PRODUCT DATA SHEET

SUPER TROUPER

PRODUCT DESCRIPTION

SUPER TROUPER is a **concealed**, **height-adjustable system connector** for load-bearing timber-to-timber, timber-to-concrete and timber-to-steel connections. It is screwed onto an M12 thread anchored in the substrate. By rotating the connector, the **connection height can be adjusted continuously**. A Ø 8 mm steel dowel inserted transversely to the connector axis secures the timber member to the connector.

One connector provides height adjustment and anchoring – eliminating installation sills and shims. In the Eurotec system, SUPER TROUPER is mounted on the Eurotec ECB-FZ-C3 M12 bolt anchor.

The compact connector is particularly suitable for base and intermediate-floor connections in timber construction. Its **detachable connection facilitates** the **disassembly of wall elements** and modular components: withdraw the steel dowel, lift off the element and reuse the connector.



FEATURES / ADVANTAGES

- **Faster installation:** up to 75% time savings (manufacturer's statement). No time-consuming shimming or rework.
- **Millimetre-accurate alignment:** continuous levelling via the connector; height measurement using the matching positioning sleeve.
- **Installation check:** If the steel dowel passes through the member and cross hole, the set height is correctly transferred.
- **Less material:** no conventional installation sills or temporary supporting structures are required.
- **High installation tolerance:** Ø 26 mm recess hole with Ø 22 mm connector simplifies fitting, even for inclined members – with separate, lower load-bearing capacities.
- **No protruding threads:** no protective cap required
- **High design reliability:** load-bearing capacities according to ETA-26/0028, design according to Eurocode 5.
- **Versatile:** for timber-to-concrete, timber-to-steel and timber-to-timber connections
- **Detachable and reusable:** undamaged connectors can be reused (manufacturer's statement).

MATERIAL

- **Standard version:** S355J2 steel according to EN 10025-2, zinc-plated (zinc coating 6–10 µm according to ETA-26/0028) – for service classes 1 and 2
- Requirements for service class 3: see "Corrosion protection", p. 9

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APPROVAL

- European Technical Assessment ETA-26/0028 (11 March 2026)
- Assessment basis: EAD 130186-00-0603
- Technical assessment body: ETA-Danmark A/S
- Declaration of Performance dated 31 March 2026:
- Assessment and verification system 2+
- notified body 0809
- Manufacturer and ETA holder:
  Hübscher Holzbau AG, CH-8222 Beringen
- Distributed by: E.u.r.o.Tec GmbH



SYSTEM COMPONENTS

Component	Specification	Reference
SUPER TROUPER M12	S355J2, zinc-plated	ETA-26/0028 · DoP dated 31 March 2026
Steel dowel Ø 8 mm	S355; not included in delivery	EN 14592 (ETA-26/0028, section 3.4)
Eurotec ECB-FZ-C3 M12 bolt anchor	Carbon steel, electrogalvanized ≥ 5 µm	ETA-22/0451 dated 3 October 2022, Annex A2
Hanger bolt / M12 threaded rod	Strength class as specified by the design (tabulated values for 4.6 to 10.9)	ISO 965-1 / ISO 4017 / ISO 4762 (ETA section 3.4) Hanger bolt: ETA to be added
Positioning sleeve	Installation aid for measuring height	Manufacturer's statement

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ARTICLE TABLE

SUPER TROUPER				
Art. no. (Eurotec)	Art. no. (manufacturer)	Name	Thread	PU
944120	A-000687	SUPER TROUPER	M12	20
coming soon	A-000688	SUPER TROUPER with ECB-FZ-C3 M12 bolt anchor	M12	20*
coming soon	A-000690	Positioning sleeve (installation aid)	–	1
coming soon		Eurotec spray can		
coming soon		Hanger bolt		
coming soon		Eurotec screw-in aid		

* Incl. 20 bolt anchors

M10 available on request (ETA-26/0028, Annex A.1). Ø 8 mm S355 steel dowels are not included in delivery. Fasteners for the substrate must be selected to suit the connection design.

