

### Version 18.0

Build	Module	Description	ID
17.07.18	User interface	The type could not be changed for imported accidental column load combinations.	12779
08.06.18	Design	Sometimes a utilization of 2.0 for the 1st core width was issued although the offset was 0m.	12561
20.04.18	General	The program terminated when opening a file, if the option "Project directory as default memory location" was not selected.	12505
13.04.18	Analyses	A third attribute was established for the control of the core width analysis. There is now the choice between "permanent", "non-permanent" and "auto". This ensures, that all cases of the combination of first and second core width are correctly generated and displayed.	8780
13.04.18	General	An existing position name is now suggested as file name when using "Save as".	9461
13.04.18	Input	A warning is now displayed before the calculation, if a load case is not contained in any design combination.	9450
13.04.18	Output document	In the sleeve design a note is now issued, if the required column embedment depth is greater than the existing.	12007
13.04.18	User interface	The display of some components in the graphical user-interface has been adjusted, in order to consider the specified scaling in the display settings of the operating system.	12366
13.04.18	User interface	The pre-installed examples can now be opened directly via the new function "Open examples" in the ribbon menu (Area A).	12002
13.04.18	User interface	The project file and the corresponding *.res folder can be archived as *.zip file via the new function "Archive project" in the ribbon menu (Area A).	11998
13.04.18	User interface	Modifications in the color settings can now also be saved as default.	11983
13.04.18	User interface	The current objects of the clipboard are now listed in the context menu functions, which serve the clipboard functions "cut / copy / paste".	11665
13.04.18	User interface	The dialog for the selection, which analyses are to be considered in the automatic dimensioning, can now also be opened in the property window.	11476
13.04.18	User interface	The property window with the project information is now always visible.	9478
13.04.18	User interface	The settings for the reinforcement distribution are now made in the property window and no longer via "Calculation options" in the ribbon bar.	9454
13.04.18	User interface	Only accidental combination types are now selectable for imported accidental combinations.	8992
13.04.18	User interface	The settings for the visibility of the individual branches in the property grid are now being saved.	8850
13.04.18	Calculation	The minimum widths were sometimes not met correctly in the dimensioning.	11429
13.04.18	Output document	The correct name "ey" has been introduced in the table of the analysis of the position of the zero line.	12287
13.04.18	Output document	In the summary of calculation of the dead load sum for the substitute area loads the unit has been corrected to [kN/m <sup>2</sup> ].	11963
13.04.18	Output document	The numbering of the polygon points in the graphic of the soil pressures in the vertices did not correspond with the input.	11421
13.04.18	Output document	The unit of the cohesion has been corrected and the unit for tan(delta) has been removed.	11356
13.04.18	Output document	Very wide columns were displayed too high in the system graph.	9004
13.04.18	Output document	User-defined load cases, which do not contain a Pz force, were not issued.	8684
13.04.18	User interface	Not only the content of the cell, but also the corresponding objects were deleted when deleting a selected cell.	11978
13.04.18	User interface	No loads were generated after a load import, if only dHyII or dHxII existed.	10128

# Release Notes

## FUNDA



Build	Module	Description	ID
13.04.18	User interface	The grid could not be switched invisible again.	9924
13.04.18	User interface	In the input of the existing reinforcement there is now the possibility to enter, for instance, "4d20" for 4 bars with a diameter of 20 mm.	8748

### Version 17.0

Build	Module	Description	ID
06.11.17	Design	Correct values for the lap length of the vertical reinforcement are required for the strut and tie model of the sleeve design. For this, the reinforcement diameter of the specification has to match the $e_{s,As}$ of column and sleeve. If insufficient specifications exist, $e_{s,As}$ is set as $req.A_{s,As}$ , however, at least to the $A_{s,As}$ which results from 2 bars of the specified diameter. Additionally, the specifications for the moderate/good bond, as well as for the increase of the bond stress due to lateral pressure, should be set correctly.	12006
20.09.17	User interface	The table "Loads" has been extended for version 17, so that difference values for the 2nd order theory can additionally be defined for all loads if necessary. With this the setting in the property window, whether a load is only from 2nd order theory, becomes redundant and has been removed.	10810
20.09.17	Load transfer	In the automatic update of the import of support stress resultants from BEST (*.bif interface) it could happen, that manually entered load case combinations were deleted.	11452
20.09.17	Output document	A misleading text was issued for imported loads in the table of the load cases under "Action type".	11453
20.09.17	Output document	Does the first core width not have to be proven, then it is also no longer issued.	11150
20.09.17	Output document	The base resistance according to the tables in DIN 1054-1 were not correctly documented.	11022
08.05.17	Design	In the upgrading of the block foundation for smooth formwork it has been forgotten to also reduce the slab width for the punching analysis in the final state.	11357
08.05.17	Design	The reinforcing steel strength of the column instead of the foundation was applied for the sleeve reinforcement.	11348
12.04.17	Output document	The decisive resultant is calculated separately for the x- and y-direction plus as combination of both directions in the calculation of the utilization levels for the 1st core width. For polygonal foundations the utilization level is then calculated via the relative position of this resultant to the graphically determined 1st core width.	11249
12.04.17	Output document	In the dimensions of the geometry of a block foundation, sometimes the geometrical values of a sleeve were issued.	11166
01.02.17	Calculation	Were no combinations for the safety against displacement imported and the values for $\gamma_{stb}$ and $\gamma_{dstb}$ not adjusted, then a relevant tip is now displayed before the calculation.	9067
01.02.17	Input	For the simple assignment of, for instance, permanent additional loads it is now possible, to activate the load case for all combinations at once.	10346
17.01.17	General	There were modifications made in the base package (e.g. in RTreport), which influence this program. For this, please read the release notes of RTbase.	10798
17.01.17	Design	The modified coefficients of the ÖNorm issue 2011 were included in the punching analysis. A punching reinforcement of the first two reinforcement layers is being increased by 60%.	10804
17.01.17	User interface	The columns $\delta_{HxII}$ , $\delta_{HyII}$ and $\delta_{PzII}$ have been added to the table "Loads". Moreover, no additional loads are generated during the column load import when there are differences in $P_z$ , but the $\delta_{Pz}$ is being calculated. Furthermore, $\delta_{Pz}$ is being considered in the earth static analysis according to 2nd order theory and in the design.	10287

