Word Accessibility:   
Extended checklist according to EN 301 549

SHUFFLE – Hochschulinitiative digitale Barrierefreiheit für Alle

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# Introduction

We want to make Word documents as accessible as possible for a broad user group. This extended checklist contains aspects to be considered that a Word document should fulfil according to the requirements of BITV 2.0 (based on EN 301 549). If all EN requirements are met, the document is accessible in accordance with the legal requirements for public bodies in Germany. You can find explanations on the implementation of the individual aspects in the implementation guide "How do I make my Word document accessible".

When creating a new Word document, it is recommended that the integrated accessibility check in Word is activated from the start date and runs parallel to the creation process. This allows some barriers to be recognised and removed immediately. The "Check accessibility" option is helpful, but does not guarantee complete accessibility, which is why a manual check should always be carried out.

# Notes on the extended checklist

As a general rule, every EN requirement must be fulfilled at least in the print layout (editing mode as the default setting) without changing the document. The other views (web layout, reading mode, focus mode and plastic reader) are helpful for certain applications, but cannot replace the functionality of the print layout.

The requirements listed here refer to the programme provided by Microsoft for editing (Word application). We use the latest Word version as a basis (Office 365 as of February 2023). There may be deviations for older versions.

This checklist is not suitable if at least one of the following cases applies. In these cases, all requirements of EN 301 549 in section 10 should be applied.

* Scripts are used (e.g. VBScript)
* There are embedded objects (except online videos)
* Form fields appear (Word form field function)

# Authorship and licence

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This document has been developed with great care. Nevertheless, we cannot guarantee that it is complete and free of errors. You are welcome to send us any information on errors found or other feedback [by email to the Digital Accessibility Competence Centre.](mailto:barrierefreiheit@hdm-stuttgart.de)

