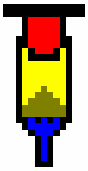
Evaluation and graphical visualisation of enslin tests to DIN 18132

GGU-ENSLIN

VERSION 5



Last revision: February 2019
Copyright: Prof. Dr. Johann Buß
Technical implementation, layout and sales: Civilserve GmbH, Steinfeld

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1 Preface

The **GGU-ENSLIN** program allows evaluation and visualisation of tests to determine water absorption capacity to DIN 18132.

The program is designed to allow simple data input. The system is permanently displayed on the screen. Every alteration to the data is shown on the screen, so that optimum control of input data is guaranteed. Graphic output supports the true-type fonts supplied with WINDOWS, so that excellent layout is guaranteed. Colour output and any graphics (e.g. files in formats BMP, JPG, PSP, TIF, etc.) are supported. PDF and DXF files can also be imported by means of the integrated **Mini-CAD** module (see the "**Mini-CAD**" manual).

The program has been thoroughly tested. No faults have been found. Nevertheless, liability for completeness and correctness of the program and the manual, and for any damage resulting from incompleteness or incorrectness, cannot be accepted.

2 Licence protection

GGU software is provided with the WIBU-Systems CodeMeter software protection system. For this purpose the GGU-Software licences are linked to a USB dongle, the WIBU-Systems CmStick, or as CmActLicense to the respective PC hardware.

It is required for licence access that the CodeMeter runtime kit (CodeMeter software protection driver) is installed. Upon start-up and during running, the **GGU-ENSLIN** program checks that a licence on a CmStick or as CmActLicense is available.

3 Language selection

GGU-ENSLIN is a bilingual program. The program always starts with the language setting applicable when it was last ended.

The language preferences can be changed at any time in the "**Info**" menu, using the menu item "**Spracheinstellung**" (for German) or "**Language preferences**" (for English).

4 Starting the program

After starting the program, you will see two menus at the top of the window**:**

- File
- Info

By going to the "**File**" menu, a previously saved file can be loaded by means of the "**Load**" menu item, or a new one created using "**New**". After clicking on "**File/New**" an empty form is shown on the screen. Five menus now appear at the top of the window:

- File
- Edit
- Graphics preferences
- Output preferences
- Info

After clicking one of these menus, the so-called menu items roll down, allowing you access to all program functions.

The program works on the principle of ***What you see is what you get***. This means that the screen presentation represents, overall, what you will see on your printer. In the last consequence, this would mean that the screen presentation would have to be refreshed after every alteration you make. For reasons of efficiency and as this can take several seconds for complex screen contents, the **GGU-ENSLIN** screen is not refreshed after every alteration.

If you would like to refresh the screen contents, press either [**F2**] or [**Esc**]. The [**Esc**] key additionally sets the screen presentation back to your current zoom, which has the default value 1.0, corresponding to an A4 format sheet.

5 Description of menu items

5.1 File menu

5.1.1 "New" menu item

All input data will be deleted after a security request. After this, you can enter new tests.

5.1.2 "Load" menu item

You can load a file with test data, which was created and saved at a previous sitting, and then edit the test data.

5.1.3 "Save" menu item

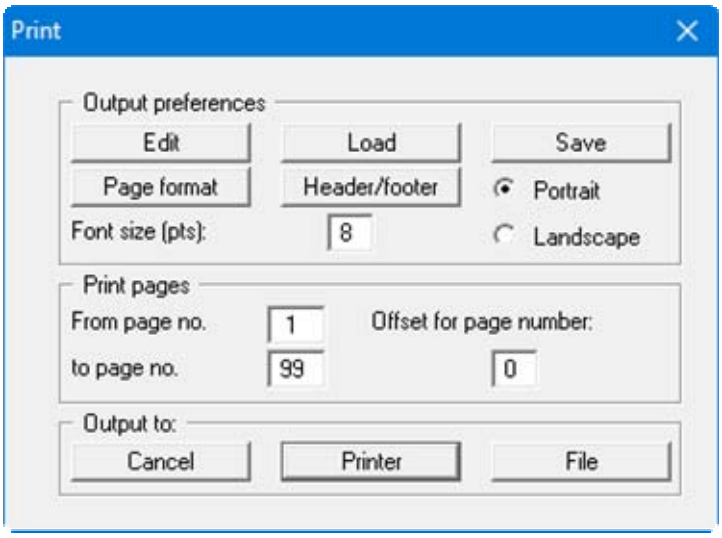
You can save data entered or edited during program use to a file, in order to have them available at a later date, or to archive them. The data is saved without prompting with the name of the current file.

5.1.4 "Save as" menu items

You can save data entered during program use to an existing file or to a new file, i.e. using a new file name. For reasons of clarity, it makes sense to use "**.ens**" as file suffix, as this is the suffix used in the file requester box for the menu item "**File / Load**". If you choose not to enter an extension when saving, "**.ens**" will be used automatically.

5.1.5 "Print 'simple' output table" menu item

You can have a result output table of the current test data sent to the printer or save it to a file for further processing using a different program, e.g. a word processing application. You will see the following dialog box for specifying the simple table output:



- "**Output preferences**" group box
  Using the "**Edit**" button the current output preferences can be changed or a different printer selected. Using the "**Save**" button, all preferences from this dialog box can be saved to a file in order to have them available for a later session. If you select "**GGU-ENSLIN.drk**" as file name and save the file in the program folder (default), the file will be automatically loaded the next time you start the program.

  Using the "**Page format**" button you can define, amongst other things, the size of the left margin and the number of rows per page. The "**Header/footer**" button allows you to enter a header and footer text for each page. If the "#" symbol appears within the text, the current page number will be entered during printing (e.g. "***Page*** #"). The text size is given in "**Pts**". You can also change between "**Portrait**" and "**Landscape**" formats.

- "**Print pages**" group box
  If you do not wish pagination to begin with "***1***" you can add an ***offset number*** to the check box. This offset will be added to the current page number. The output range is defined using "**From page no.**" "**to page no.**".

- "**Output to:**" group box
  Start output by clicking on "**Printer**" or "**File**". The file name can then be selected from or entered into the box.

5.1.6 "Export to ASCII" menu item

The test data can be exported to an ASCII file, allowing processing in other applications.

