just because they do not accept the methods for testing flashing content. Agencies can reject the flashing results, but will accept the remainder of the test results, until a reliable baseline test is chosen.

# Attachment C – MS Word 2010 Automated Accessibility Checker

The MS Word Automated Accessibility Checker is used in some of the items in this test process.

###### Note:

* The document **must be saved in the ".docx" format, and saved from within MS Word 2010.**
* When saving, the “Maintain compatibility with previous versions of Word” must be unchecked.

|  |  |  |
| --- | --- | --- |
| Accessibility checker error(alphabetical order) | Related Baseline Test (begins page #) | Notes |
| Blank Table Rows or Columns | NA |  |
| Check Reading Order | Reading Order, #2, p.17 | Note only |
| Heading is Too Long  | N/A |  |
| Infrequent Headings | N/A |  |
| Merged or Split Cells | Data Tables (Cell-Header Association) #11, p.36 |  |
| Missing Alt Text: Picture, Text Box, Other Elements | Images, Images #13, p.40 |  |
| Missing Alt Text: Tables | Data Tables (Headers) #10, p.33 | Advisory Tip Only |
| No Header Row Specified | Data Tables (Headers) #10, p.33 |  |
| Objects Not Inline | Inline Elements #1, p.15 |  |
| Repeated Blank Characters | Reading Order #2, p.17 | Advisory Tip Only |
| Skipped Heading Level | N/A |  |
| Unclear Hyperlink Text | Links and User Controls #7, p.28 |  |
| Unstructured Document | Headings #4, p.21 |  |
| Using Image Watermark | N/A |  |

# Attachment D – Color Contrast Analyzers

The following tools can be used to compare color contrast:

* [WebAim Color Contrast Anaylzer (http://webaim.org/resources/contrastchecker/)](http://webaim.org/resources/contrastchecker/)
* [Juicy Studio (http://www.paciellogroup.com/resources/contrastAnalyser)](http://www.paciellogroup.com/resources/contrastAnalyser)
* [Color Contrast Check (http://snook.ca/technical/colour\_contrast/colour.html)](http://snook.ca/technical/colour_contrast/colour.html)
1. The Accessibility Committee serves as the principal interagency forum to improve the Federal government’s implementation of Section 508. See [cio.gov/about/committees/accessibility-committee/](https://cio.gov/about/committees/accessibility-committee/). [↑](#footnote-ref-1)
2. The tests concern the accessibility of electronic documents published internally or externally by an agency and do not pertain to draft or throw-away documents. [↑](#footnote-ref-2)
3. Web Content Accessibility Guidelines (WCAG) 2.0, W3C Recommendation 11 December 2008. Available: <http://www.w3.org/TR/WCAG20/> [↑](#footnote-ref-3)
4. Note that "aligns with" does not imply "conforms to". For conformance with WCAG 2.0, a WCAG 2.0 test process should be followed. [↑](#footnote-ref-4)
5. The Accessibility Committee serves as the principal interagency forum to improve the Federal government’s implementation of Section 508. See [cio.gov/about/committees/accessibility-committee/](https://cio.gov/about/committees/accessibility-committee/). [↑](#footnote-ref-5)
6. See <http://www.w3.org/TR/wcag2ict/>. [↑](#footnote-ref-6)
7. Cross-reference tables are provided in Attachment A. [↑](#footnote-ref-7)
8. Word’s Accessibility Checker does not check all accessibility requirements. When the automated check is not available, the manual check must be used. [↑](#footnote-ref-8)
9. Test results 3a and 3c must be reported when sharing documents between agencies. [↑](#footnote-ref-9)
10. The baseline tests should not be modified and should be properly cited when being re-published. [↑](#footnote-ref-10)
11. If a document contains fillable forms, testers may fail the document without performing the other baseline tests. [↑](#footnote-ref-11)
12. Federal Acquisition Regulation (FAR 39.2) <https://www.acquisition.gov/far/html/Subpart%2039_2.html> [↑](#footnote-ref-12)