# Extended checklist according to EN requirements (Word)

| **No. /  Check** | **Type** | **EN requirement** | **Aspect** | **Particularly helpful in digital teaching for staff, people who...** |
| --- | --- | --- | --- | --- |
| D1 | Document (title) | 10.2.4.2 (A)  Document with title | The title is stored in the metadata, meaningful and easy to understand. | ... want to find a document via a search engine. |
| D2 | Document (language) | 10.3.1.1 (A)  Language of the document | The main language of the document corresponds to the language for the spell check. | ... use a voice output or a screen reader. |
| D3 | Document | 10.1.3.3 (A)  Sensory properties | A reference to internal or external textual or graphic objects is made by explicit naming, not solely by means of a description via visual or auditory features. | ... would like to orientate themselves in the document.  ... that primarily utilise a sensory channel. |
| D4 | Document (colour) | 10.1.4.1 (A)  Use of colour | If colours are used to convey information (e.g. in diagrams or to mark text), labels, symbols or patterns also convey the same information. | ... work independently of colour display.  ... be distracted by colours.  ... perceive stimuli strongly.  ... do not perceive all colours clearly. |
| M1 | Marginalia | 10.1.3.2 (A)  Meaningful order / 10.2.1.1 (A)  Keyboard / 10.2.4.3 (A)  Focus order | Marginalia are created using a separate style sheet with an anchored position frame. | ... use a voice output or a screen reader. |
| K1 | Header and footer | 10.1.3.2 (A)  Meaningful sequence | The header and footer are created with appropriate format templates and are free of content-relevant information (page numbers are permitted). | ... use a voice output or a screen reader and do not want to be interrupted in their reading flow. |
| F1 | Footnotes, endnotes and references | 10.1.3.2 (A)  Meaningful sequence | Footnotes, endnotes and references are based on the functions that Word offers under "References". | ... use a voice output or a screen reader.  ... navigate with the keyboard only. |
| S1 | Columns | 10.1.3.2 (A)  Meaningful sequence | Columns are not inserted via tabs, but via the "Layout" menu. | ... use a voice output or a screen reader. |
| Ü1 | Heading | 10.1.3.1 (A)  Info and relationships | All headings are created using style sheets. | ... use a voice output or a screen reader. |
| Ü2 | Heading | 10.1.3.1 (A)  Info and relationships | Headings are correctly nested, i.e. subheadings have a lower level (higher number) than the heading to which they are subordinate. | ... use a voice output or a screen reader. |
| L1 | List, enumeration | 10.1.3.1 (A)  Info and relationships | Only content that really represents a list / enumeration is output as a list / enumeration. | ... use a voice output or a screen reader. |
| L2 | List, enumeration | 10.1.3.1 (A)  Info and relationships | Lists and enumerations are created with list and enumeration formats. | ... use a voice output or a screen reader. |
| T2 | Text (language) | 10.3.1.2 (AA)  Language of parts | The text passages that differ from the main language are marked with the appropriate language (language change). | ... use a voice output or a screen reader. |
| T3 | Text | 10.1.4.12 (AA)  Text spacing | Paragraphs are not created with a tab or soft line break, but with a paragraph break. | ... use a voice output or a screen reader. |
| T4 | Text | 10.1.4.12 (AA)  Text spacing | Page or column breaks are not created with blank lines, but with the page or column break. | ... use a voice output or a screen reader. |
| T5 | Text (colour) | 10.1.4.3 (AA)  Contrast (minimum) | Texts have a sufficient contrast ratio to the background.  For large texts from 18 pt. or bold texts from 14 pt. at least 3:1. For all other texts at least 4.5:1. | ... do not perceive all colours clearly.  ... see badly.  ... read the document in poor lighting conditions (or via a projector). |
| T6 | Text,  table, graphic | 10.2.4.6 (AA)  Headings and labels | Headings, figure and table captions only appear once, are meaningful and easy to understand. | ... use a voice output or a screen reader.  ... need/want structure. |
| T7 | Text | 10.2.4.6 (AA)  Headings and labels | Identifiers for texts to be inserted by the user (e.g. before or after "\_\_\_\_\_\_\_\_\_\_") only appear once, are meaningful and easy to understand. | ...use voice output or a screen reader.  ... need/want structure. |
| T8 | Text (block quote) | 10.1.3.1 (A)  Info and relationships | Paragraphs that are inserted as a quote are labelled with the "Quote" style sheet. | ... use a voice output or a screen reader. |
