Product information **RIBTEC Systeme GmbH**

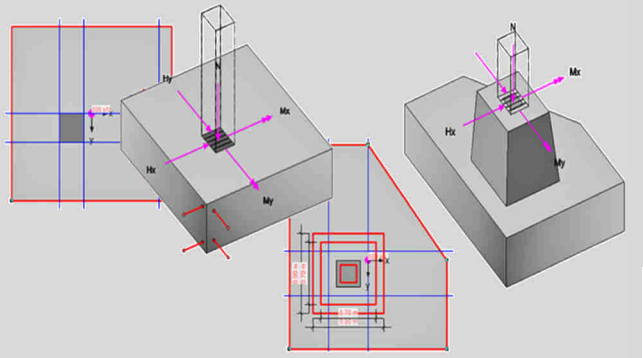
Product information as of 07.2026

FUNDA

FUNDA Basic Module	Reinforced concrete footing
FUNDA Precast	Sleeve and block footing
FUNDA Polygon and circle	Circle and polygon footing

Reinforced concrete footing with options for prefab and polygon footings

- **Superposition and design according to EN (2010-12) for reinforced concrete and foundation engineering with NA for DE, AT, SK/CZ**
- **Design of sleeve and block footings with generation of the reinforcement plan**
- **Punching shear, position, ground fracfailure and slip resistance verification also for polygonal foundations**
- **Bending and shear design on generated or self-selected sections**
- **Verification of settlement according to DIN 4019 for rigid and elastic foundation slabs**
- **Determination of the soil pressures with double eccentricity**
- **Clear program control, configuration and language selection with the use of template technology**



FUNDA performs the verification of reinforced concrete footings as foundation strips, rectangular slabs and optionally as circular or polygonally bounded slabs with a graphic-interactive working environment for input and output. The different foundation geometry can also be combined with block and sleeve connections for the columns. Load combinations from non-linear column calculations can be adopted directly. Automatic dimensioning and manual optimization allow an economical foundation design with all geotechnical verifications.

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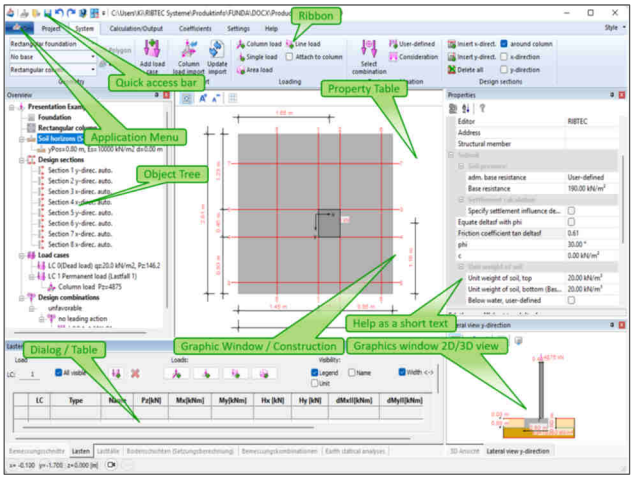
Software solutions for standard applications and demanding engineering tasks

The FUNDA design software calculates and measures reinforced concrete foundations for various tasks in a consistent program environment. All essential verifications from the point of view of reinforced concrete design and soil mechanics are included. A standard-compliant load transfer from the non-linear column program BEST is available.