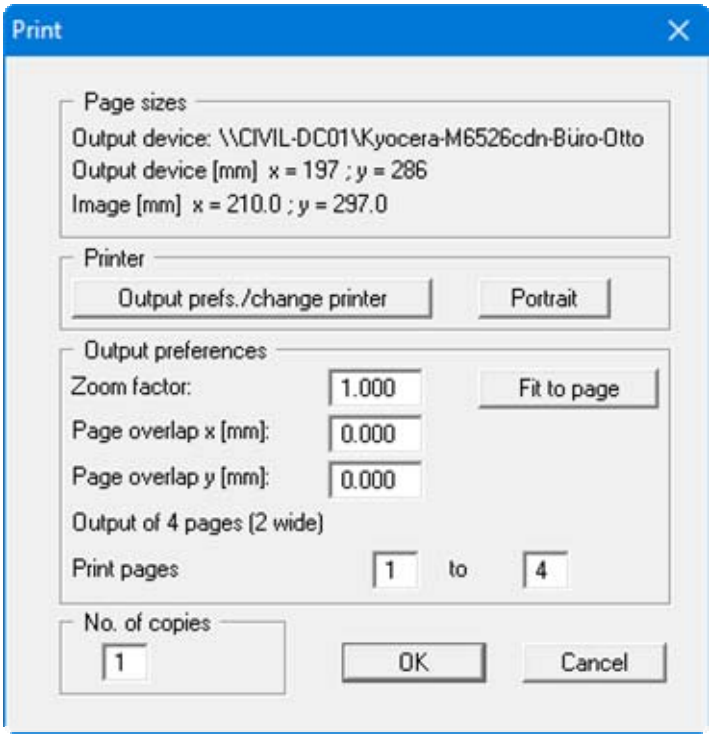
5.1.7 "Output preferences" menu item

You can edit output preferences (e.g. swap between portrait and landscape) or change the printer in accordance with WINDOWS conventions.

5.1.8 "Print and export" menu item

You can select your output format in a dialog box. You have the following possibilities:

- "**Printer**"
  allows graphic output of the current screen to the WINDOWS standard printer or to any other printer selected using the menu item "**File/Output preferences**". But you may also select a different printer in the following dialog box by pressing the "**Output prefs./change printer**" button.



In the upper group box, the maximum dimensions which the printer can accept are given. Below this, the dimensions of the image to be printed are given. If the image is larger than the output format of the printer, the image will be printed to several pages (in the above example, 4). In order to facilitate better re-connection of the images, the possibility of entering an overlap for each page, in x and y direction, is given. Alternatively, you also have the possibility of selecting a smaller zoom factor, ensuring output to one page ("**Fit to page**" button). Following this, you can enlarge to the original format on a copying machine, to ensure true scaling. Furthermore, you may enter the number of copies to be printed..

- "**DXF file**"
  allows output of the graphics to a DXF file. DXF is a common file format for transferring graphics between a variety of applications.
- "**GGU-CAD file**"
  allows output of the graphics to a file, in order to enable further processing with the **GGU-CAD** program. Compared to output as a DXF file this has the advantage that no loss of colour quality occurs during export.
- "**Clipboard**"
  The graphics are copied to the WINDOWS clipboard. From there, they can be imported into other WINDOWS programs for further processing, e.g. into a word processor. In order to import into any other WINDOWS program you must generally use the "*Edit/Paste*" function of the respective application.
- "**Metafile**"
  allows output of the graphics to a file in order to be further processed with third party software. Output is in the standardised EMF format (Enhanced Metafile format). Use of the Metafile format guarantees the best possible quality when transferring graphics.

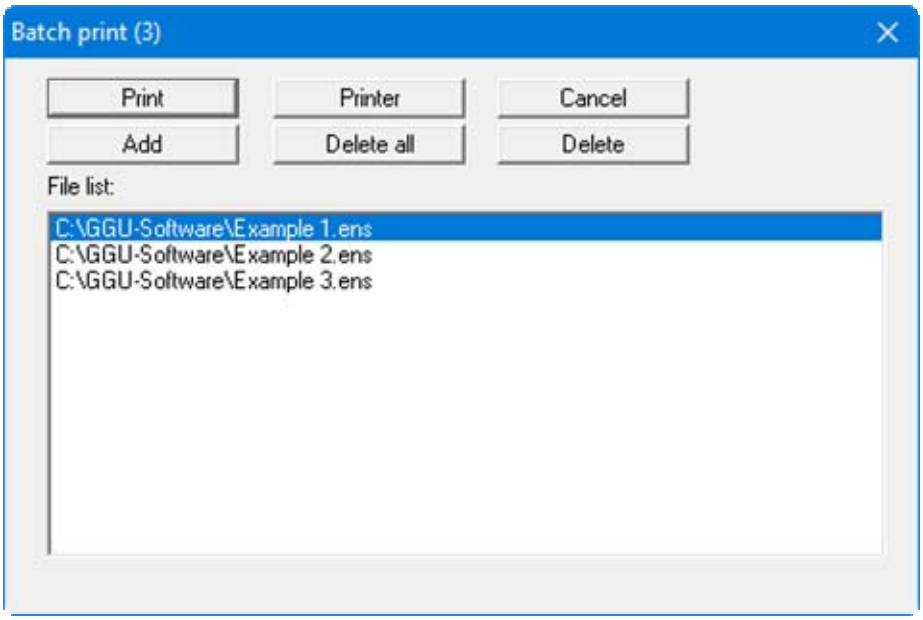
If you select the "**Copy/print area**" tool from the toolbar, you can copy parts of the graphics to the clipboard or save them to an EMF file. Alternatively you can send the marked area directly to your printer (see "**Tips and tricks**", Section 6.3).

Using the "**Mini-CAD**" program module you can also import EMF files generated using other GGU applications into your graphics (see Section 5.3.7).

- "**Mini-CAD**"
  allows export of the graphics to a file in order to enable importing to different GGU applications with the **Mini-CAD** module.
- "**GGUMiniCAD**"
  allows export of the graphics to a file in order to enable processing in the GGUMiniCAD program.
- "**Cancel**"
  Printing is cancelled.