| N1 | Link | 10.2.4.4 (A)  Link purpose (in context) | Link texts are meaningful in context (surrounding text and local heading). | ... use a voice output or a screen reader.  ... can be easily interrupted in the flow of reading. |
| G1 | Graphic | 10.1.4.5 (AA)  Images of text | No images or WordArt are used to display text ("font graphics"). Exception: Essential font graphics have a meaningful alternative text. Redundant font graphics are labelled as decorative. | ... use a voice output or a screen reader.  ... enlarge texts.  ... want to view texts in high contrast mode. |
| G2 | Graphic | 10.1.1.1 (A)  Non-text content | Graphics with no substantive meaning are marked as decorative. | ... use a voice output or a screen reader. |
| G3 | Graphic | 10.2.2.2 (A)  Pause, stop, fade out | No animated graphics (GIFs) are used. | ... react sensitively to light stimuli.  ... are easily distracted. |
| G4 | Graphic | 10.2.5.3 (A)  Labelling in the name | A linked graphic that displays text also has this text in the alternative text. | ... use a voice output or a screen reader. |
| G5 | Graphic (colour) | 10.1.4.11 (AA)  Non-text contrast | Graphic information-bearing elements (e.g. lines, neighbouring areas) have a minimum contrast of 3:1 to the background. | ... do not perceive all colours clearly.  ... do not see well.  ... read the document in poor lighting conditions (or via a projector). |
| G6 | Graphics, Video | 10.1.1.1 (A)  Non-text content | Content-bearing photos, graphics, SmartArts, diagrams, groupings of graphics and online videos have a short, concise alternative text. | ... use a voice output or a screen reader. |
| G7 | ~~Graphic~~ | 10.1.1.1 (A)  Non-text content | Content-heavy photos, graphics, SmartArts, diagrams and groupings of graphic elements are also described or interpreted in detail in the document (as image captions, other text or links to a website). | ... use a voice output or a screen reader. |
| G8 | Graphic, text field | 10.1.3.2 (A)  Meaningful order / 10.2.1.1 (A)  Keyboard / 10.2.4.3 (A) Focus  order | Inserted text fields and graphics are anchored in the appropriate place. | ... use a voice output or a screen reader.  ... navigate in the document using the keyboard only. |
| B1 | Table | 10.1.3.1 (A)  Info and relationships | Tables are created via "Insert table". | ... use a voice output or a screen reader. |
| B2 | Table | 10.1.3.2 (A)  Meaningful sequence | Page breaks in table rows are disabled for tables that extend over more than one page. | ... use a voice output or a screen reader.  ... quickly lose their bearings. |
| B3 | Table | 10.1.3.1 (A)  Info and relationships | All column headings are marked as "Header", all row headings (if available) are marked as "First column". | ... use a voice output or a screen reader. |
| B4 | Table | 10.1.3.1 (A)  Info and relationships | Cells are not connected to each other. | ... use a voice output or a screen reader.  ... enlarge the table. |
| B5 | Table | 10.1.3.1 (A)  Info and relationships | Complex tables are divided into several simple tables. | ... use a voice output or a screen reader.  ... need/want structure  ... find it difficult to understand the content of complex tables. |
| R1 | Formula | 10.1.1.1 (A)  Non-text content | The integrated formula editor is used for mathematical formulae. | ... use a voice output or a screen reader. |
| V1 | Video | 10.2.3.1 (A)  Flashing, three times or below limit value | Embedded online videos and GIFs do not flicker (maximum 3 times per second). | ... which react sensitively to light stimuli. |
| V2 | Video | 10.1.2.1 (A)  Pure audio and pure video (recorded) / 10.1.2.2 (A)  Subtitles (recorded) | Embedded online videos with relevant audio content contain a subtitle (on their video platform). | ... record videographic content primarily visually.  ... at the time of reception.  ... have no audio output.  ...whose mother tongue is not German. |
| V3 | Video | 10.1.2.3 (A)  Audio description or media alternative (recorded) / 10.1.2.5 (AA)  Audio description (recorded) | Embedded online videos with relevant visual content have an audio description as a second audio track or an alternative video with audio description is offered in the audio track (e.g. as a link). | ... record videographic content primarily auditory. |
| V4 | Video | 10.6 Timing for audio description (should) | The audio description does not cover any relevant auditory information from embedded videos. | ... record videographic content primarily auditory. |

