

# axesWord® QuickStart-Guide

V08.2022





# Content

1 W	/nat is axesword®?	4
	Create a PDF/UA document with one click	
1.2	Optional: create also an archivable PDF according PDF/A	4
2 U	nderstanding the concept	6
2.1	How axesWord® works	6
2.2	What does axesWord® do when converting a document?	6
2.3	Role mapping	7
2.4	Document requirements	8
2.5	Prepared templates	9
3 In	stall and activate	10
3.1	System requirements	10
3.2	Installation	10
3.3	Starting axesWord®	10
3.4	Activation	. 11
4 TI	he user interface	12
4.1	The ribbon tab "axesPDF"	12
4.2	Command group "Document"	12
4.3	Command group "axesPDF"	13
5 T	ools	14
5.1	Tools for role mapping	14
5.2	Task pane "axesPDF – Role Mapping"	14
5.3	Dialog box "Document Settings"	18
6 H	ow to use axesWord® effectively	20



6.1	Use styles	. 20
6.2	Figures	. 20
6.3	Tables	. 21
6.4	Text boxes	. 22
6.5	Links	. 22
6.6	Enumerations and lists	. 23
6.7	Define the language	. 23
6.8	Document title	. 24
6.9	Headers and footers	. 24
7 (	Create an accessible PDF	.26
8 (	Check accessibility of your PDF document	.27
8.1	Download checking tools	. 27
8.2	Evaluate the results	. 27
9 (	Glossary	.29



# 1 What is axesWord®?

# 1.1 Create a PDF/UA document with one click

axesWord® is an add-in for Microsoft Word to create accessible PDF documents according DIN-/ISO-Standard PDF/UA-1:2012 easily, quickly and reliably.

With axesWord® every Word user is able to create PDF/UA documents. Reworking is no longer necessary. The time-consuming quality control is omitted.

The formula for success is the use of templates and styles which are optimized for accessibility. All other tasks are done by axesWord®.

# 1.2 Optional: create also an archivable PDF according PDF/A

axesWord® offers additionally the possibility to create a PDF/A document.

### 1.2.1 What is PDF/A?

PDF/A is a file format for long term archiving of digital documents. This format was standardized by the International Organization for Standardization (ISO) as a subset of the Portable Document Format (PDF).

#### 1.2.2 What is the use of PDF/A?

PDF/A ensures that digital documents are readable, presentable and useable in the long run.

### 1.2.3 What is the relationship between PDF/A and PDF/UA?

PDF/A is available in several conformity levels: level a (accessible), b (basic), u (unicode). Level a is the highest level. It contains the other levels and requires the availability of tags.



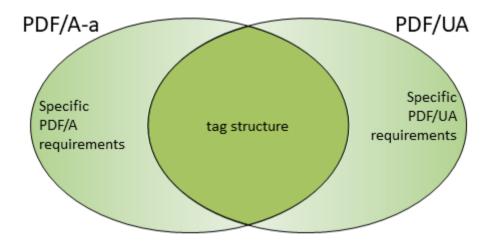


Figure 1: Relationship between PDF/A-a (a = accessible) and PDF/UA. PDF/A-b and PDF/A-u do not require a tag structure.

axesWord® creates a document that conforms to PDF/A-2a. Only if there are characters available which are not mappable to unicode then axesWord® creates a document that conforms to PDF/A-2b, which nevertheless contains the complete logical structure tree.

The number «2» in PDF/A-2a or PDF/A-2b stands for PDF-Version 1.7.



# 2 Understanding the concept

### 2.1 How axesWord® works

axesWord® is not only a tool to create PDF documents. The maximum benefit occurs if the Word documents are already prepared for accessibility and working with axesWord®.

It is reasonable to save essential settings and converting rules in the **template** so that the author has only the following tasks to do:

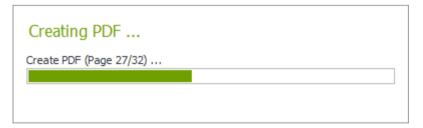
#### **Author tasks**

- Use appropriate paragraph styles
- Use corresponding Word functions for specific elements (for example creating captions, footnotes, table of contents, links, references or hyphenation)
- If necessary: add further information to the used roles for example alternative texts for figures or formulas
- If necessary: change the standard role in case of specific elements

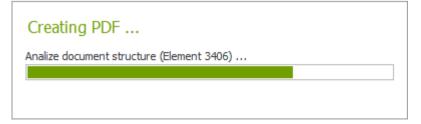
# 2.2 What does axesWord® do when converting a document?

axesWord® executes a multi-level process when converting a document. The process contains the following 3 levels:

1. Creating a PDF document on the basis of an own conversion



2. Analyzing the Word document



Creating a logical structure in the PDF (PDF structure tree) on the basis of Word functions styles and role mapping





This process may take some time in case of big documents.

