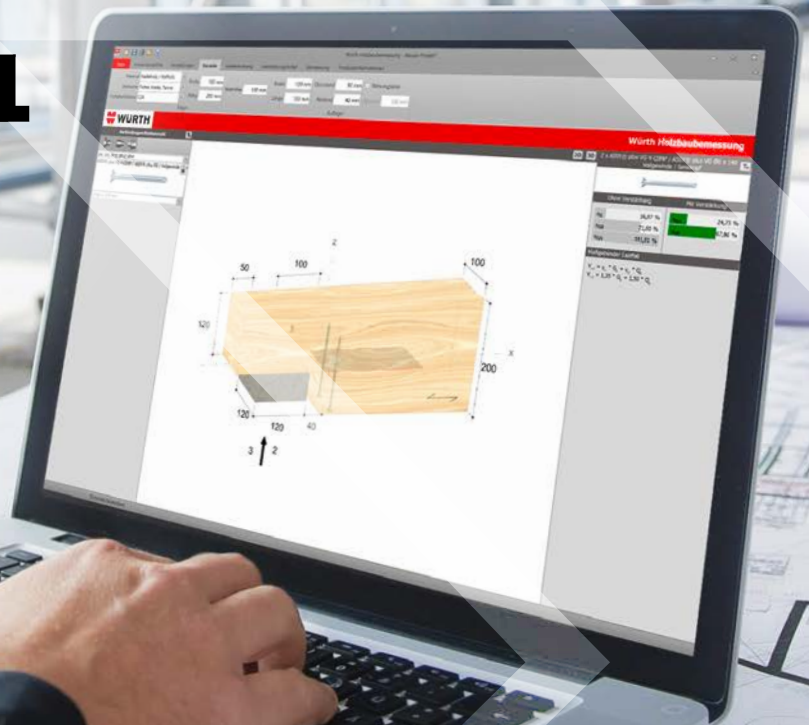


WÜRTH TECHNICAL SOFTWARE II – TIMBER CONSTRUCTION



Anchors



Wood Screws



REBAR



RELAST

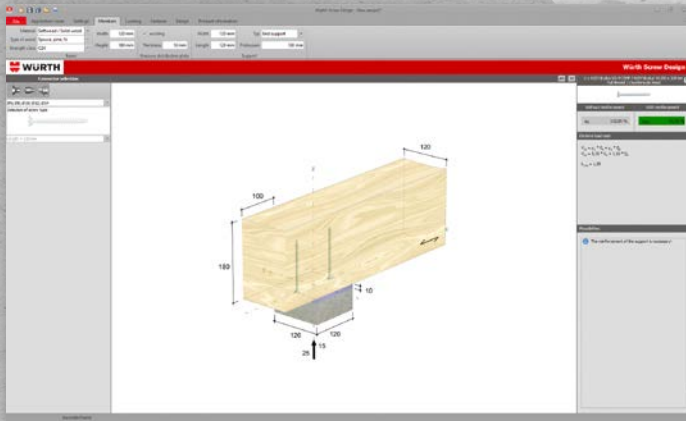
DOWNLOAD FOR FREE

<https://www.wuerth.eu>

- ✓ **User-friendly interface**
- ✓ **Interactive graphics**
- ✓ **Simultaneous design calculations**
- ✓ **Display of load in real time**
- ✓ **Plausibility analysis**
- ✓ **Verifiable calculations**

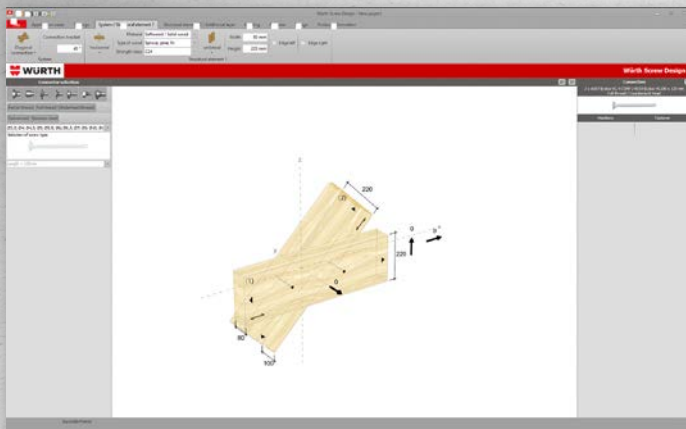
Würth offers structural timber design as part of the Würth Technical Software. The software offers users various modules to create designs using further Würth products. At the same time, it is an information platform outlining Würth's technical offers. The Wood Screw Design module contains the following eleven applications:

- Lateral pressure reinforcement
- General screw connections
- Beam doubling
- Notch
- Transverse tension / transverse connection
- Lateral beam strengthening
- Roof / facade
- Wood-concrete-composite
- Beam head restoration
- Breakthrough / Opening
- Main beam / secondary beam



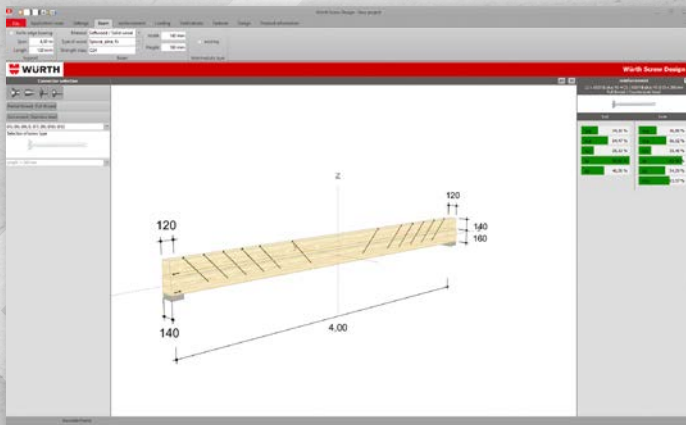
Lateral pressure reinforcement

For beam support bearings, the verification of the compressive strength must be carried out at a right angle to the grain. If the required compressive strength of the support cannot be verified, the support can be strengthened by fixing ASSY® full-thread screws perpendicular to the grain. Cf. Annex 2 of ETA 11/0190.



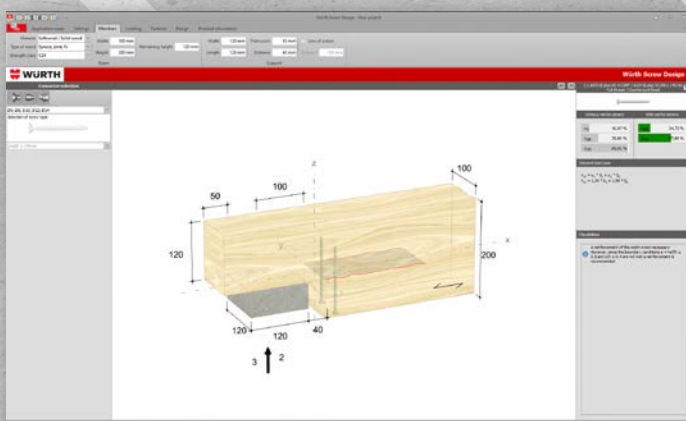
General screw connections

Würth's general screw connections module is another solution to make timber construction design even more efficient. It is easy to understand and has an appealing user interface. Changing the data entered will immediately produce adjusted results. Depending on the screw selected, the software will calculate the required number of screws and their load factor. This way, the software quickly guides the user toward a cost-effective connection solution.



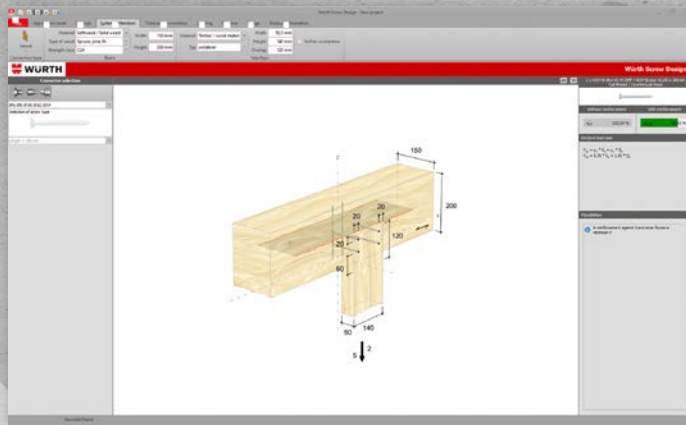
Beam doubling

Timber components with insufficient load-bearing capacity can be reinforced quickly and economically with an additional profile installed underneath or above the beam. Use cases include the reinforcement of wooden frames to convert them to a new use or beam-and-slab systems in new builds. Softwood or hardwood, glued laminated timber, as well as laminated veneer lumber can be used to strengthen timber beams.



