Eurotec®

The specialist for fastening technology

OVERVIEW
MASS TIMBER CONSTRUCTION

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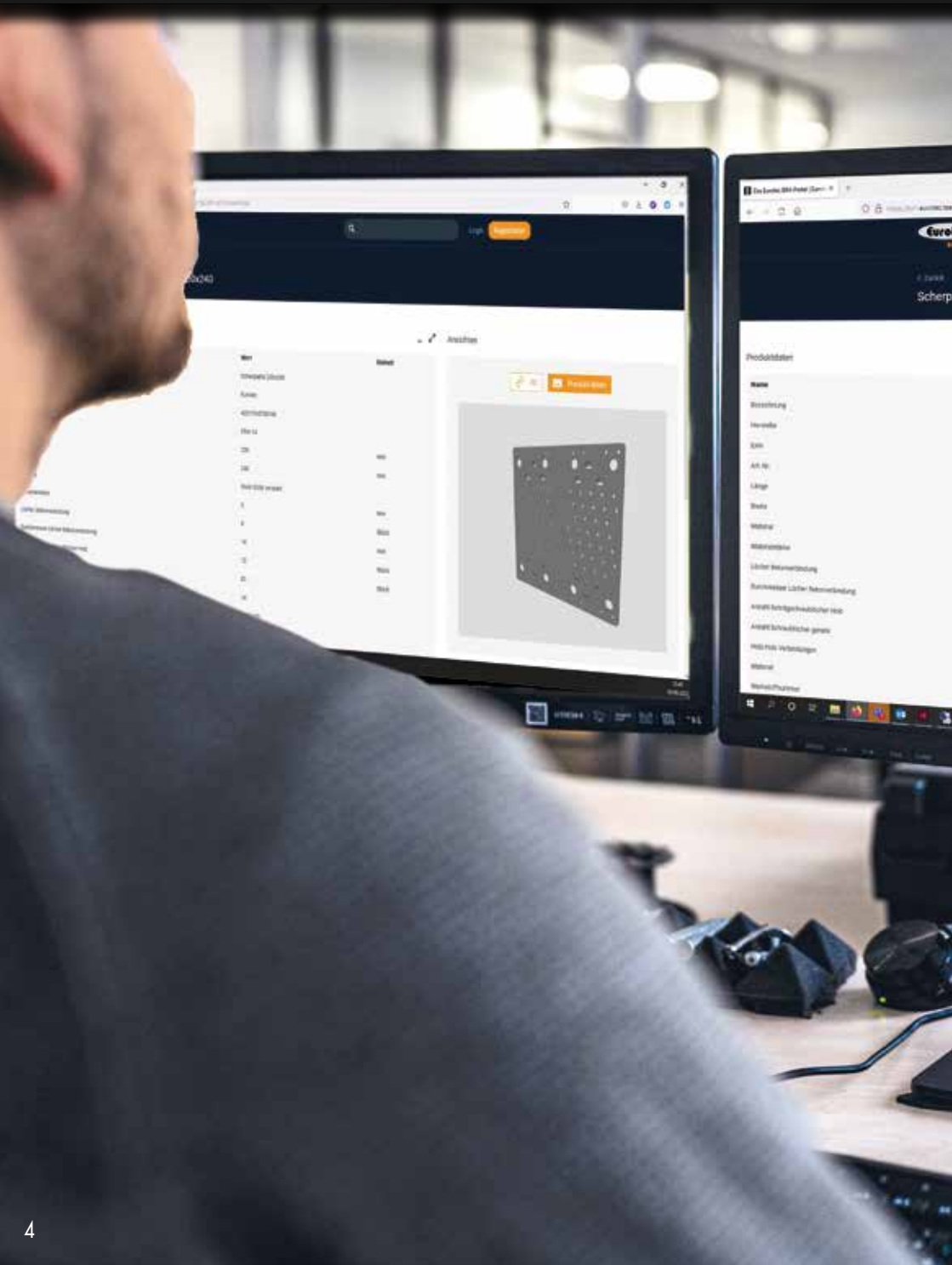
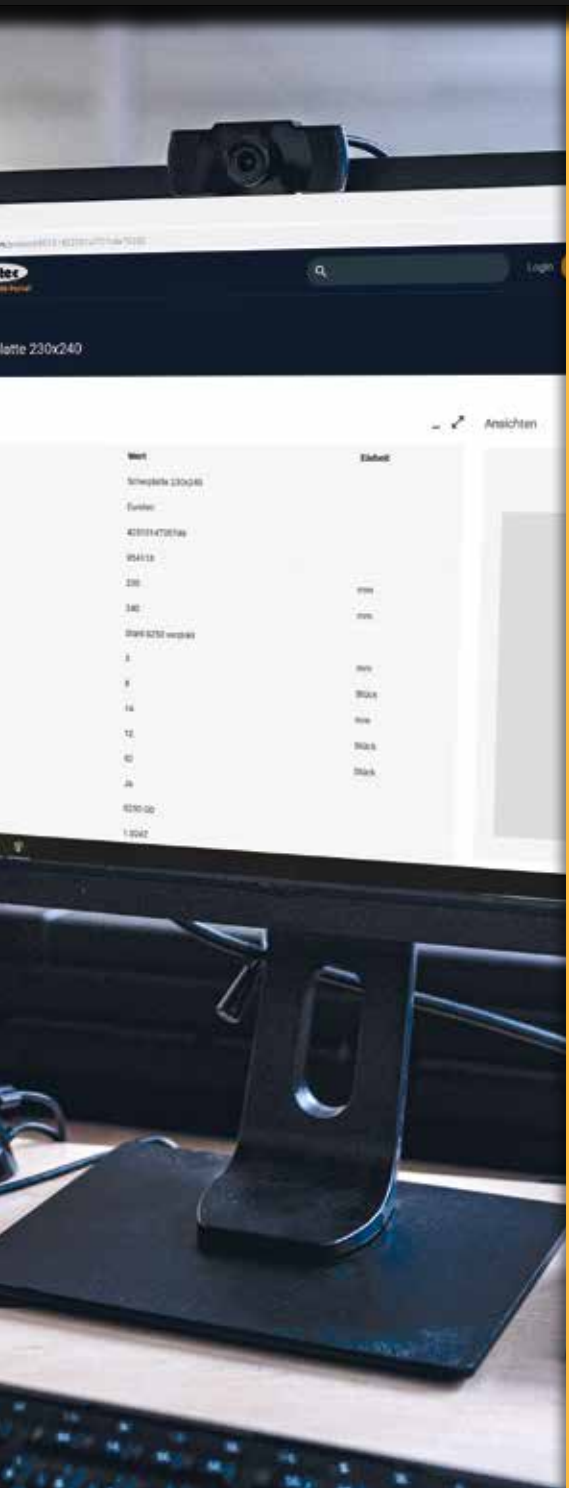
1 EUROTEC BIM-PORTAL





OUR EUROTEC
BIM-PORTAL
ALL DATA AT ONE SIGHT

THE EUROTEC BIM PORTAL FOR YOUR CONSTRUCTION PLANNING!

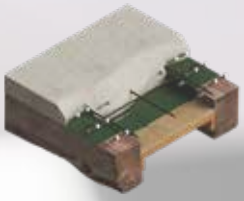
Building information modelling (BIM) has become an indispensable part of modern planning. On our user-friendly platform, you will find product specifications as **BIM-enabled data** for use in your construction project. Some versatile file formats include 3D/CAD objects, DWG and PDF files, along with notes about our ETA certifications.

PLAN NOW
bim.eurotec.team

NEW MODULES IN OUR **ECS SOFTWARE**

Our ECS design software has been further developed in the course of a comprehensive revision and expansion. In particular, the focus was on the integration of modules for structural engineered wood constructions. The aim is to provide the user with effective tools to design standardized connections quickly and verifiably.

To learn more about ECS software, just scan the QR code.



