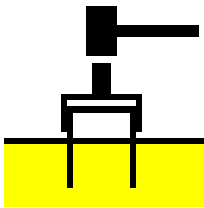


Determination and visualisation of soil density to
German Standard DIN 18125, Part 2

GGU-DENSITY

VERSION 5



Last revision: September 2008
Copyright: GGU Zentrale Verwaltung mbH, Braunschweig
Technical implementation and sales: Civilserve GmbH, Steinfeld

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1 Preface

The **GGU-DENSITY** program system allows determination and visualisation of soil density to German Standards DIN 18125, Part 2. The program provides three different methods of density determination. These are the four field methods:

- densitometer method (key number 64);
- sand replacement method (key number 63);
- mould (Proctor) method (key number 62);
- mould (derived quantities) method (key number 62).

All three examples from DIN 18125, Part 2 can be found in the files "**DENSITO.dct**", "**SAND.dct**" and "**ZYLINDER.dct**".

Data input is in accordance with conventional WINDOWS operations and can therefore be learned almost entirely without the use of a manual. 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. DXF files can also be imported by means of the integrated Mini-CAD module (see the "**Mini-CAD**" manual).

The program has been successfully used in a large number of projects by renowned consultancies and institutes, and has been thoroughly tested. The program system 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 and installation

In order to guarantee a high degree of quality, a hardware-based copy protection system is used for the **GGU-DENSITY** program.

The GGU software protected by the *CodeMeter* copy protection system is only available in conjunction with the *CodeMeter stick* copy protection component (hardware for connection to the PC, "*CM stick*"). Because of the way the system is configured, the protected software can only be operated with the corresponding CM stick. This creates a fixed link between the software licence and the CM stick copy protection hardware; the licence as such is thus represented by the CM stick. The correct Runtime Kit for the CodeMeter stick must be installed on your PC.

Upon start-up and during running, the **GGU-DENSITY** program checks that a CM stick is connected. If it has been removed, the program can no longer be executed.

For installation of GGU software and the CodeMeter software please refer to the information in the *Installation notes for GGU Software International*, which are supplied with the program.

3 Language selection

GGU-DENSITY 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 "?" 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
- ?

After clicking the "**File**" menu, either an existing file can be loaded by means of the "**Load**" menu item, or new tests can be entered using "**New**". After clicking "**File/New**" the type of test must be selected from a dialogue box. An empty form according to DIN 18125 is then displayed on the screen with the designation of the selected test type. Then, the menu bar will show five menus:

- File
- Edit
- Graphics preferences
- Output preferences
- ?

After clicking one of these menus, the 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-DENSITY** screen is not refreshed after every alteration.

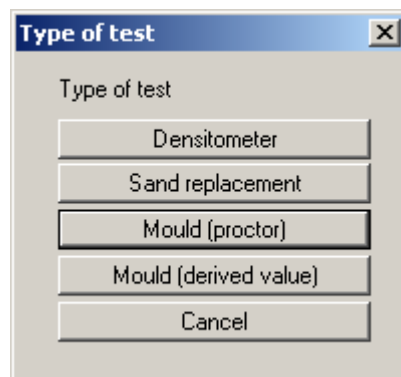
If you would like to refresh the screen contents, press either [F2] or [Esc]. The [Esc] key additionally sets the screen presentation back to your current zoom, which has the default value 1.0, corresponding to an A4 format sheet.

5 Description of menu items

5.1 File menu

5.1.1 "New" menu item

All data entered is deleted and the following dialogue box is displayed, which also appears when the program is started.



One of four methods of density determination can be selected. An empty form according to DIN 18125, Part 2 appears again when the button for the required method is clicked.

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 item

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 ".dct" 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, ".dct" will be used automatically.

