

HO12

Timber Construction Details

Verification of notches and openings in laminated timber beams in accordance with

- DIN EN 1995
- ÖNORM EN 1995
- BS EN 1995
- DIN 1052

Notches

- Unreinforced, top or bottom notch, optionally with haunch
- Reinforced with lateral butt straps
- Reinforced with glued-in threaded rods
- Reinforced with self-tapping fully threaded screws (Spax)
- Fully threaded screws in accordance with
 - DIN 1052:2008, 12.8.2 or
 - EN 1995-1-1, 8.7.2

Notch verifications:

The verifications for beams with bottom notches, either with or without reinforcing butt straps of

veneer plywood, or laminated timber girders, chamfered or notched on top, are performed in accordance with the standard.

In addition to the reinforcements provided by the standard, glued-in threaded rods and self-tapping fully threaded screws (Spax screws / Z.91-519) are available. The Spax screws have a thickness of 8, 10 or 12 mm and a length between 200 and 600 mm.

Openings in beams

- Optionally reinforced with lateral butt straps
- With DIN 1052:2008 or EN 1995, also with glued-in threaded rods and fully threaded screws
- Self-tapping screws SPAX-S (approval Z-9.1-519)

Due to the changes in the cross section of the beam, transverse tensile stresses act at the points of discontinuity and might cause cracks in the timber beam.

Thanks to the direct input of system, loading and cross sections, you can quickly and easily verify notches and openings and design possibly required reinforcements.

Opening verifications:

Round or rectangular openings with or without reinforcement butt straps are verified.

Note:

The verifications as per DIN 1052:2004 are still optionally selectable for check calculations. The German Building and Civil Engineering Standards Committee NA-Bau, however, recommends urgently not to use this standard any longer.