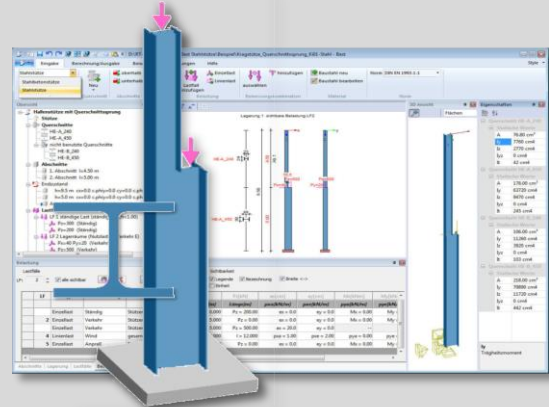


## RTbest steel column

11.11.552 RTbest steel column

### Design of steel columns for standard cross-sections

- Verification according to DIN and EN with NAs for DE, AT, SK/CZ & UK
- Modelling of multi-storey columns with arbitrarily stepped cross-sections
- Use of welded and rolled profiles for I-, rectangular hollow or tube cross-sections
- Determination of the pre-deformation affine to the buckling figure per load combination
- Calculation according to the 1st and 2nd order theory, taking imperfections into account.
- Stability verification for flexural buckling or flexural torsional buckling
- Proof EE & EP for biaxial bending with normal force
- Program and list configuration as well as separate language selection for input and output



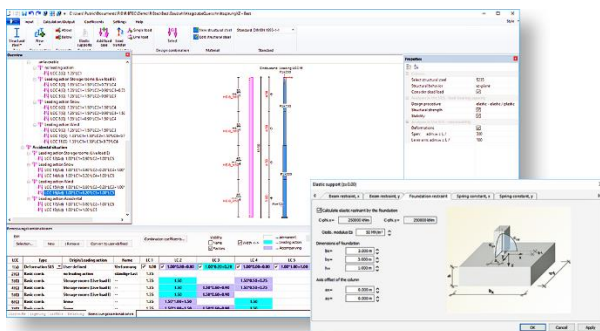
With the option **Steel column for standard cross-sections**, single- or multi-storey steel columns can be verified in the ULS and SLS according to the 1st and 2nd order theory and with consideration of imperfections. The working environment allows an efficient input of system and load, including automatic generation of load combinations. The non-linear calculation can be performed on one or two axes. The output of the results is configured via a preview option and printed as a list with graphics.



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 Chairman of Executive Board: Thomas Wolf.



### RTbest steel column Features

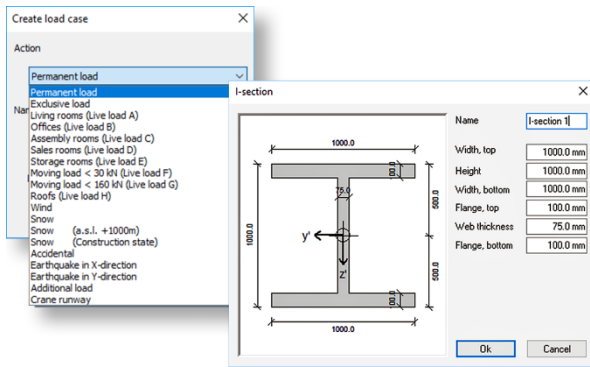
Single-story or multi-story columns in the ultimate limit state as well as in the limit state of serviceability and with the consideration of imperfections can be verified according to first and second order theory with the option „steel column for standard cross-sections under Windows®.

The graphical-interactive work environment allows an efficient input of the system and the loading with an automatic generation of the load case combinations. The non-linear calculation can be carried out uniaxial or biaxial. The output of the results can be configured user-defined via a preview option and output as a list with graphs.

The program additionally supports the following calculating options:

- Standard cross-sections can be graded per story and be arranged eccentricly
- Specification of cross-sections constant per section
- Section types: standard I-beam, rectangular pipe, round pipe as rolled section or welded section
- Section database for rolled sections
- Structural steel according to DIN EN 1993-1-1 and EN 10025-2
- Load carrying action optionally plane or three-dimensional
- Supports with any arrangement of springs and torsion springs
- Line loads  $q_x$ ,  $q_y$ ,  $q_z$  onto the entire column, per section or with any limitation
- Single loads and single moments acting at any position of the column
- Pz eccentrically positioned is possible
- Automatic generation of load case combinations (permanent/transient, accidental, earthquake)
- User-defined generation of load case combinations
- Consideration of the imperfections affine to the buckling figure with user-defined specifications
- Stress resultants according to first order theory
- Stress resultants according to second order theory with consideration of the imperfections
- Calculation of the ideal buckling load
- Elastic stress analysis

# Product Information



- Plastic cross-section carrying capacity with interaction conditions
- Stability analysis with the equivalent initial bow imperfection method according to EN 1993-1-1, 5.2.2(7a) under consideration of the stability failure through flexural buckling or lateral torsional buckling
- Deformation analysis in the SLS for each load combination
- Tabular output of the stress resultants, stresses, utilizations, deformations and support forces each according to first and second order theory
- Graphical output of the stress resultants, stresses, utilizations, deformations

## Configurable Result Output

The output control for the result list is multi-level. The output of input values, internal forces, deformations etc. with corresponding graphics can be compiled as minimum, short, long and detail list reports. With a preview function, the document can be examined before printing. The report output featuring graphics can be configured using corresponding markers in the table of contents. This configuration is available as a template to be used after saving the data.

