

# QGIS-PlugIn AnotherDXF2Shape V0.9 24.09.17

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## 1. Functions

The plugin allows you to import DXF-Files with optional storage in Shape-Format.

## 2. Installation

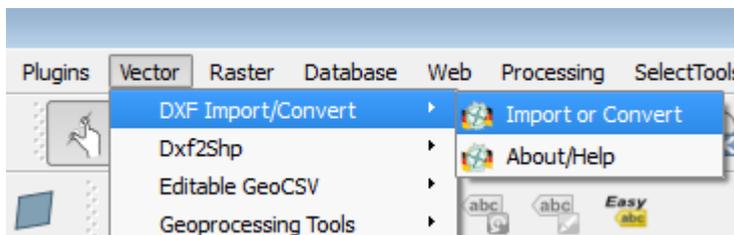
The plugin can be installed as an official QGIS-Plugin directly via the official QGIS-Extension-Repository.

Installation with QGIS:

- Plugins
  - Manage and Install Plugins
    - Another DXF Importer / DXF2Shape Converter

After the installation of the plugin the functions can be find at:

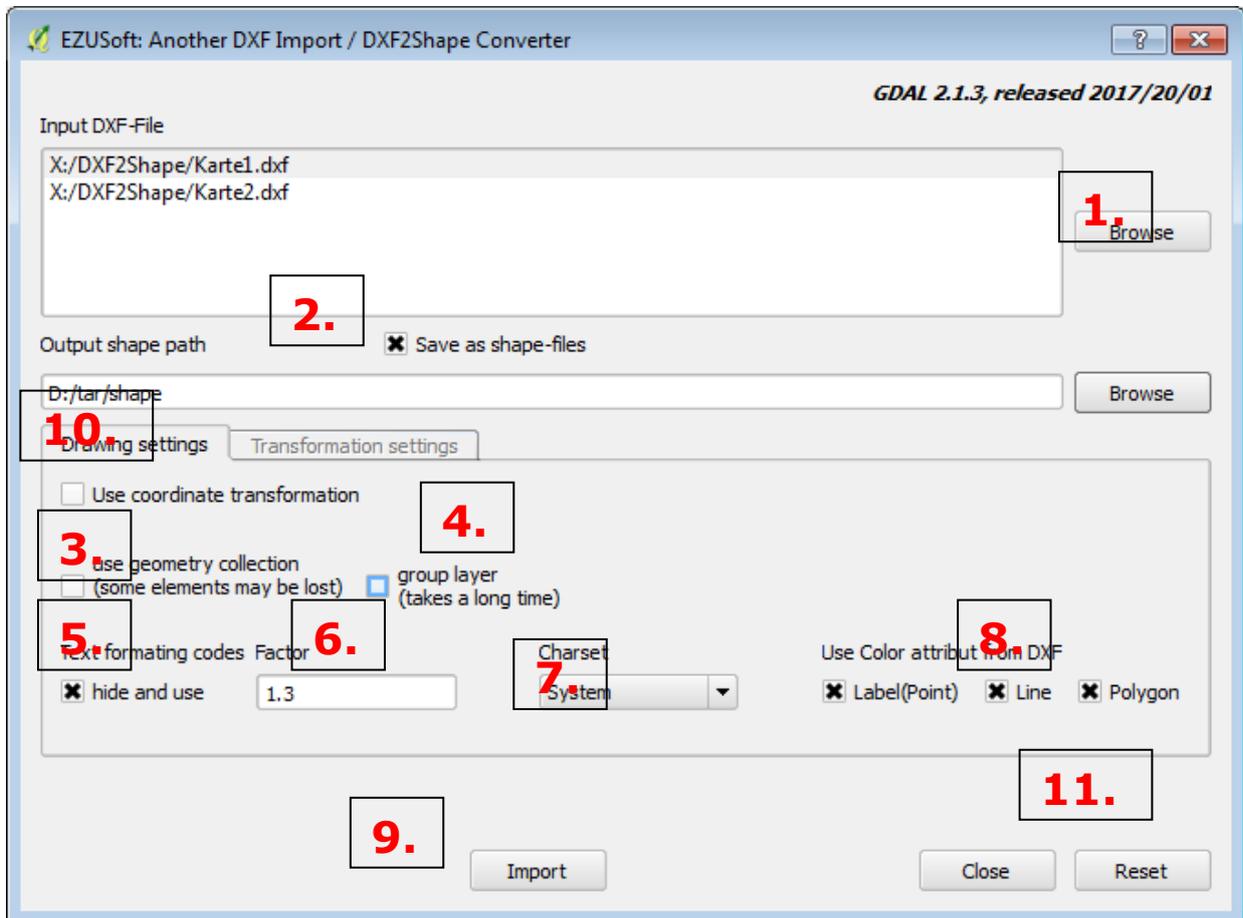
- Vector
  - DXF Import/Convert



Your QGIS-Version should be at least 2.8(Wien).