TECHNICAL DATA

SUPER TROUPER		
Feature	Value	Reference
Connector length / outside diameter	70 mm / Ø 22 mm	ETA-26/0028, Annex A.2 and B
Base plate	Ø 38 mm; thickness 2 mm	Annex A.2 and B
Internal thread	M12 (M10 on request)	Annex A.1, A.2
Across flats	SW 19	Annex A.2 (AF19)
Cross holes / steel dowels	2 × Ø 9 mm, perpendicular to the connector axis and to each other / Ø 8 mm steel dowels according to EN 14592	Annex B; section 3.4
Recess hole in timber	Ø 23 mm or Ø 26 mm; different load-bearing capacities	Annex A.4, A.5, B
Interlayer between timber and steel / concrete	maximum 25 mm (e.g. mortar / levelling layer, elastomeric bearing)	section 3.6; Annex A.3, A.4
Material	S355J2 according to EN 10025-2, zinc coating 6–10 µm	section 3.5
Timber-based materials	Solid timber (EN 14081), glued solid timber (EN 14080), glulam (EN 14080 or ETA), cross-laminated timber / CLT (ETA), LVL (EN 14374 or ETA), timber-based products with certified capacities for dowel-type fasteners	section 2
Density for calculations	use characteristic density not exceeding 480 kg/m³ (even for higher actual density)	section 2; Annex B
Service classes	1 and 2 for the zinc-plated version; service class 3 only with corrosion protection according to ETA	section 2, 3.5
Assumed service life	50 years (not a manufacturer's warranty)	section 2; DoP Nr. 7

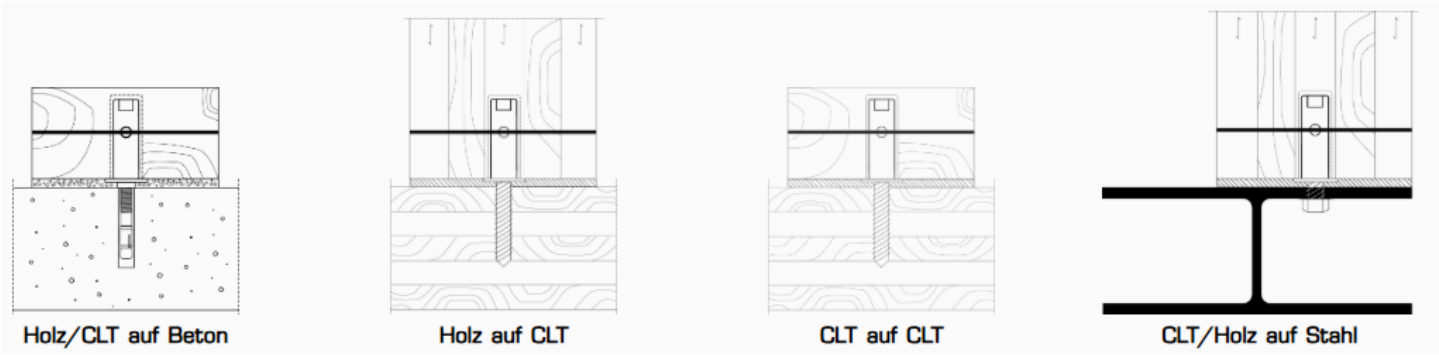
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SUPER TROUPER

APPLICATIONS



Connection	Typical application	Fastening to substrate
Timber / CLT on concrete	Ground-floor walls on a foundation slab or basement ceiling	Eurotec ECB-FZ-C3 M12 bolt anchor or another ETA-approved concrete anchor
Timber on CLT	Sill or wall on a CLT floor slab	M12 hanger bolt or threaded rod
CLT on CLT	Wall on upper-floor slab, modular construction	M12 hanger bolt or threaded rod
Timber / CLT on steel	Additional storeys, buildings on steel beams	M12 screw or threaded rod

Permitted fasteners according to ETA-26/0028, section 3.4: concrete anchors with ETA, bolts according to ISO 4017 or ISO 4762, threaded rods according to ISO 965-1 or equivalent. Selection and design depend on the substrate, loading and connection geometry.

