Importing data in txt format

Program: Spread Footing

GEO5 file: Demo_manual_27_1.gpa   (example ready for importing)

        Demo_manual_27_2.gpa   (example after importing)

TXT file: Demo_import.txt   (txt file for importing)

        Demo_import_re.txt   (txt file for re-importing)

The aim of this engineering manual is to show how to import a load list in the txt format into the program Spread Footing.

Note: The files for import (Demo_import.txt, Demo_import_re.txt) are part of GEO5 installation and they are located in the folder FINE in public documents.

Introduction

Text import is already mentioned in engineering manual *No. 9 (Design of the geometry of a spread footing).* In this manual the complete working of the program *Spread Footing* is also shown.

A text file in which we have entered the loads, was obtained from a static program using export. Currently, you can export the load from most of the commercially available static programs (eg. SCIA, Dlubal, FIN EC...).

The main advantage of importing text data into GEO5 programs is its versatility. The user can choose exactly which data he wishes to insert and how he wishes to insert them. The program allows the user to skip unnecessary lines, change the order of the columns, or multiply them by any factor.

In addition to various modifications of the input data, users will also appreciate the possibility of repeating the whole process. The program remembers all of the user settings and when the user imports another file in the same format, everything is done automatically.

Basic investigation of the file

The text file *demo_import.txt* displayed in a text editor looks as follows.

Preview of the input file in a text editor

The layout of our input file does not match the format of the load, which is used in the GEO5 programs. At first glance, we can notice a few differences, which must be eliminated using import settings.
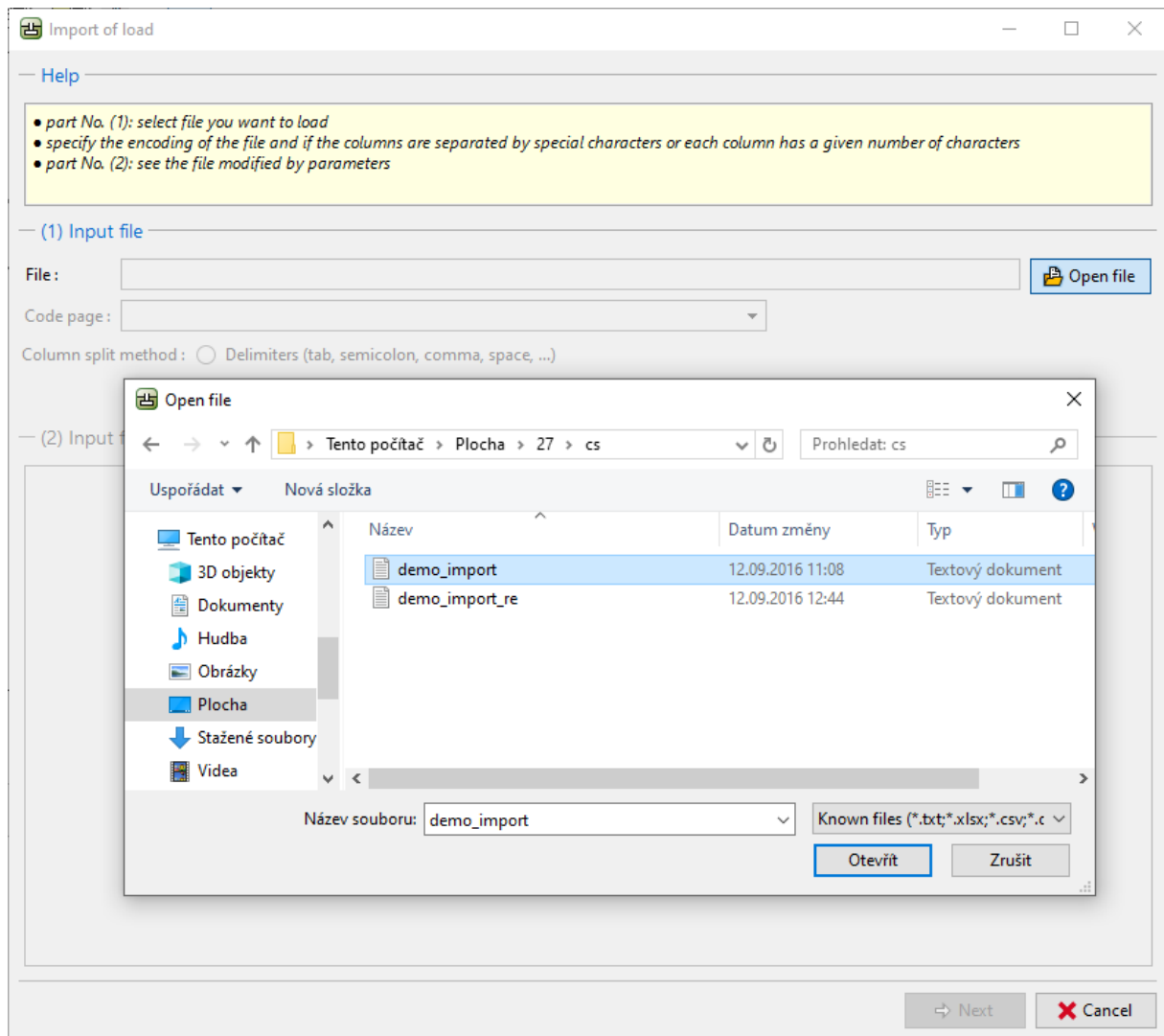
1) Unnecessary columns
2) The order of the columns
3) Units - in the program [kN] must be entered, in the txt file are [N]
4) The opposite sign convention for the vertical force