# 2.3 Role mapping

To get the best result in terms of accessibility each element of the Word document must have the correct role mapping.

All **Paragraph styles** provided from Word are mapped to a specific role **as default**. In nearly all cases this standard role is fitting. If necessary, you can change the role.

There is also a **default** role mapping for elements created with **Word Functions**. This is the case for captions, footnotes, table of contents, links, references or hyphenation.

For all **Document Elements** a role is already assigned **as default**. axesWord® recognizes automatically the natural semantics of the elements and assigns the corresponding role.

However, in case of **Figures, Tables and Text boxes** the role is adjustable. Their standard roles need only to be changed if the natural semantics is not appropriate. This is the matter for **Layout-Tables**, **Definition lists**, **Artifacts** and **Formulas**. There is a context-sensitive task pane to adjust the role mapping:



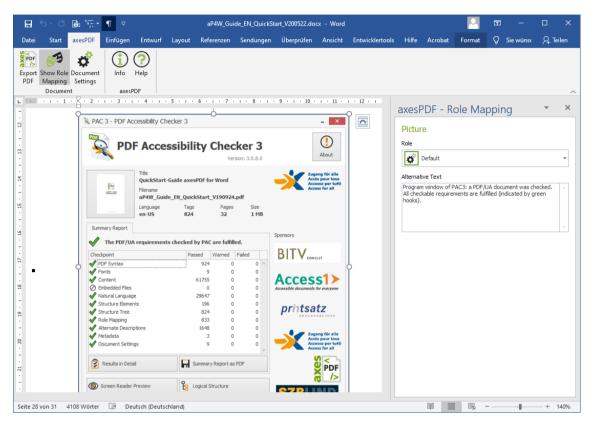


Figure 2: The context-sensitive task pane "axesPDF - Role Mapping"

In general the standard **Role: Default** is appropriate. An element owns then the role that corresponds to its natural semantics. In the figure above for example the picture has **automatically** the **Role: Figure**.

#### Note

Only in case of figures, tables or text boxes, which do not correspond to their natural semantics the author has to adjust the role mapping.

# 2.4 Document requirements

A Word document has to fulfill several requirements so that axesWord® can create a PDF/UA conform document:

- Each element has an appropriate Role mapping.
- Each element has a defined position in the logical order of the document structure (simply said this corresponds to the Reading order).
- Figures have an Alternative text or are marked as decorative elements.
   Latter is called Artifact in technical language.
- Formulas have an Alternative text, which is normally the linearized form of the formula.



- Tables are data tables and not pictures.
- Column and row headers in tables are marked accordingly.

# 2.5 Prepared templates

You can use <a href="mailto:axesWord">axesWord</a>® with each Word document, also those based on the Word standard template (Normal.dotx). However, you will get the best result if you work with prepared templates.

Such templates make the work for authors much easier when creating accessible documents, as they just have to use appropriate paragraph styles or quick parts.

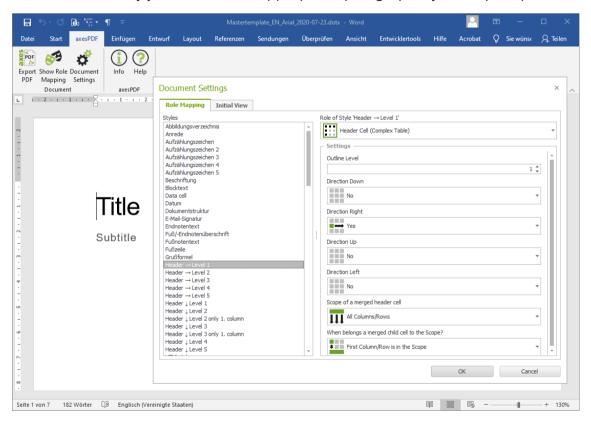


Figure 3: Example of a prepared template of the Austrian social ministry to work with axesWord®



# 3 Install and activate

# 3.1 System requirements

# 3.1.1 Supported operating systems

- Windows 8.1
- Windows 10

#### 3.1.2 Word versions

- Microsoft Word 2016
- Microsoft Office 365 (Client Version)
- Microsoft Word 2019

# 3.1.3 Additional requirements

The following three .NET-components are already included in the latest clients versions on our website. Hence, you do not have to install them separately.

