



3-Heights™ PDF Desktop Viewer (for Windows)

User's Manual

Version 1.91

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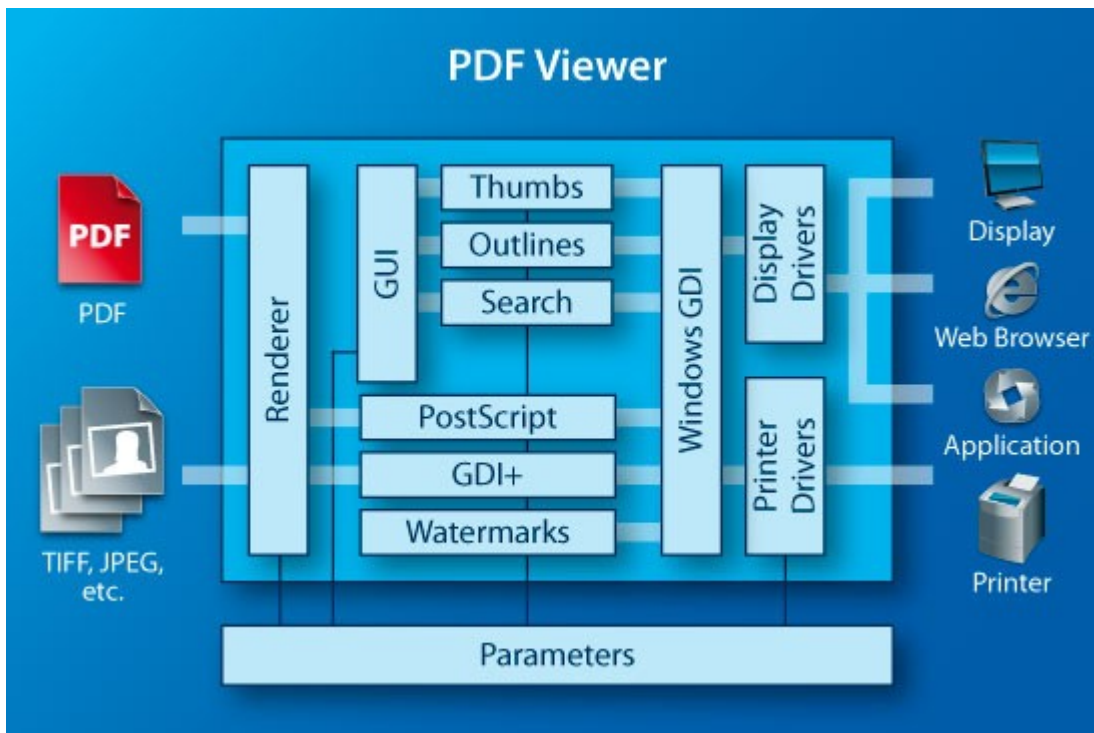
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1 Introduction

1.1 Description

The 3-Heights™ PDF Viewer is an independent, compact, high-quality PDF viewer. It offers a multitude of functions such as display options, navigation, optional printing and support for non-PDF formats such as TIFF, JPEG and other raster image formats. The PDF Viewer is characterized mainly by its ease of integration and handling and high performance.

The Viewer can be used as a standalone application or software solution component. The Viewer can be started outside of the programming environment within seconds via the command line.



1.2 Functions

The PDF Viewer offers many options for displaying PDF documents in a manner that suits requirements: files can be viewed in single page or multi-page mode, and the navigation supports links, bookmarks and calling up pages arbitrarily. The search function can locate strings of text in the document. The tool supports PDF documents in many languages: the reproduction of Japanese, Chinese, Korean, Russian, etc., is no problem at all. The PDF Viewer can also print out and save PDF documents.