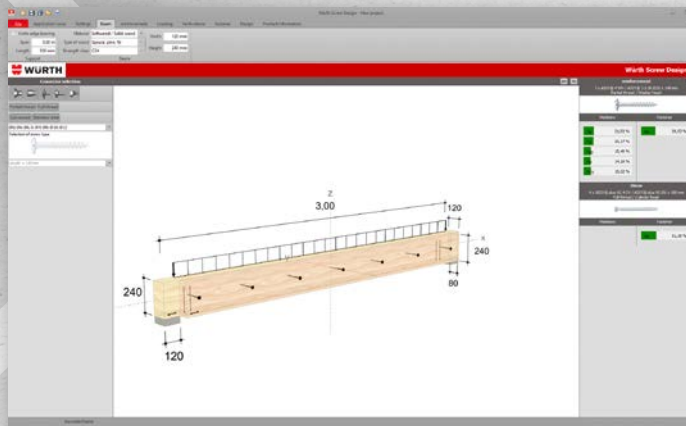
Notch

Notches weaken beams considerably. To avoid failure due to transverse tension, the connection can be strengthened with Würth ASSY® full-thread screws. Cf. Annex 3 of ETA 11/0190. Using full-thread screws has the advantage that the screws can be installed quickly irrespective of the weather conditions and the installation location. The screws are invisible from the outside when counter-sunk.



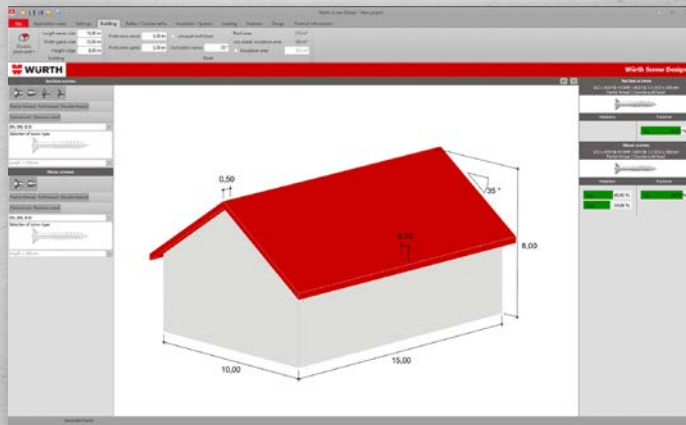
Transverse tension / transverse connection

According to DIN EN 1995-1-1, chapter 8.1.4, failure due to transverse tension must be taken into account for beam connections. Using ASSY® full-thread screws, the connection can be reinforced easily and quickly, the load-bearing capacity of the components can be increased and failure due to transverse tension can be avoided. Würth Technical Software II allows users to design a great variety of connections with different materials. For this type of connection, resistance to transverse tension and the wood screw's tensile strength are determined.



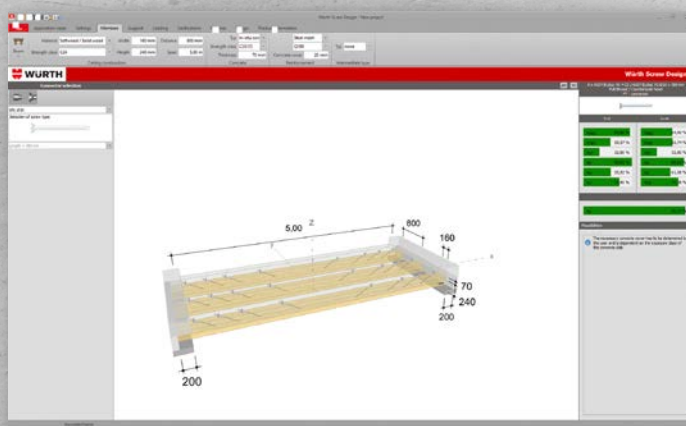
Lateral beam strengthening

In case of refurbishment or conversion of a building, reinforcement of beams often becomes necessary. Wooden or steel components installed on the side of the beam using wood screws are a simple solution to achieve this. Use the new lateral support beam reinforcement application, which is part of the Würth Wood Screws design software, to calculate the reinforcement you need in line with structural requirements.