- ASP.NET Core Runtime 3.1 (Hosting Bundle):
   <a href="https://dotnet.microsoft.com/download/dotnet-core/3.1">https://dotnet.microsoft.com/download/dotnet-core/3.1</a>
- .NET Desktop Runtime 3.1: https://dotnet.microsoft.com/download/dotnet-core/3.1
- .NET Framework 4.8: https://dotnet.microsoft.com/download/dotnet-framework/

# 3.2 Installation

Download axesWord® from https://www.axes4.com/en/products-services/axesword/download

Execute the setup program by double-clicking the exe-file and follow the instructions to install the software on your computer. You find a detailed guide in our Online help center.

# 3.3 Starting axesWord®

Start Microsoft Word. If the installation was successfully you will see the **Ribbon** tab: axesPDF in the ribbon:





Figure 4: The ribbon tab "axesPDF" with five buttons

### 3.4 Activation

# 3.4.1 For private individuals

Set up personal license https://support.axes4.com/hc/en-us/articles/360013781220

# 3.4.2 For organizations

Set up licenses for several persons:

Set up access via axes4 ID

https://support.axes4.com/hc/en-us/articles/360013781020

Set up access via domain

https://support.axes4.com/hc/en-us/articles/360013849319

### Note

As long as axesWord® is not activated it runs in trial mode. In trial mode each created PDF page has a watermark and some characters are randomly colored.



# 4 The user interface

# 4.1 The ribbon tab "axesPDF"



Figure 5: The 5 buttons in the ribbon tab "axesPDF"

# 4.2 Command group "Document"

### 4.2.1 Button "Export PDF"

Opens a dialog box with several settings to create an accessible PDF document.



Figure 6: Button "Export PDF"

### 4.2.2 Button "Show Role Mapping"

Opens a context-sensitive task pane where options are available to change the role mapping of figures, tables and text boxes.



Figure 7: Button "Show Role Mapping"

# 4.2.3 Button "Document Settings"

Opens a dialog box with options to assign roles to the available paragraph styles and to set up the initial view of the PDF document.





Figure 8: Button "Document Settings"

# 4.3 Command group "axesPDF"

# 4.3.1 Button "Info"

Shows you information about software version and license activation.

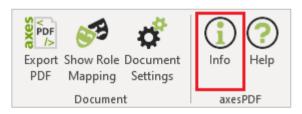


Figure 9: Button "Info"

# 4.3.2 Button "Help"

Link to axesWord® Online-Help



Figure 10: Button "Help"



# 5 Tools

# 5.1 Tools for role mapping

We distinguish between 2 tools to adjust the role mapping:

1. The **Button: Show Role Mapping** which opens the context-sensitive **Task** pane: axesPDF - Role Mapping:

These settings are on element respective object level — for example for figures or text boxes. A manual role mapping is only necessary if the natural semantics of the elements is not appropriate. These changes of the role mapping have to be done by the author.

2. The Button: Document Settings which opens the Dialog box: Document Settings which contains the Ribbon tab: Role Mapping:

These settings are on document level. Normally this was done by the creator of the template as there is expert knowledge required about accessibility.

# 5.2 Task pane "axesPDF – Role Mapping"

# 5.2.1 Change role mapping for special elements like figures, formulas, tables or text boxes

You can change the standard role mapping for the following elements in your document if necessary:

- Figures (automatically recognized Role: Figure)
- Tables (automatically recognized Role: Table)
- Text boxes (automatically recognized Role: Textbox)
- Header or footer (automatically recognized Role: Artifact)

Proceed the following steps:

- 1. Click on the Ribbon tab: axesPDF
- 2. Click on the **Button: Show Role Mapping** to open the context-sensitive **Task pane: axesPDF Role Mapping**
- 3. Click in the document on a **Figure**, **Table** or **Text box** and assign the corresponding role
- Add an Alternative text to all elements which require one (figures, graphs, formulas)