### Version 16.0

Build	Module	Description	ID
15.12.16	General	On computers with high-resolution screens (4K resolution) and preset scaling of the fonts the program could not be started.	10579
12.07.16	Output document	The graphs for the required reinforcement and the gapping joint are now also issued by default in the short list.	9922
12.07.16	Output document	Instead of a constant increase of both reinforcement directions now the automatic increase of reinforcement to avoid punching reinforcement is carried out separately corresponding to the required bending reinforcement for each direction, which equates better to biaxial punching.	9885
12.07.16	User interface	The drop-down lists of the reinforcement diameter available for the sleeve reinforcement are filled according to the selected standard.	9696
12.07.16	Analyses	In the result list the information was missing for polygonal foundations, that the analyses are carried out simplified with a substitute rectangle. Furthermore, R3 and the substitute rectangle and the second core width are now issued in the graph "gapping joint".	9858
12.07.16	Calculation	The horizontal and moment parts in x/y direction were not considered correctly for polygonal foundations.	9907
05.04.16	Design	The arrangement of the reinforcement additions due to punching has been corrected.	9738
05.04.16	Design	The factor for the suggested embedment depth has been adjusted to the standard in the legend of the sleeve design.	9697
05.04.16	General	Blanks in the project path are considered correctly, when generating a reinforcement drawing by transferring the ZAC macro to the CAD editor.	9717
12.01.16	General	Program modifications for the <b>compatibility with Windows 10</b> .	9521
12.01.16	General	Generating a reinforcement drawing by exporting the ZAC macro to the CAD program is now carried out with RTviewer by default. The program ZACview is hereby replaced. With an existing installation of ZEICON (from version 15) this CAD system is started automatically.	9457
12.01.16	Output document	The graphs in the result list are dimensioned in cm, if the relevant dimension is less than 1m. Are there fractions of cm present in the measure, then the mm value is raised.	9355
12.01.16	Output document	The unit of vRd,c for the punching analysis has been adjusted to [MN/m <sup>2</sup> ] in the result list.	9465
12.01.16	Output document	In cases, in which no action has been defined for the safety against displacement, the text <i>not carried out</i> in the line <i>Safety against displacement</i> is issued in the analysis summary.	9051
12.01.16	User interface	The names of the entries in the project properties have been unified for BALKEN, BEST and FUNDA.	9466
12.01.16	User interface	The reinforcement distance between column and sleeve could be user-defined in the property window for a sleeve as well as for a block foundation. Since this value is only considered for the block foundation, the input for the sleeve foundation has been removed.	9163
12.01.16	User interface	The input of an existing column reinforcement is possible for the analysis of the anchorage between sleeve and column reinforcement. The input value is considered per side in the particular direction (and not as sum).	9106

### Version 15.0

Build	Module	Description	ID
25.11.15	Calculation	A minimum reinforcement for inner columns as suggested in the German standards DIN 1045:2008 and DIN EN 1992-1-1/NA can be calculated optionally. The distribution of a possibly required reinforcement is made onto $0,3 \cdot$ foundation width according to DIN 1045:2008 and onto the width of the critical circumference according to the comments for the DIN EN 1992-1-1/NA (Heft 600 DAfStb).	9503
11.11.15	Design	The longitudinal bottom reinforcement is optionally also calculated for the minimum moments in the column area (inner columns acc. to DIN EN 1992-1-1 table 6.1.1).	9193
11.11.15	Calculation	Since the import of column loads had been limited to 200 lines, the information of the second order theory possibly was not imported when many load cases existed (over 50).	9381
11.11.15	Input	For an automatic increase of the longitudinal reinforcement in the punching analysis, a separate increase for VRdmax and VRdc is carried out in cases where the admissible maximum longitudinal reinforcement ratio allows an increase to fulfill VRdmax, but not a prevention of punching reinforcement.	9304
06.06.15	Output document	Now also the decisive load case combinations are specified, which result from the reinforced concrete design.	9002
06.06.15	Output document	The negative design moments were sometimes issued as 0.0 in the result list.	9001
06.06.15	Output document	The sleeve geometry is now also issued at the beginning of the result list when the sleeve design is deactivated.	8959
06.06.15	Calculation	Were the safety factors (e.g. psi0) modified in version 14.0, they were wrongly reset in version 15.0 to the standard values.	9032
06.06.15	Evaluation	Load case combinations with impact loads are only considered in the sleeve design again.	8998
06.06.15	Evaluation	If a reinforcement ratio (e.g. rho = 2%) has been specified and calculated for the punching analysis, then still the previously specified reinforcement ratio was issued as required reinforcement for punching when changing the setting to "from bending design".	8989
06.06.15	Evaluation	When generating a new load case combination all imported column load cases were enabled. Now, only one imported load case is being enabled.	8986
06.06.15	Evaluation	Imported column loads were not automatically considered in the analysis of the safety against displacement. Did safety against displacement combinations exist, however, then these were considered. Now, the analysis of the safety against displacement is carried out for all combinations, if no safety against displacement combination is imported. Does a safety against displacement combination exist, then only this combination is selected for the consideration.	8966
06.06.15	Input	The program start via "right-click -> New -> RIBTEC input position -> Funda" malfunctioned.	9048
06.06.15	Output document	Was the analysis of the safety against displacement to be considered and yet disabled in all load case combination, then still the legend and the text "Analysis not required" were issued.	9026
06.06.15	Output document	The same value for My,d in vertical and horizontal reinforcement direction has been issued in the sleeve design.	9025
06.06.15	Output document	If it was selected in the calculation options, that the soil pressure analysis should be carried out according to 1st order theory, then the heading in the result list was still labeled as "2nd order theory".	9022
06.06.15	Output document	Pres,c instead of Pres,d was issued wrongly in the base pressure analysis. Now, both values are issued again.	9013
06.06.15	Output document	The part of the soil in the column area, which is not being considered, was missing in table "Dead load sum LC 0" - the calculation was correct however.	9006
06.06.15	Output document	The increase factor for an eccentric loading was not recorded in the result list, even if the consideration of the increase factor had been selected in the calculation options.	8999