APPLICATION NOTES

- For timber-frame single-family and multi-family homes, modular construction, temporary structures, additional storeys, extensions and industrial prefabrication.
- Timber materials: solid timber, glued solid timber, glulam, CLT, LVL and suitable wood-based products in accordance with the ETA (see Technical data).
- Minimum timber member dimensions according to ETA-26/0028, Annex B.6 (see Structural design values). For timber widths $B < B_{req}$, axial load-bearing capacity F_1 must be reduced (Annex C).
- Depending on wall thickness, the connector may be positioned off-centre; edge and centre-to-centre distances according to EN 1995-1-1, Table 8.4, must be observed. Use in Massiv-Holz-Mauer® (MHM) walls is also possible (manufacturer's statement).
- On steel beams, the connector is located on the top flange beside the web, not directly above the web (manufacturer's statement).
- The joint between timber and concrete or steel is limited to 25 mm (ETA, section 3.6); on concrete it is filled with non-shrink grout.

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SUPER TROUPER

COMPARISON WITH CONVENTIONAL SYSTEMS

Conventional systems	SUPER TROUPER
Fixed height	Infinitely height-adjustable
Time-consuming installation with sill and shims	Up to 75 % faster (manufacturer's statement)
Usually permanent installation	Detachable and demountable
Multiple components	One compact solution
Connection components often system-specific	ETA-approved concrete anchors, M12 bolts and threaded rods according to ETA-26/0028, section 3.4
Requires precise setting-out of anchors	Accommodates dimensional deviations when positioning anchors

INSTALLATION – OPERATING PRINCIPLE

SUPER TROUPER shifts the height alignment process from the wall to the connector. The walls then only need to be lowered into place and secured with dowels. The following instructions apply to timber / CLT on concrete using the Eurotec ECB-FZ-C3 M12 bolt anchor. For connections to CLT or steel, omit steps 2 to 4; the connector is screwed onto an M12 hanger bolt, threaded rod or screw.

TOOLS AND MATERIALS

- Total station with surveying pole – prefabrication data are stored in the total station
- Positioning sleeve (A-000690) for placing the surveying pole on the connector
- Rotary hammer with Ø 12 mm drill bit, blow-out pump or compressed air
- Hammer, torque wrench, marking pen
- SUPER TROUPER M12 with bolt anchor (A-000688), Ø 8 mm S355 steel dowel, non-shrink grout
- Prepared at the factory: Ø 23 mm or Ø 26 mm recess holes in the underside of the element and cross holes for the steel dowel

PRACTICAL WORKFLOW

1. Complete prefabrication planning – the data are stored in the total station.
2. Survey the elevation – determine corner points first to establish the starting height.
3. Install the bolt anchors.
4. Adjust SUPER TROUPER on the bolt anchor to the exact height.
5. Optional: prepare the day before – on installation day, the walls can be erected directly.

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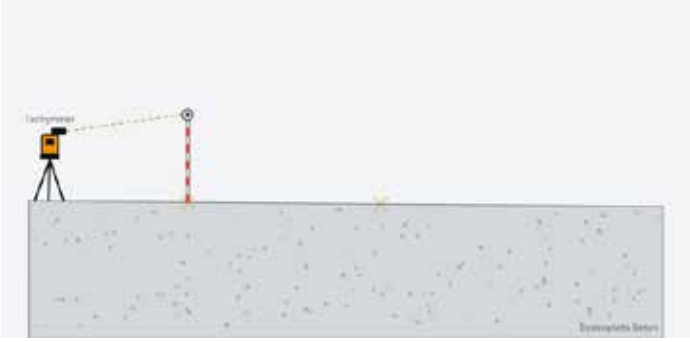
SUPER TROUPER

