F70

“T” SHAPED POST BASE

S235 HOT DIP

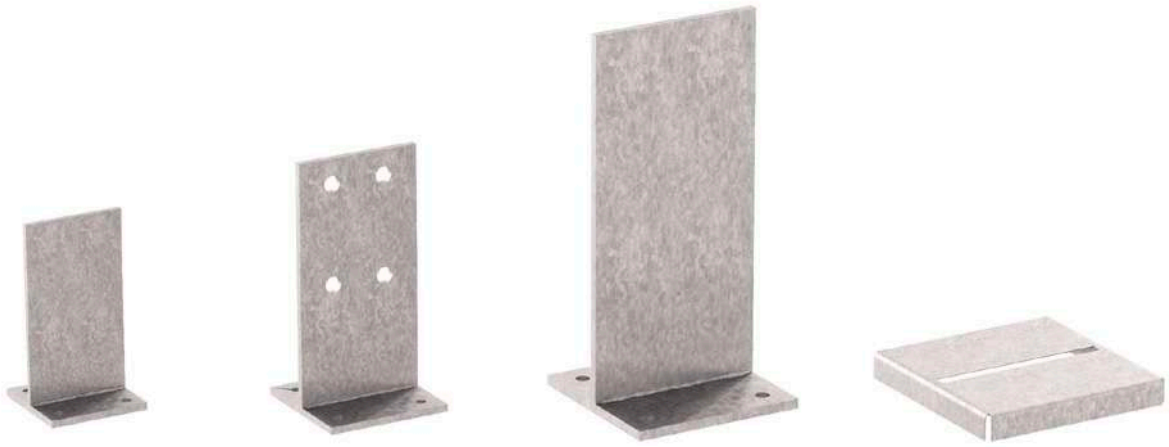
VIDEO

CE ETA 10/0422

INVISIBLE
The internal knife plate is used to create a totally concealed joint. Designed to accommodate columns of all dimensions.

TWO VERSIONS
Without holes, to be used with self-drilling dowels; with holes, to be used with smooth dowels or bolts.

FIXED-END
Moment-resisting joint for fixed-end constraints. Different strength levels depending on the fastening configuration selected.



CHARACTERISTICS

FOCUS	concealed joints
COLUMNS	from 70 x 70 mm to 240 x 240 mm
HEIGHT	from 150 to 300 mm
FASTENERS	SBD, STA, SKR, VIN-FIX PRO

VIDEO
Scan the QR Code and watch the video on our YouTube channel

MATERIAL

Hot dip bright zinc plated carbon steel.

FIELDS OF USE

Outdoor joints. Suitable for service class 1, 2 and 3

- solid timber and glulam
- CLT, LVL

STATICS

Different fastening configurations, each calculated and certified according to ETA. Resistant to compression, tension, shearing and moment.

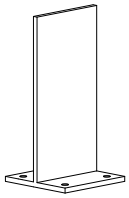
AESTHETICS AND DURABILITY

For excellent durability, it can be integrated with F70 LIFT plate to generate a riser from the ground and protect the anchors from moisture.

CODES AND DIMENSIONS

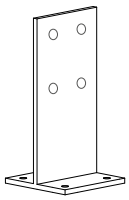
F70

CODE	bottom plate [mm]	base holes [n. x mm]	H [mm]	knife plate thickness [mm]	pcs
F7080	80 x 80 x 6	4 x Ø9	156	4	1
F70100	100 x 100 x 6	4 x Ø9	206	6	1
F70140	140 x 140 x 8	4 x Ø11,5	308	8	1



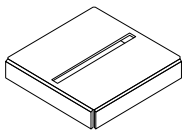
F70 L - with holes

CODE	bottom plate [mm]	base holes [n. x mm]	H [mm]	knife plate thickness [mm]	knife plate hole [n. x mm]	pcs
F70100L	100 x 100 x 6	4 x Ø9	206	6	4 x Ø13	1
F70140L	140 x 140 x 8	4 x Ø11,5	308	8	6 x Ø13	1



F70 LIFT

CODE	plate [mm]	H [mm]	thickness [mm]	pcs
F70100LIFT	120 x 120	20	2	1
F70140LIFT	160 x 160	22	2	1



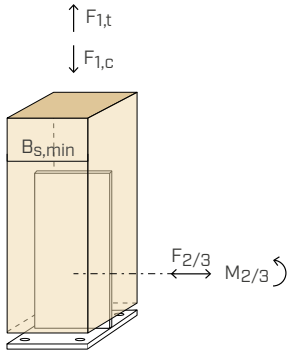
MATERIAL AND DURABILITY

F70: S235 carbon steel with hot galvanising.
To be used in service classes 1, 2 and 3 (EN 1995-1-1).