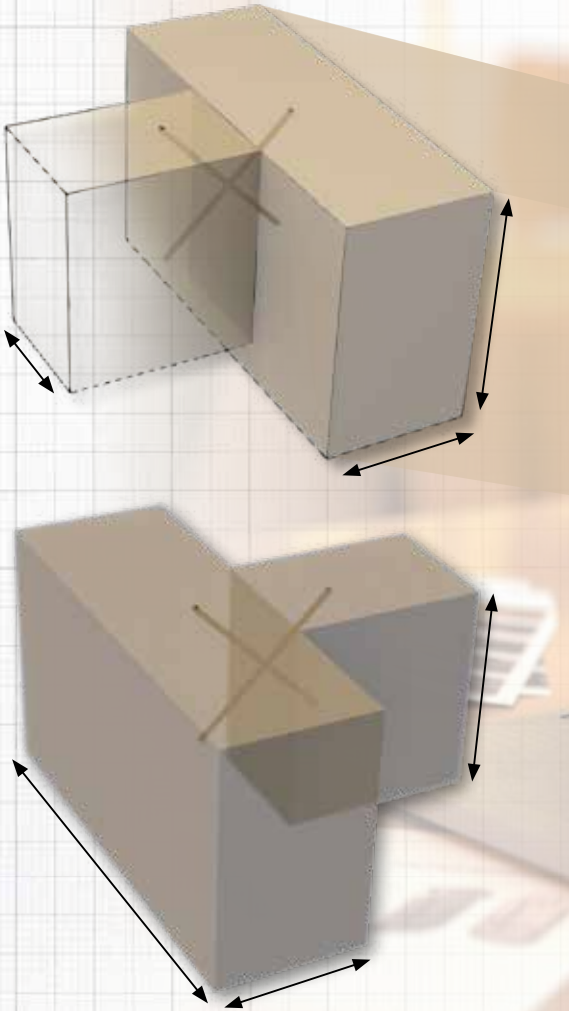
TIMBER-CONCRETE CONNECTING

PARALLEL CONNECTION

MAIN-SECONDARY BEAM CONNECTION

LEARN MORE ABOUT OUR ECS SOFTWARE

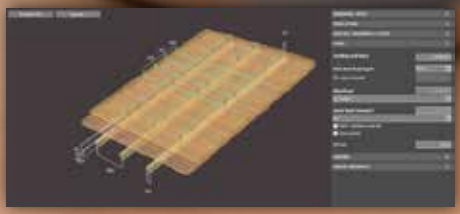
The ECS software is a free, user-friendly software for the pre-dimensioning of Eurotec wood construction screws. The modules include main and secondary beam connections, transverse tension and transverse pressure reinforcements, rafter-purlin connections, fastenings for roofing and façade insulation systems and many other applications.



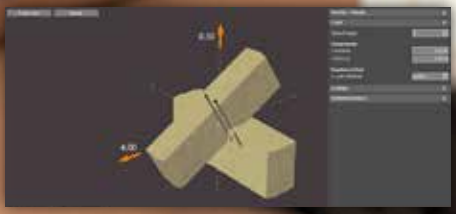
- The program gives you the option to fully customize your individual connection application by modifying parameters such as the geometry, material type (e.g. beech laminated veneer timber and solid timber in different strength classes), load sizes (variable and permanent loads), the load class and more to suit your needs.
- What's more, it makes it possible to optimize the fastening solution by adjusting the screw diameter and screw length as well as checking the strength utilization factor, which is shown in the lower right corner of the screen.
- Once you have selected the connection solution, a calculation report in accordance with ETA-11/0024 and EN 1995 (Eurocode 5) is available to you, including the corresponding drawings in PDF format.

SCAN NOW

DISCOVER THE ECS SOFTWARE!



Module for the fastening of insulation materials on rafters using Topduo



Module for rafter-purlin connections using Paneltwistec and KonstruX

CLT CONSTRUCTION 3

3 CLT CONSTRUCTION

CLT BASICS

CLT (Cross-Laminated Timber) panels **consist of several layers of wooden boards** stacked crosswise (typically at an angle of 90 degrees). They are glued together on their surfaces and sometimes on their edges (e.g., edge-glued CLT).

A cross-section of a CLT element **has at least three bonded sheet layers** arranged in an alternating way and **orthogonal to the adjacent layers.** In special configurations, successive layers can be arranged in the same direction, creating a double layer (for example, double longitudinal layers on the outer surfaces and/or additional double layers at the core of the panel) to achieve specific structural capacities.

CLT panels are typically manufactured with an **odd number of layers**. Gluing three to seven layers together is common. **The thickness of the individual layers of wood can vary from 20 mm to 40 mm, while the width can vary from about 60 mm to 240 mm.**

The panel sizes vary depending on the manufacturer. Typical CLT panel widths are 1.2 m, 2.4 m, and 3.5 m. Typical CLT thicknesses are between 60 mm and 320 mm; however, in special cases, the thickness can go up to 500 mm. The panel length can go up to 20 m; however, transport regulations may limit CLT panel sizes, with panel lengths typically restricted to a maximum of 13.5 m.

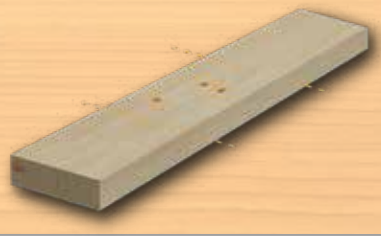
The timber in the outer layers of the CLT panels that are used as walls are aligned vertically, parallel to the gravity loads, to **maximise the vertical load capacity of the wall**. Similarly, in floor and roof systems, the outer layers run horizontally parallel to the main load bearing direction.

ADVANTAGES OF BUILDING WITH CLT

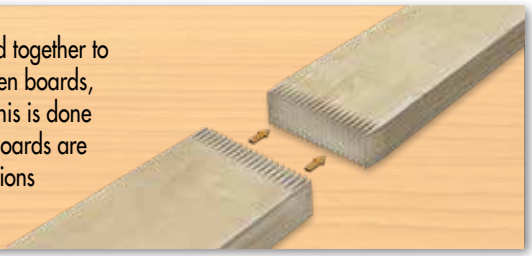
- CLT allows screw connections in any direction because its cross-layered board structure eliminates the need to consider grain direction.
- Reduced construction time due to prefabrication of the elements.
- Enables a breathable wall and floor system for timber buildings.
- CLT has both sound and heat insulating properties.
- A wide range of architectural design flexibility.
- All components of a house (walls, ceilings, and roof) can be made of CLT.
- Much lower weight compared to concrete and bricks.
- No construction waste when demolishing buildings. CLT is completely ecologically recyclable and more...

PRODUCTION OF CLT PANELS

1 The boards are sorted after the softwood boards have gone through a drying process (more than 48 hours). Growth deviations in the wood that would reduce the strength, or are simply unsightly, are marked. The sections that have such defects are cut out.



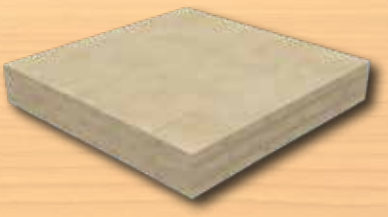
2 The boards of different lengths are joined together to create an almost endless strand of wooden boards, which is necessary for CLT production. This is done by means of finger joints. The resulting boards are then planned to eliminate thickness deviations between the boards.



3 The manufactured boards are applied manually or mechanically to form a layer. Adhesive is applied to the resulting surface after a layer has been completely built. The most common method here is a glue curtain through the layer that is passed.

4 Another layer is placed on top of the glued-layer. This is aligned so that the fibre direction of the new layer runs at an angle of 90° to the fibres of the board below. Glue is then applied to the new layer. This process is repeated until the desired number of board layers is achieved.

5 Once the desired number of layers is reached, the glued lamellas are pressed. The size of the press bed determines the possible panel size. As soon as the adhesive has cured, the CLT panel is re-processed to remove any dirt, adhesive residues, or protruding wood. This is done by planing and grinding the CLT panel.



3 CLT CONSTRUCTION

BUILDING WITH CROSS-LAMINATED TIMBER

The construction phases of **modern timber construction methods,** such as building with cross-laminated timber, are **very different from that of the conventional solid construction method.** Whereas with solid construction most of the work takes place on the building site, with timber construction much of the work has now shifted from the construction site to the factory.

The keyword here is **prefabrication.** All wall, ceiling, and roof elements are not delivered to the construction site as raw, unprocessed CLT panels. Instead, they are pre-fabricated in off-site for direct assembly.