Build	Module	Description	ID
20.04.15	Evaluation	If no reinforcement becomes necessary in x or y direction for a bell-shaped reinforcement distribution, the result graph was generated incorrectly and the result list was displayed incompletely.	8906
20.04.15	Input	The Hx/Hy/Mx/My components from the record type "LAST" were transferred incorrectly when importing old *.fuv files. They were mistakenly identified as Pz forces.	8927
20.04.15	Input	The core width for imported load cases is now "non-permanent" by default.	8921
20.04.15	Output document	Even if the bond condition "moderate" has been entered in the program, still "Bond condition good" was issued in the printout.	8952
20.04.15	Output document	The drawings of the top and bottom reinforcement are now only generated for rectangular foundations.	7707
18.03.15	Analyses	The attribute "permanent load" or "live load" can be assigned to each design combination for the control of the core width analysis. Is the attribute "permanent load" selected, the analyses of the first <b>and</b> second core width are carried out by default. Since the ratio of the permanent loads and live loads is not known for the column load import, the analysis of the first and second core width are carried out under full load in this case. Is the attribute "live load" selected, <b>only</b> the analysis of the second core width for the total load is carried out by default. The analyses of the first core width are disabled in this case, which is clarified by the output **** in the list.	8872
18.03.15	Analyses	The selective consideration of design combinations is now possible in the optimization.	6931
18.03.15	Calculation	Only those analyses which have been selected in the options are being considered in the optimization and calculation of the earth statical analysis. This selection has no influence on the design.	8664
18.03.15	Design	An increase of the bond stress fbd by 50 % can now be selected in the property window via "Sleeve foundation -> Sleeve foundation properties -> Design options", whereupon it is selected by default.	8849
18.03.15	Design	Permanent and accidental combination can now jointly be calculated, evaluated and issued.	8071
18.03.15	Input	Multiple load cases within one live load category are now treated separately during the generation of the combinations.	8462
18.03.15	Input	Permanent load cases are always preselected now for new design combinations.	7946
18.03.15	Input	Now, all load cases and load case combinations from the permanent and accidental situation are being displayed.	7071
18.03.15	Output document	The output of the result list is made with RTreport from now on. The hitherto existing output via RTconfig or RTprint is no longer possible. Several filter and control options are available in RTreport, in order to organize the list output as individual as possible. The output can be made either via a predefined standard list or via a predefined short list. The result display can be adjusted individually for each type of list. The individually specified result lists can be saved as style sheet.	8873
18.03.15	Output document	The safety coefficients are now generally issued for the safety against displacement.	8250
18.03.15	Output document	Now, the dimensions from the outer edges of the column to the foundation edge are issued in the system drawing for eccentrically placed columns.	8043
18.03.15	Output document	The reinforcement is now also graphically issued for the top reinforcement layer, if a top reinforcement should be required.	7295
18.03.15	Output document	The dimension lines for the total widths of a sleeve have been added.	7053
18.03.15	Output document	A possibly required increase of the longitudinal reinforcement is now emphasized colored in the reinforcement distribution drawing.	6932
18.03.15	Output document	The decisive analysis is now issued for the automatic dimensioning.	6916
18.03.15	Output document	The dead load is now issued separately for slab, sleeve / base and soil.	6874
18.03.15	Output document	There is now a drawing with labeling of the points for the soil pressure in the vertices.	6862

Build	Module	Description	ID
18.03.15	User interface	The moment and horizontal proportions of a column load are now labeled with the algebraic sign in the plan view.	8769
18.03.15	User interface	In the tab "Earth statical analysis" the combinations are shown greyed out, which have been deactivated in the dialog "Consideration" in the tab "Design combinations".	8665
18.03.15	User interface	Are safety against displacement combinations imported from BEST or HOST, then they are automatically considered only in the safety against displacement analysis now. The safety against displacement analysis is automatically switched off after the import for all other imported combinations.	8591
18.03.15	User interface	If something had been entered under <u>Task and/or Position and/or Project(short)</u> in the <u>property window</u> and afterwards a new file has been opened without any entry, the previous entries still existed.	8232
18.03.15	User interface	The earth statical analyses had sometimes different names in the dimensioning / options / tabular dialog.	8069
18.03.15	User interface	Horizontal loads were displayed on the upper edge of the foundation and not at the upper edge of the sleeve in the graphical user interface.	7998
18.03.15	User interface	Design sections are no longer automatically renumbered with each modification, but keep their original number. An idle number is searched for and used when generating new design sections. Furthermore, it is no longer checked whether the section already exists, so that several sections can be placed at the same position. Now, the design sections can be edited via a table.	7828
18.03.15	User interface	Now, the partial safety factors gamma.stb and gamma.dstb can be edited at once for all load cases in the tab "Load cases".	7826
18.03.15	User interface	Load cases can now be inserted between existing load cases for column load imports.	7824
18.03.15	User interface	The direction of action of column loads is now issued depending on the algebraic sign in the appropriate direction.	6972
18.03.15	User interface	Selected load cases can now be deleted with the <Del> key in the table. In order to use the mouse as little as possible during the input in the table, a new line or a new load case can be generated via <Ctrl>+<L>.	6970
18.03.15	Calculation	The psi-coefficients are now considered in the analysis of the safety against displacement.	8265
18.03.15	Design	An increase of the bond coefficient fbd by 50 % due to lateral pressure is now only carried out for an interior sleeve. Although this would be also permitted in general according to Heft 600 DAfStb, it is temporarily waived for exterior sleeves in accordance with "Beispiele zur Bemessung" of the DBV.	8848
18.03.15	Design	Corrections have been made tentatively for the punching analysis of a foundation with a large opening. However, there are no calculation methods for this so far!	8644
18.03.15	General	The help text in the property window has been improved for additional moments.	8507
18.03.15	Output document	Sometimes incomprehensible error messages popped up if no design sections have been defined.	8204
18.03.15	Output document	In the graphical output of the system of block and sleeve foundations, the joint was considered incorrectly for the embedment depth of the column.	7720
18.03.15	Output document	The selection in the item 'Earth statical analysis' in the dialog "Calculation options" in the tab "Calculation / output" has been adjusted to the content of the item "Consider second order theory".	7716
18.03.15	Output document	Now also individual analysis, e.g. the sleeve design, can be issued by selection of the results.	7254
18.03.15	User interface	The automatic update of bif-files did not work reliably for several different imports and multiple changes in the bif-file.	8838