INSTALLATION PARAMETERS – EUROTEC ECB-FZ-C3 M12 BOLT ANCHOR

Parameter	Value	Unit
Nominal drill diameter d_0	12	mm
Drill-hole depth h_1	85	mm
Embedment depth in concrete h_{nom}	80	mm
Installation torque T_{inst}	60	Nm
Minimum concrete member thickness h_{min}	140	mm

Note: These installation parameters apply exclusively to the Eurotec ECB-FZ-C3 M12 bolt anchor and must not be applied to other anchors.
Source: ETA-22/0451 dated 3 October 2022, Annex C, Table C1 (p. 9); see also centre-to-centre and edge distances. Substrate according to ETA-22/0451: reinforced or unreinforced normal-weight concrete C20/25 to C50/60, cracked or uncracked. The ECB-FZ-C3 is intended for dry indoor conditions (ETA-22/0451, Annex B2). Concrete anchor resistance must be verified separately according to EN 1992-4 and ETA-22/0451. For other anchors, the corresponding approved values apply.

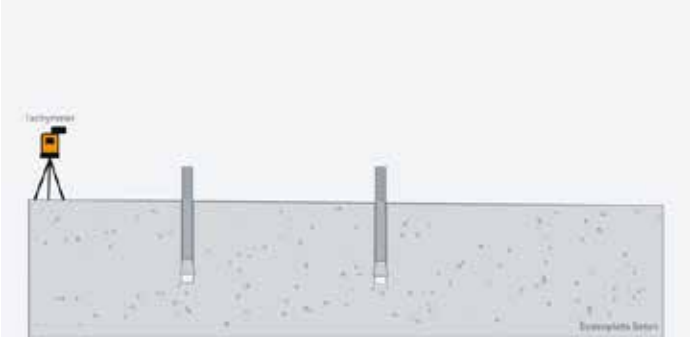
INSTALLATION STEPS – TIMBER / CLT ON CONCRETE



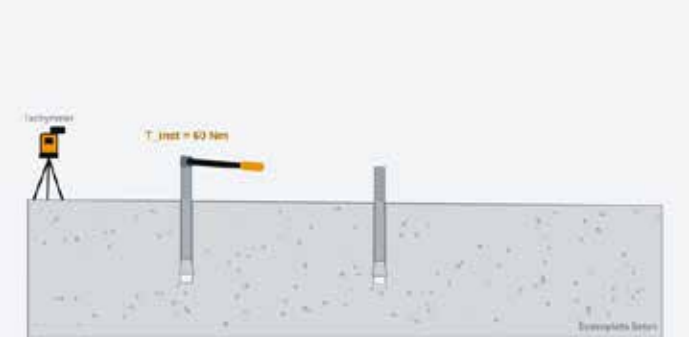
STEP 1: Set out the concrete slab
Prefabrication data are stored in the total station. Use the total station and surveying pole to determine corner points and initial elevation, then mark the connector positions.



STEP 2: Drill and clean
Drill-hole diameter Ø 12 mm, depth h1 = 85 mm (ETA-22/0451, Table C1). Thoroughly blow out the drill hole.



STEP 3: Install the bolt anchor
Drive in the Eurotec ECB-FZ-C3 M12 bolt anchor until embedment depth h_{nom} = 80 mm is achieved.



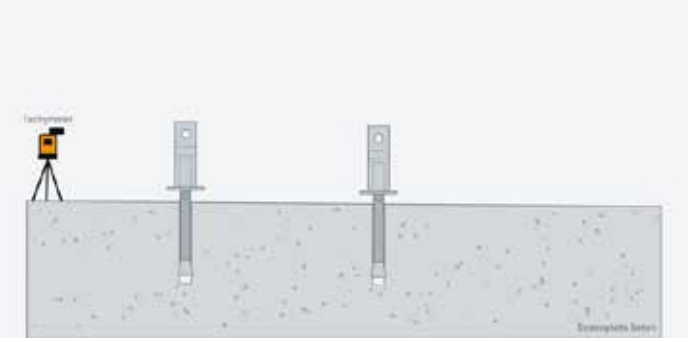
STEP 4: Tighten the anchor
Tighten the anchor to installation torque T_{inst} = 60 N_m (torque wrench; ETA-22/0451, Table C1).