In the CNC off-site, the manufactured CLT mother panels are further processed into **individual elements**. All necessary work that is required on the construction site for fasteners of all kinds and/or for geometries that would be too difficult to realize on the construction site, is carried out here. Common joinery work carried out in the factory includes:

- Windows and door cut-outs
- Angled cuts in the gable area
- Joint cuts and notches
- Milling of folding systems (for example: joint deck board fold, tier fold)
- Special geometries for special connectors
- Special transportation strips might be left out to allow safer transportation and installation of individual components

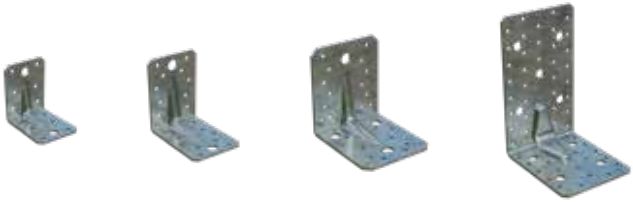
Such **complex processing steps,** especially through the use of computer-controlled processing machines, **increase the amount of upfront planning work**. Positions for connectors and installations within the house (electrical/water) must be provided with the necessary information. Furthermore, care is taken to ensure that **all components are matched to each other to the millimetre** in the final assembly, so that there are no problems during the installation.

DISCOVER MORE IN OUR
MASS TIMBER CONSTRUCTION CATALOGUE!