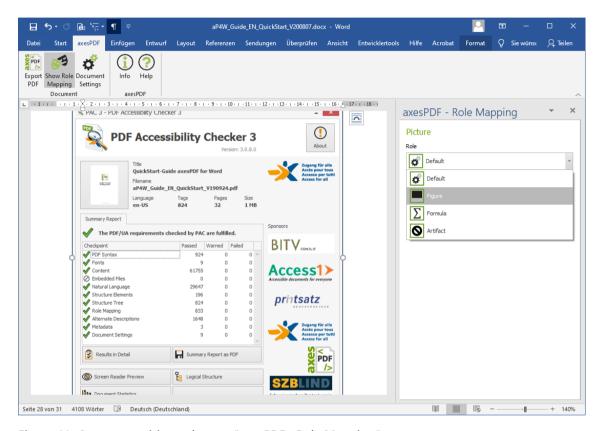


Figure 11: Context-sensitive task pane "axesPDF - Role Mapping"

### 5.2.2 Figures

Pictures, shapes, SmartArt, diagrams and WordArt can be assigned to the following roles:

#### Default

This setting means that the concerned element is handled according to the information delivered by Word. In case of a figure this is normally the **Role:** Figure. Do not forget to add an alternative text.

# Figure

Select this setting if you want to assign the **Role: Figure** to the element. Do not forget to add an alternative text.

#### Formula

Select this setting if you want to assign the **Role: Formula** to the element. Do not forget to add an alternative text.

### Artifact



Select this setting if you want to assign the **Role: Artifact** to the element. No alternative text is necessary.

#### Note

If you have a figure which consists of several single graphics you should group them to one figure at first. Then you can change the role of the figure and/or add an alternative text in a second step.

#### **5.2.3** Tables

You can assign following roles to tables:

#### Default

This setting means that the concerned element is handled according to the information delivered by Word. In case of a table this is normally the **Role: Table**.

#### Table

Select this setting if you want to assign the Role: Table to the element.

### Layout Table

Select this setting if you want to assign the **Role: Layout Table** to the element. Do not forget to define the correct reading order ("Direction") for the rows and columns. In the PDF document no table structure will appear anymore. The elements of the table will be taken into the logical structure tree according to the set direction.

#### Definition list

Select this setting if you want to assign the **Role: Definition List** to a table with 2 columns – for example a glossary or a list of abbreviations. The left column will become a label and the right column will become the corresponding list entry.

#### 5.2.4 Text box

You can assign following roles to text boxes:

#### Default

This setting means that the concerned element is handled according to the information delivered by Word. In case of a text box this is normally the **Role:**Textbox.



### Figure

Select this setting if you want to assign the **Role: Figure** to the element. Do not forget to add an alternative text.

#### Formula

Select this setting if you want to assign the **Role: Formula** to the element. Do not forget to add an alternative text.

#### Textbox

Select this setting if you want to assign the **Role: Textbox** to the element.

#### Artifact

Select this setting if you want to assign the **Role: Artifact** to the element. No alternative text is necessary.

#### 5.2.5 Header and footer

You can assign following roles to headers and footers:

#### Default

This setting means that the concerned element is handled according to the information delivered by Word. In case of a header or footer this is normally the **Role: Artifact**.

#### Section Header

Select this setting if you want to take the content of a header or footer at the beginning of a section into the logical structure tree.

# Section Trailer

Select this setting if you want to take the content of a header or footer at the end of a section into the logical structure tree.

#### Artifact

Select this setting if you want to assign the **Role: Artifact** to the element.

#### Note

You can define the role for headers and footers separately for each section.



# 5.3 Dialog box "Document Settings"

# 5.3.1 Assign a role to a paragraph style

Use the **Dialog box: Document Settings** to assign a specific role to a paragraph style. We distinguish between:

1. Paragraph styles already available in Word:

They are already assigned to corresponding roles. Normally no changes are necessary.

2. User-defined paragraph styles:

You have to assign appropriate roles to those styles. Normally this was done by the creator of the template as there is expert knowledge about accessibility required.

