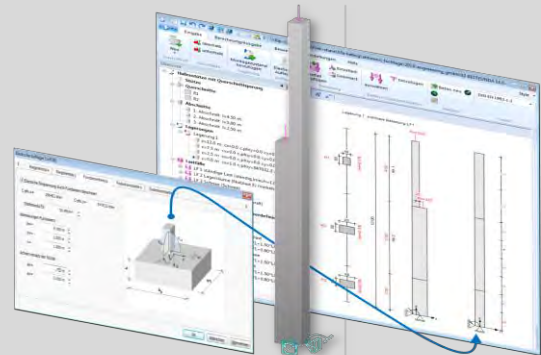


RTbest & RTbest EXPERT

- 11.10.203 RTbest
- 11.11.210 RTbest Fire design concrete
- 11.10.204 RTbest EXPERT

Reinforced concrete column with options fire design and arbitrary cross-sections

- Reinforced concrete design according to DIN, EN with NAs for DE, AT, SK/CZ and UK
- Calculation according to the theory of 1st & 2nd order with consideration of effective stiffnesses in the cracked state II
- Biaxial bending with normal force and thrust
- Standard cross section for rectangular, U, H, full circle and circular ring as well as optional general cross sections and prestressing
- Configurable and verifiable list output
- Program and list configuration as well as separate language selection for input and output
- CAD reinforcement output for storey columns

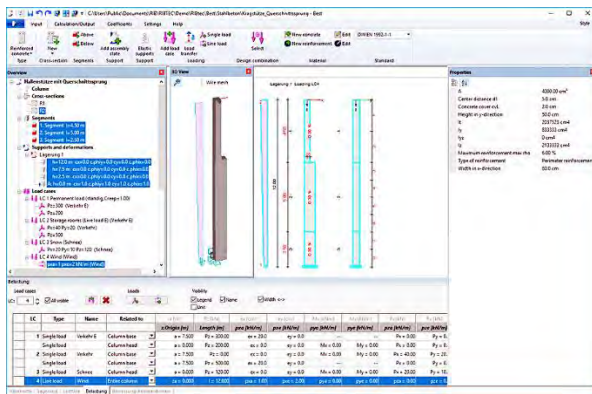


BEST Reinforced Concrete Column is a program for the design of single- or multi-storey reinforced concrete columns in the ultimate limit state due to structural deformations (buckling safety design and RC-design) with a graphically interactive working environment for input and output. The calculation is always performed biaxially according to the 1st and 2nd order theory, taking into account the cracked state. BEST is particularly suitable for a demanding non-linear analysis and an economical column design.



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 Managing Directors: Thomas Wolf, Michael Sauer, Mads Bording.
 Chairman of Executive Board: Thomas Wolf.



BEST & BEST EXPERT Features

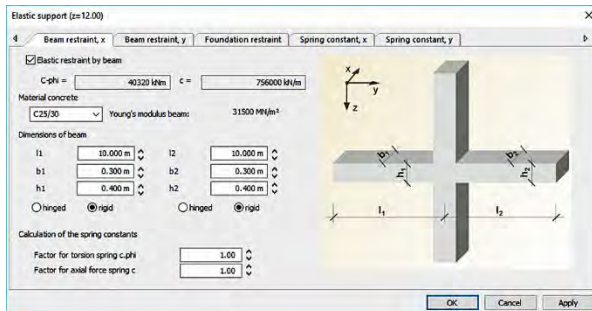
Windows® programme for the design of single or multi-storey reinforced concrete columns in the limit state of bearing capacity due to structure deformations (buckling analysis and design) with a graphically interactive working environment for the input and output. The calculation is categorically performed biaxially according to linear and nonlinear deformation theories considering as well effective stiffnesses in the cracked condition.