The available modules allow the corresponding functions to be put together in practice and used in a program solution, depending on the requirements:

- FUNDA: Basic module (strip and rectangular footings)
- FUNDA Precast: Block and sleeve footings option
- FUNDA Polygon: Circular and polygon footings option

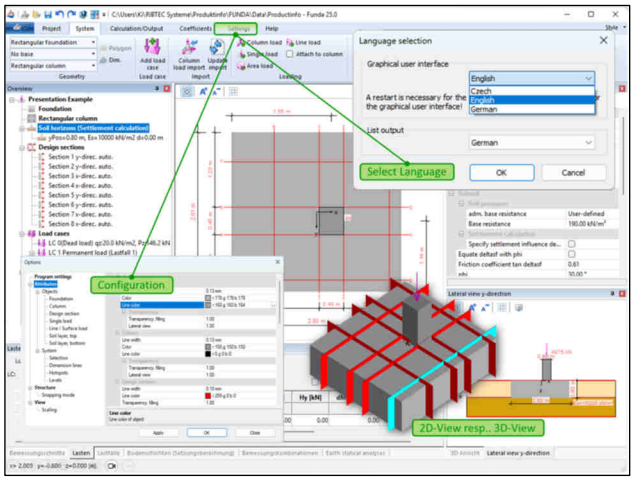


Modern software ergonomics for structural engineers

Most users are familiar with the functionality of the new program environment from the use of modern office solutions. The basic principle of the new interface technology is to reduce confusing functional hierarchies as much as possible and to display as much information as possible directly on the screen.

Product information

This goal is achieved by sensitively relating the displayed information to the object being processed. The program environment thus adapts to the user's actions and displays only the relevant data. The special benefit comes from the fact that various interface components such as the ribbon, object tree or the display in the graphics window interact synergistically with the property tables.



All essential information at a glance

The application is also kept simple for the processing of complex foundations and optimized for efficient use. All component information remains in view at all times and is directly accessible for targeted changes. The following components are used:

Application menu: Central management of program-specific files, templates, and settings. Ribbon: Due to the logical arrangement of the program functions, this component provides more ergonomics and a representation of the typical workflow. Everyday functions are in the foreground and rarely required functions are in the background.

Quick access bar: Individually configurable icon bar for personal favorites.

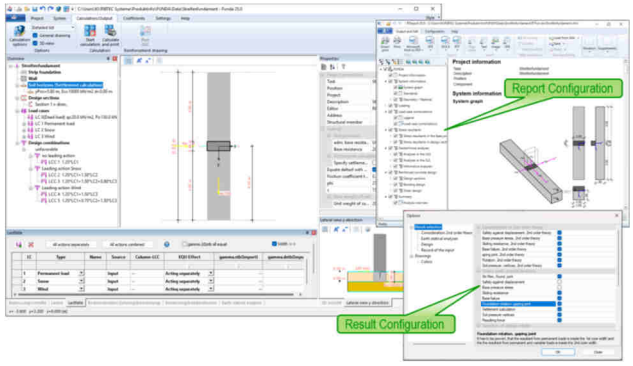
Object tree: Hierarchical organization of objects.

Property Table: Hierarchical table view of object properties and parameters. What used to be in an editable file can be found clearly in this view with parameter names and help texts in short form. Graphic window / construction: Graphic-interactive view with sensitive measurement chains and objects as well as design functions.

Graphics window 2D/3D view: Graphic-interactive view with sensitive measurement chains and objects.

Help as a short text: Information field for current information on the selected parameter.

Dialog / Table: Dialogue-oriented or table-oriented processing of program-specific data. The table allows import/export to other program applications via copy and paste.



Design of standard footings (FUNDA basic module)

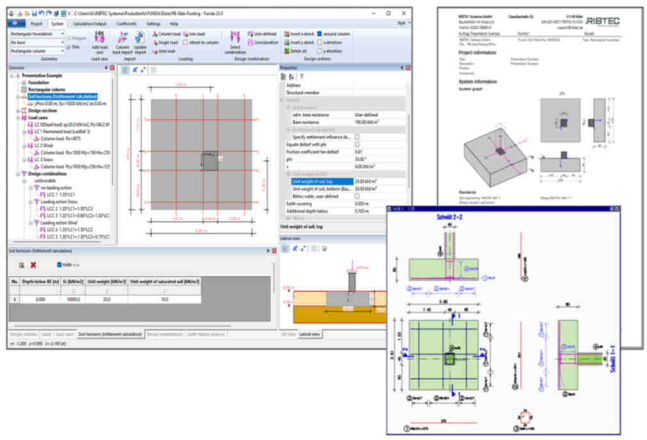
The FUNDA basic module can be used to design simple strip and rectangular footings. Specifically, the standard version includes the following features:

Reinforced concrete design

- Reinforced concrete design incl. punching shear verification for circular and rectangular connected columns according to DIN 1045-1 or EN 1992-1-1 with NAs for DE, AT, SK/CZ and UK for individual load cases and load case combinations
- Specification of concrete quality including high-strength concretes or with self-defined concrete properties
- Column placed in center or eccentric
- Bending and shear design of the plate on selected or generated sections
- Generation of reinforcement variants with CAD reinforcement plan incl. CAD interface

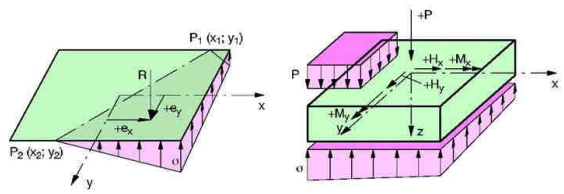
Load effects

- Column loads in the center or eccentrically incl. horizontal forces and individual torques along both axes
- Vertical point loads arbitrarily on the foundation slab
- Eccentric vertical line and area loads
- Load transfer from the column calculation for characteristic and multiple load values with standard-compliant consideration of the non-linear load components
- Load transfer from the BEST column program
- Automatic approach of the foundation dead weight
- Specification of partial collateral for each load case attribute
- Load case and design combinations can be defined by user or created automatically



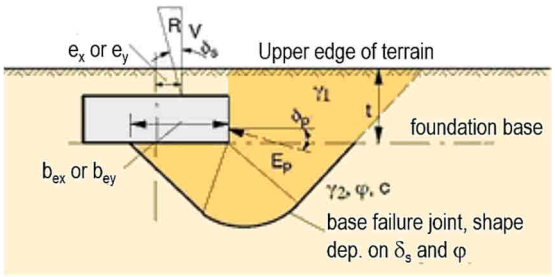
Geotechnical verifications

- Consideration of the requirements of the basic construction standards DIN 1054 or EN 1997-1 with NAs for DE, AT & SK/CZ
- Specification of different water horizons, foundation depths and earth fills
- In the ground fracture analysis, the earth resistance can be applied
- Determination of soil pressure with double eccentricity
- Determination of position of zero line in gaping joints
- Proof of positional security
- Evidence of tilting and medium bottom pressure
- Verification of base fracture resistance and slip resistance for any slab geometry
- Configuration of the result list with specification of arbitrary design sections



Soil pressures

For load cases/load case combinations, the magnitude of the resulting force and its point of application are determined and the soil pressures in the corner points and in the center of gravity of the foundation slab are calculated from this. However, if tensile stresses occur in the vertices due to the off-center acting force, the zero line of the stress wedge is determined iteratively. The position of the zero line is represented numerically and graphically. The ratio of the gaping area to the total area is printed out as a measure for the gaping joint. In the case of circular foundations, the smallest and largest value of the soil pressure is output.



Ground failure

The verification is carried out in accordance with DIN 4017. Optionally, the load resultant is reduced by the earth resistance. The earth resistance is taken into account up to a maximum of the size of the horizontal forces that cause it or 50% of the activatable earth resistance.