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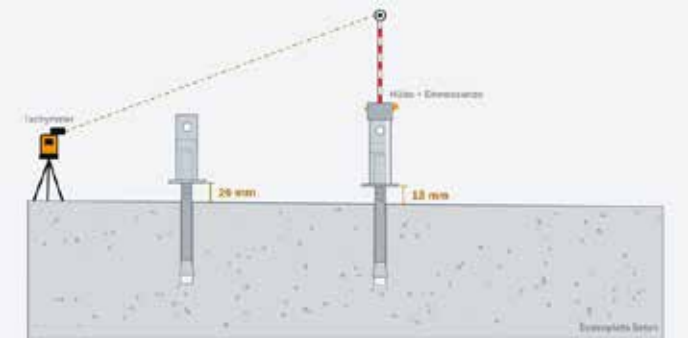
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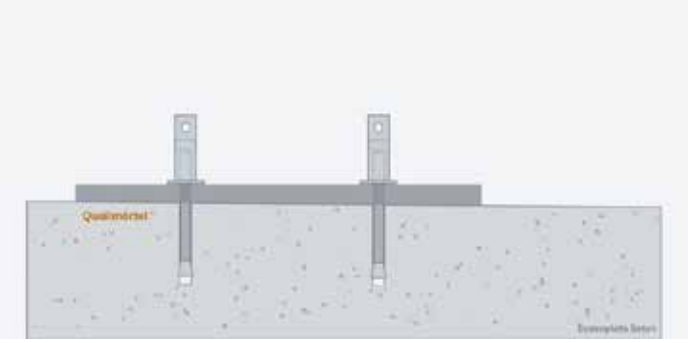
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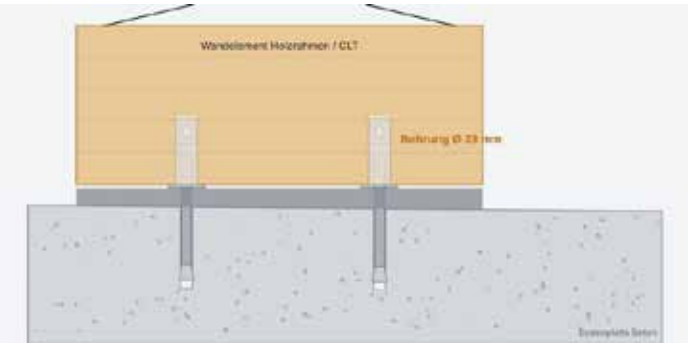
STEP 5: Screw on SUPER TROUPER
Screw the connector onto the M12 threaded shank by hand using its internal thread. Ensure adequate thread engagement as specified by the manufacturer.



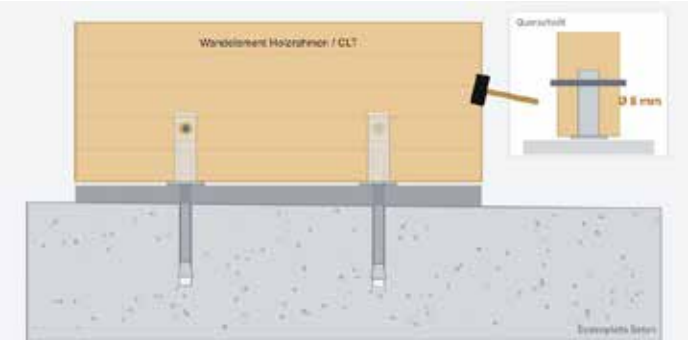
STEP 6: Adjust the height
Place the positioning sleeve and surveying pole on the connector and rotate it to adjust precisely to the target height measured with the total station.