Build	Module	Description	ID
18.03.15	User interface	No new combinations were generated when importing column loads and afterwards replacing existing load cases. Now, there is the query "Do you want to remove the existing load cases and generate new ones as a result of the import?"	8837
18.03.15	User interface	If a load or length value was modified in the loading table by only marking and editing one digit of the number (e.g. from 233kN to 433kN), then this value was either zeroized or a considerably small number resulted from this.	8623
18.03.15	User interface	The shortcuts Ctrl-c, Ctrl-v, Ctrl-x malfunctioned when the focus was on a table.	7849
18.03.15	User interface	When importing column loads and overwriting the imported load cases with new load cases, the column "Origin/Leading action" was not updated.	7829
18.03.15	User interface	In the tab "Settings" under "Options -> program settings", program paths could not be entered directly or be copied from the clipboard.	7713
18.03.15	ZAC-transfer	"Outside:" instead of "Corner area" was displayed in the dialog "Sleeve foundation reinforcement, sleeve".	8552



### Version 14.0

Build	Module	Description	ID
17.02.15	Calculation	If the water level was exactly at the height of the earth covering, the weight of the soil was applied without buoyancy and therefore the ground failure analysis was wrong.	8754
17.02.15	Design	The inclination of the punching cone has a lower bound of 45° according to DIN 1045:2008. For high foundations with an inadequate base area the analysis is generally not reasonable. This case is now proven approximatively with reduced critical section length and area by the program.	8655
17.02.15	ZAC-transfer	<b>Sleeve reinforcement for ZAC output</b> The horizontal reinforcement is now transferred separately for top and bottom to ZAC, whereat the top reinforcement is distributed over 1/3 of the height and the bottom reinforcement over 2/3 of the height. The input dialog for the vertical reinforcement has also been corrected for some input fields. The required vertical reinforcement is each arranged in the corners of the sleeve - the reinforcement of the inner areas is non-structural.	8218
08.10.14	Output document	Files, which had no content, were generated for result graphics. This caused program terminations on some systems.	8439
18.09.14	User interface	A detailed help about the handling of imported column loads is now available in the tab "Load cases".	8381
16.07.14	Design	The existing column reinforcement should always be specified for a sleeve design according to Schlaich/Schäfer in order to receive a favorable ratio $A_{s,req} / A_{s,exis}$ for the lap length of the column reinforcement. The lap length also influences the calculated horizontal sleeve reinforcement via the inclination of the strut. Although the column reinforcement should be known, but the user makes no input of it, the foundation program determines a required column reinforcement itself. This additional design has been carried out separately for each load case combination. Now the program has been changed in a way, that a column design is performed in advance for all combinations, whereby more favorable values for the lap length result from the maximum value of the column reinforcement. Since the column reinforcement is usually known, it would be advisable to enter this value.	8225
30.06.14	Design	For automatically generated design sections at the outer foundation-column joint, now "Bending design" (without shear design) is preset.	8070
30.06.14	Evaluation	Now the sections outside the sleeve section are generated automatically for the sleeve foundation.	7722
30.06.14	Input	The safety factors can now be changed at once in the window "Design combinations".	7255
30.06.14	Design	The recommended and required embedment depth of the column in a sleeve foundation is now always calculated from the largest column dimension.	8160
30.06.14	Design	If no punching analysis is possible, e.g. due to a non-sufficient strut, this is noted in the protocol.	8021
30.06.14	Design	The dimensioning of sleeve foundations was not carried out with the specified increment, but used the possibly not suitable sleeve width as start value, so that no rounded width or height was determined for an increment of e.g. $y = 0.1$ m.	6984
30.06.14	Evaluation	The first core width has not been calculated from the sum of 'first core width x' + 'first core width y' in the dimensioning, but only the individual values were considered. Therefore it may have happened, that the dimensions were too small.	8141
30.06.14	Evaluation	The load position is differentiated between the punching analysis and the sleeve design. For the punching analysis individual loads and load proportions from line loads and area loads that are within the base are considered; for the sleeve design only those within the column dimensions.	8022
30.06.14	Interface	The $A_s$ -values of the x- and y-direction were interchanged when transferring the longitudinal reinforcement to ZACview. A reinforcement distribution of the longitudinal reinforcement according to Heft 240 DAfStb is now performed separately for the x and y direction.	7604