5.1.9 "Batch print" menu item

If you would like to print several appendices at once, select this menu item. You will see the following dialog box:



Create a list of files for printing using "**Add**" and selecting the desired files. The number of files is displayed in the dialog box header. Using "**Delete**" you can mark and delete selected individual files from the list. After selecting the "**Delete all**" button, you can compile a new list. Selection of the desired printer and output preferences is achieved by pressing the "**Printer**" button.

You then start printing by using the "**Print**" button. In the dialog box which then appears you can select further preferences for printer output such as, e.g., the number of copies. These preferences will be applied to all files in the list.

5.1.10 "Exit" menu item

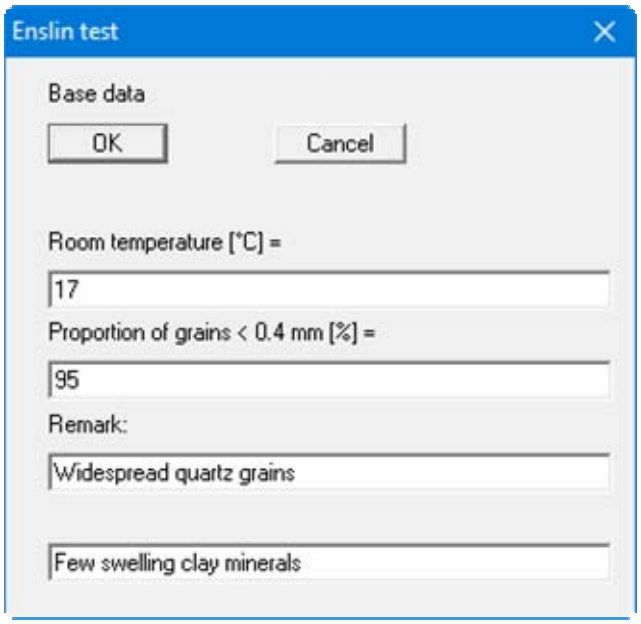
After a confirmation prompt, you can quit the program.

5.1.11 "1, 2, 3, 4" menu items

The "**1, 2, 3, 4**" menu items show the last four edited files. By selecting one of these menu items the listed file will be loaded. If you have saved files in any other folder than the program folder, you can save yourself the occasionally onerous ***rummaging*** through various sub-folders.

5.2.1 "Base data" menu item

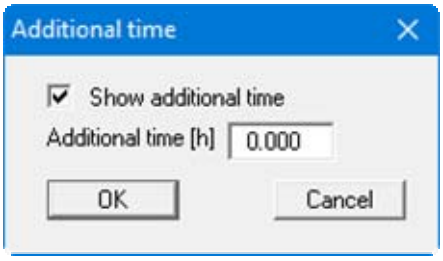
After selecting this menu item, the following dialog box appears:



Enter the ambient temperature and the percentage mass of grains < 0.4 mm into the input boxes. Remarks are entered in the third and fourth input boxes in this example. The input box descriptions can be altered by going to the menu item "**Output preferences/Texts**" button "**Base data table texts**" (see Section 5.4.3).

5.2.2 "Additional time" menu item

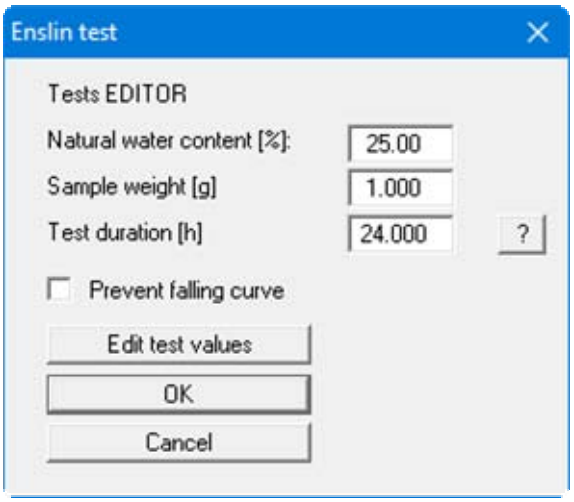
According to DIN 18132, the water absorption capacity is determined from the maximum test value, or from the value after 24 hours. If you require an additional evaluation of the water absorption capacity at a given point in time (additional time), enter the additional time here:



The evaluation of the additional time is only performed if the "**Show additional time**" check box is activated.

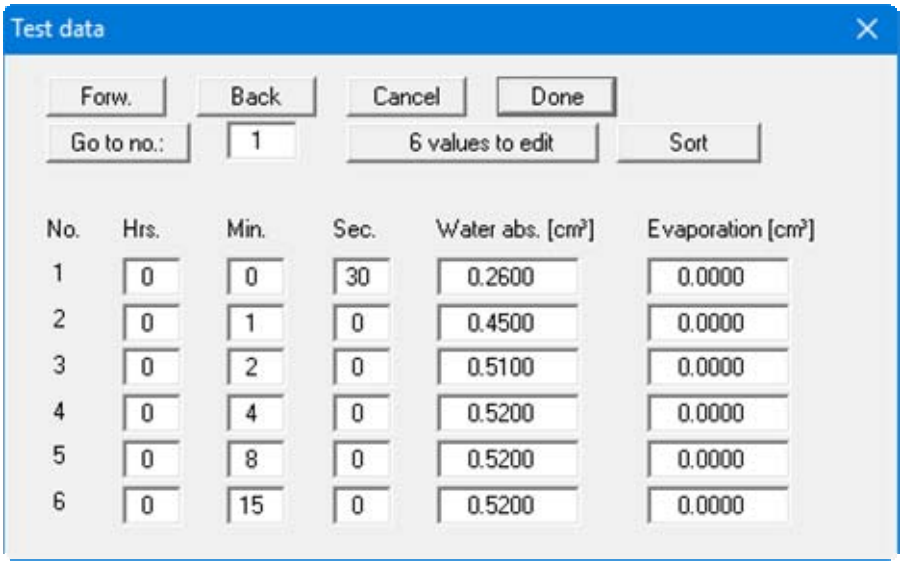
5.2.3 "Tests" menu item

This represents the program's central menu item. In this example, the following dialog box opens after clicking this menu item:



The natural water content of the sample and the sample weight can be entered into the first two input boxes. These are displayed on the form. In rare cases it is possible that, despite careful text execution, a falling curve results for the water absorption capacity, although this is theoretically not possible. If you want to suppress graphical representation of a falling curve, activate the "**Prevent falling curve**" check box. All entered data will be saved when leaving the dialog box using the "**OK**" button.