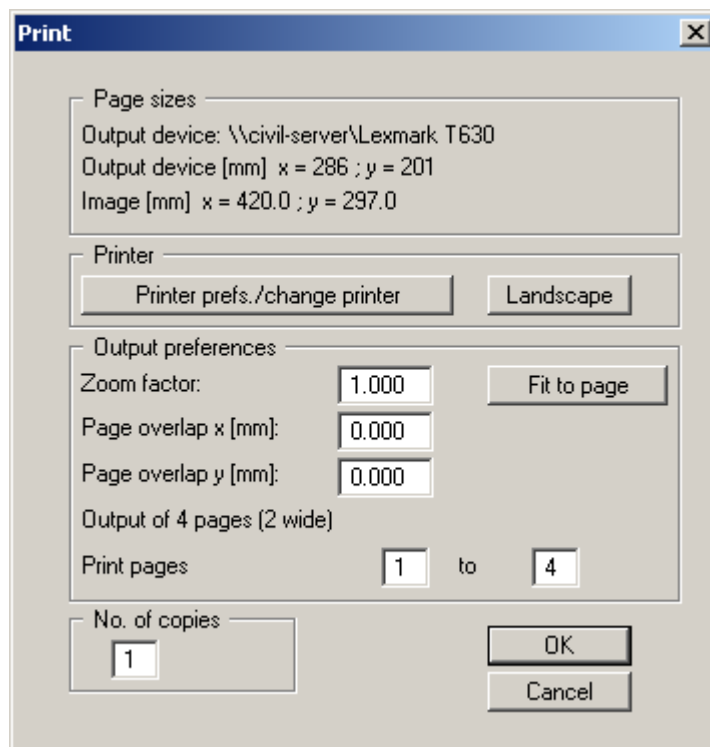
5.1.5 "Printer preferences" menu item

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

5.1.6 "Print and export" menu item

You can select your output format in a dialogue 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/Printer preferences"**. But you may also select a different printer in the following dialogue box by pressing the **"Printer 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.

- **"GGUCAD file"**
allows output of the graphics to a file, in order to enable further processing with the GGUCAD 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.

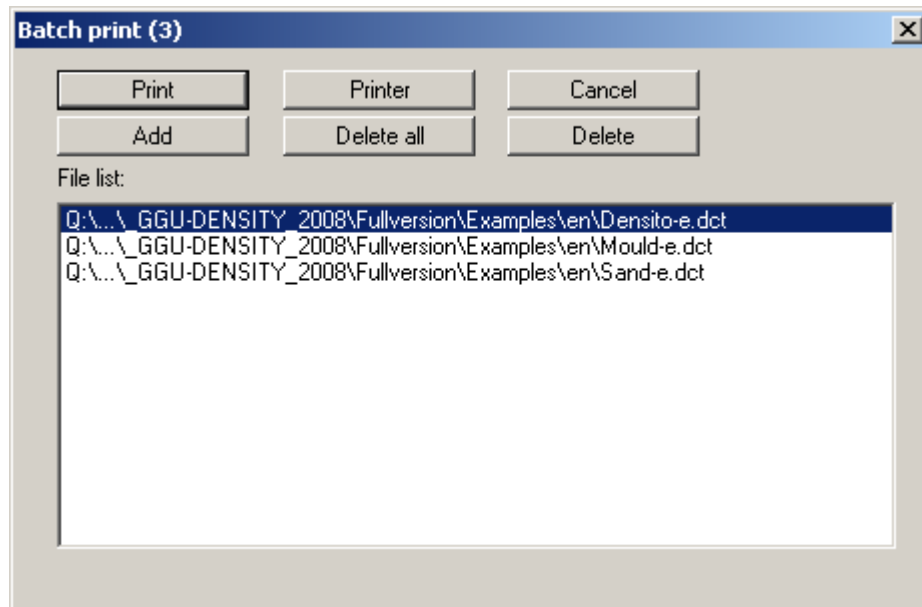
If you select the **"Copy/print area"** tool  from the toolbar, you can copy parts of the graphics to the clipboard or save them to an EMF file. Alternatively you can send the marked area directly to your printer.

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

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

5.1.7 "Batch print" menu item

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



Create a list of files for printing using "**Add**" and selecting the desired files. The number of files is displayed in the dialogue 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 printer preferences is achieved by pressing the "**Printer**" button.

You then start printing by using the "**Print**" button. In the dialogue 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.

5.1.8 "Exit" menu item

After a confirmation prompt, you can quit the program.