Build	Module	Description	ID
30.06.14	Output document	Although the base design was deselected in the calculation options, the sleeve design was issued.	8016
30.06.14	Output document	The units of the forces were partially missing in the section of the base failure analysis in the result list.	7906
30.06.14	Output document	The maximum utilization was not highlighted anymore when exceeding the earth statical analyses in the result list.	7805
30.06.14	User interface	The foundation dimensions can be edited again in the graphic by clicking the dimension value and turning the wheel on the mouse.	8150
30.06.14	User interface	For the standards other than DIN EN such as EN, CSN EN ... the wrong value of gamma.c (1,3 instead of 1,2) for the accidental combination has been displayed in the dialog "Partial safety factors".	8013
30.06.14	User interface	By default, only the bending design is considered for sections at the face of the column. The order of the section numbering has been changed and now runs from the face of the column to the outside.	7822
30.06.14	User interface	When clicking onto a design combination in the tree view, the focus always went to the headline "Design combination".	7654
24.04.14	Output document	Is the ductility reinforcement decisive, this is highlighted in the printout.	7883
24.04.14	User interface	The columns of the design combination table are now smaller.	7823
24.04.14	Calculation	The design according to CSN EN 1992-1-1 was not performed since the Build 20032014, if the minimum surface reinforcement was to be calculated.	7856
24.04.14	Design	Revision of the column design for the sleeve connection in the case of biaxial loading and non-square cross-section.	7991
24.04.14	Evaluation	Load moments from impact must only be considered in the accidental situation in the sleeve design.	7905
24.04.14	Evaluation	<b>Column load import</b> If the view had been dragged down, the view always went back to the top. I.e., after every click, the view had to be dragged down again.	7800
24.04.14	Evaluation	<b>Table "Design combinations"</b> If a selection of load cases in the last columns of the design combinations table was desired, the table always returned to the default position.	7799
24.04.14	Output document	For a reinforcement distribution according to Heft 240 and selected ductility reinforcement at the same time, the maximum value from the evenly distributed ductility reinforcement and the statically required reinforcement according to Heft 240 is issued per reinforcement strip.	7923
24.04.14	Output document	The labeling "alfa.d" has been replaced by "alfa.CC".	7881
24.04.14	Output document	The y-direction in the result drawing "reinforcement" has been dimensioned incorrectly.	7880
24.04.14	User interface	The file name in the title bar was not updated after opening a new file.	7889
24.04.14	User interface	The function "Save as..." deleted everything which appeared after a dot in the project name.	7879
12.03.14	Output document	If the longitudinal reinforcement from the punching analysis is being increased, an allusion to the laying area and a graphical reinforcement suggestion are carried out.	7692
12.03.14	Design	For both-sided supernatant line loads, not only the supernatant but the entire line load has been ignored.	7666
12.03.14	Input	User-defined combination coefficients modified in the dialog "Combination coefficients" are now also saved in the *.rfun file and not only in the resource directory (*.res), so that copying of the file into a different directory works.	7832
27.02.14	Output document	The result list in RtConfig or RtPrint is no longer closed automatically for a recalculation. This enables an easier check of the results with modified input parameters.	7670
27.02.14	User interface	The function "Assignment" in the tab "Earth statical analysis" has been removed.	7700

Build	Module	Description	ID
27.02.14	User interface	"Save", "Save as" and "Save as template" is no longer possible in the trial version.	7652
27.02.14	Calculation	The utilization levels for the 1. core dimension in x and y direction (1.Cd.x and 1.Cd.y) are now added for rectangular foundations and for strip foundations. There is an additional column "1. core dimension" in the tab "Earth statical analysis". The position of the R1 was incorrect in the graphic.	7694
27.02.14	Calculation	If the admissible base resistance is to be determined according to DIN 1045 and the requirements for it are not met, this is pointed out with a message. There is also an entry in the error protocol, if the option "include in test printout" is activated.	7644
27.02.14	General	If a valid FUNDA license is not available, there is a note at the start of the program and the trial version starts by request.	7600
27.02.14	Input	User-defined combination coefficients modified in the dialog "Combination coefficients" have not been saved.	7746
27.02.14	Output document	The labeling "characteristic" was replaced by "gamma-fold" in the printout of the safety against displacement.	7618
27.02.14	User interface	When replacing existing load cases, which were not generated thru the *.bif file with which is currently being updated or imported anew, the load cases were added instead of replaced.	7736
27.02.14	User interface	Load case combinations with the index 12 and 22 (for safety against displacement) were misinterpreted during the column load import (.bif file).	7729
27.02.14	User interface	The name "Test printout" has been renamed to "detailed calculation protocol".	7717
27.02.14	User interface	The entries from the two option dialogs "Settings Options" and "Calculation Options" were mixed up when repeatedly opening.	7715
27.02.14	User interface	The FUNDA file has been saved without the *.rtfun extension for "save as".	7702
27.02.14	User interface	If the admissible base resistance was determined according to DIN 1054 and an error occurred, wrong values were displayed in the tab "Earth statical analysis".	7701
27.02.14	User interface	A name is no longer created during the automatic generation of design combinations, since this caused confusion when changing the consecutive numbering of the combinations.	7684
27.02.14	User interface	The entry "Column LC" has been renamed to "Column LCC" in the tab "Design combinations" as well as in the result list.	7683
27.02.14	User interface	When copying lines in the load table the labeling was not transferred.	7635
24.01.14	Design	<b>Sleeve design</b> For smooth formwork an embedment depth of 1,2*height of column (1,5*height of column for DIN). For profiled formwork the bond length of the column reinforcement in compression or the lap length of column / sleeve reinforcement in tension is decisive. Heft 600 DAfStb and Bachmann/Steinle/Hahn(BK 2009/1) recommend the embedment length of the smooth formwork also for the profiled formwork. The DBV examples 11 and 12 also specify the minimum embedment depth for profiled formwork with 1,5*h. Now, a recommended and a required embedment depth is issued in the printout. Thereby the column dimension in which a horizontal loading exists is additionally considered.	7375
24.01.14	General	Now, the ductility reinforcement is switched off by default.	7328
24.01.14	Output document	If the safety against displacement is deselected for a certain design combination via "Visibility -> Result list", the safety factors gamma.stb and gamma.dstb are no longer issued in the result list.	7473
24.01.14	User interface	DIN EN is set as default soil engineering standard for new files.	7458
24.01.14	User interface	<b>Tree view</b> "Design sections" and the individual load case branches are now collapsed by default. This makes the tree view significantly clearer at the beginning.	7436