Using the "**Edit test data**" button you can enter a new test or edit existing test data. The following dialog box opens:

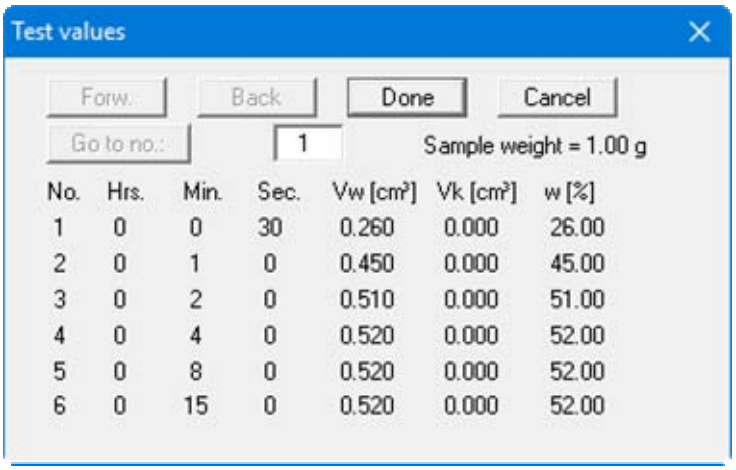


The values for reading time, water absorption and evaporation [cm³] required for calculation of the water absorption capacity are entered in this dialog box.

- "**x values to edit**"
  In the example used here 6 value pairs have already been entered. By pressing the button you arrive at a further dialog box for editing the number of value pairs. If no values have been entered (new test), the box will contain a "**0**". Value pairs are added by increasing the number, and existing value pairs deleted by decreasing the number.
- "**Forw.**" and "**Back**"
  A maximum of 6 individual values can be represented. If you have more than six value pairs you can navigate through the list using the "**Forw.**" And "**Back**" buttons.
- "**Go to no.**"
  You can move directly to a value pair number by entering the corresponding number and clicking "**Go to no.**".
- "**Cancel**"
  By clicking this button you return to the previous dialog box. All entered data is rejected.
- "**Done**"
  You return to the previous dialog box. All entered data is accepted.

5.2.4 "Show test data" menu item

A dialog box opens showing the test data entered and the calculated water contents. The button functions are identical to those of the "**Edit test data**" dialog box (see 5.2.3).

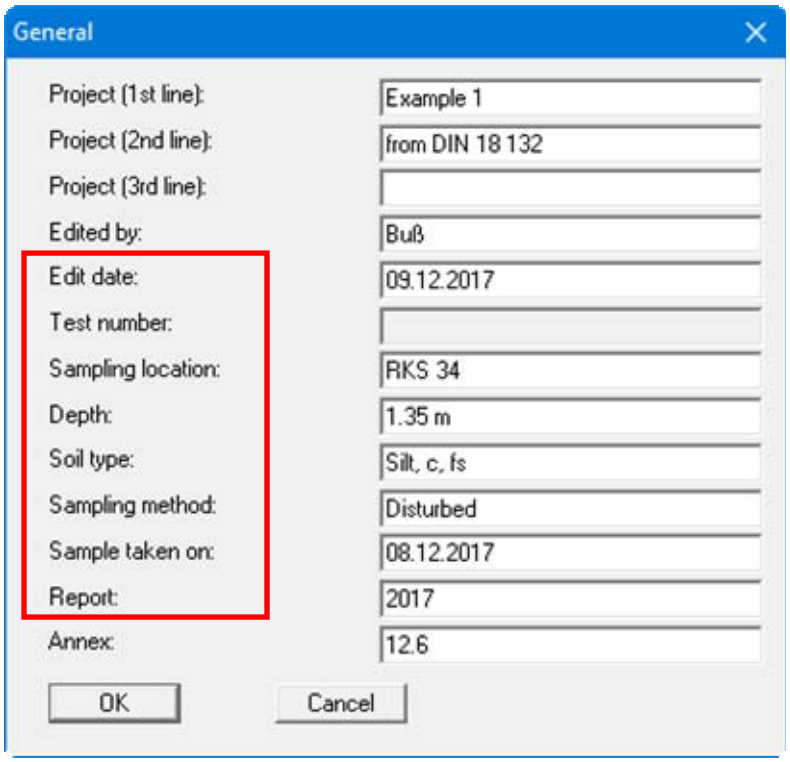


5.2.5 "Delete all tests" menu item

After a security request, all tests will be deleted. After this, you can enter a new test using the "**Edit/Tests**" menu item (see Section 5.2.3).

5.2.6 "General" menu item

Go to this menu item to enter general data such as the project identification, report number, annex number, etc.



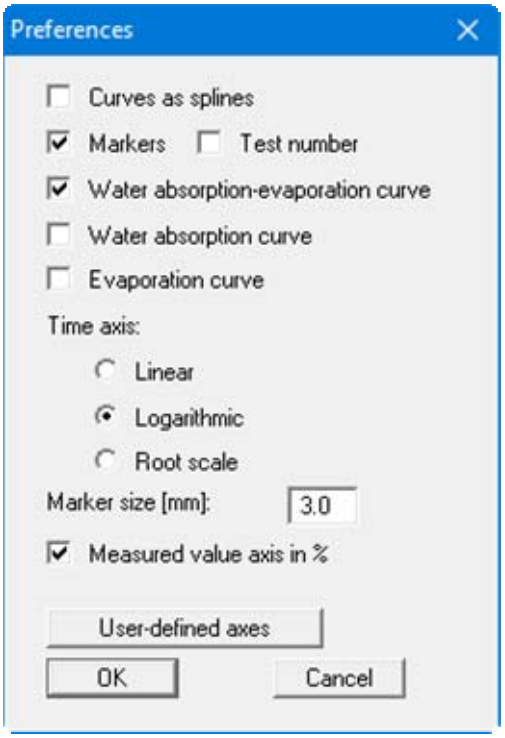
The marked texts in the dialog box also appear in the output sheet. Input boxes can be altered or switched off such as "**Test number:**" as shown in the above dialog box by going to the menu item "**Output preferences/Texts**" and pressing the "**Output sheet texts**" button (see Section 5.4.3).