### 3. Usage

#### 3.1. Import or Convert



**(1.)** Select the DFX-Files you want to import/convert. From version [v0.4](#) up multiple files can be imported at the same time (batch import).

**(2.)** Initialization of the conversion of “DXF to Shape”.

When enabled, you will be asked for the destination folder, in which the Shape-Files shall be saved.



**Note:**

*Regardless of this option a conversion to Shape will be started. If you deactivate this option, the conversion starts in a temporary directory.*

If the check box **(3.)** is activated, blocks and signatures will be generated as separate shapes (layers) ([please refer 4.1 Import data](#))

By choosing **(4.)** you can determine if you want a separate group for each DXF-Layer in the QGIS-Levels-Tree.

The texts of a DXF file are generated by the labeling of a point layer. Text content and representation are read from the DXF, and the labels are generated over various data fields.

In addition under **(5.)** you can specify if the formatting code used directly on the text shall be converted and cut off at the display.

In a DXF file different formatting can be made for the **TEXT** and the **MTEXT** structure. Without a converting of these formatting codes the encoded text is displayed:

E.g. MTEXT:     {\fArial|b0|i0|c0|p34;Ein Text}  
      TEXT:       %%u1106

When option **(5.)** is activated, the formatting code is blanked out and the following parameters are converted:

- Text placement (from [GDAL 2.1](#))
- Underline
- Bold
- Italic
- Font

The font size and the text angle that are determined outside the formatting code are always implemented.

E:

MTEXT	{\fVerdana b0 i1 c0 p34;Ein Text}	<i>EinText</i>
MTEXT	\fArial b1 i0 c0 p34;\Lunterstrichen	<b><u>unterstrichen</u></b>
TEXT	%%u1106	<u>1106</u>

Note / Restriction:

A (partial) underline defined in the text is applied to the entire text.

The largest representation of a text differs between different systems (AutoCAD / QGIS). Under **(6.)** you can specify a factor you can adjust the text size in QGIS with.

**(7.)** Choose the code page of the DXF file.

Note:

If an incorrect character set is specified here, the layer names from the DXF are not read correctly either. This can mean that the layers are not displayed (incorrect filter condition).

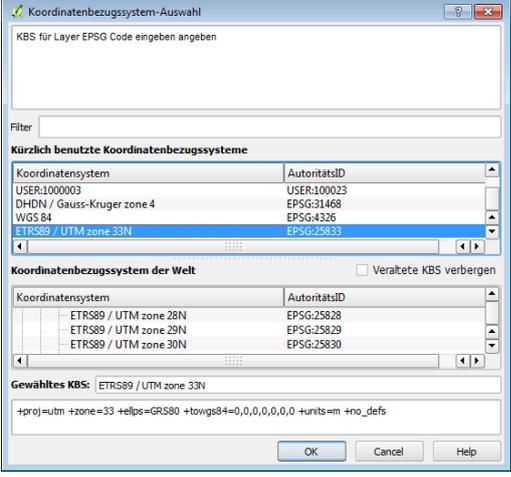
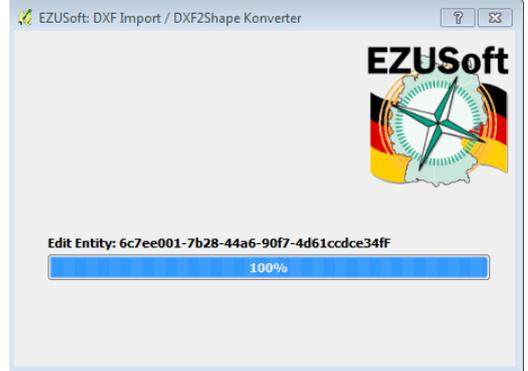
For all elements of the DXF, OGR is used to determine the color information from the DXF. This is not always correct, especially in block information.