### **5.3.2** Automatic role assignment

axesWord® assigns roles to paragraph styles automatically when no other assignments are available – for example:

- Headings of level 1-9 (based on outline levels)
- Captions (based on the Word function Insert Caption)
- Quotes (if they were assigned to the paragraph style: Quote or Cite)
- Tables of contents (if they were created by the corresponding Word function)
- Lists (if they were created with the Buttons: Bullets, Numbering or Multilevel List in Word or if they were assigned to special user-defined paragraph styles)

## 5.3.3 User defined role assignment

You have to assign a semantic role to each user-defined paragraph style. By default this is the **Role: Default.** This role is based on the natural semantics of the element. In most cases this is the **Role: Paragraph.** This automatic assignment can be changed to the following roles:

- Paragraph
- Heading (outline level 1- x)
- List continue (outline level 1-10)
- Caption
- Blockauote
- Table header (complex table)
- Table header (simple table)
- Artifact



Typical examples for user-defined paragraph styles are column or row headers in tables.

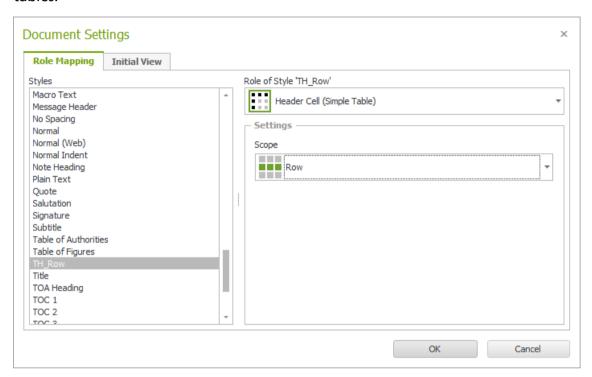


Figure 12: Dialog box "Document Settings"



# 6 How to use axesWord® effectively

# 6.1 Use styles

Use the styles already available in Word or use your user-defined styles for which you have assigned a role with the **Dialog box: Document Settings**.

#### 6.1.1 Get started

Check which styles are available.

# 6.1.2 Headings and other paragraph styles

Ideally you use the styles displayed in the **Ribbon tab**: **Home**. Define with them the appearance of your paragraphs, headings, lists and indentations and spacings.

The styles are already prepared in a way so that your text looks good and will help you to communicate your ideas.

#### Note

Take care of the outline level if you use heading styles.

### 6.1.3 Character styles

Additionally, you can use character styles to emphasize single elements. They have only an optical impact and no impact on the logical structure tree.

# 6.2 Figures

Decide whether your figures are relevant content or just decorative elements.

# **6.2.1 Relevant content**

- Anchor your figures if they do not have the layout option In Line with Text
- Add an alternative text in the Task pane: axesPDF Role Mapping

#### 6.2.2 Decorative elements

Change the role in the context sensitive Task pane: axesPDF - Role
 Mapping to Artifact.



### 6.3 Tables

Decide whether your table is a data table, a layout table or a definition list and assign the corresponding role.

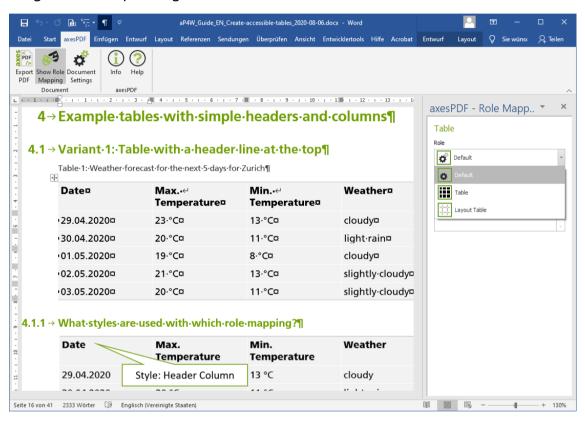


Figure 13: Role mapping for table

#### Note

As the **Task pane: axesPDF - Role Mapping** is context-sensitive the **Role: Definition List** is only available for tables with 2 columns.

#### 6.3.1 Data tables

Mark the column and row headers by using the corresponding user-defined paragraph styles.

# 6.3.2 Layout tables

Change the role in the context-sensitive Task pane: axesPDF - Role
 Mapping to Layout Table and define the Direction.



#### 6.3.3 Definition lists

Change the role of a table with 2 columns in the context-sensitive Task pane:
 axesPDF - Role Mapping to Definition List.