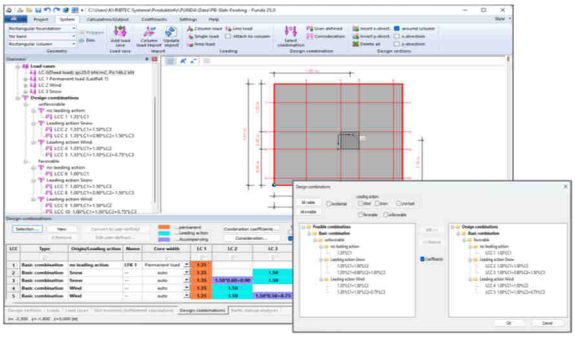
Slip resistance

The sliding resistance of the foundation is verified in accordance with DIN 1054. Earth resistance is not taken into account.

Combination of load cases

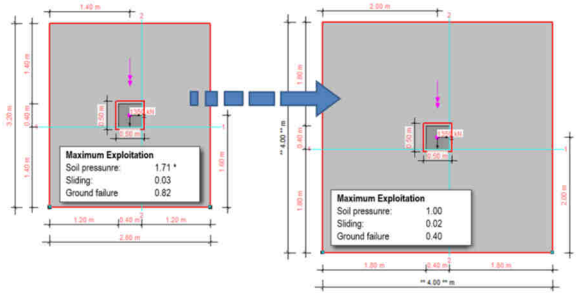
Load case combinations are compiled from the individual load cases, taking into account the respective load case attributes. For the combination formation, both permanent and extraordinary design situations can be specified.

The load cases can be superimposed automatically or user-defined. For the automatic combination formation, a "favourable", "unfavourable" or "favourable & unfavourable" effect of the constant loads can be used as a criterion. The design combinations in the list of results are presented in an abbreviated form.



Optimization of foundation dimensions

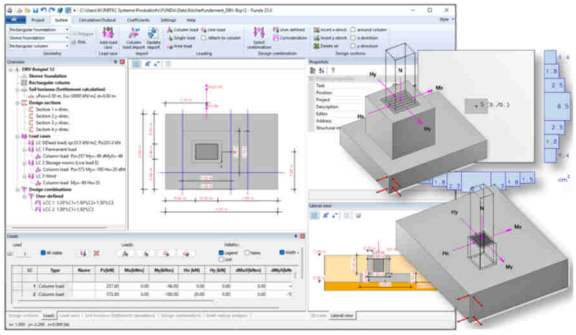
Based on a given foundation geometry, the optimal side dimensions of rectangular foundations can be automatically determined within specified limits with regard to the permissible soil pressures.



Sleeve and block footings (FUNDA Precast)

The functionality of the FUNDA program can be extended by FUNDA precast elements for the calculation and design of sleeve and block foundations as an additional option. In addition to the possible applications already mentioned under FUNDA, FUNDA precast elements contains the following additional performance features:

- graphic-interactive processing of block and sleeve foundations for a rectangular column cross-section
- Specification of a smooth or rough formwork as well as the composite area for a sleeve design
- Design of foundation slabs with internal and attached sleeve or as block foundation according to DIN 1045-1 or EN 1992-1 with NAs for DE, AT, SK/CZ and UK
- Design of the sleeve according to DIN 1045-1 or EN 1992-1 with NAs for DE, AT, SK/CZ and UK



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The external sleeve is dimensioned according to Leonhardt. The internal sleeve is treated like a membrane in which the horizontal loads generate splitting tensile forces. Alternatively, the foundation can also be dimensioned as a block foundation according to issue 326 of the DAfStb.

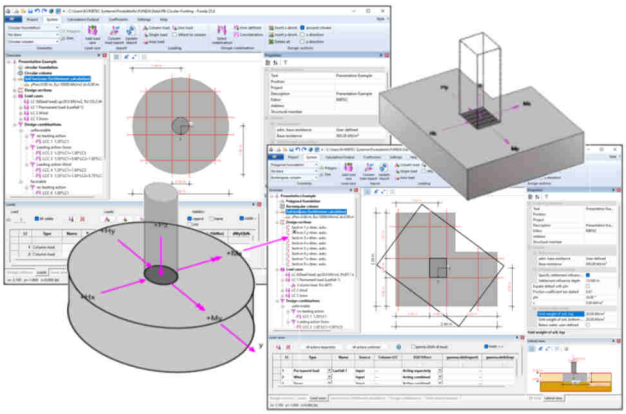
A design proposal for the reinforcement of rectangular foundation slabs with sleeve as well as for block foundations can be prepared. The reinforcement plan can be transferred directly to ZEICON® as a ZAC macro or to any CAD system in DXF format.