# Recommendations

The following checkpoints are recommendations to make the Word document even more accessible. However, they are not prescribed by EN 301 549.

| **No. / Check** | **Type** | **Aspect** | **Particularly helpful in digital teaching for staff, people who...** |
| --- | --- | --- | --- |
| E-A1 | General (colour) | The use of colours is generally sparing. | ... do not perceive all colours clearly.  ... be distracted by colours.  ... perceive stimuli strongly.  ... work independently of colour display. |
| E-D2 | Document (title) | The title (or heading level 1) in the document corresponds to the title in the document's metadata. | ... use a voice output or a screen reader.  ... want to find a document via a search engine. |
| E-D3 | Document | Extensive documents have a table of contents at the start date. | ... would like to orientate themselves  ... need/want structure |
| E-D4 | Document | There are no blank lines in the document. | ... use a voice output or a screen reader. |
| E-O1 | Heading | The first heading has the style "Title" or "Heading 1". | ... use a voice output or a screen reader. |
| E-Ü2 | Heading | If the "Title" style is used, the next lower heading is a "Heading 1". | ... use a voice output or a screen reader.  ... need/want structure. |
| E-Ü3 | Heading | Headings below level 6 should be avoided. Example of "Heading 6" in decimal format: 1.1.1.1.1.1.1.  Note: Heading level 7 and below can cause problems when exporting to HTML and PDF. | ... use a voice output or a screen reader.  ...need/want structure. |
| E-Ü4 | Heading | If there are sub-headings, no level is skipped.  Note: This is mandatory for the export to PDF. | ... use a voice output or a screen reader. |
| E-Ü5 | Heading | The heading is labelled exclusively with Arabic numerals ("1"), not with Roman numerals ("I"). | ... use a voice output or a screen reader. |
| E-T1 | Text | Bold and italic texts are labelled with the "Bold" and "Italic" character styles instead of just formatting the font. | ... use a voice output or a screen reader. |
| E-T2 | Text | The font is sans serif (e.g. Arial, Helvetica) and not too thick or too thin. | ... have difficulty following the reading flow.  ... have difficulties recognising/reading the text.  ... need/want structure. |
| E-T3 | Text | Highlighting using CAPITAL LETTERS, *italics*, underlining (except for links) and text effects (colour gradient as colour fill, glow effects, text outline) occur at most in individual words.  Exception: "Glow" for text superimposed on photos to increase contrast. | ... have difficulty following the reading flow.  ... have difficulties recognising/reading the text.  ... need/want structure. |
| E-T4 | Text | The text is left-aligned. | ... have difficulty following the flow of the text. |
| E-T5 | Text | The line spacing is at least 120%. | ... have difficulty concentrating on the flow of the text.  ... recognise/read the text.  ...need/want structure. |
| E-S1 | Columns | The space between the columns is at least 6 mm and marked by a dividing line. | ... cannot see well. |
| E-N1 | Link | URL does not appear as plain text in the body text (exception for footer, bibliography). Instead, text is marked as a hyperlink that describes the jump destination in an easily understandable way and is clearly differentiated from the other link texts. | ... use a voice output or a screen reader.  ... can be easily interrupted in the flow of reading. |
| E-N2 | Link | If a link opens another programme (e.g. browser, email programme), this is indicated in the link text. Example: "Contact address" (opens email programme)". | ... use a voice output or a screen reader.  ... can be easily interrupted in the flow of reading. |
| E-N3 | Link | Tooltips are not used. Instead, important information should be given as part of the link text.  Note: Tooltips are displayed when you hover over a link with the mouse pointer. However, they are not displayed directly for keyboard and screen reader users. | ... use a voice output or a screen reader.  ... operate the document by keyboard only (without mouse) |
| E-G1 | Graphic,  table | Meaningful labelling is included below figures and above tables. | ... would like to orientate themselves in the document. |
| E-T1 | Table | The first line with the column headings is repeated as a "header" on each page. | ... use a voice output or a screen reader.  ... need/want structure.  ... find it difficult to concentrate. |

# Automatically fulfilled, not applicable or excluded EN requirements

The following requirements from EN 301 549 chapter 10 are automatically fulfilled, not applicable or not part of the extended checklist for other reasons.

