

HO11+

Timber Design

Application options

The software application is suitable for the verification of timber cross sections in accordance with the design rules specified in:

- EN 1995
- DIN EN 1995
- ÖNORM EN 1995
- UNI EN 1995
- NTC EN 1995
- BS EN 1995

The HO11+ application performs typical stress-resistance verifications of tension-, compression- or bending-loaded timber members as well as buckling safety and stability verifications. If shear and torsion effects apply, shear-stress analyses are performed in addition. The buckling resistance and lateral stability are verified on an equivalent member system.

For classified timber components in the sense of DIN 4102-4/-22 or EN 1995, 1-2, the fire-resistance period can be determined by means of a hot design process with consideration of the specified burning rates.

In combination with EN 1995:2008, you can optionally specify resulting load cases or independent single actions with the associated load-action period (LAP) and combine them for the bearing strength verification.

Basis of calculation

For the verifications in accordance with EN 1995, you can optionally determine the internal design forces from the combinations for the bearing strength verifications as per EN 1990. The verifications are performed for solid timber. The fire-safety verifications are based on EN 1995-1-2.

The local member and cross section coordinates comply with the specifications of DIN 1080. The x-axis runs in direction of the positive member axis. The y- and z-axes lie inside the cross section and the positive z-axis points downwards. The x-y-z system consists of three orthogonal legs.

Internal forces and geometric vectors are positive if they are oriented in the direction of the positive axes. The moments M_y and M_t are positive if they describe a right-hand helix around the y- and x-axes. Whereas the bending moment M_z is positive, according to structural conventions, when it describes a right-hand helix in direction of the negative z-axis in such a way that tension is produced on the positive cross-section sides (dashed lines) when a positive moment load applies.