![GEO5 logo]

Importing data in the program Spread Footing

In the program "Spread Footing", we press the "Import" button in the "Load" frame.
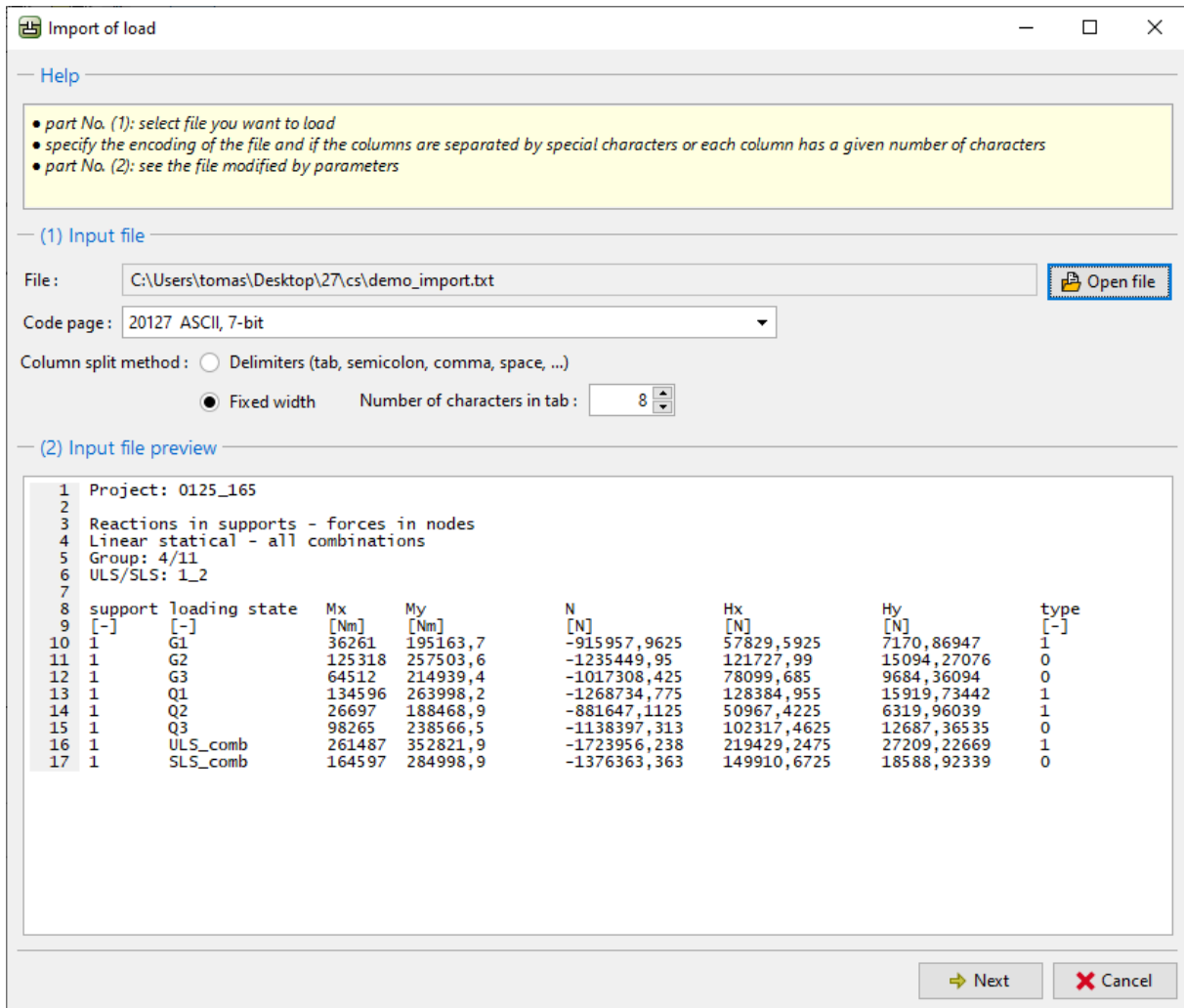

