

"T" SHAPED POST BASE

PARTIAL INTERLOCKING

Bending moment resistant for partial bracing of canopies and shelters. Strength and stiffness values tested.

INVISIBLE

The internal knife plate is used to create a totally concealed joint. Designed to accommodate columns of all dimensions. Hot-dip galvanisation and aluminium versions ensure durability in outdoor settings.

TWO VERSIONS

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

ALUMIDI

For compression and shear stress, the ALUMIDI aluminium bracket can be used as a post base with SBD self-drilling dowels.



USA, Canada and more design values available online.



VIDEO



DESIGN
REGISTERED



ETA-10/0422

SERVICE CLASS

SC1

SC2

SC3

MATERIAL

S235
HDG55

F70 versions 80, 100, 140: carbon steel S235 with hot-dip galvanising 55 µm

S355
HDG55

F70 versions 180 and 220: S355 carbon steel with hot-dip galvanising 55 µm

S235
HDG

F70LIFT: S235 hot dip bright zinc plated carbon steel

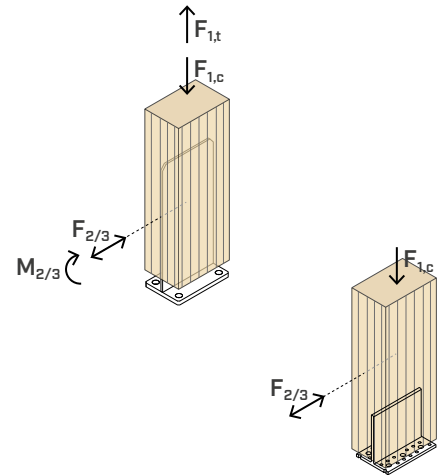
alu
6005A

ALUMIDI: EN AW-6005A° aluminium alloy

GROUND CLEARANCE

from 21 to 40 mm

EXTERNAL LOADS



VIDEO

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

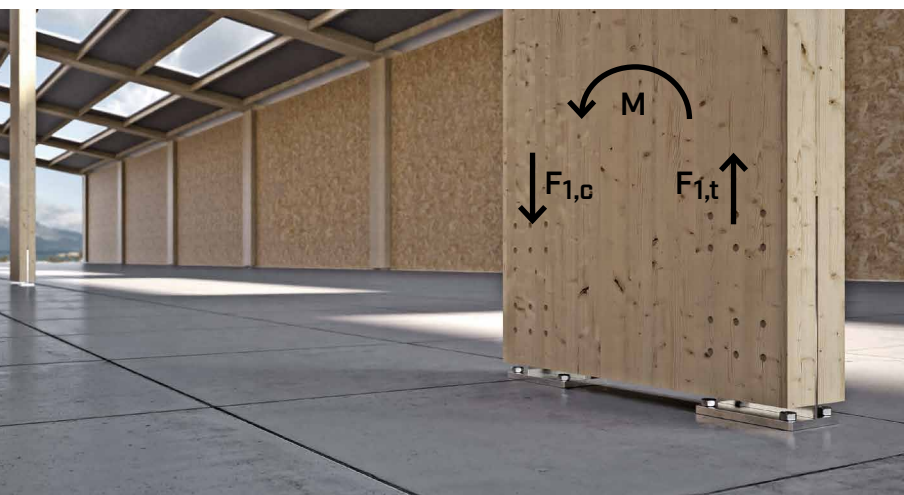


FIELDS OF USE

Ground joints for moment-resistant columns in one direction.
Pergolas, carports, gazebos.

Suitable for columns in:

- solid timber softwood and hardwood
- Glulam, LVL



VERSATILE

It can be used not only as a post holder but also for the construction of cantilever beams (such as canopies, roofs, etc.).

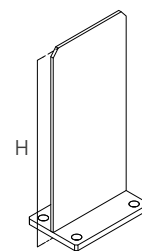
SPECIAL STRUCTURES

By means of a tension plate and a compression plate, it is possible to produce joints for large glulam columns.