5.1.9 "1, 2, 3, 4" menu items

The "**1, 2, 3, 4**" menu items show the last four files worked on. 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.

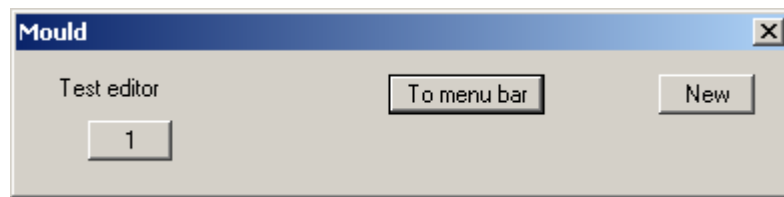
5.2 Edit menu

5.2.1 "Preferences" menu item

The water content is given in percent in the **GGU-DENSITY** program default setting. This preference can be deactivated in the dialogue box for this menu item.

5.2.2 "Tests" menu item

This is the program's central menu item. After selecting a density determination method in the menu item "**File/New**" (see Section 5.1.1), all the base data for determining the soil density is entered here. After clicking this menu item or double-clicking in the table area the following dialogue box opens (example):



Only one test is present in this example. The tests are automatically numbered and the test numbers ("1, 2, 3, ...") shown on the respective buttons. The following actions are possible:

- **"To menu bar"**
You return to the original menu bar.
- **"New"**
You can now enter data for a new test.
- **"1", "2", ...**
By clicking the buttons labelled with the test numbers you can open and edit the data for the corresponding test.

After clicking on "New" or on the button of an existing test a dialogue box opens for entering or editing test data. The dialogue that appears when the "Mould (Proctor)" method is selected is shown below:

Test 1

Wet density

Sample designation: 1

Wet sample + mould [g]: 1769.00

Mould [g]: 78.00

Mould volume [cm³]: 850.00

Water content

Wet sample + container [g]: 1769.00

Dry sample + container [g]: 1526.00

Container [g]: 0.00

Proctor densities + water content

100 % [g/cm³]: 2.000 Required [%]: 97.5

Min w [%]: 10.00 Max w [%]: 20.00

Buttons: Done, Delete, Duplicate

Enter the unit weights and volumes for density determination using mould tests. It is also possible to enter the weight of the test container manually. However, if you use containers with standard weights for your tests it is recommended to store the weights of the respective containers in a database. This saves repeated input by hand. The database can be stored using the menu item "**E-dit/Container database**" (see Section 5.2.6).

In the place of the input box "**Container [g]**" an extended group box is shown in the dialogue box. After activating the "**Database**" option button the containers used can be selected from the drop-down combo box.

Container weight

Individually [g] 84.65

Database mb = 84.65 g (No. 1)

The container database can also be accessed when using other GGU laboratory programs.

The following actions are also possible from the above dialogue box:

- **"Done"**
You will arrive back at the previous dialogue box. All values entered will be accepted.
- **"Delete"**
The currently displayed test will be deleted.
- **"Duplicate"**
The currently displayed test will be duplicated. You will automatically find yourself in the next test.

5.2.3 "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.

5.2.4 "General" menu item

Go to this menu item to enter general data such as the project identification, report number, annex number, etc. This data is displayed in the correct elements of the output sheet.

Field	Value
Project (1st line):	Example
Project (2nd line):	Mould
Edited by:	Buß
Edit date:	12.02.1995
Test no.:	123456
Sampling point:	House pond
Depth:	base
Sampling method:	wet
Type of soil:	ooze
Date of sampling:	11.02.1995
Report:	1234/95
Annex:	1.11