For this reason, it is possible to determine for each type of geometry individually in point **(8.)** if the color information from the DXF is applied. Otherwise an internal categorization (random colors) is implemented.

point **(10.)** activates the [transformation options](#) (georeferencing)

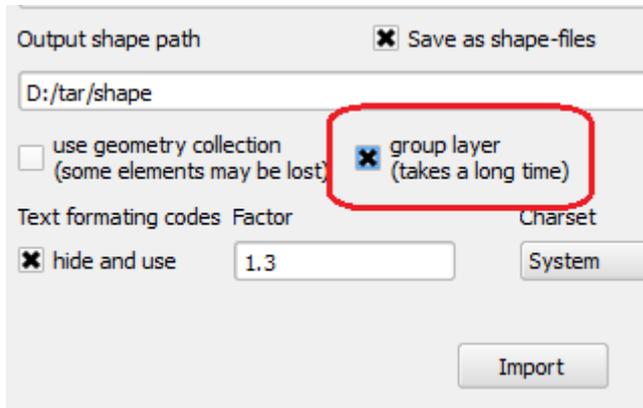
point **(11.)** sets the settings to default

**(9.)** Start the import

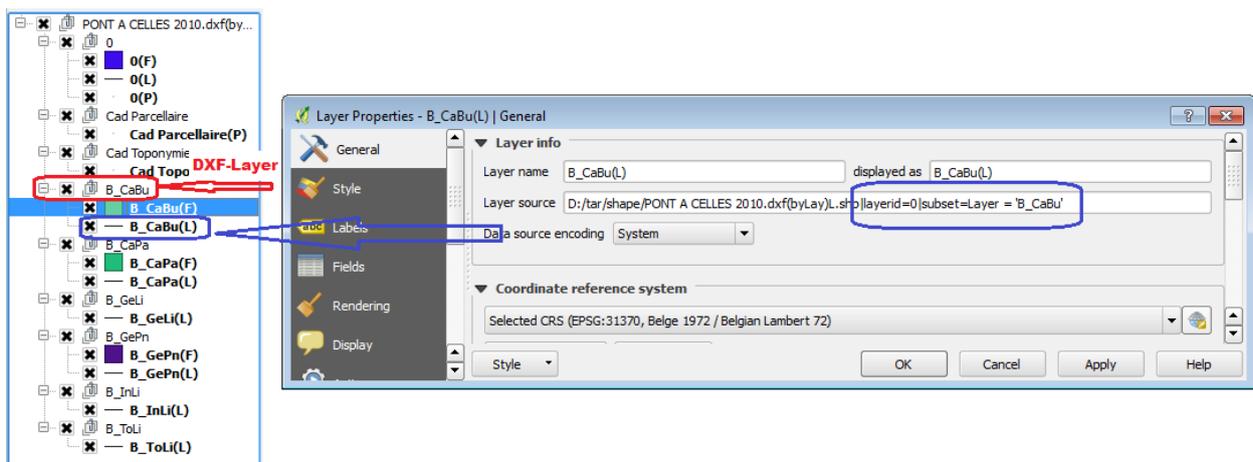
First choose (if QGIS in preset) the Coordinate Reference System (CRS) of the DXF-File	The actual conversion and presentation starts
	

The new (Shape) Layers are categorized according to the specification (4.) – either to DXF-Layers or split into groups.