CODES AND DIMENSIONS

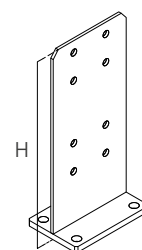
F70

CODE	H [mm] [in]	bottom plate [mm] [in]	base holes [n. x mm] [n. x in]	knife plate thickness [mm] [in]	pcs
F7080	156 6 1/8	80 x 80 x 6 3 1/8 x 3 1/8 x 0.24	4 x Ø9 4 x Ø0.35	4 0.16	1
F70100	206 8 1/8	100 x 100 x 6 4 x 4 x 0.24	4 x Ø9 4 x Ø0.35	6 0.24	1
F70140	308 12 1/8	140 x 140 x 8 5 1/2 x 5 1/2 x 0.31	4 x Ø11,5 4 x Ø0.45	8 0.31	1
F70180	400 15 3/4	180 x 120 x 12 7 1/8 x 4 3/4 x 0.47	4 x Ø18 4 x Ø0.71	6 0.24	1
F70220	400 15 3/4	220 x 140 x 15 8 5/8 x 5 1/2 x 0.59	4 x Ø18 4 x Ø0.71	6 0.24	1



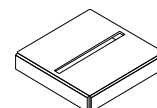
F70 L

CODE	H [mm] [in]	bottom plate [mm] [in]	base holes [n. x mm] [n. x in]	knife plate thickness [mm] [in]	knife plate hole [n. x mm] [n. x in]	pcs
F70100L	206 8 1/8	100 x 100 x 6 4 x 4 x 0.24	4 x Ø9 4 x Ø0.35	6 0.24	6 x Ø13 6 x Ø0.51	1
F70140L	308 12 1/8	140 x 140 x 8 5 1/2 x 5 1/2 x 0.31	4 x Ø11,5 4 x Ø0.45	8 0.31	8 x Ø13 8 x Ø0.51	1
F70180L	400 15 3/4	180 x 120 x 12 7 1/8 x 4 3/4 x 0.47	4 x Ø18 4 x Ø0.71	6 0.24	12 x Ø13 12 x Ø0.51	1
F70220L	400 15 3/4	220 x 140 x 15 8 5/8 x 5 1/2 x 0.59	4 x Ø18 4 x Ø0.71	6 0.24	16 x Ø13 16 x Ø0.51	1



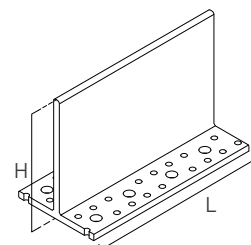
F70 LIFT

CODE	H [mm] [in]	plate [mm] [in]	thickness [mm] [in]	suitable for	pcs
F70100LIFT	20 13/16	120 x 120 4 3/4 x 4 3/4	2 0.08	F70100-F7100L	1
F70140LIFT	22 7/8	160 x 160 6 1/4 x 6 1/4	2 0.08	F70140-F70140L	1