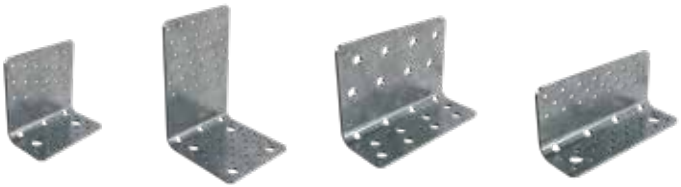
MASS TIMBER CONNECTORS

SHEARING ANGLES

ANGLE BRACKET



CLT BRACKET



SHEARING PLATES

TENSION STRAPS

TENSION RODS

SIMPLY TIE BAR

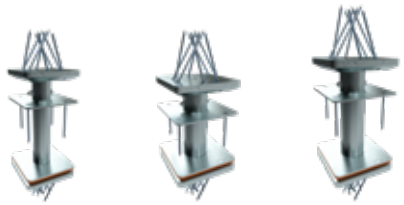
CLT SYSTEM ANGLES

SHEAR WALL CONNECTOR

PEDIX

MASS TIMBER CONNECTORS

STRUCTUS



STRUCTUS BASE

MAGNUS HOOK CONNECTORS

T-PROFILE SYSTEM

CONNECTO

IDEEFIX

JOIST HANGERS

ECKTEC

MASS TIMBER SCREWS

FOUNDATION CONNECTORS

4

4 FOUNDATION CONNECTORS

ANGLES

SHEARING ANGLE

HB FLAT SHEARING ANGLE

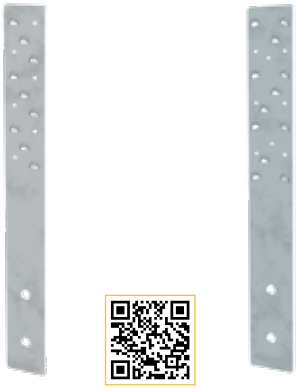
ANGLE-BRACKET WITH A RIB

CLT BRACKET

PLATES

SHEARING PLATE

TENSION STRAP HB



4 FOUNDATION CONNECTORS

HOLD DOWNS

TENSION ROD

TENSION ROD HIGHLOAD

SIMPLY TIE-BAR

WALL AND FLOOR SYSTEMS

5

5 WALL AND FLOOR SYSTEMS

ANGLES

CLT SYSTEM ANGLE

CLT INSIDE CORNER

SHEARING ANGLE

HH FLAT SHEARING ANGLE

ANGLES

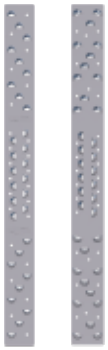
ANGLE-BRACKET WITH A RIB

CLT BRACKET

5 WALL AND FLOOR SYSTEMS

PLATES

TENSION STRAPS HH 60, HH 70 AND HIGHLOAD



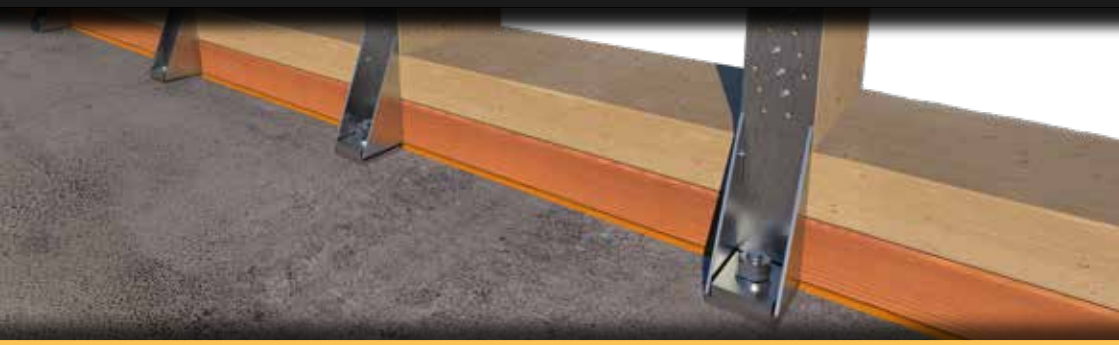
HH60 *HH70*

Highload

SHEARING PLATE

SHEAR WALL CONNECTOR

PERFORMATED PANELS AND PERFORATED PANEL STRIP

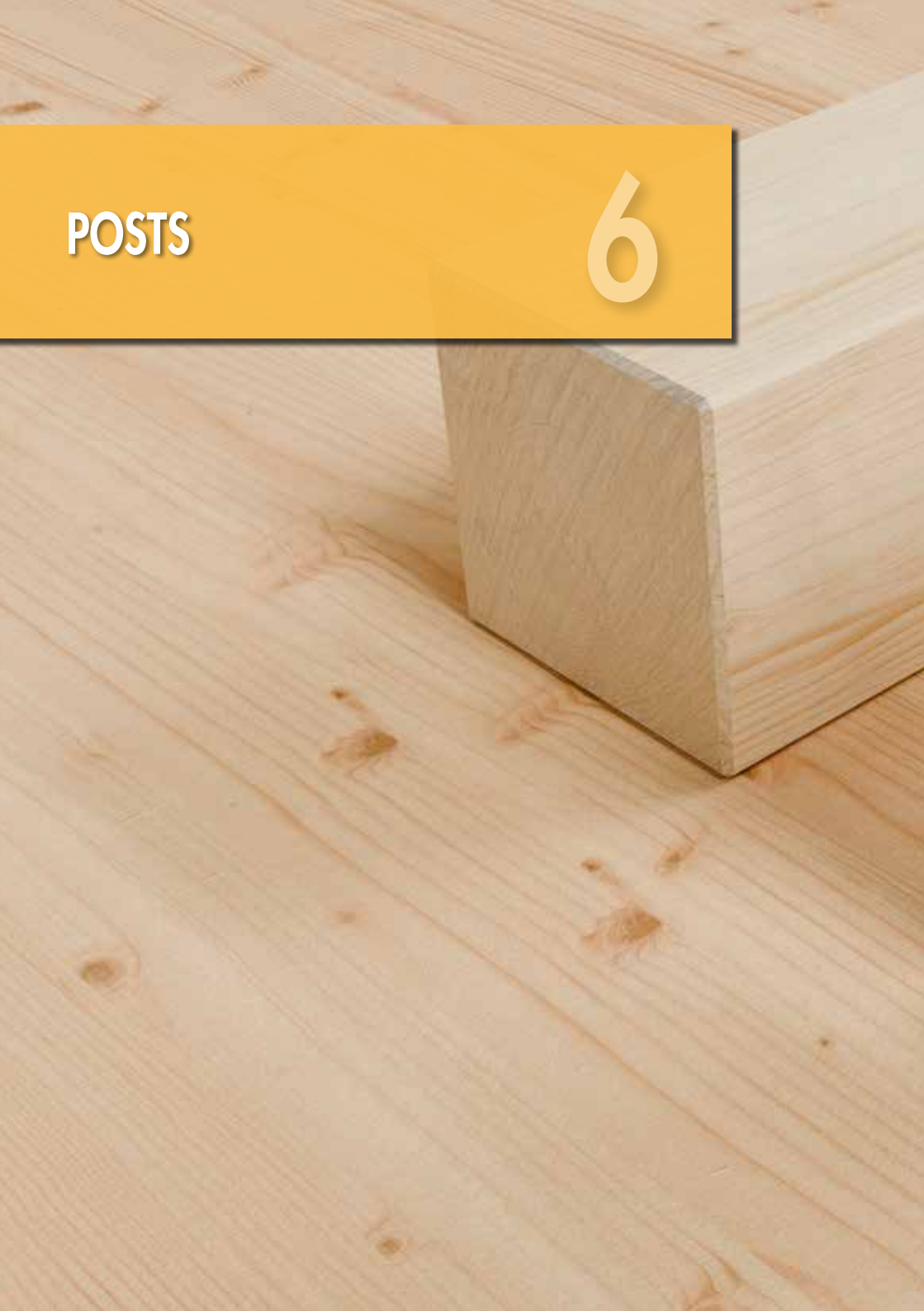


HOLD DOWNS

TENSION RODS

SIMPLY TIE-BAR

POSTS 6



6 POSTS

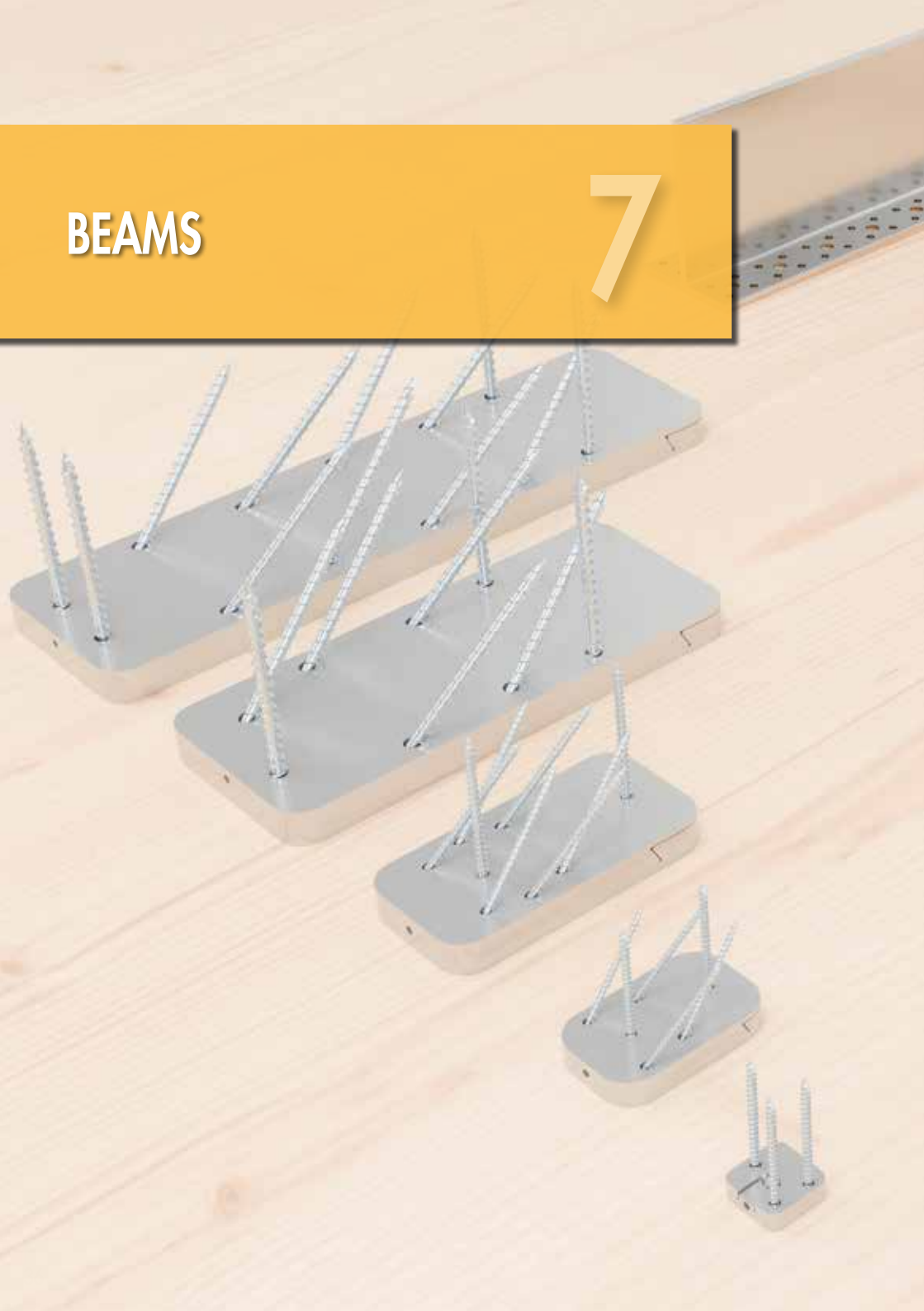
STRUCTUS

STRUCTUS BASE

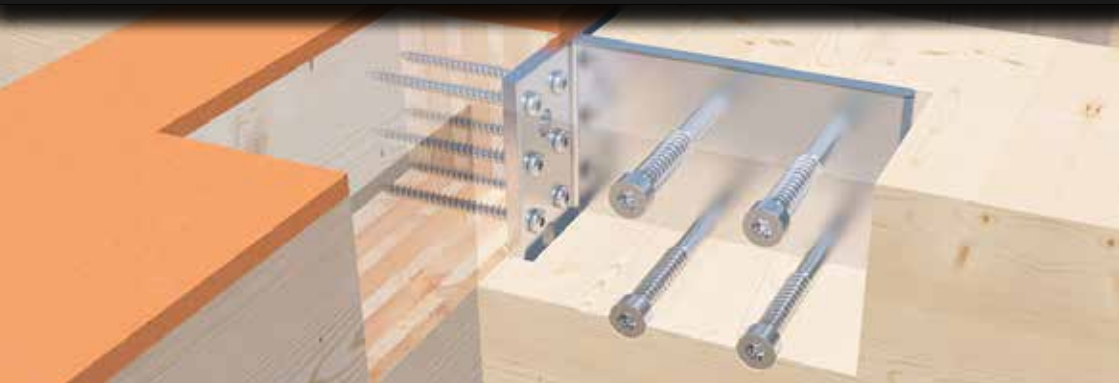
PEDIX POST FEET

PediX 140+50 | PediX 190+100 | PediX 300+150 | PediX B500 | PediX B500+50

BEAMS 7



7 BEAMS



MAGNUS HOOK CONNECTORS

T-TEC SYSTEM: T-PROFILE AND EST RODS

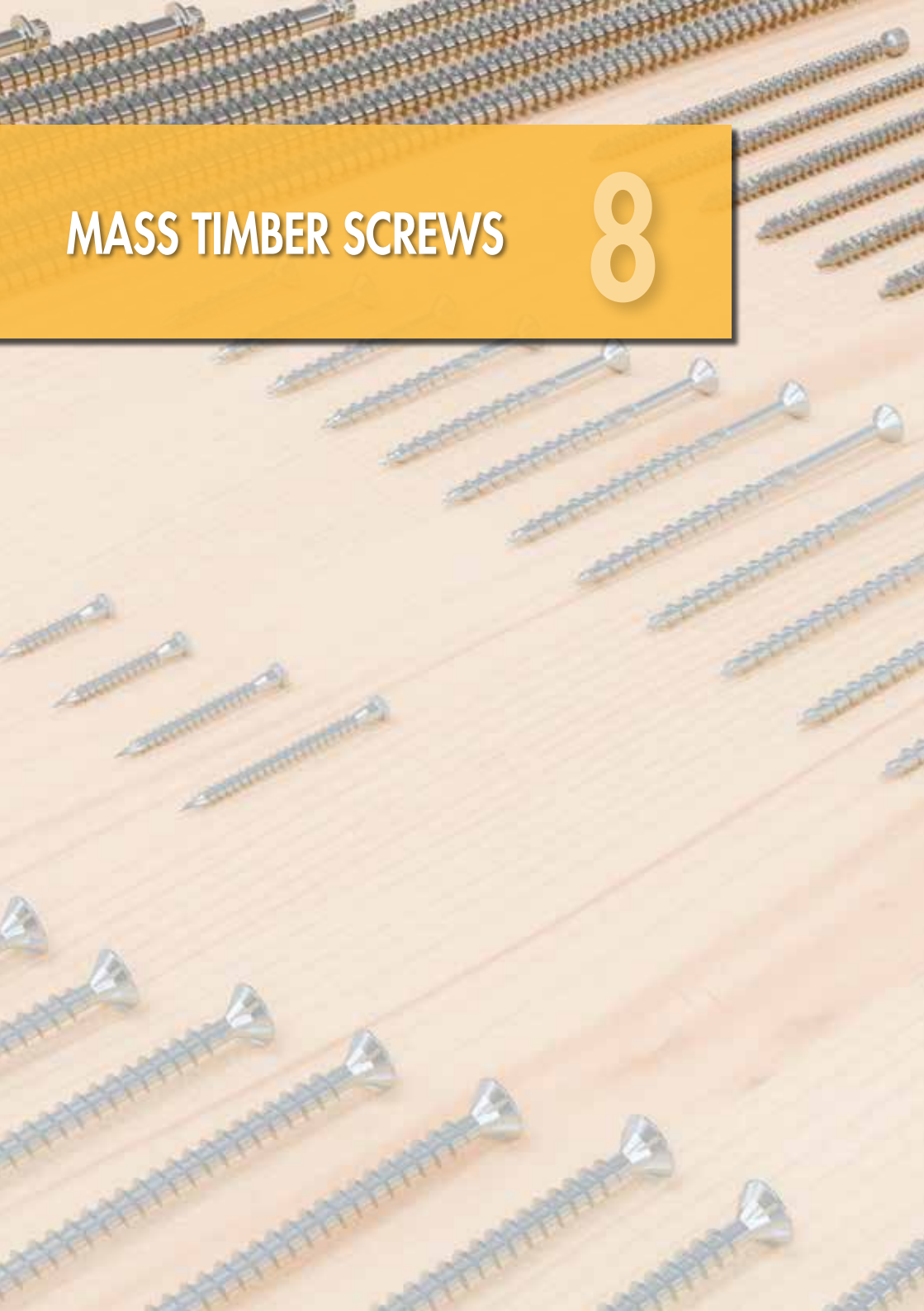
CONNECTO

IDEEFIX

JOIST HANGERS

ECKTEC

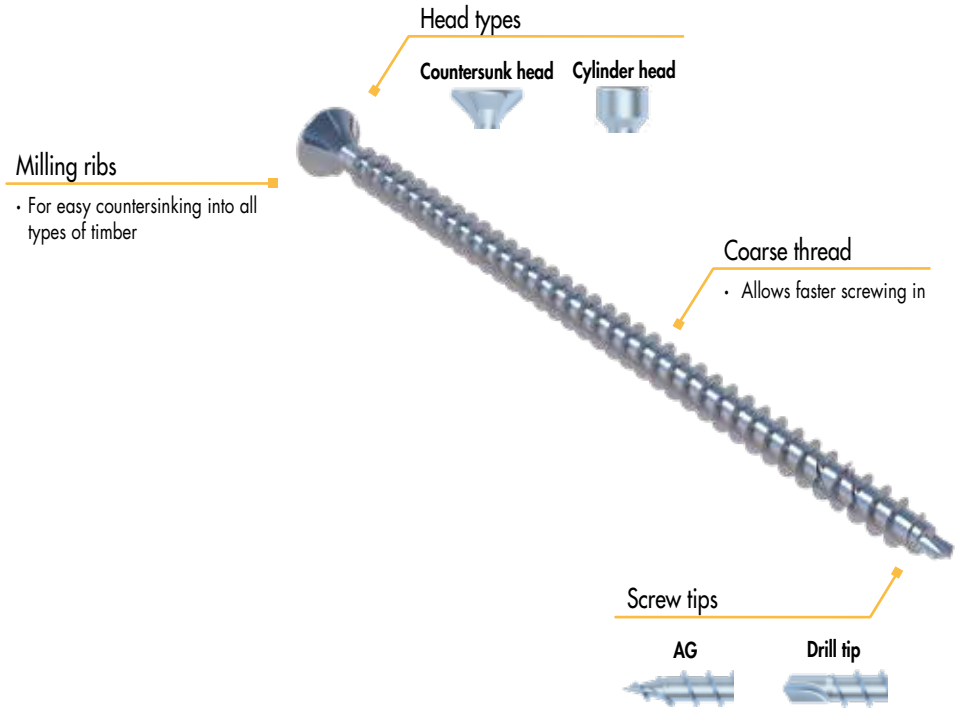
MASS TIMBER SCREWS 8



KONSTRUX FULLY THREADED SCREW

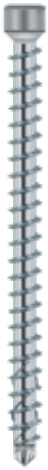
THE HIGH-PERFORMANCE SOLUTION FOR NEW CONSTRUCTION AND REFURBISHMENT

KonstruX fully threaded screws maximize connection load-bearing capacity by providing high thread extraction resistance in both components, whereas partially threaded screws are limited by the much lower head pull-through resistance in the attachment part. As a result, KonstruX fully threaded screws offer a cost-effective alternative to traditional carpentry joints as well as timber connectors such as joist hangers.