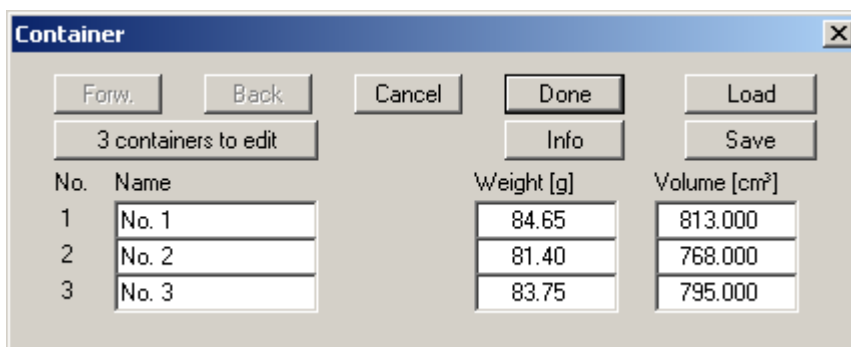
The marked texts in the dialogue box also appear in the output sheet. Input boxes can be altered or switched off such as **"Test number:"** as shown in the above dialogue box by going to the **"Output preferences/Texts"** menu item **"Output sheet texts"** button (see Section 5.4).

5.2.5 "Company" menu item

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

5.2.6 "Container database" menu item

If you use containers with standard weights for your tests, their weights can be stored in a container database using the dialogue box in this menu item.



The screenshot shows a dialog box titled "Container" with a close button (X) in the top right corner. At the top, there are buttons for "Forw.", "Back", "Cancel", "Done", "Load", "Info", and "Save". Below these buttons is a text field containing "3 containers to edit". The main area of the dialog is a table with three columns: "No.", "Name", "Weight [g]", and "Volume [cm³]". The table contains three rows of data:

No.	Name	Weight [g]	Volume [cm³]
1	No. 1	84.65	813.000
2	No. 2	81.40	768.000
3	No. 3	83.75	795.000

Enter the number of containers to be defined via the "**x containers to edit**" button. The corresponding number of rows for input will then be shown. If more than 8 containers are defined you can navigate through the list using the "**Forw.**" and "**Back**" buttons.

If you work with several databases you can save the containers to a database or load a different database using the appropriate buttons. The database file is first searched for in the program folder, then at the working level and finally in the Windows folder. It is generally practical to store the container database in the Windows folder if it is also to be accessed by other GGU laboratory programs. If the database file is saved using the default name of "**GGU-Database.bh_**" it is automatically loaded when the program starts. This information is also stored behind the "**Info**" button.

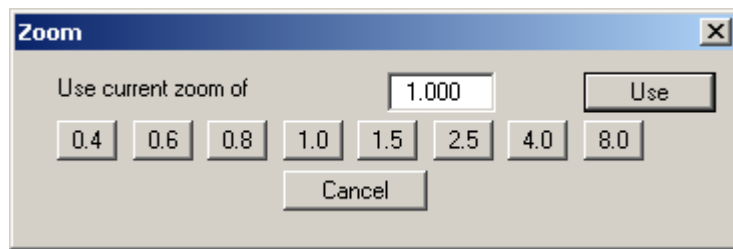
The containers stored in the database can be accessed in a drop-down combo box in the menu item "**Edit/Tests**" (see Page 11).

5.3 Graphics preferences menu

5.3.1 "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 dialogue 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.

5.3.2 "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.

5.3.3 "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 dialogue box.

5.3.4 "Font size selection" menu item

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

5.3.5 "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.). A pop-up menu opens; the icons and functions used are described in more detail in the "Mini-CAD" manual provided.

5.3.6 "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 smarticons 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-DENSITY.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 (smarticons) you can directly reach most of the program functions. The meaning of the Smarticons 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.

5.3.7 "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.

5.3.8 "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-DENSITY.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 Output preferences menu