ALUMIDI

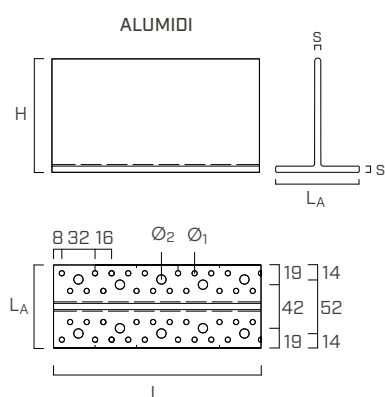
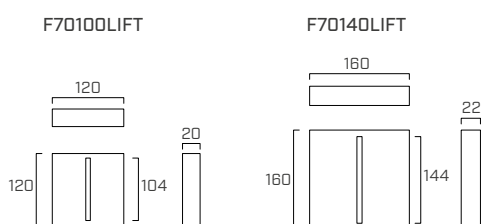
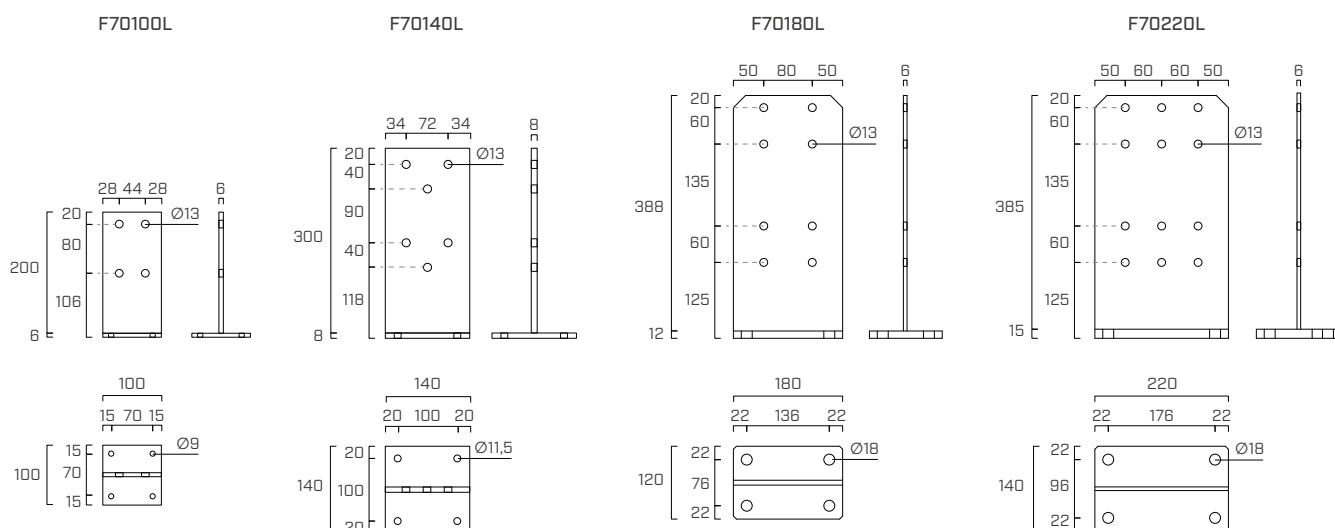
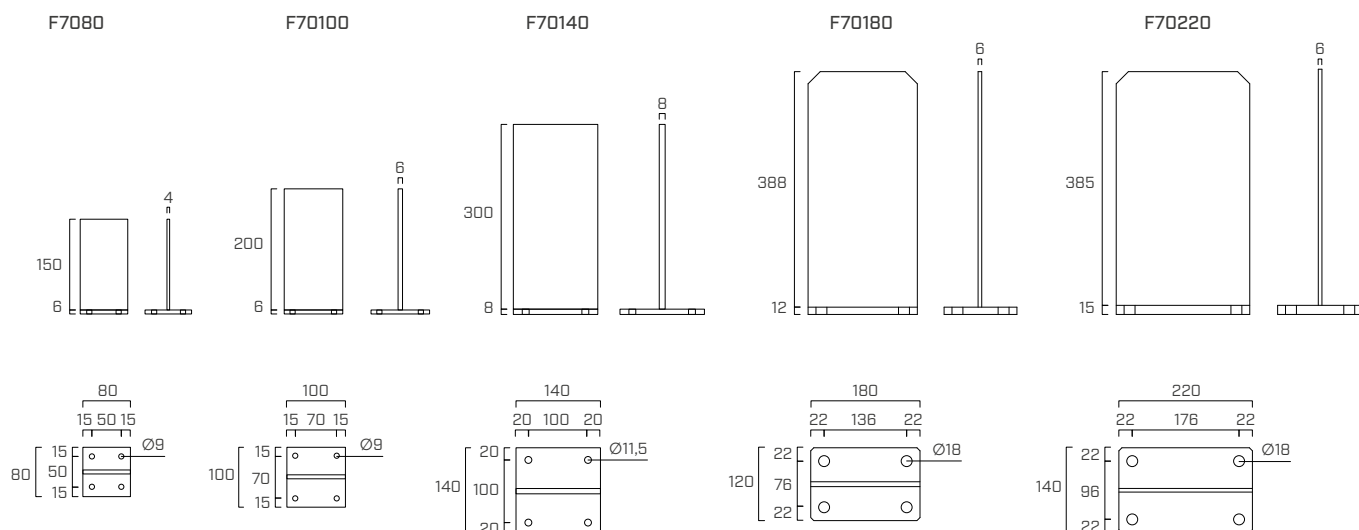
CODE	H [mm] [in]	type	L [mm] [in]	pcs
ALUMIDI80	109,4 4 5/16	without holes	80 3 1/8	25
ALUMIDI120	109,4 4 5/16	without holes	120 4 3/4	25
ALUMIDI160	109,4 4 5/16	without holes	160 6 1/4	25
ALUMIDI200	109,4 4 5/16	without holes	200 8	15
ALUMIDI240	109,4 4 5/16	without holes	240 9 1/2	15



FASTENERS

type	description		d [mm]	support	page
SBD	self-drilling dowel		7,5		154
STA	smooth dowel		12		162
KOS/KOT	hexagonal/round head bolt		M12		168
SKR/SKR EVO	screw-in anchor		7,5 - 8 - 10 - 16		528
AB1	CE1 expansion anchor		M10 - M16		536
ABE A4	CE1 expansion anchor		M8 - M10		534
VIN-FIX	vinyl ester chemical anchor		M8 - M10 - M16		545
HYB-FIX	hybrid chemical anchor		M8 - M10 - M16		552
EPO-FIX	epoxy chemical anchor		M8 - M10 - M16		557