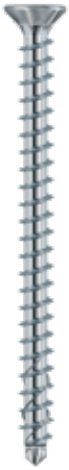


KONSTRUX FULLY THREADED SCREW

KonstruX ST
Cylinder head,
drill tip, blue galvanised



KonstruX ST
Countersunk head,
drill tip, blue galvanised



KonstruX
Countersunk head,
screw tip AG, galvanised

KONSTRUX FULLY THREADED SCREW

STAINLESS STEEL A4

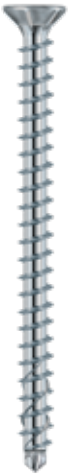
KonstruX ST A4 fully threaded screws maximize connection load-bearing capacity by providing high thread extraction resistance in both components, whereas partially threaded screws are limited by the much lower head pull-through resistance in the attachment part. As a result, KonstruX fully threaded screws offer a cost-effective alternative to traditional carpentry joints as well as timber connectors such as joist hangers.

Suitable for use in timber-timber connections in both indoor and outdoor settings. The application areas of KonstruX ST A4 screws are to be found outdoors in playgrounds, on balconies, in sun protection applications in the shape of pergolas as well as near the coast and in hydraulic engineering, e.g. on jetties and piers.

KONSTRUX FULLY THREADED SCREW

KonstruX ST
Cylinder head,
drill tip, stainless steel A4

KonstruX ST
Countersunk head,
drill tip, stainless steel A4

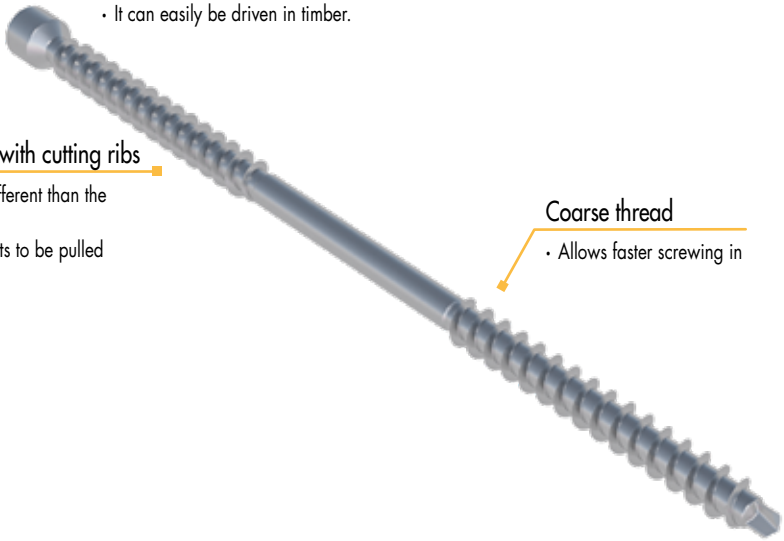


KonstruX
Countersunk head,
stainless steel A4

KONSTRUX DUO

FULLY THREADED SCREW WITH CONTRACTION EFFECT

The KonstruX DUO is an innovative fully threaded screw that combines the best characteristics of fully and partially threaded screws by **maintaining the load-bearing capacity** of the connection via the equal extraction resistance in both structural components. KonstruX DUO screws have a limited corrosion-resistance and **can be used in the service classes 1 and 2 according to DIN EN 1995 (Eurocode 5).**



Cylinder head

- Disappears into the timber
- Allows faster screwing in
- It can easily be driven in timber.