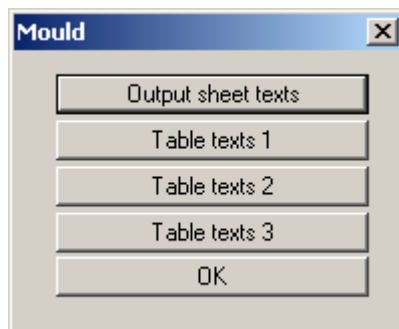
5.4.1 "Page size" menu item

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

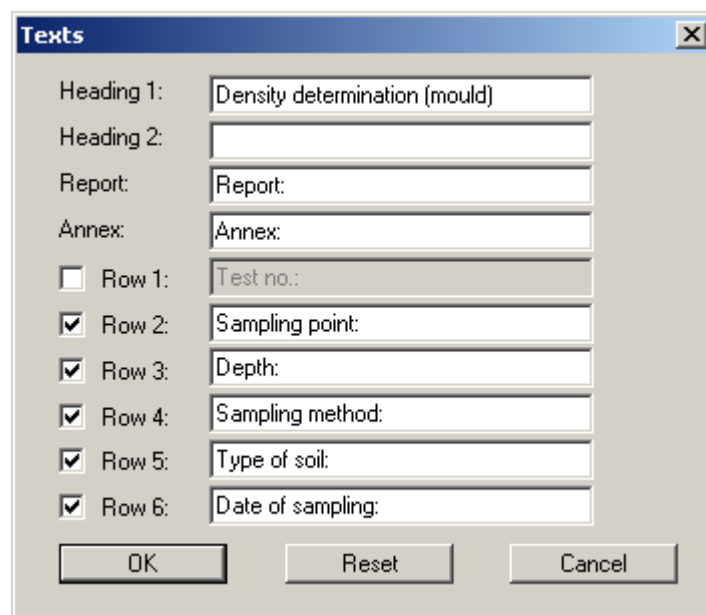
5.4.2 "Texts" menu item

The default labelling of some output sheet elements can be edited in this menu item's dialogue box. Among other things, the name of the output sheet can be specified here. Depending on the method selected for density determination in the menu item "**Edit/New**", the text boxes in the output sheet applicable to the selected method are displayed in the individual dialogue boxes of this menu item and can then be adapted.

An option box opens for each method in which the various fields can be selected for editing using the correspondingly labelled buttons. For example, the following dialogue box appears if the "**Mould (Proctor)**" density determination method is selected:



After clicking the "**Output sheet texts**" button, the following dialogue box opens:



Your input in rows 1 to 6 of the above dialogue box, as well as the input for "**Report:**" and "**An-nex:**" also represent the designations for the input boxes in the "**Edit/General**" menu item dialogue box. If lines are deactivated in the above dialogue box, the corresponding input boxes in the "**Edit/General**" menu item dialogue box are also deactivated (see Section 5.2.4). Use "**Reset**" to restore the default labelling settings.

If the button "**Table texts 1**" in the above dialogue is pressed, the following dialogue box opens in which the annotation of the upper section of the table in the output sheet can be edited:

The screenshot shows a dialog box titled "Mould" with a close button (X) in the top right corner. It contains eight text input fields, each preceded by a label: "Table row 1:", "Table row 2:", "Table row 3:", "Table row 4:", "Table row 5:", "Table row 6:", "Table row 7:", and "Table row 8:". The text in the input fields is: "Wet density #", "Sample no.:", "Wet sample + mould [g]:", "Mould [g]:", "Wet sample [g]:", "Mould volume [cm³]:", "Wet density # [g]:", and "Water content by drying". At the bottom of the dialog box are three buttons: "OK", "Reset", and "Cancel".

The "#" sign is a placeholder for the Greek letter rho.

5.4.3 "Rows, columns, etc." menu item

The structure of the table element is defined using this menu item. The number of columns and rows and their widths can be defined in the following dialogue box. The overall size of the table can only be altered using the menu item "**Output preferences/Table**" (see Section 5.4.4).

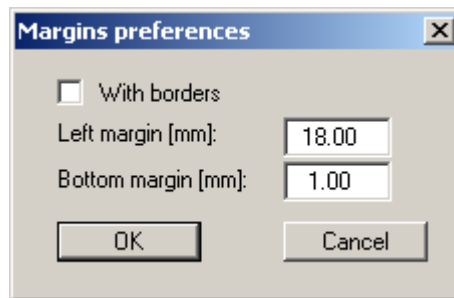
The screenshot shows a dialog box titled "Mould" with a close button (X) in the top right corner. It contains three configuration options: "Text field width:" with a text input field containing "60.00"; "No. of columns:" with a drop-down list box showing "5"; and a checked checkbox labeled "Table with evaluation of compaction". At the bottom of the dialog box are three buttons: "OK", "Reset", and "Cancel".