5.2.7 "Company" menu item

You can enter your company address in four lines. These lines will be entered at the top left of the form.

5.3.1 "Preferences" menu item

After selecting this menu item a dialog box appears, in which you can edit preferences for graphical visualisation.



The "**Curves as splines**" check box allows rounding of the curves in the graphical visualisation. Activating the corresponding check boxes you decide whether markers or test numbers are to be entered at the water content diagram points. If neither of the two check boxes is selected, the values will not be marked. The marker size is user-defined.

If you activate the "**Water absorption-evaporation curve**" check box (default setting), the difference between the water absorption and the evaporation is visualised in the diagram. In addition, the water absorption curve and/or the evaporation curve can be visualised by activating the corresponding check box.

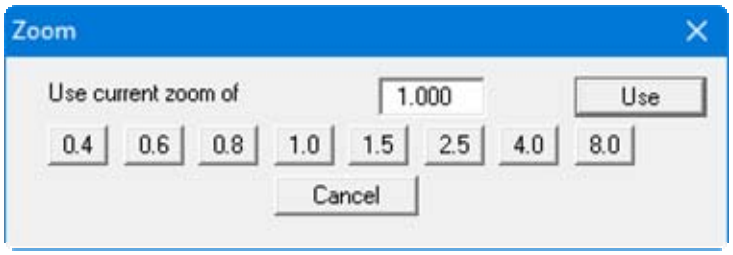
The time axis can be represented as "**Linear**", "**Logarithmic**" or to "**Root scale**". By clicking the "**Measured value axis in %**" check box the water content can be represented as % or in cm^3.

The program automatically selects a sensible axes scale for the graphical visualisation of the water content diagram. If the "**User-defined axes**" button is clicked a dialog box opens allowing the check box "**Use the following axes values**" to be activated. The required value for the maximum time and the maximum water content can then be entered.

5.3.2 "Refresh and zoom" menu item

The program works on the principle of ***What you see is what you get***. This means that the screen presentation represents, overall, what you will see on your printer. In the last consequence, this would mean that the screen presentation would have to be refreshed after every alteration you make. For reasons of efficiency and as this can take several seconds for complex screen contents, the screen is not refreshed after every alteration.

If, e.g., after using the zoom function (see below), only part of the image is visible, you can achieve a complete view using this menu item.



A zoom factor between 0.4 and 8.0 can be entered in the input box. By then clicking on "**Use**" to exit the box the current factor is accepted. By clicking on the "**0.4**", "**0.6**", etc. buttons, the selected factor is used directly and the dialog box closed.

It is much simpler, however, to get a complete overview using [**Esc**]. Pressing [**Esc**] allows a complete screen presentation using the zoom factor specified in this menu item. The [**F2**] key allows screen refreshing without altering the coordinates and zoom factor.

5.3.3 "Zoom info" menu item

By clicking two diametrically opposed points you can enlarge a section of the screen in order to view details better. An information box provides information on activating the zoom function and on available options.

5.3.4 "Legend font selection" menu item

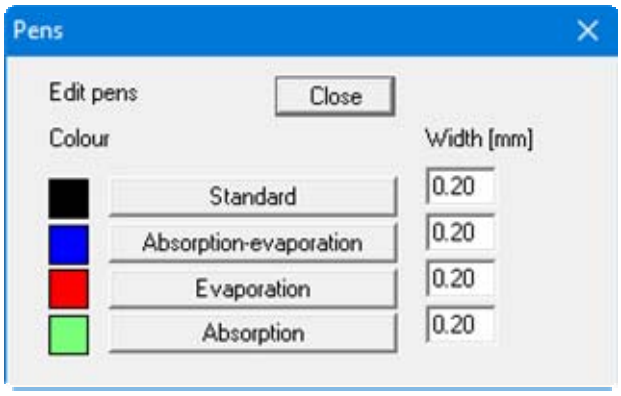
With this menu item you can switch to a different true-type font. All available true-type fonts are displayed in the dialog box.

5.3.5 "Font size selection" menu item

You can edit font sizes of texts [in mm] within the various input areas.

5.3.6 "Pen colour and width" menu item

For reasons of clarity, different colours are used as default for graphic presentation of the different measured value curves. With this menu item you can alter the preferences to suit your wishes.



The pen width, line type and dashing can be edited for the listed curves and, after clicking the appropriate buttons, the pen colours be adapted.

On ***monochrome printers*** (e.g. laser printers), colours are shown in a corresponding grey scale. Graphic elements employing very light colours may be difficult to see. In such cases it makes sense to edit the colour preferences.

5.3.7 "Mini-CAD toolbar" menu item

Using this menu item you can add free text to the graphics and add lines, circles, polygons and images (e.g. files in formats BMP, JPG, PSP, TIF, etc.). PDF files can also be imported as images. A pop-up menu opens, the icons and functions used are described in more detail in the **Mini-CAD** manual saved in the '**C:\Program Files (x86)\GGU-Software\ Manuals**' folder during installation.

5.3.8 "Toolbar preferences" menu item

After starting the program a horizontal toolbar appears below the program menu bar. If you would rather work with a popup window with several columns, you can specify your preferences using this menu item. The smart icons can also be switched off.

At the bottom of the program window you find a status bar with further information. You can also activate or switch off the status bar here. The preferences will be saved in the "**GGU-ENSLIN.alg**" file (see menu item "**Graphics preferences / Save graphics preferences**") and will be active at the next time the program is started.

By clicking on the tools (smart icons) you can directly reach most of the program functions. The meaning of the smart icons appears as a text box if you hover with the mouse pointer over the tools. Some of the tool functions can be activated from the normal menu items.

"**Zoom out**"
If you have previously ***zoomed in***, this tool returns to a full screen display.

"**Zoom (-)**" / "**Zoom (+)**"
With the zoom functions you can zoom in or out of parts of the image, by clicking the left mouse button.