Basic Functions

- Display PDF file in single page or multi-page mode
- Enter password to decrypt PDF documents
- Search PDF documents for a specific string of text
- Show and hide windows for bookmarks and page navigation
- Jump to a bookmark's location
- Jump to the location of a link within the document
- Move windows vertically and horizontally using the mouse or keyboard
- Enlarge and reduce windows with the aid of a zoom rectangle or zoom factor
- Query the number of pages in a document
- Freely select any page in the document for display
- Set scalability (page size, page width, actual size, any size)
- Set resolution (DPI / X and Y coordinates)
- Set various display options such as image filters
- Reproduce documents with Chinese, Japanese and Korean fonts (CJK)
- Read document from file or memory (API only)
- Query the position of the cursor
- Query the position of the scrollbars
- Intercept events (e.g. mouse events, keyboard events, zoom events)
- Convert viewer coordinates to PDF coordinates
- Highlight rectangle in color
- Set mouse cursor mode
- Set number of pages per window
- Show and hide scrollbars
- Activate or deactivate links
- Activate mouse wheel (for scrolling) or deactivate
- Replace embedded fonts with preinstalled fonts for viewing and printing
- Display fonts as vector graphics
- Rotate and display the page
- Show annotations
- Win9x compatibility mode

Additional Functions

- Display image files such as TIFF, JPEG, JBIG2, JPEG2000, PNG and GIF
- Print the PDF or image files on display

- RAW or EMF mode for printing
- Duplex printing
- Set paper tray
- Set paper size
- Set number of copies
- Centered printing
- Set print orientation (landscape, portrait, printer default, automatic)
- Query local Windows standard printer
- Optional suppression of digital signatures during printing
- Option to pre-render pages and send them to the printer as bitmaps
- Black point compensation during printing
- Save the PDF or image files on display
- Set user rights for the saved new version of the PDF file

Formats

Input Formats

- PDF 1.x (e.g. PDF 1.4, PDF 1.5 up to current versions)
- Raster images (e.g. TIFF, JPEG, PNG, GIF, BMP)

Output Formats

- The PDF Viewer can save files in their original input format.

Compliance

Standards: ISO 32000 (PDF 1.7)

1.3 Operating Systems

Windows 2000, XP, 2003, Vista, 2008, Windows 7 - 32 and 64 bit

1.4 Compatibility Note

In versions prior to 2010 it was distinguished between the standard and the pro version. Certain features (such as printing or viewing raster images) were only supported in the pro version. At present there is only one version, which supports all features.

2 Installation

2.1 Installing the PDF Desktop Viewer

1. Download the ZIP archive of the product from your download account at www.pdf-tools.com.
2. Open the ZIP archive.
3. Check the appropriate option to preserve file paths (folder names) and unzip the archive to a local folder (e.g. *C:\program files\pdf-tools*).
4. The unzip process now creates the following subdirectories:
 - **Bin**: Contains the runtime executable binary code. A required file is the *gdiplus.dll*, which must be on the environment variable "Path".
 - **Bin\Fonts**: Contains the fonts Symbol and ZapfDingbats.
 - **Bin\Icc**: These are links to download color profiles. The color profiles are optional, but it is suggested to download them. Once downloaded, the CMYK color profile must be named *CMYK.icc* and the RGB color profile must be named *sRGB.icm*. Both color profiles must reside in the directory *bin\Icc*.
 - **Doc**: Contains documentation files.
5. Copy and thereby install the two fonts Symbol and ZapfDingbats to the fonts directory of Windows (*%systemroot%\fonts*, e.g. *C:\Windows\fonts*) using Windows Explorer.
6. (Optional) Make a shortcut from the executable file *viewer.exe* to your desktop.
7. (Optional) If you want to be able to start the viewer from a shell, the directory where the file *viewer.exe* resides needs to be included in the environment variable "Path".

How to set the "Path" Environment Variable

To set the "Path" environment variable on

Windows 2000, go to **Start -> Settings -> Control Panel -> System -> Advanced -> Environment Variables**

Windows XP, go to **Start -> Control Panel (classic view) -> System -> Advanced -> Environment Variables**.