STEP 7: Apply non-shrink grout
Before lowering the wall, apply non-shrink grout along the wall axis. According to the manufacturer, the joint between the base plate and concrete is 10–25 mm with bedding or 0–10 mm without bedding; maximum interlayer thickness 25 mm (ETA, section 3.6).



STEP 8: Lower the wall element
Lower the element over the connectors using the Ø 23 mm or Ø 26 mm recess holes. It immediately rests level on the base plates.



STEP 9: Drive in the steel dowel
Drive the Ø 8 mm S355 steel dowel laterally through the element and cross hole. If the dowel passes through, the set height has been transferred correctly. Observe edge and centre-to-centre distances.

DISASSEMBLY AND NOTES

Disassembly: Withdraw the steel dowel and lift off the element. The connector can be unscrewed from the threaded fastener and reused if undamaged (manufacturer's statement).

- Connector quantities, spacing and edge distances must comply with the structural design.
- For service class 3, connectors and steel dowels must have corrosion protection according to ETA-26/0028, section 2 or 3.5.
- Drill-hole diameter, embedment depth and tightening torque for the concrete anchor must comply with the relevant anchor approval documentation.

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SUPER TROUPER

STRUCTURAL DESIGN VALUES – SELECTION

Selected characteristic load-bearing capacities per M12 connector for timber-to-concrete and timber-to-steel connections with Ø 8 mm S355 steel dowels. Additional values (densities, strength classes, M10, timber-to-timber connections) can be found in ETA-26/0028, Annex C, and the structural design tool.

AXIAL LOAD F_1

Timber / ρ_k [kg/m³]	Ø 23 mm: $F_{1,Rk}$ [kN]	B_{req} [mm]	Ø 26 mm: $F_{1,Rk}$ [kN]	B_{req} [mm]
350 (C24)	9,98	162	8,12	143
420 (GL24h)	10,9	150	8,84	132
480 (LVL)	14,0	122	11,1	108

Source: ETA-26/0028, Annex C.1, pp. 18 and 24. For timber widths $B < B_{req}$ reduce $F_{1,Rk}$ using $k_b = (B - 26) / (B_{req} - 26)$.

LATERAL LOAD, Ø 23 MM RECESS HOLE

Timber / ρ_k [kg/m³]	Load direction	$t_{i,eff}$ = 6 mm [kN]	$t_{i,eff}$ = 10 mm [kN]	$t_{i,eff}$ = 25 mm [kN]
C24 / 350	F2/3	14,6	13,1	8,92
C24 / 350	F4/5	9,82	9,18	7,32
GL24h / 420	F2/3	15,7	13,9	9,26
GL24h / 420	F4/5	11,3	10,6	8,27
CLT / 350 or 380	F2/3 = F4/5	5,36	5,03	4,07

Threaded rod, strength class 8.8. Source: ETA-26/0028, Annex C.1, pp. 20, 21 and 23. $t_{i,eff}$ = effective interlayer thickness: timber-to-steel $t_{i,eff} = t_i$; timber-to-concrete $t_{i,eff} = t_i + 0{,}5 \cdot d_r$ (Annex B.1.3). For softwood, F2/3 acts parallel to the grain, F4/5 perpendicular to it. Add verification of the strength-class assignment for the Eurotec ECB-FZ-C3 M12 bolt anchor.

LATERAL LOAD F2/3, Ø 26 MM RECESS HOLE

Softwood, LVL and CLT, ρ_k = 350–480 kg/m³	e_{eff} = 50 mm [kN]	e_{eff} = 60 mm [kN]	e_{eff} = 75 mm [kN]
M12, threaded rod grade 8.8	2,51	2,09	1,67

Source: ETA-26/0028, Annex C.1, p. 25. Effective lever arm: $e_{eff} = 50$ mm + t_i (timber-to-steel) or 50 mm + $t_i + 0{,}5 \cdot d_r$ (timber-to-concrete). The Ø 23 mm and Ø 26 mm holes have different load-bearing capacities and must not be considered equivalent. The tabulated values are characteristic values, not design values or permissible loads. Timber-to-timber connections must be designed using ETA-26/0028, Annex C.2.