"**Undo move object**"
If you have previously edited the position or size of an element on the output sheet ([**F11**] or used "**Output preferences/Move objects**"), you can undo the last changement with this tool.

"**Restore move object**"
If you have previously undone a changement, you can restore with this tool.

"**Copy/print area**"
Use this tool to copy only parts of the graphics in order to paste them, e.g. to a report. You will see information on this function and can then mark an area, which is copied to the clipboard or can be saved in a file. Alternatively you can send the marked area directly to your printer (see "**Tips and tricks**", Section 6.3).

5.3.9 "Load graphics preferences" menu item

You can reload a graphics preferences file into the program, which was saved using the "**Graphics preferences/Save graphics preferences**" menu item. Only the corresponding data will be refreshed.

5.3.10 "Save graphics preferences" menu item

Some of the preferences you made with the menu items of the "**Graphics preferences**" menu as well as the inputs using the "**Edit/Company**" menu item can be saved to a file. If you select "**GGU-ENSLIN.alg**" as file name, and save the file on the same level as the program, the data will be automatically loaded the next time the program is started and need not be entered again.

5.4.1 General note

The following test result visualisation options are available for the form:

- Water content diagram
- Table with base data

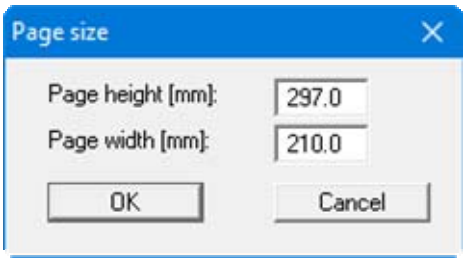
In addition to these elements, which are exclusively relevant to test evaluation, further elements are also present in the visualisation:

- Title;
- Company;
- Test no., etc.;
- Annex and report;
- Output table.

You can completely redesign the form using the items of this menu.

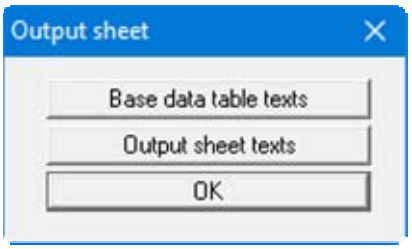
5.4.2 "Page size" menu item

The default page set-up is A4 (portrait) when the program is started. You can edit the page size in the dialog box.

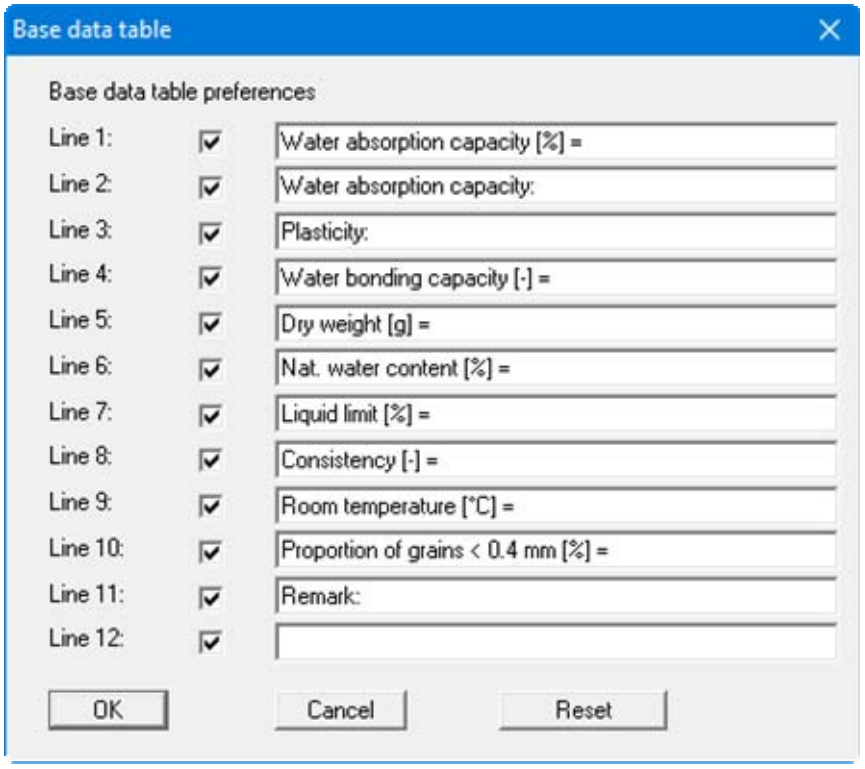


5.4.3 "Texts" menu item

The default labelling of some output sheet elements can be edited in this menu item's dialog box. Among other things, the name of the output sheet can be specified here. An option box opens in which the various fields can be selected for editing using the correspondingly labelled buttons:

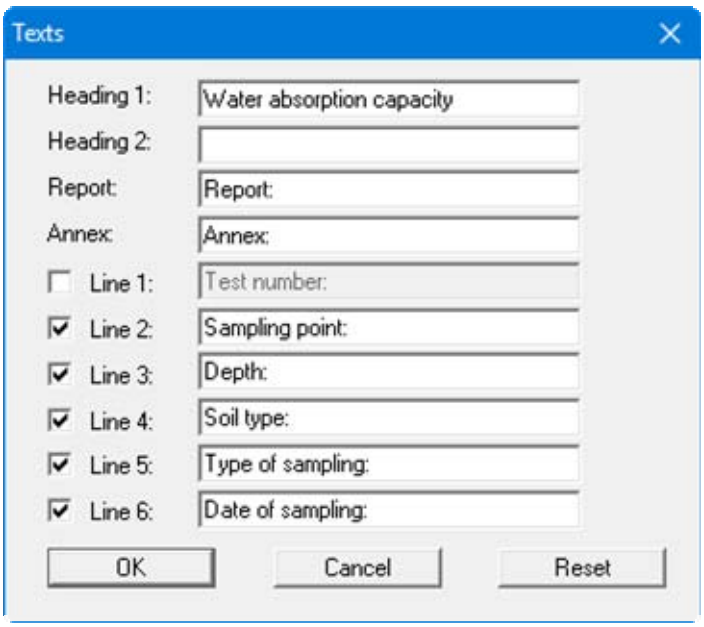


After clicking the "**Base data table texts**" button the following dialog box opens allowing the labelling of the input boxes for entering the base data and the table visualisation of the test data on the output sheet to be edited:



Deactivated rows are hidden in the results table on the output sheet. The test results for the above used parameters are automatically supplemented by the program following the texts.