Select "Path" and **Edit**, then add the directory where *viewer.exe* is located to the "Path". If the environment variable "Path" does not exist, create it.

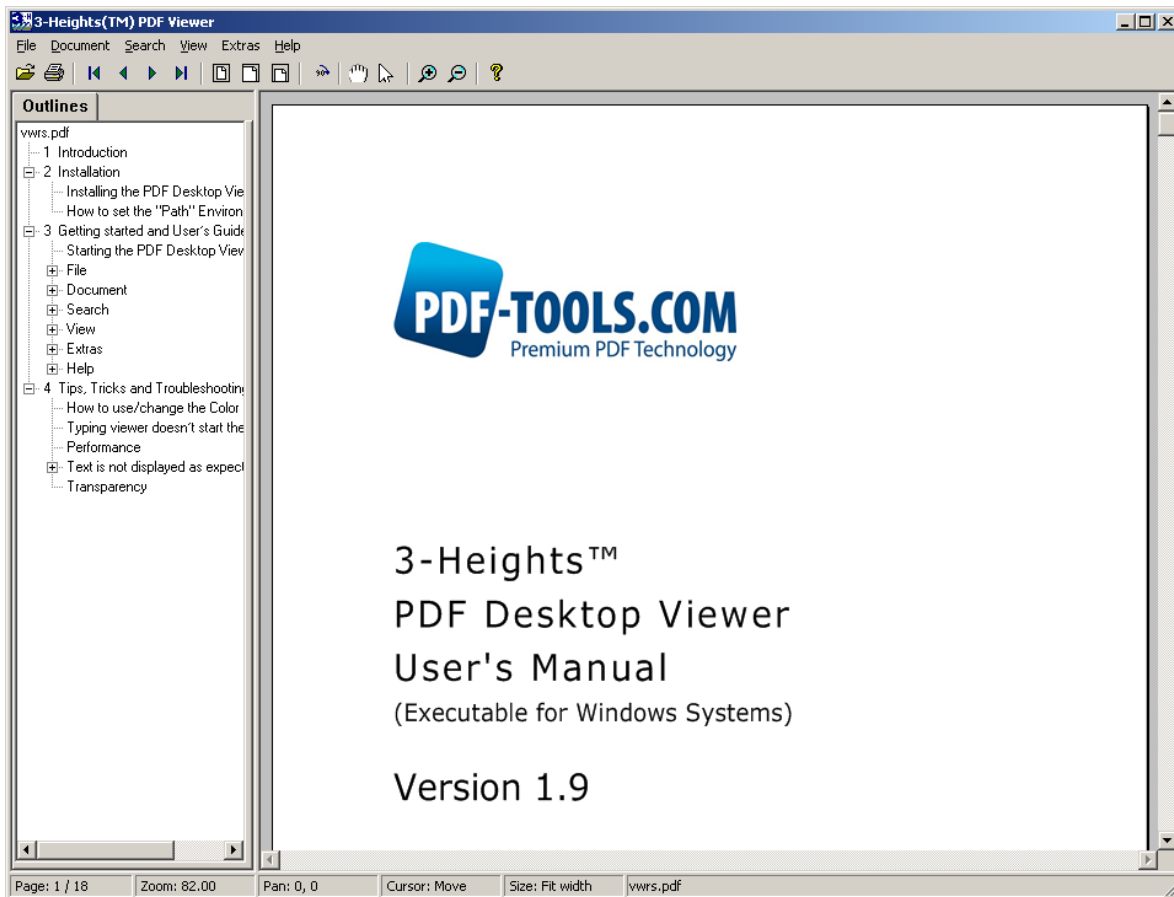
3 Getting started and User's Guide

3.1 Starting the PDF Desktop Viewer

To start the 3-Heights™ PDF Desktop Viewer, either double click the icon or type *viewer* in the shell.

```
C:\> Viewer
```

This will open the Viewer, that looks like the image below:



3.2 File

Open

Open a PDF document for viewing. The Pro version provides the feature to open various raster images formats: BMP, GIF, JBIG, JPEG, JPEG2000, PNG, TIFF


When using a shell, a PDF file name can optionally be provided as argument. Allowed are relative and absolute paths.