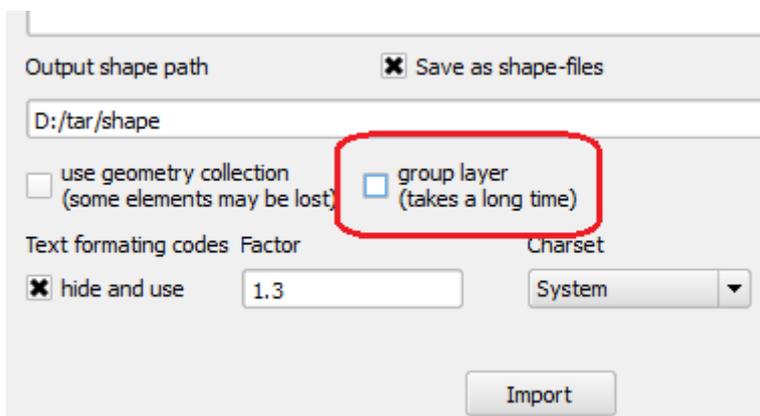
### Option 1) Group by layer



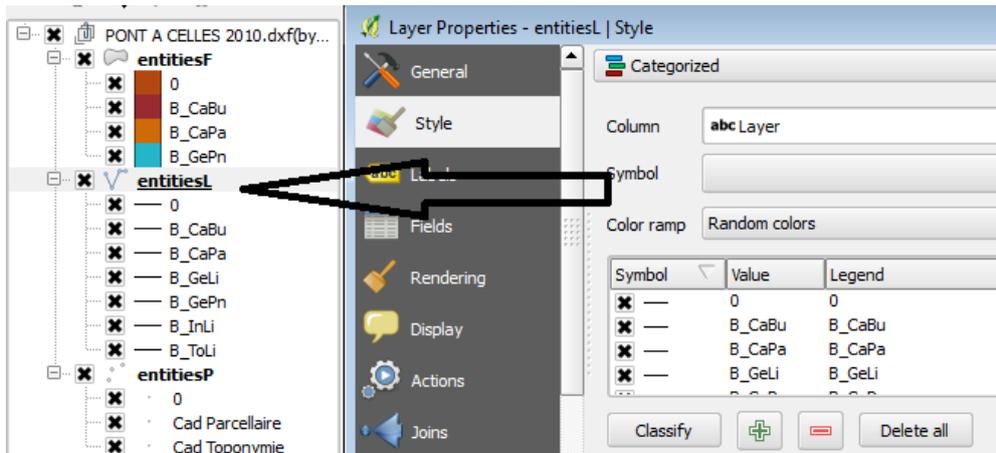
For each DXF layer, a group is created in which a separate shape link is created for each geometry type. The respective Shaped File is filtered according to the DXF Layer:



### Option 2) No grouping

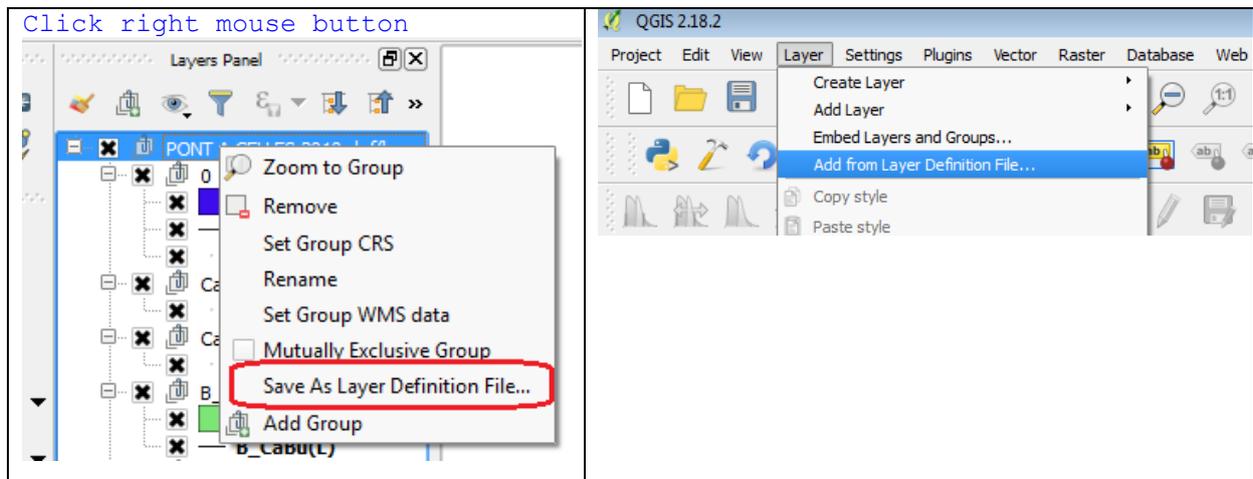


For each type of geometry (every shape), an entry is generated, which is then categorized by layer:

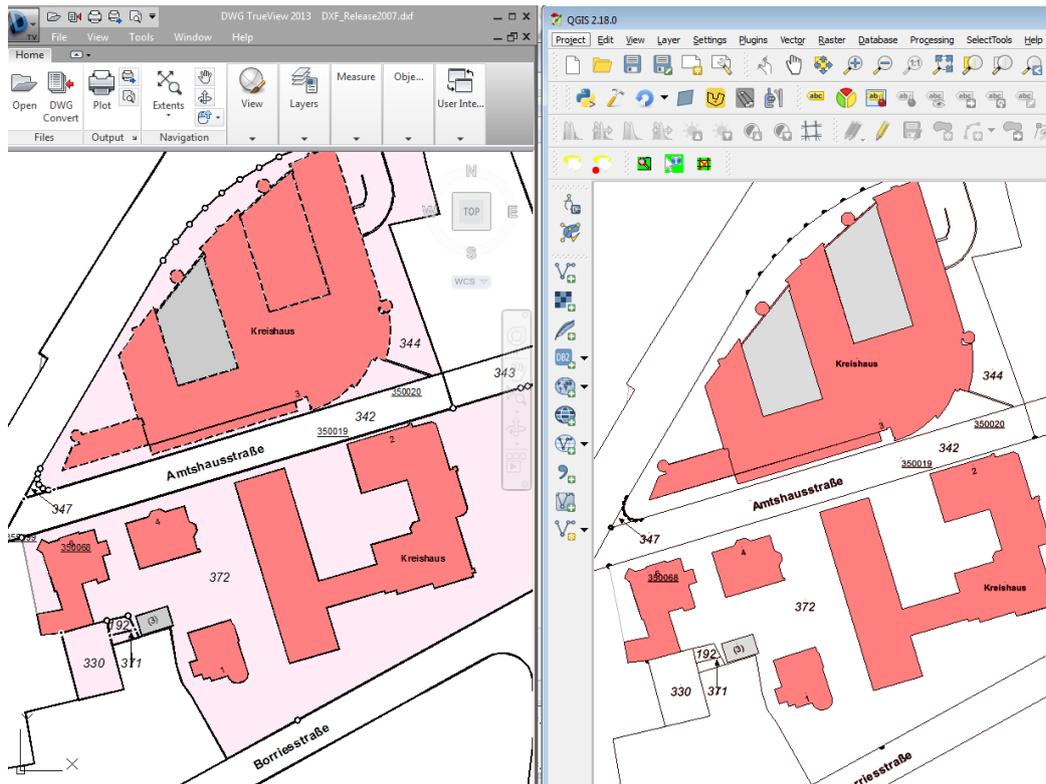


### Save the settings

The groups and settings created during the DXF import can be saved / loaded as a layer definition file:

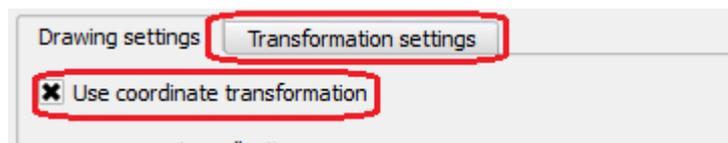


## Example: AutoCAD vs. QGIS (Another DXF Importer)

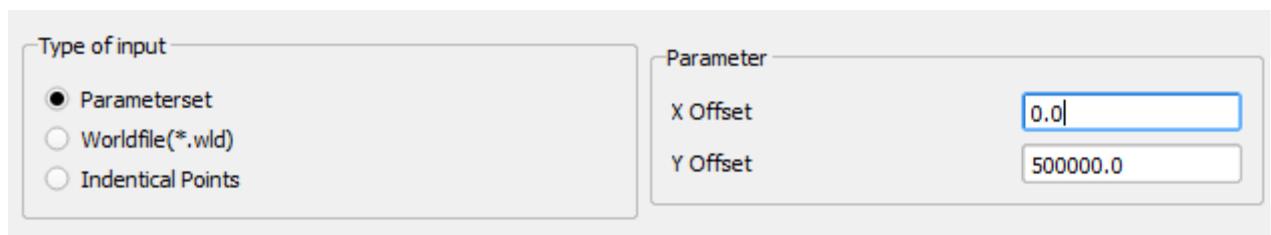


### 3.2. Georeferencing

As of program version V0.9, there is the possibility to transform the DXF data.



#### 3.2.1. Parameter



By means of X and Y offset, a simple displacement of the DXF can be achieved. This is y.B. useful when the original coordinates have been shortened in the CAD / system.

#### 3.2.2. World files for CAD datasets

A world (.wld) file is a text file containing control points that describe a coordinate transformation. A world file can be used to extend the

properties of a CAD drawing to include georeferencing information. The information is stored as coordinate values that define one or two displacement vectors called links.