The width of the left table column with the labelling is specified in the "**Text field width**" input box. The width is given in [mm], the labelling font size is automatically adjusted to the available space. The number of tests (= columns) to be visualised on an output sheet can be specified using the "**No. of columns**" drop-down list box. The columns are divided equally across the remaining table width, the font size in the cells is also adjusted to the available space.

If the compaction evaluation is also to be shown in the table, activate the corresponding check box. If the check box is deactivated, the rows containing the remaining test data will be distributed across the entire table height. The table rows will then be very wide

5.4.4 "Margins" menu item

In the default program preferences the form 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 dialogue box.



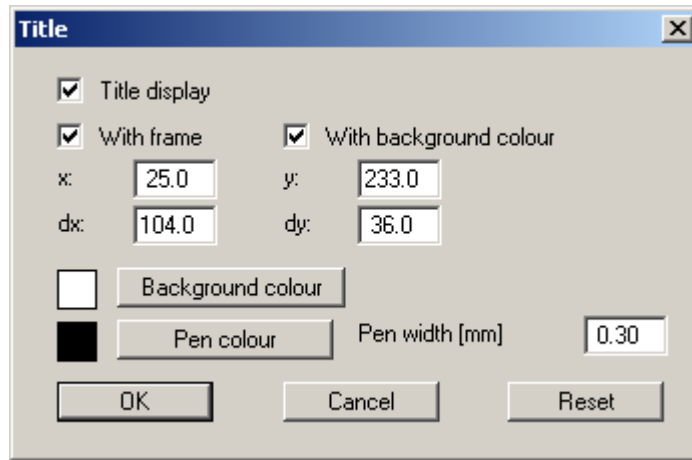
By deactivating the "**With borders**" check box and with an appropriate choice of left and lower margins, it is generally possible to create a non-reduced printer output. It is necessary to also adapt the page height and width (see Section 5.4.1).

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 dialogue 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 5.4.12).

The heading "Density determination (mould)" shown in the title element can be edited in the menu item "Output preferences/Texts" (see Section 5.4.2). The texts "Project (1st line)" and "Project (2nd line)" are entered immediately after double-clicking the element or using the menu item "Edit/General" (see Section 5.2.4).

5.4.7 "Company" menu item

Almost exactly the same dialogue 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 5.2.3).

5.4.8 "Test no., etc." menu item

Almost exactly the same dialogue 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 5.2.4). 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" (see Section 5.4.2).

5.4.9 "Annex and report" menu item

Almost exactly the same dialogue 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 5.2.4). 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**" (see Section 5.4.2).

5.4.10 "Table" menu item

Almost exactly the same dialogue 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 element or change the table size.

The sizes of the columns and rows can be edited using the menu item "**Output preferences/Rows, columns, etc.**" (see Section 5.4.3). The row labelling can be adapted using the menu item "**Output preferences/Texts**" (see Section 5.4.2).


5.4.11 "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.


5.4.12 "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 [**Backspace**] or by clicking the  icon.

5.5 ? menu

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-DENSITY**.

5.5.2 "Maxima" menu item

Information on the maximum number of tests possible is displayed in a message box.

5.5.3 "Help" menu item

The **GGU-DENSITY** online-help is opened using an installed browser (e.g. MS Internet Explorer). 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. Keep in touch with new program versions and the regular *download* offers.

If you would like to be automatically notified about program innovations, please register for the Newsletter in our Knowledge Base. Go to the following website: <http://kbase.civilserve.com>.

5.5.5 "GGU support" menu item

This menu item takes to the GGU-Software [Support 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)**".

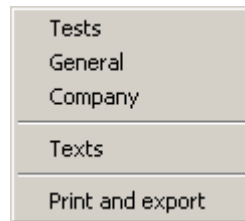
Alternatively, you can work bilingually, e.g. with German dialogue boxes but with graphic output in English. The program always starts with the language setting applicable when it was last ended.

6 Tips

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 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.

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 online-help.
- **[F2]** refreshes the screen without altering the current magnification.
- **[F11]** activates the menu item "**Output preferences/Move objects**".

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