Start the 3-Heights™ PDF Viewer from the shell and directly open the document "mydocument.pdf".

```
C:\> viewer mydocument.pdf
```

The file path can be absolute:

```
C:\> viewer C:\myFiles\mydocument.pdf
```

Menu	File -> Open
Shortcut	Ctrl O
Icon	

Close


Close the currently being viewed document (if any).

Menu	File -> Close
Shortcut	none
Icon	none

Printing

(Pro Version only)

The 3-Heights™ Viewer Desktop has the functionality to print the currently opened document.

Menu	File -> Print
Shortcut	Ctrl P
Icon	

Exit

Exit the application.

Menu	File -> Exit
Shortcut	Ctrl X
Icon	none

3.3 Document

To navigate through the pages of a PDF documents, use the arrows icons from the toolbar to go to the first, the previous, the next or the last page.

Alternatively use the Menu **Document** for the same functions and additionally the function **Goto page** to select a page number directly.

First Page

Go to the first page of the document.

Menu	Document -> First Page
Shortcut	Ctrl Shift PageUp
Icon	⏪

Previous Page

Go to the previous page of the page that is currently displayed. If currently the first page is displayed, the page does not change.

Menu	Document -> Previous Page
Shortcut	Ctrl PageUp
Icon	⏪

Next Page

Go to the next page of the page that currently displayed. If currently the last page is displayed, the page does not change.

Menu	Document -> Next Page
Shortcut	Ctrl PageDown
Icon	⏩

Last Page

Go to the last page of the document.

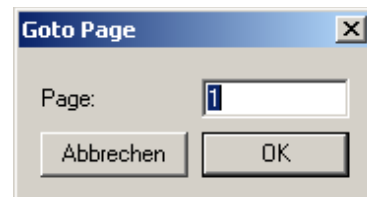
Menu	Document -> Last Page
Shortcut	Ctrl Shift PageDown
Icon	⏩

Go to Page

Go to a page within the current document.

Calling this menu launches the dialog box shown in the screenshot to the right.


The dialog is modal and closes after pressing either of the buttons or the enter key.



Menu	Document -> Go to Page
Shortcut	Ctrl N
Icon	none

Scroll in Page

Use the icon with the white hand to scroll a page up and down.

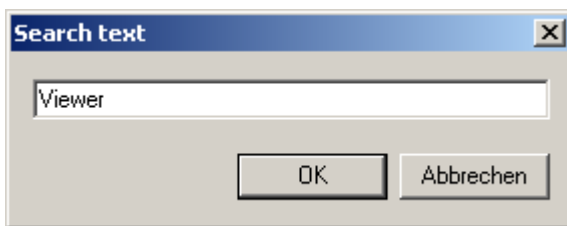
Menu	Document -> Previous Page
Shortcut	Ctrl Shift PageDown
Icon	

3.4 Search

Search

To find a sting in the PDF document, choose the command **Search** form the menu **Search**. This will pop up a dialog asking for the search string.

The search string may not contain blanks. An asterix (*) for wildcards is not necessary.



Menu	Search -> Search
Shortcut	Ctrl F
Icon	none

Search Next


To get the next occurrence of a string previously searched for use the command **Search next**.

Menu	Search -> Search next
Shortcut	Ctrl G
Icon	none

3.5 View


Zoom in, Zoom out

To zoom in and out, use the corresponding options in the Menu **View** or the +/- icons. One click zooms in/out by 10%.

Menu	View -> Zoom In, Zoom Out
Shortcut	Ctrl +, Ctrl -
Icon	


Fit Window

Resize the displayed page so that the page width and the page height fit inside the give frame size of the viewer.