FIELD OF USE

- Concealed joint for timber columns

EXTERNAL LOADS

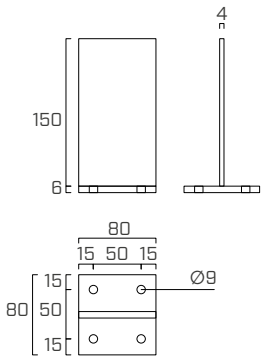


ADDITIONAL PRODUCTS - FASTENING

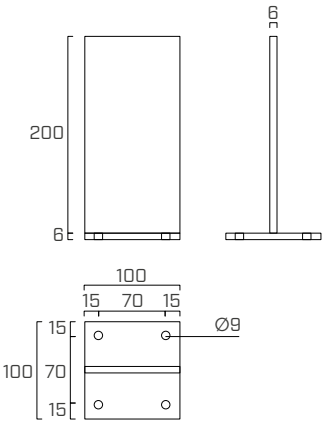
type	description		d [mm]	support	page
SBD	self-drilling dowel		7,5		48
STA	smooth dowel		12		54
KOS/KOT	bolt		M12		526 - 531
SKR	screw anchor		7,5 - 8 - 10		488
VIN-FIX PRO	chemical anchor		M8 - M10		511
EPO-FIX PLUS	chemical anchor		M8 - M10		517