"Load - LC" frame

GEO5
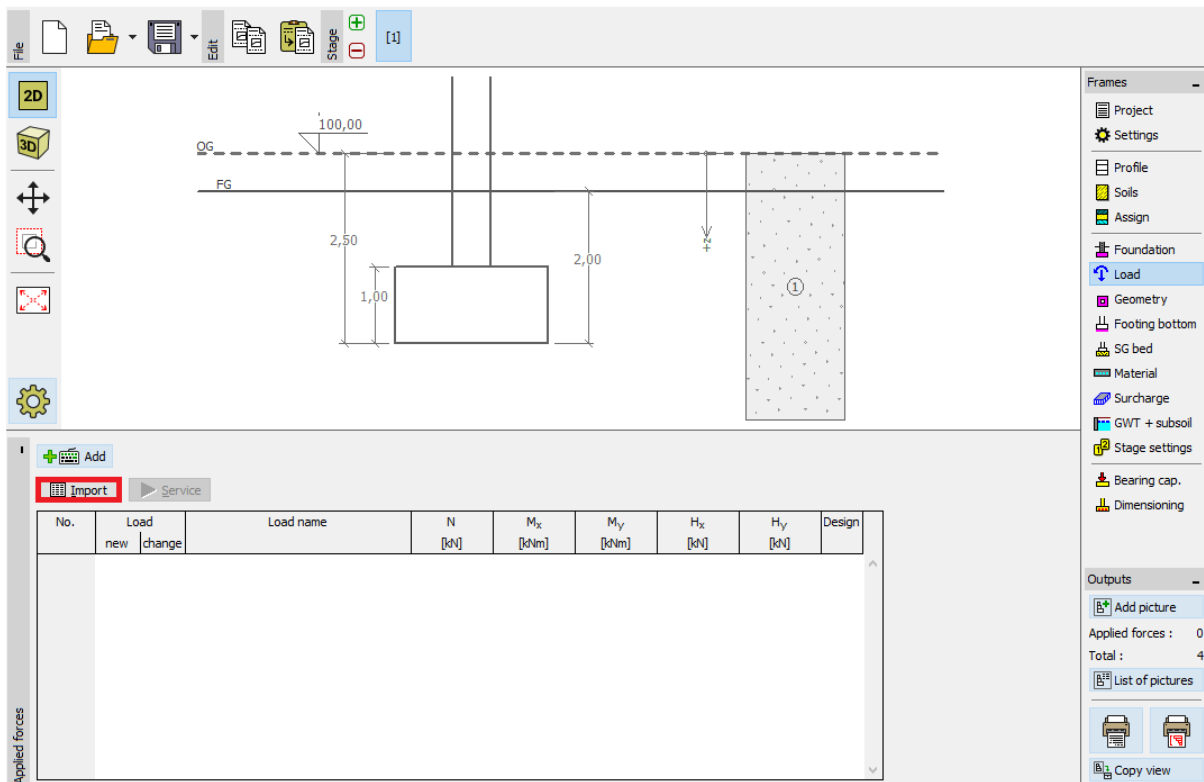
"Import of load" dialog window

After opening the file, the text data are previewed directly in the import dialog window.