Menu	View -> Fit Window
Shortcut	Ctrl 0
Icon	


Actual Size

Display the page at 100% zoom.

Menu	View -> Actual Size
Shortcut	Ctrl 1
Icon	


Fit Width

Resize the displayed page so that the page width matches the width of the frame of the viewer.

Menu	View -> Fit Width
Shortcut	Ctrl 2
Icon	

Zoom to Window

Click on the icon with the white arrow, then click on the PDF, draw an area and the Viewer zooms to this area.

Menu	none
Shortcut	none
Icon	

View Outlines

Disable/Enable the outlines (bookmarks) at the left hand side of the viewer. This setting disables "View Page List".

Menu	View -> View Outlines
------	-----------------------

Shortcut	Ctrl B
Icon	none

View Page List

Disable/Enable the page list (page 1, page 2, page 3, etc.) at the left hand side of the viewer. This setting disables "View Outlines".

Menu	View -> View Page List
Shortcut	none
Icon	none

Double Buffer

Disable/Enable double buffering.

Double buffering is a technique used to minimize visible artifacts from the drawing process (flickering). As opposed to single buffering, the memory used for the displayed page is kept separately for writing and reading. This results in a better viewing quality but also requires more memory and CPU.

Menu	View -> Double Buffering
Shortcut	none
Icon	none

Scrollbars

Disable/Enable horizontal and vertical scrollbars.

Menu	View -> Scrollbars
Shortcut	none
Icon	none

Page Layout <> Document Layout

Choose between the page and document layout. The page layout displays one page at a time (or two pages at time if selected from the menu Extras -> Viewing Options -> Two Pages per Window. In the document layout pages are continuous in vertical order.

The default is the document layout.

Menu	View -> Page Layout
	View -> Document Layout
Shortcut	none
Icon	none

3.6 Extras

Accurate Rendering Mode (default)

There are two modes: Accurate (checked) and fast (not checked). The accurate mode uses various image filters and the GDI+. It is slower but provides a better image quality.

Menu	Extras -> Viewing Options -> Accurate Rendering Mode
Shortcut	none
Icon	none

Page per Window

This option sets the number of pages per window to one or two.

The default is one page per window.

Menu	Extras -> Viewing Options -> One page per window
	Extras -> Viewing Options -> Two pages per window
Shortcut	none
Icon	none

Win9x Compatibility

Run in Windows 9x compatibility mode. Setting this option can resolve issues with nested transformation matrices which are not supported by all printing devices.

Menu	Extras -> Viewing Options -> Win9X Compatibility
Shortcut	none
Icon	none

Use Pre-Installed Fonts

If enabled, embedded fonts are not used and are replaced by fonts installed on the system (in %Systemroot%\Fonts, e.g. C:\Windows\Fonts).

Menu	Extras -> Font Options -> Use Pre-Installed Fonts
Shortcut	none
Icon	none

Convert to TrueType

This option converts fonts to TrueType fonts before rendering.

Menu	Extras -> Font Options -> Convert to TrueType
------	---

Shortcut	none
Icon	none

Convert to Outline

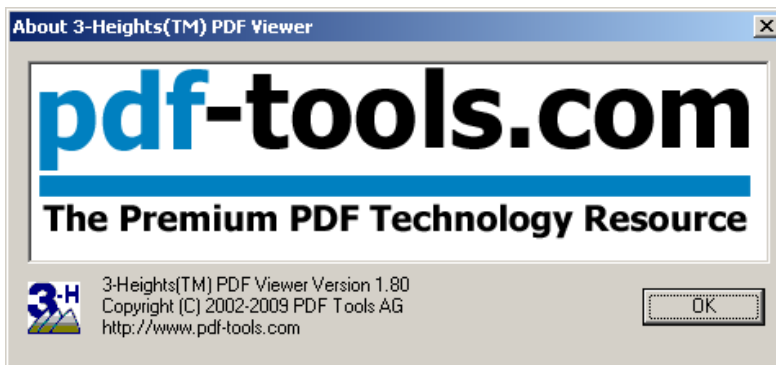
This option converts fonts to outlines (vector graphics) before rendering.