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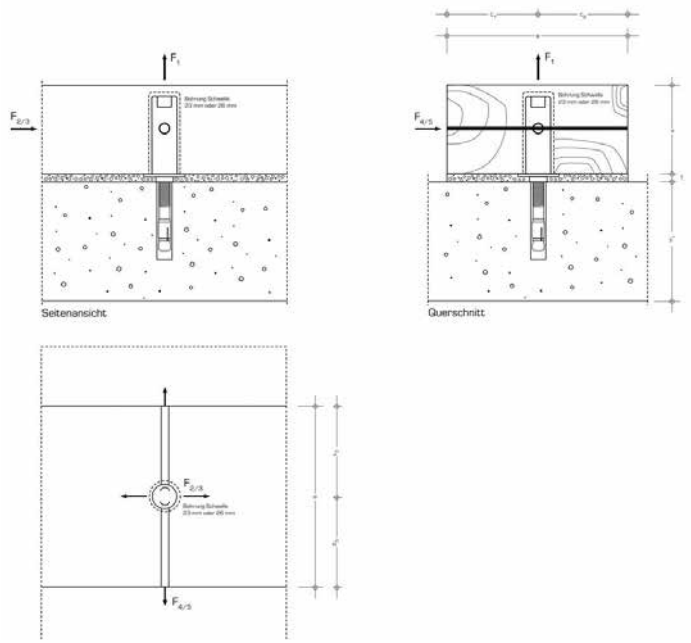
SUPER TROUPER

MINIMUM DIMENSIONS OF TIMBER MEMBERS

Recess hole	Load direction	min. H [mm]	min. B [mm]
Ø 23 mm	F1 / F2/3	80	140
Ø 23 mm	F4/5	80	220
Ø 26 mm	F1	80	100
Ø 26 mm	F2/3	60	100

ETA-26/0028, Annex B.6, p. 17. Spacing, edge and end distances according to EN 1995-1-1, Table 8.4. In CLT, splitting under loads in direction F4/5 must be prevented by reinforcement, e.g. fully threaded screws.

LOAD DIRECTIONS AND DESIGN



Load directions F1, F2/3 and F4/5 for a timber-to-concrete connection (Hübscher design sketch).

- F1 acts along the connector axis; F2/3 and F4/5 act perpendicular to it in the shear plane between timber and concrete or steel.
- Design according to Eurocode 5 using k_{mod} and partial safety factors according to ETA-26/0028, Annex B.4 / B.5. Exception: Ø 26 mm, F2/3 for timber-to-steel and timber-to-concrete – design value using $\gamma_{M,steel}$ without k_{mod}.
- When F2/3 and F4/5 act simultaneously, the interaction check according to Annex B.4 / B.5 is required; for rows parallel to the grain, use effective number n_{ef} (Annex B.3).
- Concrete anchors and connections to steel must be verified separately.
- Free manufacturer's structural design tool: statik.super-trouper.ch

CORROSION PROTECTION

Service class	Connector	Steel dowels / other fasteners
1 and 2	S355J2, zinc-plated, zinc coating 6–10 µm	Corrosion protection according to EN 1995-1-1
3	Stainless steel 1.4301 or zinc coating ≥ 55 µm according to EN ISO 1461 – check availability	stainless steel or suitable coating for service class 3

ETA-26/0028, sections 2 and 3.5. The ECB-FZ-C3 bolt anchor is intended for dry indoor conditions according to ETA-22/0451, Annex B2.

This information does not replace structural calculation. The design and detailing of connections must be determined and approved by a structural engineer.