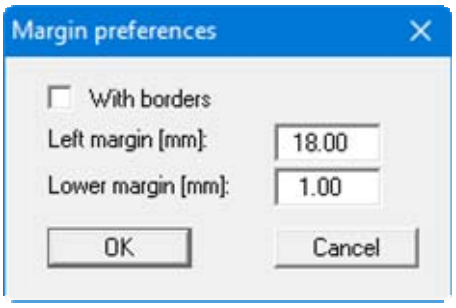
If the "**Output sheet texts**" button is clicked in the above box, the following dialog box opens:



Your input in lines 1 to 6 of the above dialog box, as well as the input for "**Report:**" and "**Annex:**" also represent the designations for the input boxes in the "**Edit/General**" menu item dialog box. If lines are deactivated in the above dialog box, the corresponding input boxes in the "**Edit/General**" menu item dialog box are also deactivated (see Section 5.2.6). Use "**Reset**" to restore the default labelling settings.

5.4.4 "Margins" menu item

In the default program preferences the output sheet is shown with cutting borders. For output to an A4 printer, a reduction of the printer output is generally necessary, as proprietary printers cannot fully cover an A4 page. The margin preferences can be defined in the following dialog box.



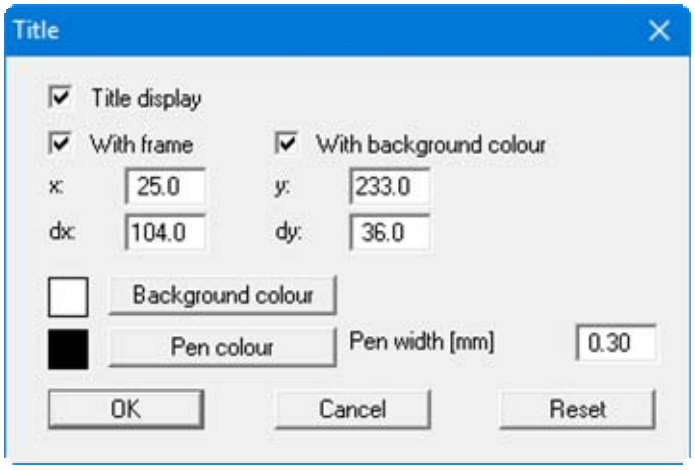
By deactivating the "**With borders**" check box and with an appropriate choice of left and lower margins, it is generally possible to create a non-reduced printer output. It is necessary to also adapt the page height and width (see Section 5.4.2).

5.4.5 "Position info" menu item

The positions and layout of the individual elements on the output sheet can be altered using the following menu items. This menu item provides information on the options for altering the position and layout more quickly using the mouse.

5.4.6 "Title (change position)" menu item

The position and layout of the title element can be altered via the dialog box for this menu item, if the "**Title display**" check box is activated.



The position of the element on the output sheet and its size can be defined or edited by means of the variables "***x***" and "***y***", "**dx**" and "**dy**". The element can be provided with a frame and a background colour to suit your personal requirements. If the element needs to be returned to its original condition, this can be done using the "**Reset**" button. Alternatively, you can alter the size and shape of the element using the mouse (see menu item "**Output preferences/Move objects**", Section 5.4.14).

The heading "**Shear test**" shown in the title element can be edited in the menu item "**Output preferences/Texts**" button "**Output sheet texts**" (see Section 5.4.3). The texts "**Project (1st line)**" to "**Project (3rd line)**" are entered immediately after double-clicking the element or using the menu item "**Edit/General**" (see Section 5.2.6).

5.4.7 "Water content diagram" menu item

Almost exactly the same dialog box opens with the same preference options as that described in the "**Output preferences/Title (change position)**" menu item (see Section 5.4.6). Simply proceed as described there to edit the "**Water absorption curve**" element.

The setting for the curves to be displayed in the diagram is specified in the menu item "**Graphics preferences/Preferences**" (see Section 5.3.1).

5.4.8 "Company" menu item

Almost exactly the same dialog box opens with the same preference options as that described in the "**Output preferences/Title (change position)**" menu item (see Section 5.4.6). Simply proceed as described there to edit the "**Company**" element.

The input for this element can be edited immediately after double-clicking on the element or via the menu item "**Edit/Company**" (see Section 5.2.7).

5.4.9 "Test no., etc." menu item

Almost exactly the same dialog box opens with the same preference options as that described in the "**Output preferences/Title (change position)**" menu item (see Section 5.4.6). To edit the "**Test no., etc.**", element, simply proceed as is described there.

The input for this element can be edited immediately after double-clicking on the element or via the menu item "**Edit/General**" (see Section 5.2.6). For this element you also have the option of adapting the texts in front of the input boxes to suit your needs. Go to the menu item "**Output preferences/Texts**" button "**Output sheet texts**" (see Section 5.4.3).

5.4.10 "Annex and report" menu item

Almost exactly the same dialog box opens with the same preference options as that described in the "**Output preferences/Title (change position)**" menu item (see Section 5.4.6). To edit the "**Annex and report**" element, simply proceed as described there.

The input for this element can be edited immediately after double-clicking on the element or via the menu item "**Edit/General**" (see Section 5.2.6). For this element you also have the option of adapting the texts in front of the input boxes to suit your needs. Go to the menu item "**Output preferences/ Texts**" button "**Output sheet texts**" (see Section 5.4.3).

5.4.11 "Table" menu item

Almost exactly the same dialog box opens with the same preference options as that described in the "**Output preferences/Title (change position)**" menu item (see Section 5.4.6). Simply proceed as described there to edit the "**Table**" element.

A number of the data for this element are entered via the menu item "**Edit/Base data**" (see Section 5.2.1). Others are determined directly by the program and entered into the table (see menu item "**Output preferences/Texts**", "**Base data table texts**" button in Section 5.4.3). The texts in front of the input boxes can also be adapted to suit the user's needs for this element.