The program usually automatically detects the appropriate column distribution in the input file. In case it does not correct the distribution automatically, the user can specify the type of delimiters manually.

Input file preview in the "Import of load" dialog window

We can open additional settings for the imported file by pressing the "Next" button.

In the upper part (2) of the dialog window the input file is previewed without any modifications. Parameters for splitting the columns to the correct layout are set in the middle part (3). The input file in the new correct layout is shown at the bottom (4)

"Import of load" dialog window– splitting the input file into columns

Modifications:

In the middle part we made an additional reading data setting.

We skipped the upper lines with general information about the file and set the header of all the entered data.

By clicking the "Next" button a new window with three parts is displayed. In the upper part (4), the input file divided into columns is shown. The setting of data in each column is performed in the middle part (5) and in the bottom (6) part the result of the import is previewed.

"Import of load" dialog window – assigning the columns to imported data

Modifications:

Firstly, in the middle section, we assigned each column from the text file to the correct component of the acting load. That way we achieved the right order of imported data

The next important thing was selecting of the units for all columns (kN -> N, kNm -> Nm). The units were selected according to the units in original file. Program will convert them to the units used in the program automatically.

The last modification was changing the sign convention in the vertical force column. We changed the data format to *-1,00E+00*.

![GEO5 logo]

The "H" column determines if the imported load acts as the design. In our example, value "1" means YES and value "0" means NO. This information can be set after clicking on the "Assignment" button in the middle part of the window.

"Import of load" dialog window – splitting the input file into columns

This was the last step of the txt data import. We accept all settings by pressing the "OK" button and preview the result of the import in the "Load" frame.
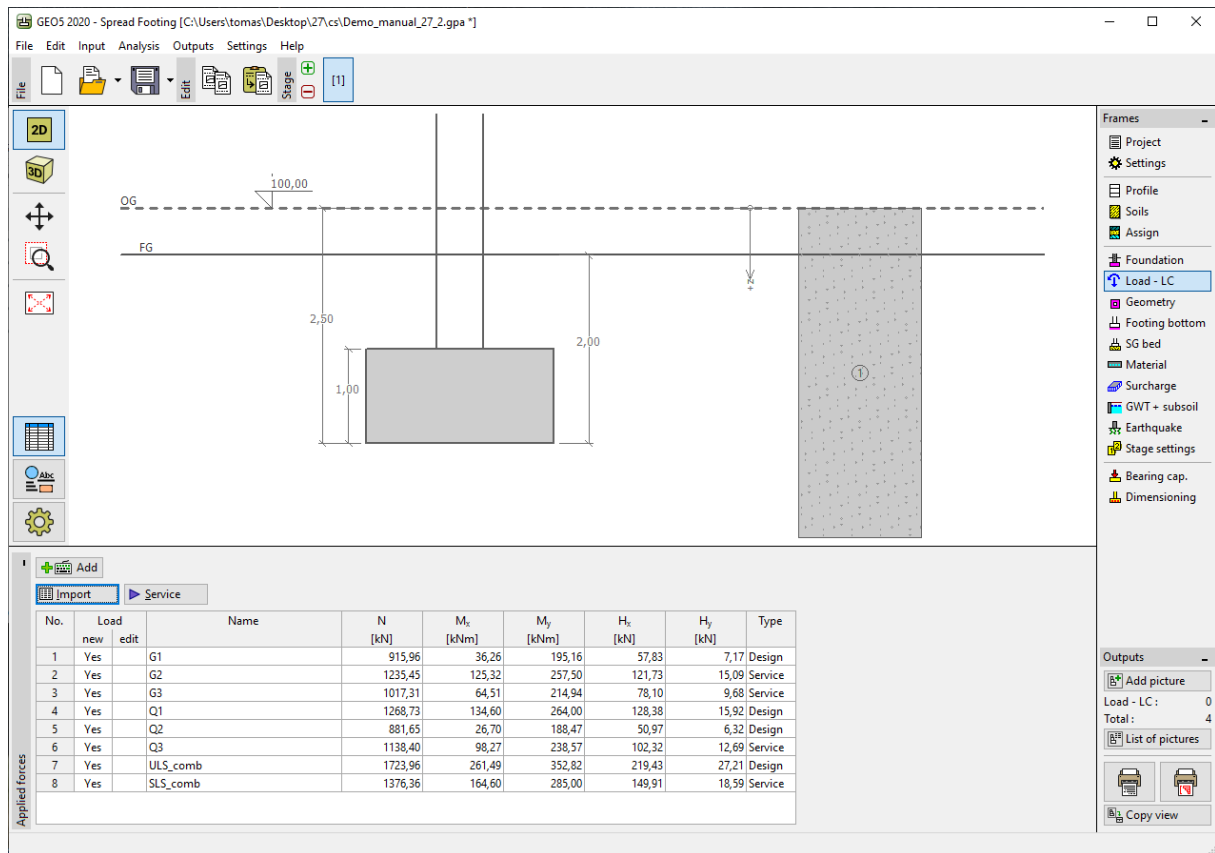
Frame "Load" – result of the import

