

ESK / RS

Framework

The Framework applications ESK and RS offer a similar user interface. Despite the various application options, the main tree imposes a clear input structure and gives a good orientation even to first-time users. When entering a new item, the application displays the appropriate tables automatically in a suitable order.

Calculation options

- 1st and 2nd order analyses
- Member failure under tension/compression
- Plasticity (plastic hinges)
- Bifurcation load

Input of the cross section

- Profile file
- Dimensions
- Cross-sectional properties (can be stored in a separate file)
- Import of cross sectional properties from the Frilo applications Q1, Q2, Q3

System description

- Haunches
- Various materials
- Inclined/rotated supports
- Elastic supports
- Pinned joints
- Definition of truss members
- Elastically bedded members
- Axial force and torsion springs
- Disabling of members
- Automatic generation of standard systems

Loading

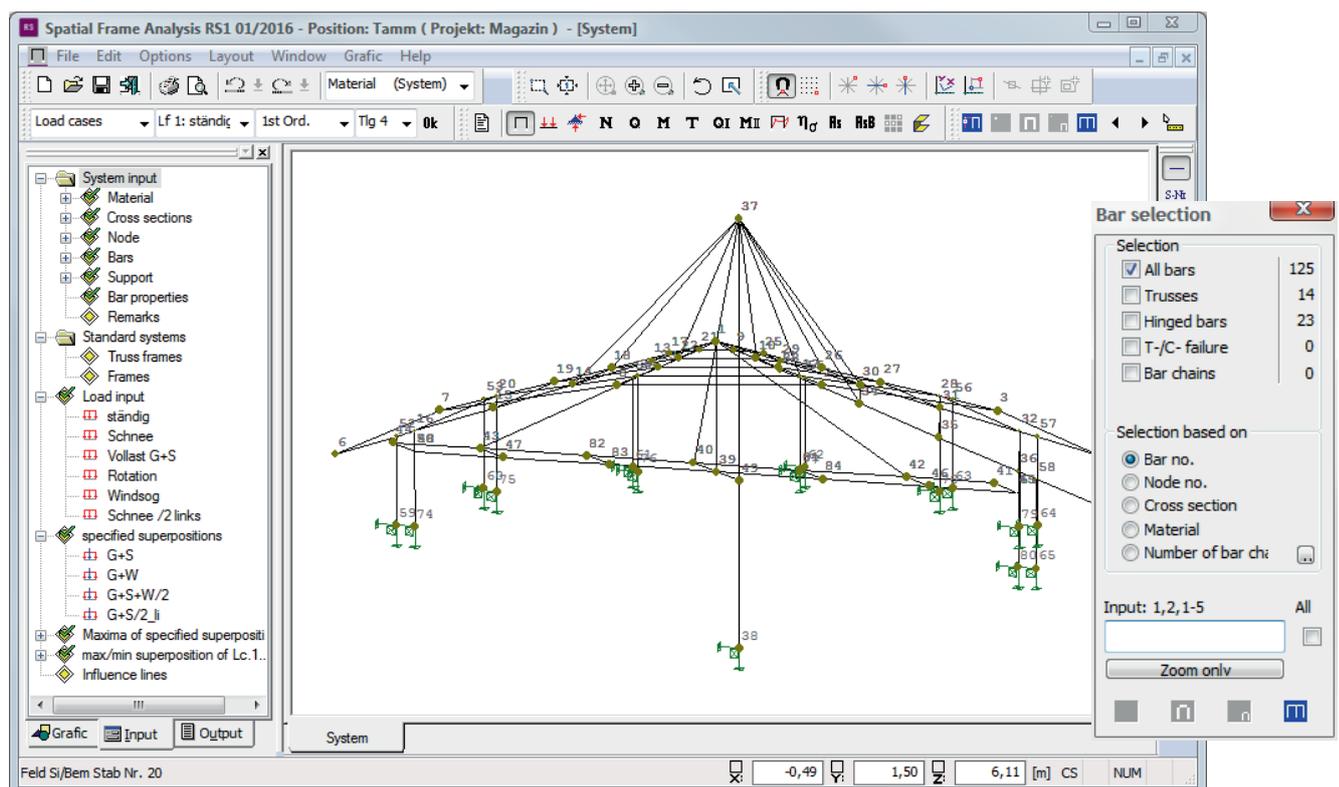
- Uniformly distributed, concentrated, trapezoidal and triangular loads
- Temperature loads
- Column settlement
- Self-weight
- Influence lines

Superposition

- Pre-set superposition with maximum value determination
- Maximum/minimum superposition of the 1st order results

Design

- Reinforced concrete design as per
 - DIN EN 1992
 - ÖNORM EN 1992
 - BS EN 1992
 - EN 1992
 - DIN 1045 / DIN 1045-1
 - ÖNORM B 4700
- Stress resistance verification of steel as per
 - DIN EN 1993
 - ÖNORM EN 1993
 - BS EN 1993
 - EN 1993
 - DIN 18800
- Timber construction standards:
 - DIN EN 1995
 - ÖNORM EN 1995
 - BS EN 1995
 - EN 1995
 - DIN 1052
- Aluminium as per
 - DIN EN 1999
 - BS EN 1999
 - DIN 4113



Interfaces

- ASCII (Frilo format)
- DXF

Plane frame ESK

The system and the loading both lie in the same plane. In many cases, it may be reasonable to simulate a three-dimensional frame as a plane system in order to ensure efficient calculation work and reduce the scope of input work and output data.

This method provides for a quick and comfortable handling of structural frames and trussed girders, for instance.

Three-dimensional frame RS

This application offers the most comprehensive application options. Due to the freely definable position of the system and the loading in space, virtually any frame-type bearing structure can be calculated, no matter whether it is a two- or three-dimensional frame.

Graphical user interface

Thanks to the graphical user interface, you can develop the structural system on the screen. This is very helpful particularly where large systems are concerned.

System elements such as frame members, nodes or supports are defined per mouse click on the drawing screen. The numerical input of ordinates allows the accurate positioning of these elements.

As a rule, we recommend to use the graphical user interface in combination with the input tables. The user can change over from the graphic screen to the tables and vice versa at any time.

DXF files can be imported and used for the graphic generation of the system on the screen. In addition, member elements can be generated automatically from the imported DXF files.