5.4.12 "Output table" menu item

This element is deactivated in the program default setting. If the "**Output table display**" check box is activated in this menu item's dialog box, the element is shown on the output sheet. Almost exactly the same dialog box opens with the same preference options as that described in the "**Output preferences/Title (change position)**" menu item (see Section 5.4.6). To edit the "**Output table**" element, simply proceed as described there.

5.4.13 "Reset all" menu item

With this button, all preferences for the aforementioned elements, which may have been edited with the previous menu item, will be reset to the program defaults.

5.4.14 "Move objects" menu item

When you go to this item you can move the various objects with the aid of the mouse. Move the mouse over the object to be moved. When you are located above a moveable object the mouse pointer appears in the shape of a cross. You can now press and hold the left mouse button and drag the object to the required position.

> After going to this menu item only one object at a time can be moved using the mouse or its size be altered.
>
> In order to move or edit several objects, this function can be more quickly activated by pressing [**F11**] or the icon.

The size of an object can also be altered using this menu item or the [**F11**] key. If you move over the frame of a changeable object after activating this function the mouse assumed the shape of a double-headed arrow. Hold the left mouse button and move the frame until the object has reached the required size. To retain the ratio of the sides, pull at one corner only. If on one side only is pulled the object will become higher or wider.

The last change made in the position or size of an object can be undone using [**Back**] or by clicking the icon.

5.5.1 "Copyright" menu item

You will see a copyright message and information on the program version number.

The "**System**" button shows information on your computer configuration and the folders used by **GGU-ENSLIN**.

5.5.2 "Maxima" menu item

You will see information on the maximum values allowed by the program.

5.5.3 "Help" menu item

The **GGU-ENSLIN** manual is opened as a PDF document. The help function can also be accessed using the [**F1**] function key.

5.5.4 "GGU on the web" menu item

Using this menu item you can access the GGU Software website: www.ggu-software.com.

Get information on updates and modifications on a regular basis from your program module page. You can also subscribe to email notifications, which provide information on all modifications on a monthly basis.

5.5.5 "GGU support" menu item

This menu item takes to the GGU-Software Contact area at www.ggu-software.com.

5.5.6 "What's new?" menu item

You will see information on program improvements in comparison to older versions.

5.5.7 "Language preferences" menu item

This menu item allows you to switch the menus and the graphics from German to English and vice versa. To work in German, deactivate the two switches "**Dialoge + Menüs übersetzen (translate dialogues, menus)**" und "**Graphiktexte übersetzen (translate graphics)**".

Alternatively, you can work bilingually, e.g. with German dialog boxes but with graphic output in English. The program always starts with the language setting applicable when it was last ended.

6 Tips and tricks

6.1 Keyboard and mouse

You can scroll the screen with the keyboard using the cursor keys and the [**Page up**] and [**Page down**] keys. By clicking and pulling with the mouse, with [**Ctrl**] pressed, you activate the zoom function, i.e. the selected section will fill the screen. Furthermore you can use the mouse wheel to zoom in/out or scrolling the screen presentation. The following mouse wheel functions are available:

- Mouse wheel up = move screen image up
- Mouse wheel down = move screen image down
- [**Ctrl**] + mouse wheel up = enlarge screen image (zoom in)
- [**Ctrl**] + mouse wheel down = shrink screen image (zoom out)
- [**Shift**] + mouse wheel up = move screen image right
- [**Shift**] + mouse wheel down = move screen image left

If you click the right mouse button anywhere on the screen a context menu containing the principal menu items opens.

By double-clicking the left mouse button on output sheet elements or **Mini-CAD** objects, the editor for the selected object immediately opens, allowing it to be edited. By double-clicking output sheet elements while holding the [**Shift**] key, the preferences for the position, size and appearance of the element open for editing in the editor.

6.2 Function keys

Some of the function keys are assigned program functions. The allocations are noted after the corresponding menu items. The individual function key allocations are:

- [**Esc**] refreshes the screen contents and sets the screen back to the given format (A4). This is useful if, for example, you have used the zoom function to display parts of the screen and would like to quickly return to a complete overview.
- [**F1**] opens the manual file.
- [**F2**] refreshes the screen without altering the current magnification.
- [**F11**] activates the menu item "**Output preferences/Move objects**".

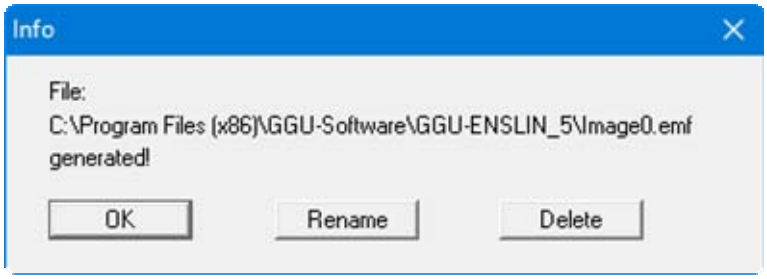
6.3 "Copy/print area" icon

A dialog box opens when the "**Copy/print area**" icon in the menu toolbar is clicked, describing the options available for this function. For example, using this icon it is possible to either copy areas of the screen graphics and paste them into the report, or send them directly to a printer.

In the dialog box, first select where the copied area should be transferred to: "**Clipboard**", "**File**" or "**Printer**". The cursor is displayed as a cross after leaving the dialog box and, keeping the left mouse button pressed, the required area may be enclosed. If the marked area does not suit your requirements, abort the subsequent boxes and restart the function by clicking the icon again.

If "**Clipboard**" was selected, move to the MS Word document (for example) after marking the area and paste the copied graphics using "*Edit/Paste*".

If "**File**" was selected, the following dialog box opens once the area has been defined:



The default location of the file is the folder from which the program is started and, if several files are created, the file is given the file name "**Image0.emf**" with sequential numbering. If the "**Rename**" button in the dialog box is clicked, a file selector box opens and the copied area can be saved under a different name in a user-defined folder. Saving can be aborted by pressing the "**Delete**" button.

If the "**Printer**" button was pressed in the first dialog box, a dialog box for defining the printer settings opens after marking the area. Following this, a dialog box for defining the image output settings opens. After confirming the settings the defined area is output to the selected printer.

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