Underhead thread with cutting ribs

- The thread pitch is different than the drive thread
- Allows the components to be pulled together

Coarse thread

- Allows faster screwing in

Drill tip

- Reduced screw-in torque
- No pre-drilling required

KONSTRUX DUO

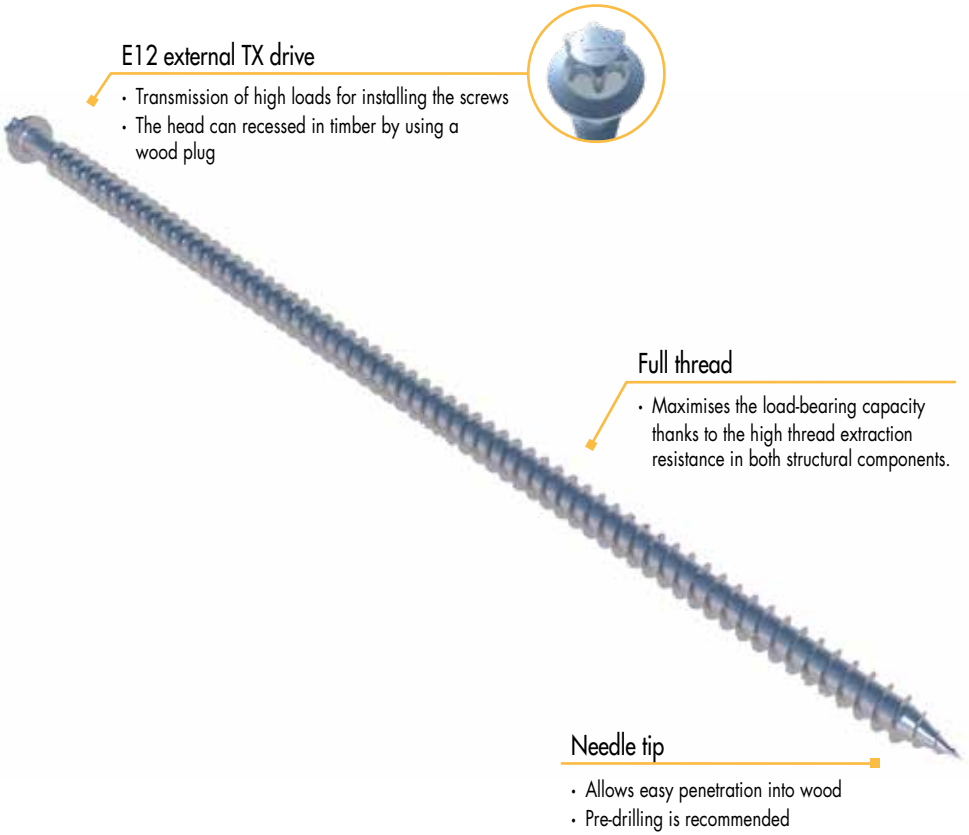
Cylinder head,
drill tip,
steel blue galvanised

KONSTRUX, 13 MM E12

FOR THE REINFORCEMENT OF LARGE SPAN TIMBER STRUCTURES

KonstruX screws with an E12 drive are widely used in large span timber construction, thanks to the **high thread-extraction resistance** in both structural components. With a coarse thread across their entire length and an outer diameter of 13 mm, these screws are designed to have an **excellent axial extraction resistance** in structural timber components. With their **impressive tensile strength of 75 kN,** the screws can take full advantage of their maximum length of 1,400 mm and are therefore particularly suitable for the reinforcement of large span wooden girder or arches.

Typical applications are to be found in glue-laminated timber elements or hall trusses with large spans, beam and connection reinforcements, transverse tensile reinforcements, recess reinforcements on notches, opening reinforcements and support reinforcements in order to increase, maintain or restore the load-bearing capacity and reduce long-term deformations.



KONSTRUX, 13 MM E12

E12 external TX drive,
blue galvanised

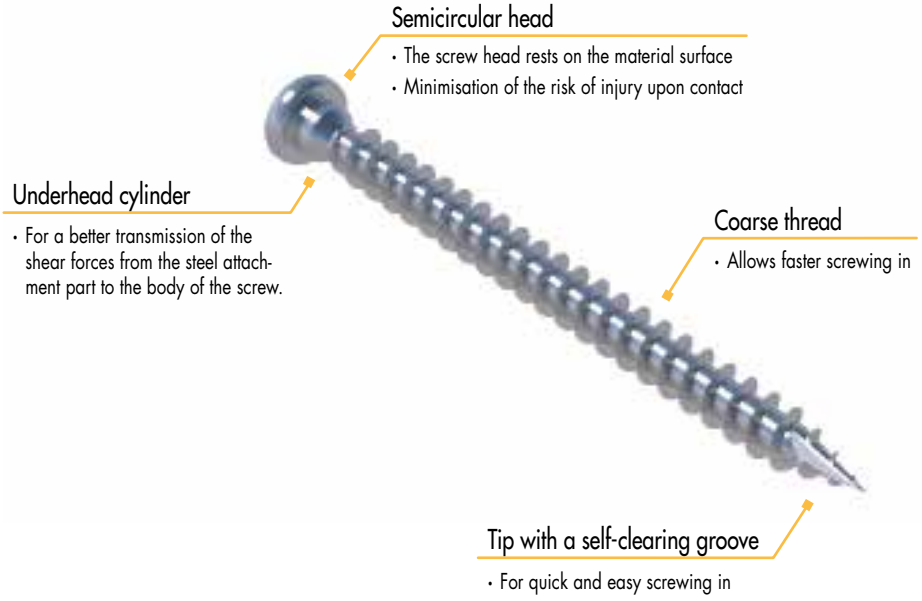
Suitable to this

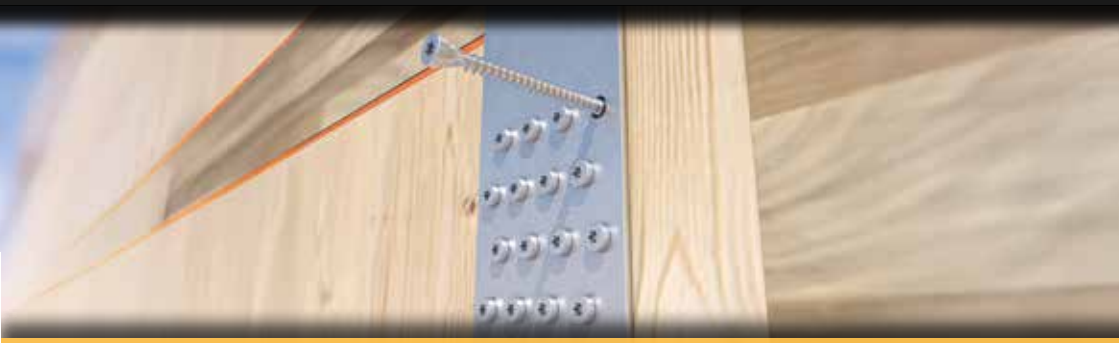
1/2" external TX socket

ANGLE-BRACKET SCREW (ABS)

FOR QUICK AND EASY SCREWING ON STEEL PLATES

The Eurotec angle-bracket screw (ABS) **made of hardened carbon has been specially designed for connections between sheet steel and wood**. The **splitting effect in the wood** is **reduced** by the geometry of the screw tip. In addition, the screw is characterised, among other things, by the **smooth shank that sits directly beneath its head** which allows for the **transmission of high shear loads in steel plates.**