GEOMETRY

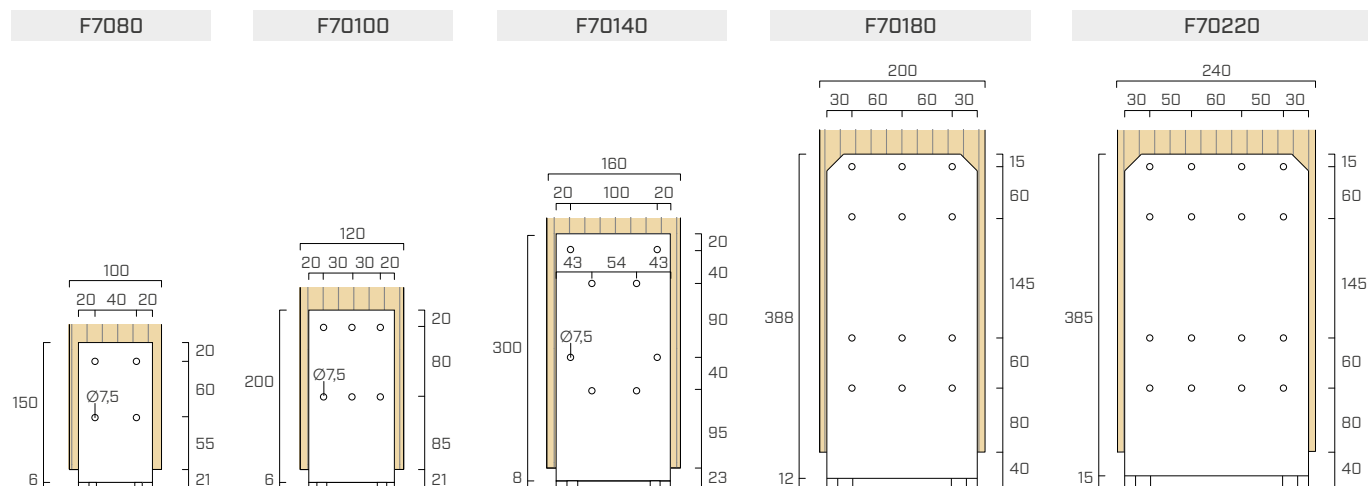


ALUMIDI

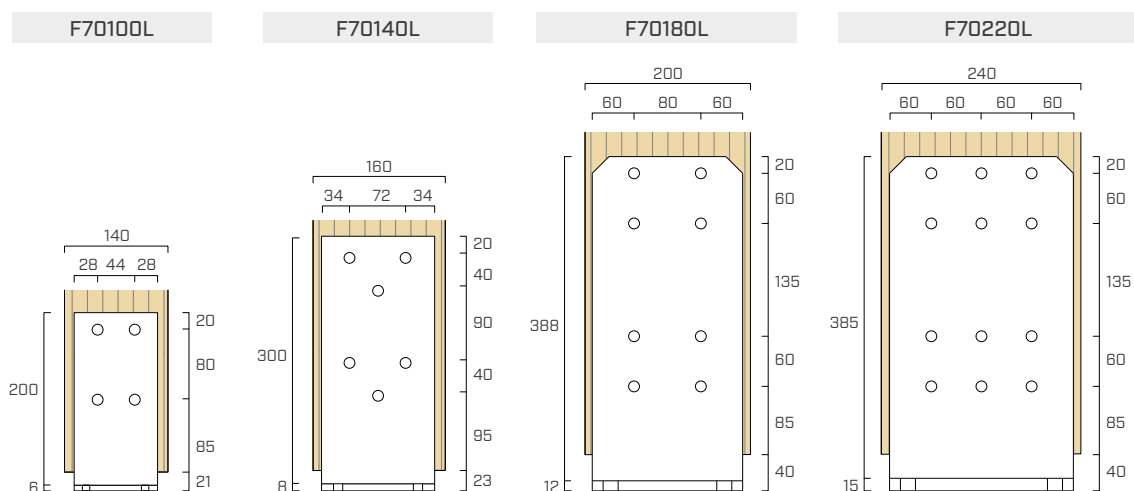
thickness	s	[mm]	6
flange width	L_A	[mm]	80
height	H	[mm]	109,4
small flange-holes	Ø₁	[mm]	5,0
large flange-holes	Ø₂	[mm]	9,0