Build	Module	Description	ID
24.01.14	User interface	There is now the possibility in the table "Load cases" to set the column EQU Actions combined or not separately acting for all load cases at once. By default, "acting combined" is used when generating a new load case.	7435
24.01.14	User interface	Existing load cases could not be overwritten for a repeated import of column loads (bif-file) Now, a selecting dialog appears with two options: replace or add.	7382
24.01.14	User interface	Now only the loads which have been changed in an imported load case are updated by "update column load import" All previous settings are hereby retained. This affects: <ol style="list-style-type: none"> <li>1. Design combinations</li> <li>2. Partial safety coefficients</li> <li>3. Design attributes</li> <li>4. Load case attributes</li> </ol>	7381
24.01.14	User interface	Selecting load cases, loads and design combinations in the tree view or in the table is now directly inherited in the other windows. If a load case is selected in the table it is also selected and visible in the tree view.	7374
24.01.14	Calculation	At least one combination is printed for the punching analysis. Furthermore, a message occurs if a punching analysis is not required.	7423
24.01.14	Calculation	The font size of the labeling "zero line" for the "gaping joint" graphic has been enlarged.	7045
24.01.14	Design	If an error occurs during the calculation of the admissible base resistance this is logged after the calculation.	7275
24.01.14	Input	After the import of a .fuv-file, automatic design sections are no longer generated. The import terminated, if there was a section in the *.fuv-file which was identical to an automatically generated section. Load case combinations (Satzart LFKO) had not been considered at all during the import.	7361
24.01.14	Input	The attributes "permanent" and "non-permanent" are now also possible for user-defined design combinations. The selection for these is now in the table and no longer in the property window.	7072
24.01.14	Output document	The maximum degree of utilization, which are issued at the end of the result list, are now only generated from the visible design combinations.	7478
24.01.14	Output document	The result for load case combinations, which were not selected for the list, was issued in the result graphic "gaping joint".	7477
24.01.14	Output document	If analyses according to first order theory were selected via "Calculation -> Options", still the greater utilization from the analyses according to first order theory and second order theory was issued as maximum decisive utilization.	7444
24.01.14	Output document	<b>Result list</b> The utilization of the gaping joint is now also issued.	7296
24.01.14	User interface	When importing several column loads as well as when updating imported load cases, the automatically generated standard design combinations for the already existing imported load cases are no longer generated or duplicated!	7416
24.01.14	User interface	Load case name could not be entered in the table anymore.	7370
24.01.14	User interface	File names with a dot are now possible when using the "Save as..." function.	7230
17.01.14	Design	The minimum embedment depth of the column in sleeve and block foundations is set to 1,5*column dimensions according to the German national annex, to 1,2*c according to other national annexes.	7117

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Build	Module	Description	ID
17.09.13	Analyses	The option "Loads separated in the EQU analysis" or "Loads combined in the EQU analysis" can now be selected for user-defined load cases in the tab "Load cases" of the tabular dialog. Thereby the verification for the safety against displacement can be influenced significantly. With the option "combined" all loads of a load case are treated as if they were depending on each other and therefore receive the same partial safety factor, independent of their moments related to the virtual overturning axis being stabilizing or destabilizing. With the option "separated" all components of a load case are analyzed separately concerning their stabilizing or destabilizing effect and are combined with the corresponding partial safety factors.	7086
17.09.13	Analyses	The allocation of the partial safety factors for the analysis of the safety against displacement has been untransparent for imported load cases. The allocation of the partial safety factors can now be controlled user-defined per load case in the tab "Load cases", by entering numerical values for stabilizing and destabilizing moments. The allocation is also listed in the printout. That way a combination for the safety against displacement, which has already been established for the column design, can be used in FUNDA.	7085
17.09.13	User interface	The dialog for editing load cases in the user interface has been enhanced. The previous tab "Load cases" was split up in the tabs "Loads" and "Load cases". Load case specific settings can be made in the new tab "Load cases", without the load types included in a load case disturbing the display.	7084
17.09.13	Analyses	There were wrong results for the base pressure analysis and the accidental design situation, if there were additional load cases which were only included in the calculation of permanent situations.	7068
17.09.13	Calculation	The formation of design combinations in the accidental design situation has been revised and improved. It is now automatically disabled, that load cases of the permanent design situation are available and being considered in the accidental situation.	7087
17.09.13	Design	Up to now, there was the possibility in FUNDA to add additional user-defined loads to an imported load case combination. For such load cases, however, problems arose in the subsequent design which is why this possibility has been removed again. From now on, imported and user-defined load cases have to be defined in separate load cases.	7083
17.09.13	Evaluation	The calculation options for the consideration of stress resultants according to first order theory or second order theory were not considered in the dimensioning.	7036
17.09.13	Input	When selecting design combinations in the dialog, the relevant entries in the tree view as well as the property window are now being updated.	7073
17.09.13	Output document	In the summarization of the maximum utilizations of the base pressure the calculation option first or second order was not considered, but always the higher utilization was issued.	7076
04.09.13	Output document	The caption for the analysis of the base pressure action effects has been improved.	6715
04.09.13	Analyses	Now, the portion of the live loads can be specified optionally for imported load cases. Then the partial safety factors for the analysis of the safety against displacement are determined from this portion for destabilizing forces as well as for stabilizing forces. Up to now 1.0 was unchangeably preset.	6943
04.09.13	Calculation	If the water level was above, or even with, the UE of the foundation, the permanent loads in load case 0 were calculated incorrectly.	7003
04.09.13	Calculation	The embedment depth of the foundation (earth covering) was not considered in the <b>base failure analysis</b> .	7001
04.09.13	Design	To avoid an abnormal termination, the design of the sleeve for a negative resultant vertical force is now disabled for sleeve foundations.	6967
04.09.13	Output document	It is now journalized whether the calculation was carried out for the permanent or accidental design situation.	6944
04.09.13	Output document	The maximum utilization of the base failure and the sliding resistance were issued, although the analyses were deselected.	6892