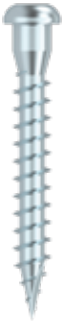
ANGLE-BRACKET SCREW

Angle-bracket screw
steel,
blue galvanised

C

NKL 1 – 2

Angle-bracket screw A4
stainless steel A4



A4

CRC III

SC 1 – 3

C5

T5

EDELSTAHL Rostfrei

Angle-bracket screw ZK Hardwood
steel,
blue galvanised

C

SC 1 – 2

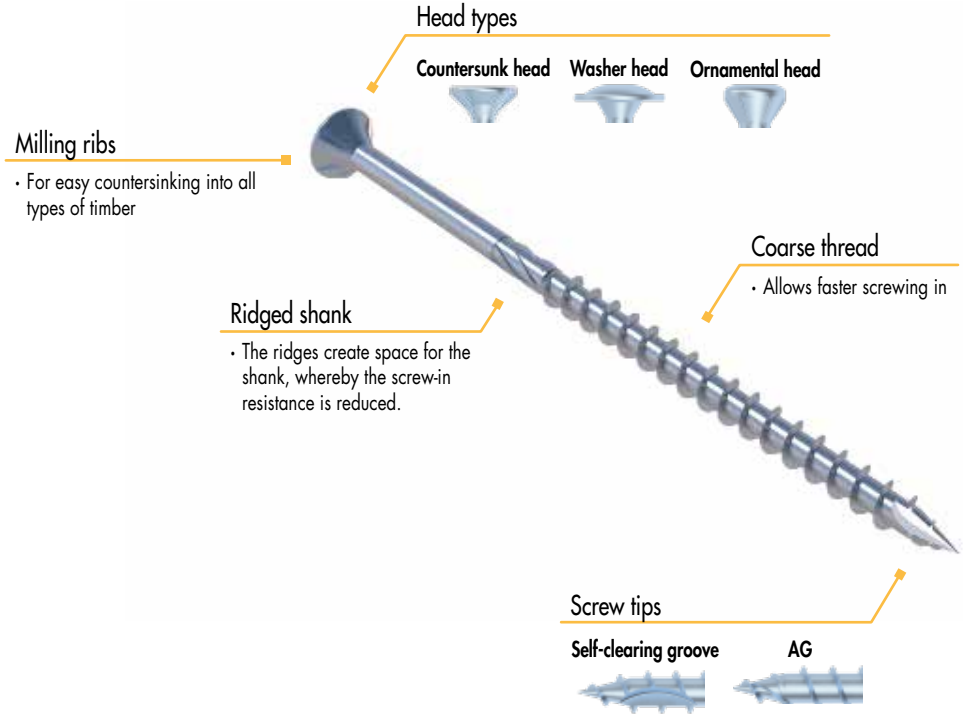
Angle-bracket screw Strong
steel,
blue galvanised

C

SC 1 – 2

PANELTWISTEC

Paneltwistec are **wood construction screws with a special screw tip and milling ribs** above the thread. The **cutting notch** on the screw tip ensures that it **grips quickly and reduces the splitting effect** during screwing in. **Paneltwistec AG** on the other hand features a **folded-down thread,** which **reduces the screw-in resistance.** Paneltwistec wood screws are available with countersunk, ornamental or washer heads as well as in coated carbon steel and a number of stainless steels.



PANELTWISTEC AG

Countersunk head,
screw tip AG,
blue galvanised

NKL 1 – 2

Countersunk head,
screw tip AG,
steel blue galvanised

NKL 1 – 2

Washer head screw,
screw tip AG,
blue galvanised

NKL 1 – 2

8 MASS TIMBER SCREWS

PANELTWISTEC

Countersunk head,
screw tip with self-clearing groove,
steel blue galvanised

Countersunk head,
screw tip with self-clearing groove,
steel yellow galvanised

Washer head screw,
screw tip with self-clearing groove,
steel yellow galvanised

Countersunk head,
screw tip with self-clearing groove,
hardened stainless steel

PANELTWISTEC, PANELTWISTEC AG

Washer head screw,
screw tip with self-clearing groove,
hardened stainless steel

C1 NKL 1 – 3 T3 C2

EDELSTAHL Rostfrei

Washer head screw,
AG screw tip
hardened stainless steel

C1 NKL 1 – 3 T3 C2

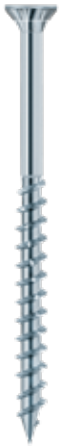
EDELSTAHL Rostfrei

8 MASS TIMBER SCREWS

PANELTWISTEC A4

Paneltwistec
Countersunk head, scraper groove
stainless steel A4

Paneltwistec A4
Countersunk head,
stainless steel A4

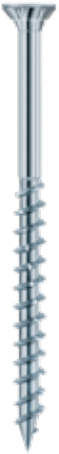


Paneltwistec A4
Ornamental head,
stainless steel A4

Paneltwistec A4
Washer head screw,
stainless steel A4

PANELTWISTEC A2

Paneltwistec A2
Countersunk head, stainless steel A2

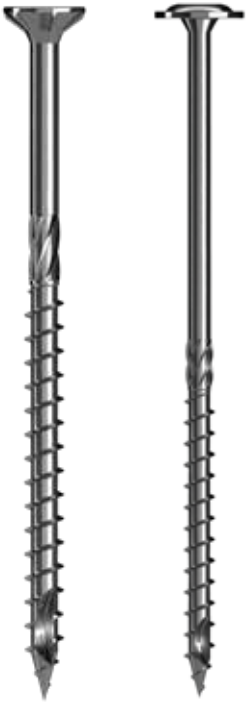


Paneltwistec A2
Washer head screw, stainless steel A2

PANELTWISTEC 1000

STEEL SPECIALLY COATED

The Paneltwistec 1000 is a fastener made from specially coated and hardened carbon steel, designed for use in load-bearing timber structures to connect components made of solid coniferous timber, glued laminated timber, laminated veneer lumber, or similar engineered wood products. The screw has a **self-clearing groove** at the screw tip and **milling ribs** above the thread. The screw is available in "countersunk head" and "washer head" versions. The screw's special geometry ensures a **reduced splitting effect during installation.** Thanks to the special coating, **the screw-in resistance is also reduced,** due to less friction between the body of the screw and the wood.



PANELTWISTEC 1000

Countersunk head,
screw tip with self-clearing groove,
steel specially coated

NKL 1 – 3

Only screws with Ø = 3.0 mm

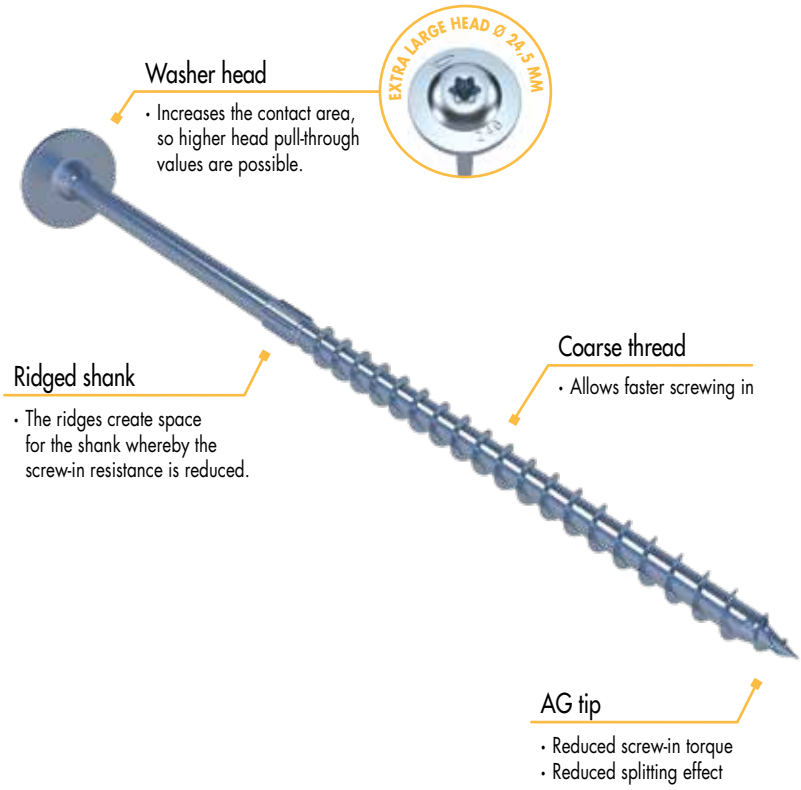
Washer head screw,
steel specially coated

NKL 1 – 3

PANELTWISTEC TK AG STRONGHEAD

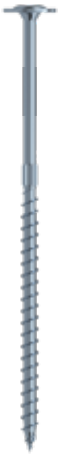
FOR THE APPLICATION OF PRESS-LAMINATED STRUCTURAL TIMBER COMPONENTS

Paneltwistec wood construction screws can be installed **in CLT or laminated timber without pre-drilling**. Paneltwistec has a **special AG screw tip and milling ribs** above the thread, ensuring it grips quickly and has a reduced splitting effect when screwing in. What's more, the thread not only speeds up the installation process but also **reduces** the **screw-in torque.** The washer head offers a **high head pull-through resistance** and ensures sufficient **pressure between the two surfaces to be connected**, which is very effective for adhesive bonding. If the press-gluing is carried out properly during the curing of the adhesives, it is possible to produce composite timber components. Furthermore, ribbed panel applications can be performed with Paneltwistec stronghead screws.