Menu	Extras -> Font Options -> Convert to Outline
Shortcut	none
Icon	none

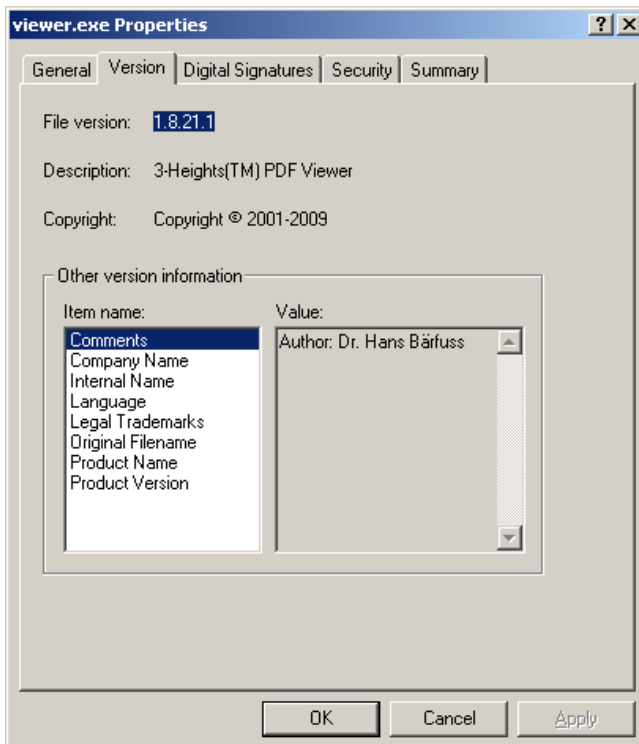
3.7 Help

Info

Retrieve the copyright note and version number of your viewer.



Note that this only lists the major version. In order to retrieve the full version number, right-click the executable *viewer.exe* or and select the menu "Properties". In the "Properties" window select the tab "Version".



Menu	Help -> Info...
Shortcut	Ctrl ?
Icon	?

4 Tips, Tricks and Troubleshooting

4.1 How to use/change the Color Profiles

The 3-Heights PDF Rendering Engine works in the RGB color space. For color conversions, the two color profiles in the folder *Icc/* are used. Color profiles can be downloaded from the links provided in the directory *Icc/*. The color profiles that are named *CMYK.icc* and *sRGB.icm* are applied.

In order to change the current color profile, overwrite these two color profiles with new color profiles.

If no color profile is available, the conversion is done algorithmically.

4.2 Typing *viewer* doesn't start the PDF Viewer

Make sure the directory with the file *viewer.exe* is included in the "Path" environment variable. A reason for this to happen is when the *viewer.exe* is moved to another directory.

4.3 Performance

The 3-Heights™ PDF Viewer provides a variety of settings to tune the performance. In most cases a simple rule applies: Higher quality takes more resources (memory, CPU) and therefore lowers the performance.

The following settings have an impact on the performance:

- Content of the PDF: A document with thousands of objects requires more time for rendering than a page with plain text.
- Resolution: The higher the size of the viewer window the more pixels need to be drawn and the lower the performance.
- Double Buffering: Enabling double buffering requires extra memory and CPU.
- Rendering Mode: Disabling the accurate rendering mode improves the performance at the cost of visual quality. It should only be applied at high zoom levels.

4.4 Text is not displayed as expected

Font Replacement Strategy

If a font is not embedded, or is incorrectly embedded, the result is unpredictable. If an adequate replacement font cannot be found, the result may be unsatisfactory. To ensure a predictable output, fonts other than the 14 PDF Standard Fonts, should be embedded.