### 6.4 Text boxes

Text boxes have the **Role: Textbox** as default. You can change this setting in the context-sensitive **Task pane: axesPDF - Role Mapping**:

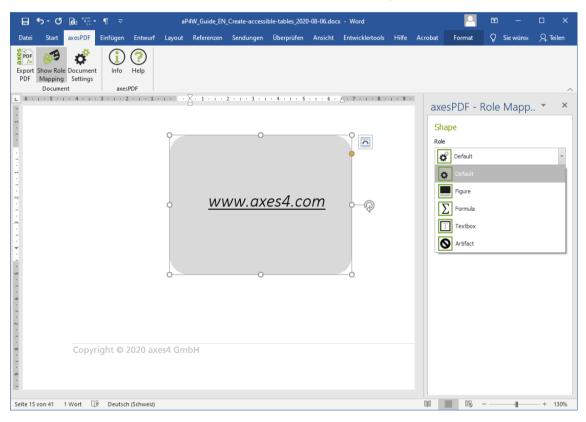


Figure 14: Role mapping for text box

Normally you will use text boxes to position textual information somewhere on a page. Assign them the **Role: Textbox**. Additionally, anchor the text boxes to define their position in the reading order.

#### Note

In Word 2010 axesWord® does not support text boxes. We recommend Word 2013 or Word 2016 if you would like to use text boxes.

## 6.5 Links

Create active links to jump within your document or to call web sites.



Test their function already in the Word document.

# 6.6 Enumerations and lists

Simple lists with only one level will be converted correctly.

However, for the following elements you need user-defined paragraph styles:

- Multilevel lists
- List Continue

# 6.7 Define the language

Define the language of your contents: select the content and check respective assign the language with the Word function.



Figure 15: Bottom line in Word with language information

To change the language, click on the language in the bottom line of Word. In the dialog box: Language you can select the correct language.





Figure 16: Dialog box: Language

### 6.8 Document title

Ideally you define a document title before converting your document within the Word document properties.

Click on the **ribbon tab**: **File**. In the **Text box**: **Title** you can edit the document title.

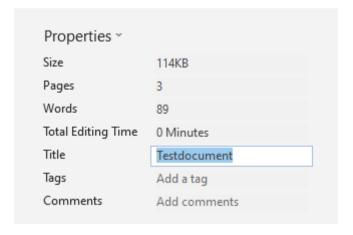


Figure 17: Word document properties: Text box "Title"

# 6.9 Headers and footers

Headers or footers are assigned to the **Role: Default** as default. That means that headers and footers do not appear in the structure tree of the PDF document. You



can change this setting in the context-sensitive **Task pane: axesPDF - Role Mapping**:

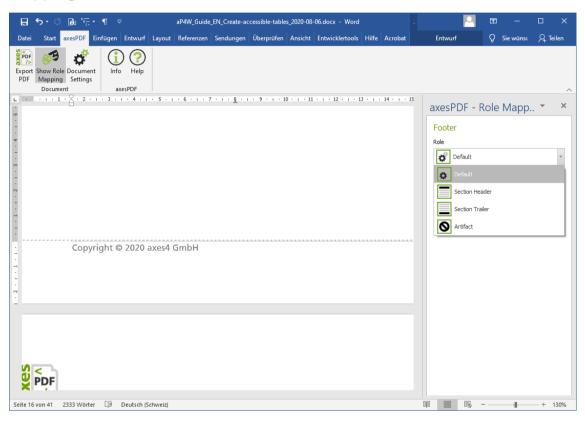


Figure 18: Role mapping for header or footer

Select the role **Section Header** when the header or footer shall appear at the beginning of the logical structure tree in the corresponding section.

Select the role **Section Trailer** when the header or footer shall appear at the end of the logical structure tree in the corresponding section.

Select the role **Artifact** to mark headers and footers as decorative elements.

#### Note

The role mapping can be done separately for each section in your Word document.



# 7 Create an accessible PDF

- 1. Click in the ribbon tab: axesPDF on the Button: Export PDF
- 2. In the **Text box: PDF Filename** you can define the filename and memory location. As default the name and memory location of the Word document is used.
- Check if there is a document title in the Text box: Document Title. Change or add one if necessary.
- **4.** Check if in the **drop-down list box: Main Document Language** an appropriate language is set. Change it if necessary.
- 5. Activate the Check box: Open PDF Document in Default Viewer so that your PDF document will be shown in the default viewer after conversion has finished.
- 6. Activate the Check box: PDF/A to create a PDF document in PDF/A format.
- 7. Click on the **Button**: **Create** to start the analyzing and conversion procedure.



Figure 19: Dialog box "Create accessible PDF"



# 8 Check accessibility of your PDF document

Check the quality of your final PDF document with a checking tool which executes a PDF/UA check, for example the free PDF Accessibility Checker (PAC) or the free trial version of axesPDF®.