PANELTWISTEC TK AG STRONGHEAD

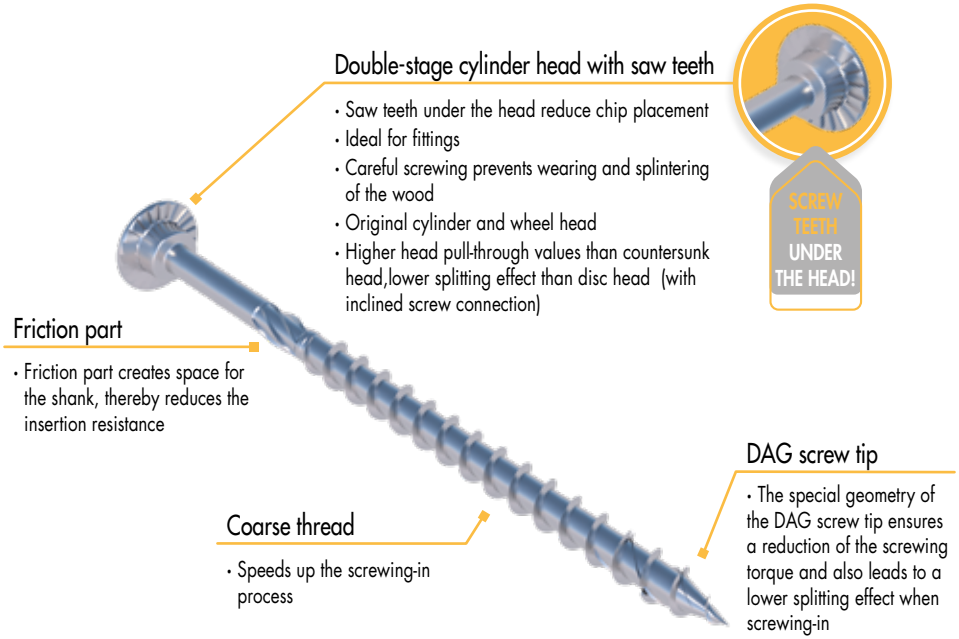
Washer head screw,
blue galvanised



SAWTEC

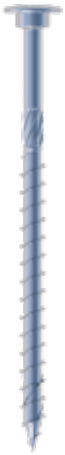
WOOD CONSTRUCTION SCREW WITH A FLUSH INSTALLATION

The SawTec is a wood construction screw **with a special screw tip and saw teeth below the head.** The screw has a **double-stage cylinder head.** The special geometry of the screw tip **reduces the screwing torque** and also leads to a **lower splitting effect** when screwing in.



SAWTEC

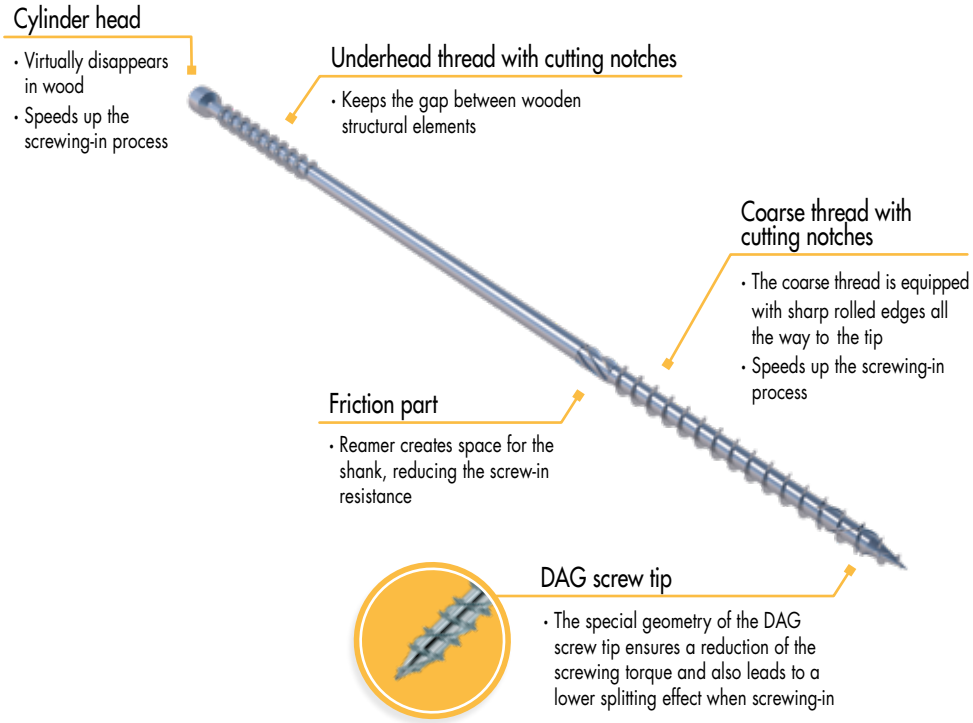
Cylinder head,
blue galvanised



TOPDUO ROOFING AND FACADE SCREW

THE WOOD-CONSTRUCTION SCREW FOR ALL OVER-RAFTER INSULATION SYSTEMS

The Topduo roofing and facade screw can be used to **fasten both compression-resistant and non-compression-resistant above-rafter insulation**. The **high pull-out resistance** in both connecting timbers also makes the TopDuo roofing screw suitable for many other applications in timber construction. The screw has a **double thread and is available with a flanged buttonhead and cylinder head.**



TOPDUO ROOFING AND FACADE SCREW

Washer head,
hardened carbon steel,
electrogalvanised

Cylinder head,
hardened carbon steel,
electrogalvanised

WATCH OUR **TOPDUO APPLICATION VIDEO** HERE!

8 MASS TIMBER SCREWS

TAURUS

The Taurus 45 has been developed to provide a suitable fixing between a steel plate and timber member by means of installing fully-threaded screws at an angle. In the steel plates, only simple round holes are milled / drilled or lasered to prevent the Taurus from sliding out. With Taurus, the screws are affixed at a 45° angle to ensure the simpler and faster transfer of shear forces. The Taurus 45° is compatible with Ø 8–10 mm KonstruX ST.

THE SCREW-IN TOOL

The screw-in tool has been specially designed for the mechanical screwing of wood and spacer screws. It creates a non-positive and centric connection between the screw head and tool, which guarantees a precise and controlled screwing process – even at higher screw-in torques.

LBS CONSTRUCTION SCREW

Eurotec LBS construction screws are special fasteners for use in laminated hardwood veneer lumber. Thanks to their special screw geometry and the properties of steel, they can be screwed straight into this material without pre-drilling. The special geometry of the DAG screw tip reduces screw-in torque and causes less splitting when screwing in.

SPEED LIMITER

Modern screw-in tools – whether mains or battery operated – are becoming ever more powerful. This development comes with an increasing risk, i.e. that the screws may be exposed to excessive loads during the screwing process. This leads to characteristic damage profiles, e.g. ripped-off screw heads, overtightened threads or deformed components, especially in demanding metal-timber joints. The screw-in coupling offers an effective solution for this issue. It reliably limits the torque to a specified value. Once this has been reached, an internal shut-down mechanism disconnects the power transmission, which protects the screws and materials from destruction and ensures consistently secure screw connections.

This makes the tool ideal for professional users who value clean and controlled installations – without compromising on speed.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