GEOMETRY

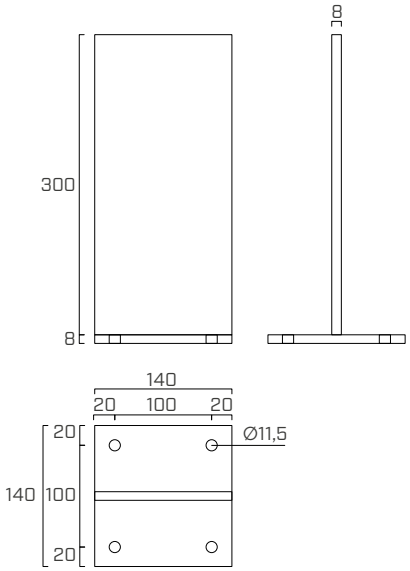
F7080



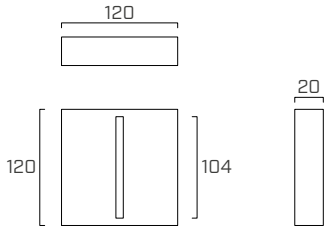
F70100



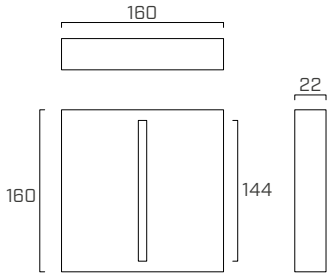
F70140



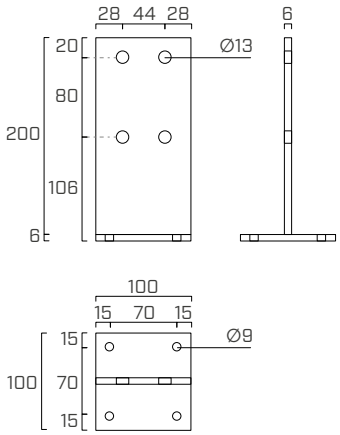
F70100LIFT



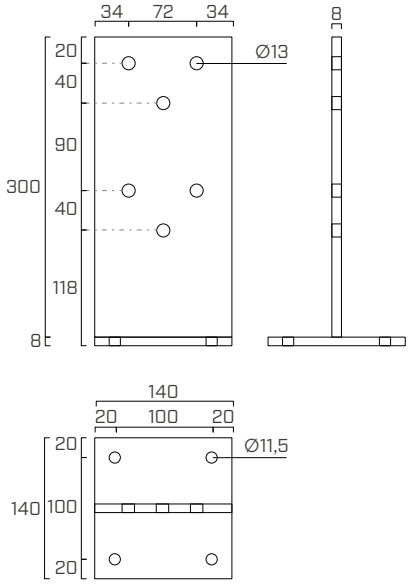
F70140LIFT



F70100L

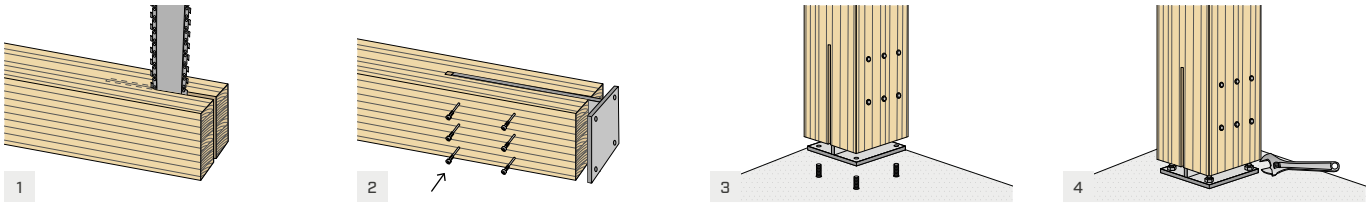


F70140L

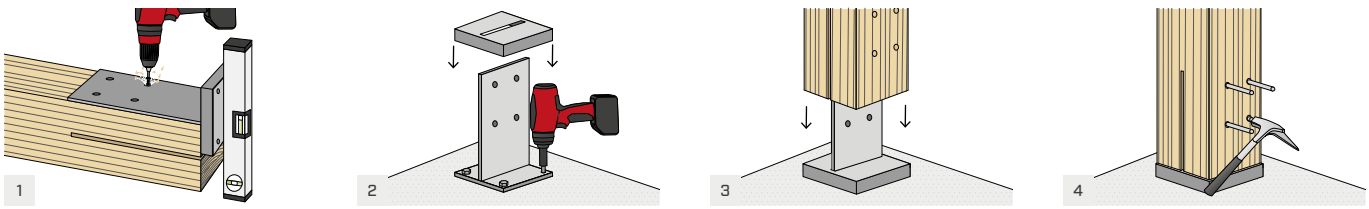


ASSEMBLY

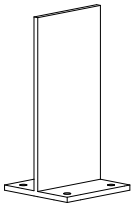
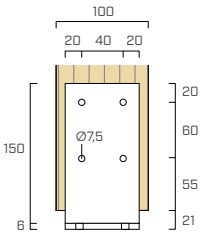
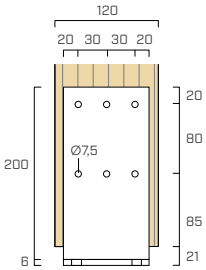
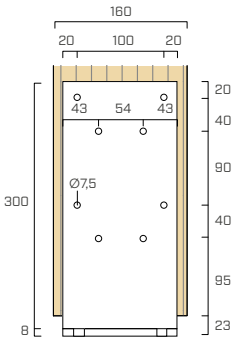
F70 WITH SBD SELF-DRILLING DOWELS



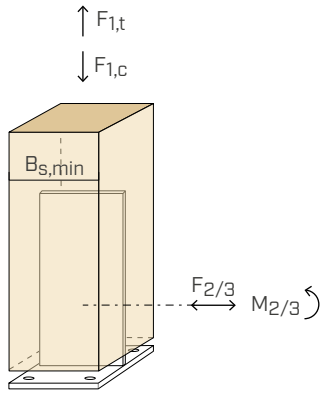
F70 L WITH STA DOWELS



F70 FASTENING CONFIGURATIONS WITH SBD SELF-DRILLING DOWELS

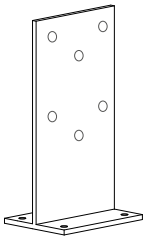
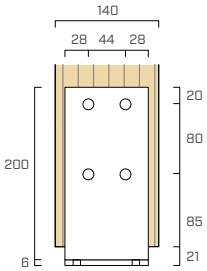
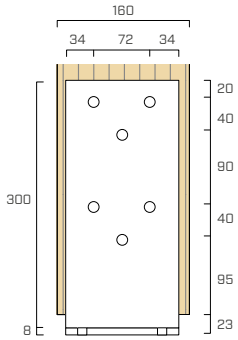
CODE	F7080	F70100	F70140
			