With this extension, even technically demanding engineering tasks in the field of application of precast foundations can be safely processed.

Circular and polygon foundations (FUNDA Polygon)

The Polygon and Circle *add-on module* can optionally extend the functionality of the FUNDA program for the calculation and design of circular and polygon foundations. In addition to the possible applications already mentioned under FUNDA, the add-on module contains the following additional features:

- graphic-interactive processing of circular and polygon foundations
- Graphical design environment for the processing of polygonal plate geometries with DXF interface and tabular editing of polygon points
- Design of any polygonal foundation slabs according to DIN 1045-1 or EN 1992-1-1 with NA for DE, AT, SK/CZ and UK
- Punching shear verification for circular and rectangular columns according to DIN 1045-1 or EN 1992-1-1 with NA for DE, AT, SK/CZ and UK for any panel geometry
- Proof of positional stability (2nd core width) directly on the polygonal bounded foundation slab

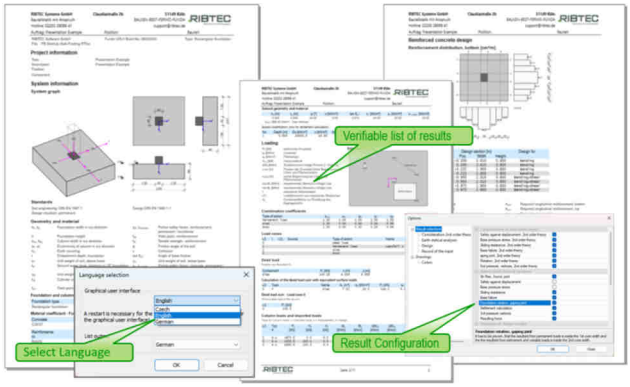


With this extension, any foundation slabs can be processed, especially when geometrically adapting the foundations to the structural conditions of existing buildings.

Graphical output

The desired component information and design results can be preset via a pre-selection and stored individually with the file or the program template.

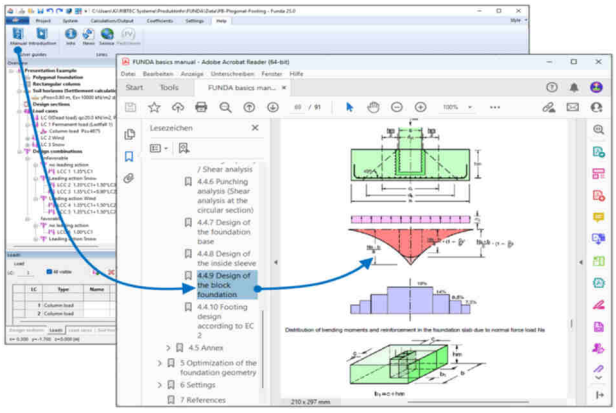
The language for the output list can be specified independently of the language selection for the program environment.



With a preview, the list including graphics can be configured and saved for specific office requirements. In this way, exactly what seems important to the user is output. With the interface to MS Word/Excel (DOCX/XLSX), PDF, XPS and VCmaster, the structural analysis documents can be further processed digitally.

Help

For a quick and easy familiarization with the program application, several introductory examples are available summarized as the "Introduction" manual



In addition, valuable information on calculation and design can be found in the "Basics" manual. All application information is available in the latest version in the program environment as a help.

Custom Templates

Any file from FUNDA can be saved as a template. With the "New from template" function, these presets can then be easily and efficiently reused as a user preset with all the program settings included.