This application additionally supports the following calculation options:

- regular cross sections can be graded according to storeys and arranged eccentrically
- the reinforcement can be distributed evenly over the extent or arranged as individual reinforcement in the corners of the cross section
- reinforcement can remain constant along a column or be graded according to each beam
- different static systems can be investigated in their transportation, assembly and final states via a completed calculation
- Supports may be rigid or elastic and can be determined via a calculation wizard for several given cases
- Automatic generation of all possible load combinations such as basic, accidental and earthquake combination respectively combination for structural fire design
- Automatic generation of sustained loading combinations for the calculation of creep deformations
- Automatic calculation of the initial deformations or specification of the initial deformation affine according to the buckling mode or as inclined deformation
- Combinations for the safety against displacement are generated user-defined
- loads can be entered as point loads, eccentric point loads and linearly variable line loads as well as pre-set translations and rotations
- the dead load of columns is formed automatically and considered on request

Product Information

- there is specific input support for the formation of design combinations
- partial safety and combination factors are formed automatically per load case attribute
- design for permanent, transient and extraordinary design situations
- design is performed for biaxial bending with normal force and shear optionally according to DIN 1045, DIN 1045-1, EN 1992-1-1 and according NAs for DE, AT, SK/CZ and UK
- evaluation of the steel stresses in the limit state of serviceability



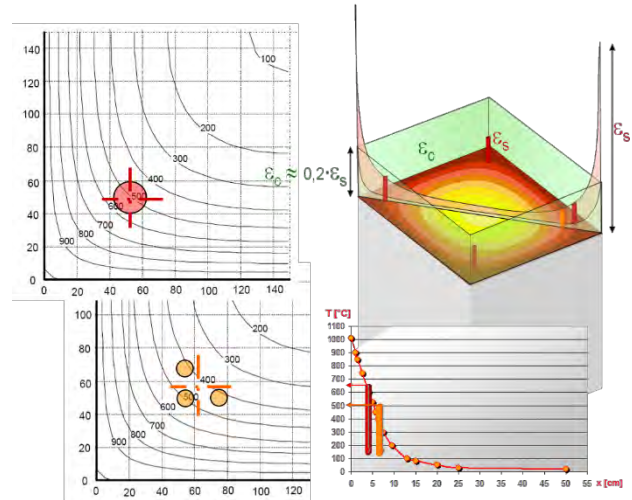
Additionally, to the already mentioned options of use, **BEST EXPERT** contains the following additional features:

- polygonal cross sections with rectangular, circular or polygonal box outs
- graphical construction environment for the cross-section processing with DXF interface and tabular processing option of the polygon points
- linearly variable stem course (trapezoidal cross-sectional distribution)
- prestressing in longitudinal direction for each stage
- arbitrary reinforcement distribution, also with specific reinforcement pre-setting
- arbitrary stress-strain-line for concrete, reinforcement steel and prestressed steel for deformation and design
- pre-setting of variable limit strains for the evaluation of sustainable stress resultants

For testing reasons, the results can also be shown in a clearly arranged manner via a result preview, additionally to the complete output list with graphics. Comparisons with the model column method can be made particularly because of the indication of the effective flexural rigidities.

Option for Structural Fire Design for Reinforced Concrete Column

This option enlarges the functionality of the BEST programme by the design of high temperature stress of columns arising from fire. The verifications are carried out according to the simplified calculation method, the zone method B2 according to EN 1992-1-2 with according NAs for DE, AT, SK/CZ und UK.



In addition to the options of use mentioned in BEST, BEST-SFD contains the following complementary features:

- application of the zone method to columns with a rectangular or circular cross section
- the fire stress can be multi-lateral, unior trilateral
- temperature field distribution according to the temperature profile in EN 1992-1-2 amendment A
- high-temperature material properties / reduced stress-strain-lines for concrete and steel
- temperature-dependant cross-section reduction, i.e. consideration of zone width damaged by influence of hot gas
- direct consideration of the thermal strain for concrete and reinforcement steel
- indirect fire influences can be considered
- design for system and cross section bearing capacity

Configurable result output

The output control for the result list is multi-level. The output of input values, internal forces, deformations etc. can be globally controlled. The entire document can be viewed with a preview function. The list output with the contained graphics can be configured by appropriate selections in the table of contents. This configuration is available after saving the data and can be used as a template.

For testing purposes, the results can be displayed on the system before printing out the complete output report with graphics.