| **EN requirement** | **Aspect** |
| --- | --- |
| 10.1.2.4 (AA) Subtitles (live) | Is not possible in the Word application. |
| 10.1.3.4 (AA) Alignment | Automatically fulfilled in Word application. |
| 10.1.3.5 (AA) Determine input purpose | There are no form fields (see above). |
| 10.1.4.2 (A) Audio control element | Automatically fulfilled in Word application for online videos. |
| 10.1.4.4 (AA) Change text size | Automatically fulfilled in Word application by print layout mode. |
| 10.1.4.10 (AA) Automatic pagination (reflow) | Must not be fulfilled due to exception for two-dimensional content (print layout).  Note: Read mode and plastic reader are helpful, except for text fields. |
| 10.1.4.12 (AA) Text spacing | Automatically fulfilled in Word application by alternative modes, e.g. read mode.  Note: At present, the setting options for the reading mode are limited. However, this is not the responsibility of the authors. |
| 10.1.4.13 (AA) Faded-in content on hover or focus | Automatically fulfilled in Word application. |
| 10.2.1.1 (A) Keyboard | Automatically fulfilled in Word application. |
| 10.2.1.2 (A) No keyboard trap | Automatically fulfilled in Word application. |
| 10.2.1.4 (A) Keyboard shortcuts | Automatically fulfilled in Word application. |
| 10.2.2.1 (A) Customisable timings | Automatically fulfilled in Word application. |
| 10.2.4.1 (A) Areas can be skipped | Empty in EN 301 549, as not applicable to documents. |
| 10.2.4.5 (AA) Alternative access routes | Empty in EN 301 549, as not applicable to documents. |
| 10.2.4.7 (A) Current position of the focus clearly | Cannot be influenced by authors in the Word application. |
| 10.2.5.1 (A) Pointer gestures | Automatically fulfilled in Word application. |
| 10.2.5.2 (A) Cancelling the pointer action | Automatically fulfilled in Word application. |
| 10.2.5.4 (A) Actuation by movement | Automatically fulfilled in Word application. |
| 10.3.2.1 (A) With focus | Automatically fulfilled in Word application. |
| 10.3.2.2 (A) On entry | Automatically fulfilled in Word application. |
| 10.3.2.3 (AA) Consistent navigation | Empty in EN 301 549, as not applicable to documents. |
| 10.3.2.4 (AA) Consistent designation | Empty in EN 301 549, as not applicable to documents. |
| 10.3.3.1 (A) Error labelling | There are no form fields (see above). |
| 10.3.3.2 (A) Labels or instructions | There are no form fields (see above). |
| 10.3.3.3 (AA) Suggestion in case of error | There are no form fields (see above). |
| 10.3.3.4 (AA) Error prevention (legal, financial, data) | There are no form fields (see above). |
| 10.4.1.1 (A) Syntax analysis | Automatically fulfilled in Word application. |
| 10.4.1.2 (A) Name, role, value | Automatically fulfilled in Word application. |
| 10.4.1.3 (AA) Status messages | Automatically fulfilled in Word application. |
| 10.5 Positioning of subtitles (should) | The positioning of subtitles depends on the player of the video source and cannot be influenced by the authors. |

# Sources

DIN Akademie (2022): [DIN EN 301549:2022-06 – Barrierefreiheitsanforderungen für IKT-Produkte und -Dienstleistungen](https://www.beuth.de/de/norm/din-en-301549/353869627), fee-based. Last accessed on 17.03.2023.

Deutscher Blinden- und Sehbehindertenverband: [leserlich: Schritte zu einem inklusiven Kommunikationsdesign](https://www.leserlich.info/). Last accessed on 17.03.2023.

ETSI CEN CENELEC (2021): [EN 301 549 V3.2.1 (2021-03) – Harmonised European Standard. Accessibility requirements for ICT products and services (en)(PDF)](https://www.etsi.org/deliver/etsi_en/301500_301599/301549/03.02.01_60/en_301549v030201p.pdf). Last accessed on 17/03/2023.

Hochschulreferat Studium und Lehre. TH Köln (2018): [Leitfaden zur Erstellung barrierefreier Dokumente (PDF](https://digitale-lehre.tu-dortmund.de/storages/digitale-lehre/r/Dokumente/leitfaden_barrierefreie_dokumente.pdf)). Last accessed on 17.03.2023.

World Wide Web Consortium (W3C): [Web Content Accessibility Guidelines (WCAG 2.1)(en)](https://www.w3.org/TR/WCAG21/). Last accessed on 17.03.2023.

ZAB Universität Bielefeld: [Barrierefreie Dokumentenerstellung in Word 2019/ Word 365](https://www.uni-bielefeld.de/einrichtungen/zab/digitale-barrierefreiheit/barrierefreie-dokumente/anleitungen/word-2019/" \o "https://www.uni-bielefeld.de/einrichtungen/zab/digitale-barrierefreiheit/barrierefreie-dokumente/anleitungen/word-2019/). Last accessed on 17.03.2023.