# 8.1 Download checking tools

# 8.1.1 PDF Accessibility Checker (PAC) 3

 $\underline{www.access-for-all.ch/ch/pdf-werkstatt/pdf-accessibility-checker-pac/download-pac.html}$ 

#### 8.1.2 axesPDF®

https://www.axes4.com/en/products-services/axespdf/download

### 8.2 Evaluate the results

If you have worked with Word properly, axesWord® will create an accessible PDF document. The document will pass an automatic PDF/UA check, which checks all requirements that can be checked by a machine.



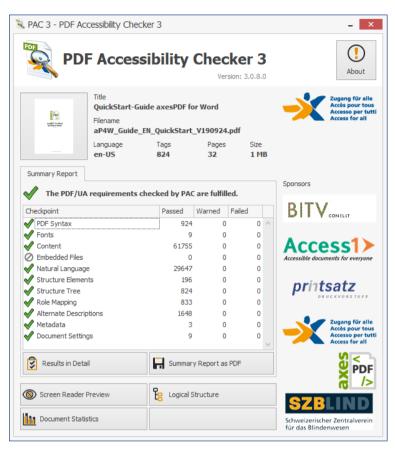


Figure 20: PDF/UA Check with PDF Accessibility Checker (PAC) 3



# 9 Glossary

Anchor	Assignment of a figure or a text box (which are not used inline) to a paragraph of the main content. The anchoring defines the position in the logical structure tree.
Artifacts	All elements in a document, which have decorative character and/or are not relevant content.  Examples are background pictures, printer's imprints, page numbers or texts from headers and footers which appear repeatedly on several pages. Artifacts are not part of the structure tree and are not processed from assistive technologies.
Assistive Technologies (AT)	Technical aids, which enable disabled persons to adapt digital contents according to their needs.
	Examples are screenreaders for blind persons or a Braille line.
Button	Interactive element, with which specific functions can be executed or tools can be started.
Caption	A caption is a description text for a table or a figure and is positioned below or above the corresponding element. Captions are often numbered. In Word it is possible to create tables of content on the basis of these captions.
Context-sensitive	Means a representation or function, which is differently depending on the context
Data table	A grid or matrix used for presentation of data.
Definition list	Special form of a list with individual labels: The label can be an expression or an abbreviation, the related list entry contains the corresponding explanation.
Dialog box	Element of the user interface which appears after starting a function; requires an interaction like an input, confirmation etc. A typical dialog box is the window for creating an accessible PDF document in axesWord®.
Element	Generic term for all possible objects in a document: paragraphs, figures, formulas, etc.



Figure	Generic term for all pictographic objects in Microsoft Word
Glossary (see also Definition List)	List of expressions with corresponding explanations
Layout-Table	A table, which is used for layout purposes and not for the presentation of data.
Linearized view	View of contents which are ordered one after another
Link	Link between a source element (text or figure) and a destination element (foot-/endnote, reference, website, email address)
List continue	Further paragraphs within one list item
Logical document structure	All tags sequenced in a hierarchical structure build up the logical document structure. So this structure does not necessarily correspond with the appearance of a document, but with the division in meaningful units and elements. Therefore there is a logical information flow from one unit to another.
	The logical document structure is the basis for a machine-readable document. And so it is also a precondition for an accessible document. A PDF-document, which has a logical structure, is called a "Tagged PDF".
Logical order	Logical order is the unambiguous linearized order of all content elements so that there is a logical information flow.
	The logical order results from the logical structure tree. It is independent from the positioning of an object on the respective page, even though logical order and visual positioning should be identical ideally – at least in documents with a simple layout.
	You can check the logical order by viewing the structure tree. The sequential arrangement of the tags determines the logical order. Simplified speaking, the logical order corresponds to the reading order (e.g. in case of assistive technologies).
Multilevel list	A list with more than one outline level. Also referred to nested list.



Table header	Heading of a data cell, column or row. A data cell is only understandable if you know the corresponding header cells. This can be column headings or row headings.
Task pane	A task pane delivers a specific perspective on a document and provides options for analysis and evaluation, often also options to change settings or for editing.
Text box	A container for text which can be positioned freely.
Tool group	You find tool groups within the ribbon tabs. Each group contains tools which belong thematically together (e.g. the <b>Tool group: Document</b> ).