Build	Module	Description	ID
04.09.13	Output document	General drawing in the result list: Height of UE soil did not match the sleeve height. It was drawn below the UE of the sleeve.	6867
04.09.13	User interface	dMxII instead of dMyII was displayed in the tree view.	6908
15.07.13	Plot	The graphics in the result list were revised. The output is now in <i>m</i> instead of <i>mm</i> . Furthermore, the colors in the graphical user interface can be specified.	6314
15.07.13	Calculation	In the analysis of the safety against displacement the correct partial safety factor of $\gamma_{dstb} = 1,50$ is now set for the destabilizing moment from variable actions.	6891
15.07.13	User interface	Settings in the tree view are no longer lost with every tick.	6872
15.07.13	User interface	When selecting in the tree view, now only the selected node opens and no longer the entire tree.	6857
04.07.13	User interface	The window size for the selection of the load case combinations can be increased.	6846
04.07.13	Design	The bending design malfunctioned for a reinforcement strain of 25 %.	6806
04.07.13	Input	The column loads were sometimes displayed eccentrically from the column for polygonal foundations.	6852
04.07.13	Output document	Heading of the loading record before the design changed to <i>Loading of the imported column loads</i> .	6826
04.07.13	User interface	The unintended program termination, that could occur when the dimensioning was selected while no design combination existed and then an import was carried out, has been eliminated.	6808
14.06.13	Analyses	Now, Ared.d is also issued in the analysis of the base pressure effects.	6488
14.06.13	Analyses	For the soil pressure and the geotechnical analyses the user can now select in the calculation options, whether the parts from 2nd order theory for the particular analysis should be considered or not. This concerns: <ol style="list-style-type: none"> <li>1. the soil pressures in the vertices</li> <li>2. the position of the resultant and the zero line at a gaping joint</li> <li>3. the kernel widths</li> <li>4. the analysis for the safety against displacement</li> <li>5. the base pressure stress</li> <li>6. the sliding analysis</li> <li>7. the base failure analysis</li> </ol>	5531
14.06.13	Analyses	For the analysis of the safety against displacement according to EN 1997 three analyses are carried out simultaneously now: <ol style="list-style-type: none"> <li>1. the analysis of the safety against overturning relating to a virtual overturning edge</li> <li>2. the analysis of the first kernel width only for permanent loads</li> <li>3. the analysis of the second kernel width for permanent and variable loads</li> </ol>	5526
14.06.13	Calculation	In the compilation of load cases the *.bif-file from where the loads were imported is logged.	6289
14.06.13	Calculation	Extension of the optimization criteria from only soil pressure to ground failure, sliding and kern width utilization.	5542
14.06.13	Calculation core	Fundamental revision of the calculation module.	5525
14.06.13	Design	The admissible design value of the base resistance can now automatically be determined by the program. This is based on the tables in DIN 1054!	6589
14.06.13	Design	For a sleeve foundation with smooth formwork, a transverse reinforcement for $0,25 \cdot H$ is determined in addition to the horizontal reinforcement from the direction of loading and compared to a required transverse reinforcement. This reinforcement is arranged on both sides of the column and issued as sum of both layers. The horizontal force $H$ are hereby determined according to Leonhardt (see manual). In the absence of a sleeve a vertical sleeve reinforcement from $Z_v = 0.082 \cdot H_0$ is determined and is to be arranged at the edges of the sleeve.	6573
14.06.13	Design	According to Heft 600, fbd is increased by 50% in the sleeve foundation design. Alpha for the lap length is set to 1,5 (instead of 1.4/2.0) for EN, except for germany.	6281



