

HO14+

Single Fastener Timber Joint

The HO14+ application provides for the calculation of the load-bearing capacity of a single fastener, typically used in timber construction, and allows you to take the given angle between the applying force and the grain into account.

Under normal conditions, the failure of the fastener is preferred to the failure of the timber. Therefore, the software gives detailed information about the failure mechanism and offers automatically a fastener diameter that is compatible with the given timber material thickness.

Constructive variants

- Single-shear wood-to-wood connection
- Single-shear steel-to-wood connection

- Multi-shear connection of a single-, two- or three-piece timber component with optionally selectable interior or exterior butt straps of timber or steel.

Available standards

- DIN EN 1995
- ÖNORM EN 1995
- BS EN 1995
- NI EN 1995-1/NTC
- DIN 1052

Fasteners

The available fasteners are dowel pins, fit bolts, bolt, nails and special dowels. The joint can be modelled for multi-part cross sections with butt straps of solid timber or steel. In a single-part cross section, joints with up to four slot plates can be calculated.

Calculation

The load-bearing capacity verification of the fastener is performed in accordance with Johansen's theory. Suspension effects can be considered, if applicable. Compliance with all required minimum distances is a prerequisite for the calculation of the bearing capacity of an individual fastener. The effectiveness of a fastener in a fastener arrangement must be examined separately. It cannot be done with this software. A verification of the component in the connecting area is neither available. For the modelling of a node with consideration of the necessary verifications, the HO13+ application is available.