STATIC VALUES F70

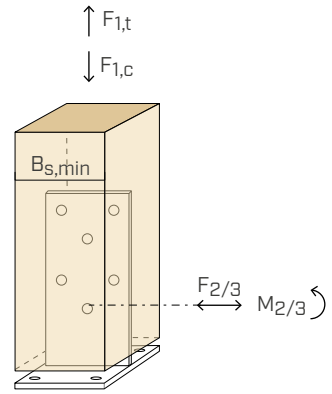


CODE	fasteners for timber		column	COMPRESSION			TENSION			SHEAR		MOMENT		
	type	pcs - Ø x L [mm]	$B_{s,min}$ [mm]	$R_{1,c\,k\,timber}$ [kN]	$R_{1,c\,k\,steel}$ [kN]	γ_{steel}	$R_{1,t\,k\,timber}$ [kN]	$R_{1,t\,k\,steel}$ [kN]	γ_{steel}	$R_{2/3,t\,k\,steel}$ [kN]	γ_{steel}	$M_{2/3\,k\,timber}$ [kNm]	$M_{2/3\,k\,steel}$ [kNm]	γ_{steel}
F7080	SBD Ø7,5	4 - Ø7,5 x 75	100 x 100	29,6	32,7	γ_{M1}	17,9	18,3	γ_{M0}	3,4	γ_{M0}	0,36	0,46	γ_{M0}
F70100	SBD Ø7,5	6 - Ø7,5 x 95	120 x 120	52,6	67,8		52,6	15,7		3,8		1,98	0,55	
F70140	SBD Ø7,5	8 - Ø7,5 x 115	160 x 160	87,7	103,0		87,7	25,7		6,5		4,22	1,28	

F70L FASTENING CONFIGURATIONS WITH STA SMOOTH DOWELS OR BOLTS

CODE	F70100L	F70140L
		

STATIC VALUES F70L



CODE	fasteners for timber		column	COMPRESSION			TENSION			SHEAR		MOMENT		
			$B_{s,min}$	$R_{1,c\ k\ timber}$	$R_{1,c\ k\ steel}$		$R_{1,t\ k\ timber}$	$R_{1,t\ k\ steel}$		$R_{2/3,t\ k\ steel}$		$M_{2/3\ k\ timber}$	$M_{2/3\ k\ steel}$	
	type	pcs - Ø x L [mm]	[mm]	[kN]	[kN]	γ_{steel}	[kN]	[kN]	γ_{steel}	[kN]	γ_{steel}	[kNm]	[kNm]	γ_{steel}
F70100L	STA Ø12[(1)]	4 - Ø12 x 120	140 x 140	55,7	67,8	γ_{M1}	55,7	15,7	γ_{M0}	3,8	γ_{M0}	2,46	0,55	γ_{M0}
F70140L	STA Ø12[(1)]	6 - Ø12 x 140	160 x 160	104,0	103,0		104,0	25,7		6,2		4,88	1,28	

NOTES:

[(1)] The strength values are also valid in case of alternative fastening using M12 bolts according to ETA-10/0422.

GENERAL PRINCIPLES:

- Characteristic values are consistent with EN 1995-1-1 and in accordance with ETA-10/0422.
- The design values are obtained from the characteristic values as follows:

$$R_d = min \begin{cases} \frac{R_{i,k\ timber} \cdot k_{mod}}{\gamma_{timber}} \\ \frac{R_{i,k\ steel}}{\gamma_{steel}} \end{cases}$$

The coefficients k_{mod} and y should be taken according to the current regulations used for the calculation.

The verification of the fastener-to-concrete connection must be carried out separately.

- The strength values indicated in the table are valid in compliance with the fasteners positioning and the timber column according to the configurations indicated.
- The moment and shear strength values are calculated individually not taking into account the stabilizing contributions, if any, deriving from the compressive stress that influence the overall strength of the connection. In case of combined loading the verification must be carried out separately.
- For the calculation process a timber density ρ_k = 350 kg/m^3 has been considered.
- Dimensioning and verification of timber and concrete elements must be carried out separately.