Build	Module	Description	ID
14.06.13	Design	Shear design: additional parameters for laying measures cvL,xo cvL,xu cvL,yo cvL,yu. (DIN 1045-1 und DIN EN)	6272
14.06.13	Design	The analysis of the base pressure stresses is carried out now in FUNDA based on design values. For this purpose, the admissible design value of the base resistance has to be specified by the user.	5527
14.06.13	General	Now, the <b>release notes</b> are available in <b>English</b> .	6450
14.06.13	General	Program modifications for the <b>compatibility with Windows 8</b> .	6361
14.06.13	Input	Imported column loads are optionally updated automatically when the column file (*.bif) is changed.	6259
14.06.13	Input	Import of old FUNDA and SEFU files. Former steel BSt 500 caused a termination of the calculation. BSt 500 is now being replaced by B 500 S.	5546
14.06.13	Output document	The soil with its height notation is now generally displayed in the first view.	6714
14.06.13	Output document	Improvement of the output graphics and in the program handling: Changes were made for: <ol style="list-style-type: none"> <li>1. Spacing of the dimension lines from the object</li> <li>2. Font sizes in the graphics</li> <li>3. Lengths of the load arrows</li> <li>4. Presentation of the horizontal loads</li> <li>5. Presentation of the gaping joint in the printout via *.emf - graphics</li> <li>6. Presentation of the reinforcement gradation via *.emf - graphics</li> <li>7. Dimensioning of strip foundations only in one direction</li> <li>8. Editing of objects in the graphical interface</li> <li>9. Automatic adjustment of the column width in the table views</li> <li>10. Output of detailed test printouts for special analyses</li> <li>11. Editing of design sections</li> </ol>	6590
14.06.13	Output document	Abacus customers were missing information about the project/structural member, the position number, the verification related page number as well as the job number in the header of the printout. This information is now issued in the text body of the printout.	6240
14.06.13	Output document	The position of the sections is now displayed in the result list.	6179
14.06.13	User interface	When importing old FUNDA files, now also the *.fuv files are shown.	6739
14.06.13	User interface	Column load import. New function "Update import". The load cases that were imported via a bif file are updated.	6628
14.06.13	User interface	Load cases can now be copied and inserted via the clipboard.	6593
14.06.13	User interface	Now, the user-defined and imported load cases can selectively be listed together or separately in the tree view. Furthermore, a representation of the load cases without loads is possible!	6592
14.06.13	User interface	The functionality "Fix additional load to column" has been added. I.e., if the column is adjusted on the foundation, the already defined additional loads are optionally also adjusted by the same amount.	6591
14.06.13	User interface	For each load case combination, the desired earth statical analysis for the output can be assigned. The same applies for the output of the stress resultants of the particular load case combinations.	6487
14.06.13	User interface	From FUNDA Version 13.0 on, an interactive editing with simultaneously carrying out the geotechnical design in real-time is possible. This supports a fast and easy optimization of the foundation geometry by hand while observing all relevant analyses.	6486
14.06.13	User interface	Load case 0 from dead load of the foundation and weight of the surcharge is now displayed in the object tree.	6484

Build	Module	Description	ID
14.06.13	User interface	The load case numbers have been renumbered automatically up to now. If load cases were imported or deleted, the previous numbering of existing load case numbers often changed. Now, if at the column load import load cases are imported that already exist, the already existing loads are added to the imported load case.	6181
14.06.13	User interface	When load cases are selected in the tree view, the program now automatically ticks "all visible".	5711
14.06.13	User interface	Now the actual file name and not only "FUNDA" is suggested for "Save as".	5709
14.06.13	User interface	There is now the possibility for the column load import to select load cases in a selection dialog and / or to modify imported column loads.	5561
14.06.13	User interface	The dialog for the load case combinations has been revised essentially: <ol style="list-style-type: none"> <li>1. in the automatic combination formation all possible combinations are displayed from which the design combinations can be selected then</li> <li>2. user-defined combinations can be defined arbitrarily by specifying the combination factor</li> <li>3. the design combinations and the therein included load cases are now displayed clearly in a tabular dialog (with display of the associated combination factors)</li> <li>4. the automatic combination formation is disabled for the column load import, but the design combinations in the tabular dialog are displayed likewise</li> </ol>	5530
14.06.13	User interface	Column load import via *.bif files. When importing from .bif files, an internal reference is lodged. If the *.bif file changes (e.g. via BEST) FUNDA automatically asks whether the changes should be transferred.	5529
14.06.13	Calculation	The base failure analysis for circular foundation has been revised and improved.	6594
14.06.13	Design	Punching analysis with a user-defined longitudinal reinforcement ratio has been improved!	6344
14.06.13	Design	The sections were respectively designed for maxM and minM. The smaller lever arm was adapted and printed for this and not the lever arm corresponding to maxAs. For the bending design this was only a mistake in the printout, but for the shear design it unfortunately had a negative influence.	6262
14.06.13	Design	For the analysis of the safety against displacement so far individual load components have been arranged, as it is common in the statical calculation. This arrangement has been removed, so that individual load components of the same load case can now be effective independently stabilizing or destabilizing.	6256
14.06.13	General	The descriptions of the punching analysis in the manual were revised.	6203
14.06.13	Input	Column load import of multiple bif files and concurrent selection of load cases sometimes malfunctioned.	6777
14.06.13	Input	Now, also horizontal loads are displayed.	6479
14.06.13	Output document	Load cases, which are not used in a combination are not listed in the result list any longer.	6537
14.06.13	Output document	A calculation is not possible if no design combinations have been generated.	6499
14.06.13	User interface	In the ZAC settings dialog "Sleeve foundation, reinforcement, sleeve", now the horizontal spacing of the stirrups can be edited.	6758
14.06.13	User interface	In the dialog window "Sleeve foundation, reinforcement, sleeve" in ZAC, mm instead of cm were issued for the horizontal spacing of the stirrups.	6755
14.06.13	User interface	The continuous numbering of the design sections was wrong, if the automatically generated sections were outside the foundation.	6700
14.06.13	User interface	Hx and Hy were swapped when importing SEFU load cases. Furthermore, My had a wrong sign.	6693
14.06.13	User interface	<b>SEFU Import:</b> The signs of the H- and My- Loads were swapped for column loads. The absolute moments according to 2nd order in SEFU are now imported correctly as delta MII into FUNDA.	6682



Build	Module	Description	ID
14.06.13	User interface	A "smooth joint" is no longer selectable for block foundations in order to eliminate misunderstandings.	6637
14.06.13	User interface	.bif-files with extremely long path names sometimes couldn't be imported into FUNDA.	6553
14.06.13	User interface	When clicking a dimension line the corresponding object is marked and its parameters are shown in the property window.	6485
14.06.13	User interface	A dimensioning in x-direction is not possible anymore for strip foundations.	6477
14.06.13	User interface	Copy and paste via the context menu in the object tree when selecting a load case is now possible.	6317
14.06.13	User interface	For the shear design, the strut inclination and the angle of the shear force reinforcement to the member axis were added in the interface.	6271