The data comprises two or four pairs of coordinates organized into two rows. Each row defines a displacement link using the following syntax: <From x,y> <space> <To x,y>. The first pair of coordinates in each row corresponds to the source coordinates, also known as the from-coordinates. These values represent the x,y location of any known control point in the CAD drawing. The second pair of coordinates in each row corresponds to the destination coordinates, also known as the to-coordinates. These values represent a new location in geographic space, typically a reference point in another feature layer.

Source: [arcgis.com](http://arcgis.com)

If the coordinate transformation is activated and the plug-in finds a corresponding WLD-file it is automatically integrated and the DXF file is transformed accordingly.

Type of input		ungeoref X	ungeoref Y	georef X	georef Y
<input type="radio"/> Parameterset					
<input checked="" type="radio"/> Worldfile (*.wld)					
<input type="radio"/> Identical Points					
1	0.0	0.0	424595.282	5872069.765	
2	97.225112	-0.0	424607.183	5872166.302	

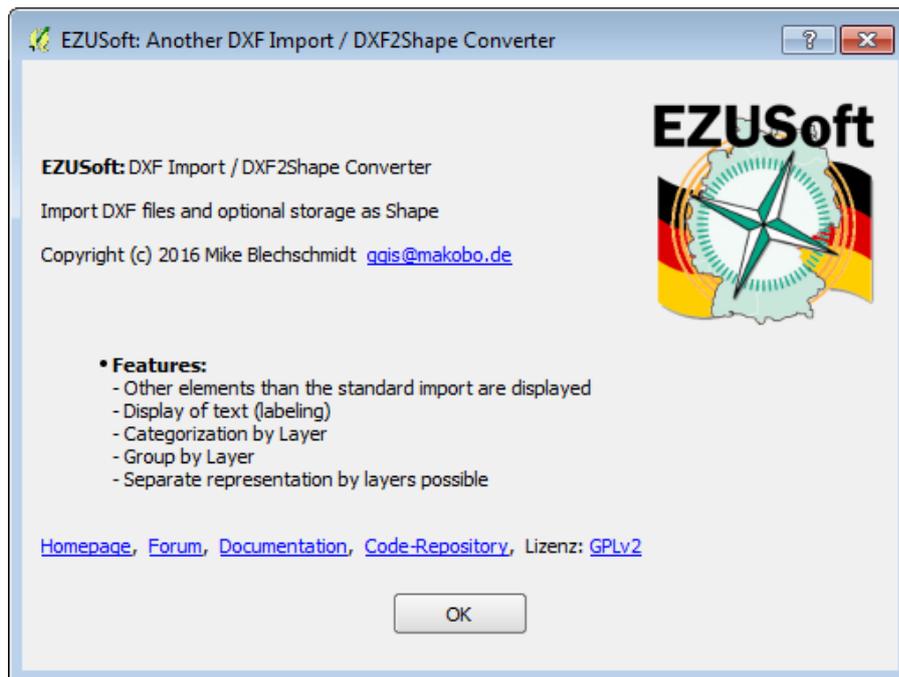
### 3.2.3. Transformation over 1-4 identical points

Similar to the CAD data set, a transformation takes place via identical points. The number of parameters for the transformation depends on the number of the given points.

*Note:*

*An output of the residuals for over-determination is currently not.*

### 3.3. About the program



Beside basic information about the program you can find links to zu [Homepage](#), [Forum](#), [Documentation](#) and [Code-Repository](#).

## 4. Restrictions

### 4.1. Import data

In contrast to the standard import this plugin should achieve a complete depiction of all entities.

But this is only the result of my own tests. It cannot be guaranteed that this applies to all versions of DXF.

In all cases, this plugin should generate a more complete depiction than the standard import.

#### **Note:**

*Important is the option **(3.)** [Geometiecollection](#). If this option is enabled, it is tried to convert merging blocks (e.g. method signatures and crosshatchings) into a geometry collection.*

*At this point technical restrictions appear on principle.*

*If there is for example a symbol consisting of a polygon **and** a line this symbol cannot be generated, because ESRI shapefiles can only store one kind of geometry per layer.*

***When in doubt, the option should not be selected.***

### 4.2. Presenting data

The PlugIn tries to read display attributes from the DXF. This is not always correct. In contrast to the standard import, however, the texts (labels) with all attributes (especially text angles) are taken over cleanly.

## 5. Perspectives

A new DXF standard interface was implemented with QGIS version [2.18.2](#) (December 2016)..

So in the future, this plugin with version [2.18.2](#) will be redundant.