We can see that the import was successful. All components of the acting load were transferred to the program *GEO5 Spread Footing*.

Re-import

In the case that we import table data more frequently, we will appreciate the automatization of the whole process. All our modifications are repeated automatically when importing again. The user does not have to set anything further. To show this function, we will import a file named Demo_import_re.txt. This file is in the same format as the file Demo_import.txt, which was already imported above.

We choose the "Import" option again. The whole process of setting the import will be left unchanged up until the last dialog window, which looks as follows:

Import of load — □ ✕

Help

- *part No. (4): see the input file split into columns*
- *part No. (5): modify the assignment to columns that data will be transmitted to, and enter the multiplier, unit and other parameters*
- *part No. (6): see the data that will be passed to the program*

(4) Input file split into columns

A	B	C	D	E	F	G	H
(123)	(ABCDEFG)	(123)	(123,45)	(123,45)	(123,45)	(123,45)	(123)
support [-]	loading state [-]	Mx [Nm]	My [Nm]	N [N]	Hx [N]	Hy [N]	type [-]
2	W1	24512	186939,4	-873808,425	49399,685	6125,56094	1
2	W2	113269	249069,3	-1192224,163	113082,8325	14022,27123	1
2	W3	62151	213286,7	-1008838,338	76405,6675	9474,30277	1

(5) Assign columns to imported data

Name	Vertical force	Bending moment		Horizontal force		Design
	N [kN]	Mx [kNm]	My [kNm]	Hx [kN]	Hy [kN]	
B: loading state [-] ▼	E: N [N] ▼	C: Mx [Nm] ▼	D: My [Nm] ▼	F: Hx [N] ▼	G: Hy [N] ▼	H: type [-] ▼
	-1,000E+00	1,000E+00	1,000E+00	1,000E+00	1,000E+00	Assignment
	N ▼	Nm ▼	Nm ▼	N ▼	N ▼	

(6) Result of import preview

Name	Vertical force	Bending moment		Horizontal force		Design
	N [kN]	Mx [kNm]	My [kNm]	Hx [kN]	Hy [kN]	
W1	873,81	24,51	186,94	49,40	6,13	Yes
W2	1192,22	113,27	249,07	113,08	14,02	Yes
W3	1008,84	62,15	213,29	76,41	9,47	Yes
Q1	1232,04	124,37	256,84	121,05	15,01	Yes
Q2	857,14	19,87	183,69	46,07	5,71	Yes
G1	1098,75	87,21	230,83	94,39	11,70	No
ULS_comb	1580,42	221,48	324,82	190,72	23,65	Yes
SLS_comb	1310,48	146,23	272,14	136,73	16,95	No

⟵ Previous ✓ OK ✗ Cancel

"Import of load" dialog window – assigning the columns to imported data

We can see, that the program remembered all the settings that we made during the previous import of data (order of columns, change of units and change of the vertical force sign convention).

After confirming by pressing the "OK" button we see the successfully imported data in the table of acting loads.

The "Load - LC" frame – result of re-importing

Conclusion

Importing table data to the GEO5 programs is unique in its versatility. The user can select in detail which data and in what format he wishes to import.

Another important advantage of the whole process is automatization. In case the user imports data in a specific format repeatedly, the program will remember this process and next time everything will be set automatically.

Note: The process of importing table data is also explained in the program help (F1 or online: http://www.fine.cz/napoveda/geo5/en/table-data-import-01/*)*