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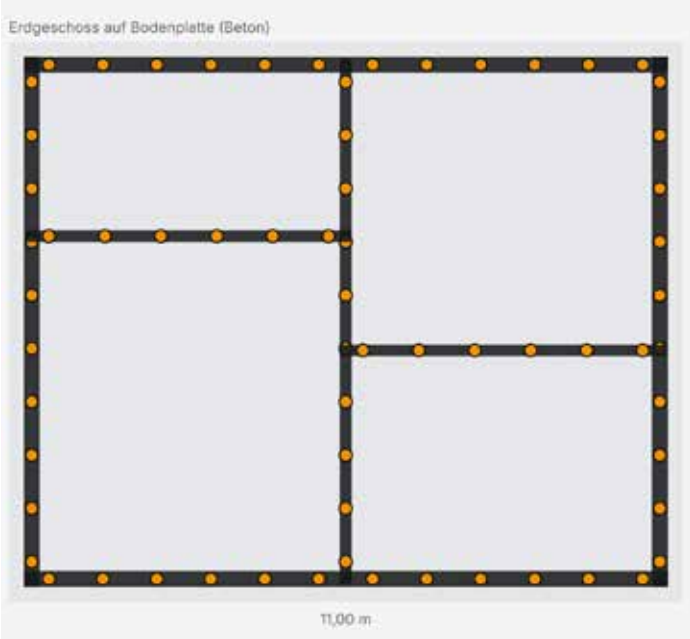
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SUPER TROUPER

ADDITIONAL PERFORMANCE CHARACTERISTICS

Reaction to fire: A1 (steel); fire resistance: no performance determined. Stiffness, ductility and seismic resistance: no performance assessed. Assumed service life: 50 years – not a manufacturer's warranty. (Declaration of Performance dated 31 March 2026, no. 7; ETA-26/0028, sections 3.1 and 3.2)

QUANTITY ESTIMATE FOR AN EXAMPLE DETACHED HOUSE



Connector positions on the ground floor of the example house.

Assumptions: 11 x 9 m, with 40 m of external walls and 20 m of internal walls per floor, 1.0 m centre-to-centre spacing, first connector 30 cm from the wall end. Actual spacing must be determined by structural design.

Storey	Substrate	Connector	Fastening
Ground floor	Concreteslab	66	66 M12 bolt anchors (in A-000688)
Upper floor	CLT floor slab	66	66 hanger bolts or M12 threaded rods
Total building	–	132	plus 132 steel dowels Ø 8 mm

Manufacturer's guideline: 120 to 150 connectors per two-storey detached house. Illustrative calculation; not a substitute for structural design.

DOCUMENTS AND RESOURCES

- European Technical Assessment ETA-26/0028 dated 11 March 2026 – complete load-bearing capacity tables (Annex C)
- Declaration of Performance SUPER TROUPER connector dated 31 March 2026Leistungserklärung SUPER TROUPER connector dated
- 31.03.2026
- ETA-22/0451 dated 3 October 2022 – Eurotec ECB bolt anchor
- Structural design tool: statik.super-trouper.chStatiktool:
- statik.super-trouper.ch
- CAD data: DXF, STEP, IFC, 2D/3D and SEMA component; Design sketches (11 load cases), installation videos

DOCUMENTATION BASIS

ETA-26/0028 dated 11 March 2026 (ETA-Danmark A/S); Declaration of Performance dated 31 March 2026 (Hübscher Holzbau AG); ETA-22/0451 dated 3 October 2022 (IETcc); manufacturer information and installation diagrams by Hübscher Holzbau AG. Statements marked "manufacturer's statement" are not covered by the ETA. The complete ETA, current Declaration of Performance and installation instructions for the fasteners used remain authoritative. For questions: technik@eurotec.team.

If you are unfamiliar with the use of this product, especially its intended use, please contact our Technical Applications Department (technik@eurotec.team) before using it.

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