The 3-Heights™ Windows Rendering Engine applies the following strategy for Font Selection:

1. A Type3 font is expanded inline.
2. If the font is embedded and converted to outlines then the glyphs are converted to graphics paths.
3. If the font is not embedded or embedded fonts are disabled and the name of the font name matches the name of a pre-installed font then the corresponding font is used. Font names are compared using the PostScript name first and the TrueType family name and style then. With CID fonts the glyphs are directly selected using the CID. Otherwise the glyphs are selected using the Unicode.
4. If the font is not embedded and is a standard font it is renamed as follows:
 - Courier, Courier-Bold, Courier-Oblique and Courier-BoldOblique to Courier New
 - Helvetica, Helvetica-Bold, Helvetica-Oblique and Helvetica-BoldOblique to Arial
 - Times-Roman, Times-Bold, Times-Italic and Times-BoldItalic to Times New Roman
 - Symbol and ZapfDingbats are not renamed
5. If the font is listed in the fonts.ini file then it is renamed according to the entry and the pre-installed font with that name is used.
6. If the font is embedded and is installable it will be converted to the Windows format and temporarily installed. While printing the font is converted to a TrueType font prior to being installed.
7. If all of the above fails then the nearest pre-installed font is used depending on the font's properties (family, pitch, Unicode subset, weight, italic, etc.).

Using the Font Mapping File *fonts.ini*

If rules 1 to 4 of the above list do not apply, a font in the PDF document can be mapped explicitly to a font installed on the OS using the configuration file *bin/fonts/fonts.ini*. To do so, add a line containing the name of the font in the PDF and the name of a font installed on the system, separated by a "=" . The file *fonts.ini* could look like this:

```
[fonts]
```

```
Ryumin-Light=MS Mincho
```


```
GothicBBB-Medium=MS Gothic
```

This means the font "Ryumin-Light" used in the PDF document is rendered with the font "MS Mincho", which is installed on the OS.

To retrieve the correct names of the fonts in the PDF document, one of the following methods can be used:

- Use any tool that can list fonts. Such as the 3-Heights™ PDF Extract Tool or the 3-Heights™ PDF Optimization Tool. Ignore possible prefixes of subsetted fonts. (A subset prefix consists of 6 characters followed by the plus sign. For example

"KHFOKE+MonotypeCorsiva", in this case only use "MonotypeCorsiva" as font name in the file *fonts.ini*).

- Open the document with Adobe Acrobat, use the "MarkUp Text Tool"  mark the text of which you would like to know the font name, right-click it, select "Properties...".
- To retrieve the name of the font installed on the system:

Go to the system font directory *%SystemRoot%\Fonts* - usually this is *C:\Windows\Fonts*. On the left side is the name of the font, on the right side the name of the file. The name of the font could be "Courier New", the name of the file "COUR.TTF". The name of the font is to be provided.

It is also possible to replace embedded fonts. This is specially useful for cases where the encoding of the embedded font is invalid. A replacement encoding is selected by providing a font file comma-separated after the font replacement statement.

To replace the embedded font "MyVerdana" with corresponding system font, and also use the encoding of the system font, add the following line to the *fonts.ini* configuration file:

```
[fonts]
```

```
MyVerdana=Verdana,C:\Windows\Fonts\VERDANA.TTF
```

Note: This will not work for standard fonts or any font to which a rule from 1 to 4 apply, as they cannot be replaced using the *fonts.ini* file.

The font style can be set as shown in the next line:

```
[fonts]
```

```
MyVerdana,Bold=Verdana Bold
```

Other Ways to deal with Fonts that cannot be rendered correctly

- Convert the embedded fonts to TrueType / Type1 fonts. This will convert embedded fonts on the fly, during this process, corrupted fonts are being repaired.
- Don't use embedded fonts. If an embedded font is corrupted, this font (all embedded fonts) can be ignored and replacement fonts be used instead. This option should only be used when converting fonts does not work.

4.5 Transparency

The 3-Heights™ rendering engine supports transparency functions such as a number of blend modes as well as isolated and non-isolated transparency groups, but not transparency in general.