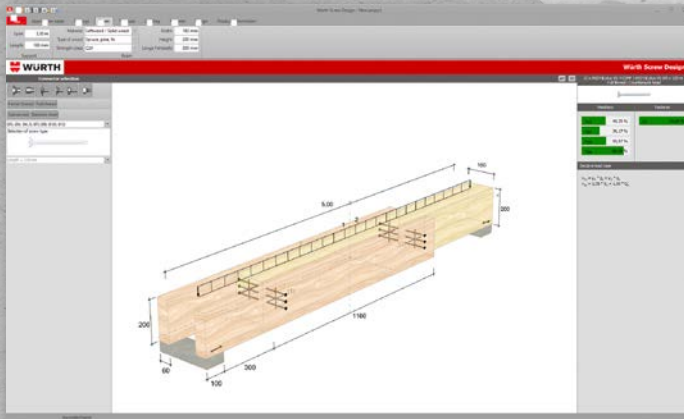
Roof / facade

The software allows you to design all common roof shapes such as mono-pitched roof, gable roof with equal or unequal roof pitch, hipped roof and gambrel roof. Searching for the most important insulation materials and their characteristic material constants is no longer necessary, as these have also been included in the software. Furthermore, the effects of dead weight, wind and snow load can be defined quickly by specifying the wind and snow zone.



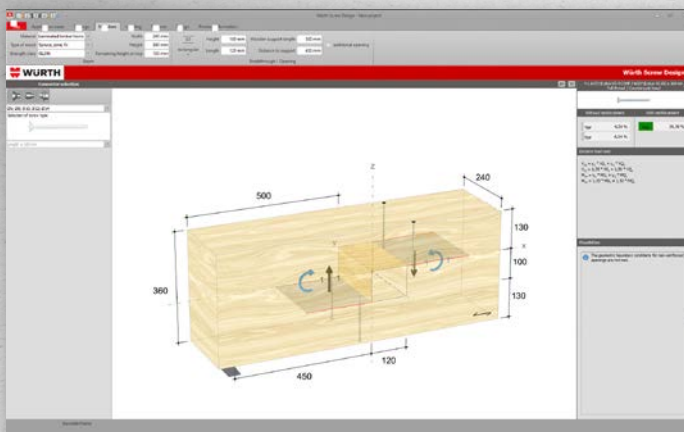
Wood-concrete-composite

The wood-concrete-composite building technology seizes the combined advantages of the building materials wood and concrete. This way, large floor span widths are possible. At the same time, composite construction offers advantages with regard to fire and noise protection. Depending on the geometry of the structural components, the program allows static calculations to prove stability; even for the load case fire. In particular, calculations may be performed as to vibration and deflection behavior, and, of course, to design Würth ASSY® wood screws used as fasteners between the materials.



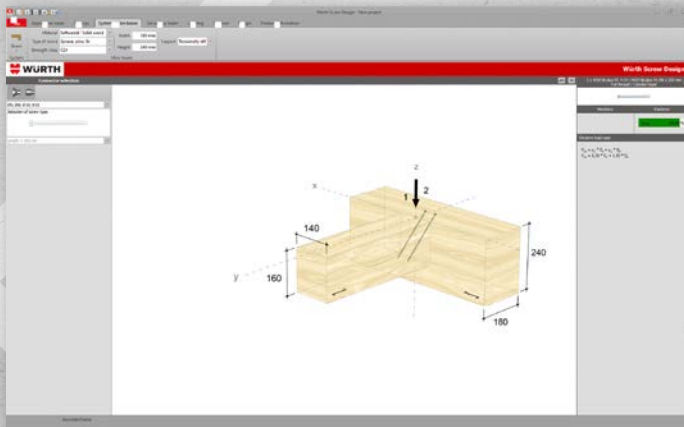
Beam head restoration

Building restoration—restoration of historic buildings in particular—often brings to light damage to the supports where the floor beams meet the outer wall. To restore their load-bearing capacity, the damaged beam heads must be replaced. New side straps but also half-lap joints can be fitted very easily with Würth ASSY® full-thread screws. In line with monument protection principles, these interventions are kept to a minimum to respect the existing building structure. With the help of the new beam head restoration module, load calculations can be done very quickly.



Breakthrough / Opening

Openings in timber supports weaken the building component considerably, which is why reinforcement is often necessary. For smaller openings, it is sufficient to adhere to the geometric edge distances and calculate the design for the remaining cross-section. The software determines whether reinforcement is needed. If so, the program calculates the most cost-effective solution using wood screws. The screws can be positioned depending on the respective requirements. The user may choose between three options: screws mounted flush with the surface, countersunk screws or screws intersecting the line of action at mid-thread.



Main beam / secondary beam

Main/secondary beam connections are quite frequent in timber construction. The use of full-thread screws is very common for such connections. The screws are concealed and do not require larger timber cross-sections, while also being easier to install.