FASTENING CONFIGURATIONS

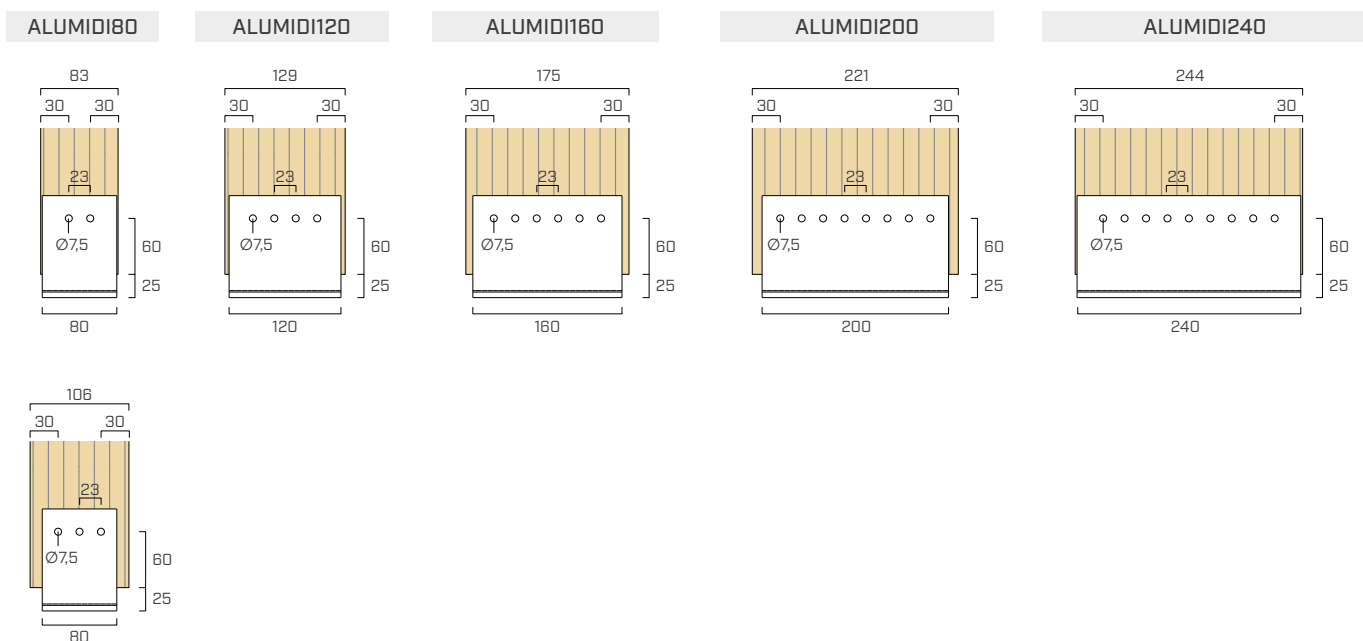
F70 WITH SBD SELF-DRILLING DOWELS

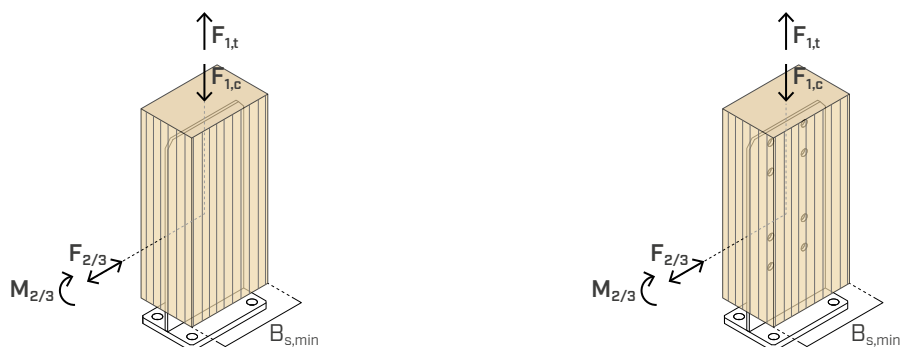


F70 WITH STA SMOOTH DOWELS OR BOLTS



ALUMIDI WITH SBD SELF-DRILLING DOWELS





F70

CODE	fasteners for timber SBD Ø7,5 ⁽¹⁾ pcs - Ø x L [mm]	column Bs,min [mm]	COMPRESSION			TENSION			SHEAR		MOMENT		
			R1,c k timber	R1,c k steel	Ysteel	R1,t k timber	R1,t k steel	Ysteel	R2/3,t k steel	Ysteel	M2/3 k timber	M2/3 k steel	Ysteel
			[kN]	[kN]		[kN]	[kN]		[kN]		[kNm]	[kNm]	
F7080	4-Ø7,5x75	100x100	29,6	32,7	YM1	17,9	18,3	YM0	3,4	YM0	1,1	0,5	YM0
F70100	6-Ø7,5x95	120x120	59,7	67,8		59,7	15,7		3,8		2,0	2,0	
F70140	8-Ø7,5x115	160x160	94,8	103,0		94,8	25,7		6,5		4,2	3,5	
F70180	12-Ø7,5x155	160x200	130,0	246,0		130,0	172,0		25,9		11,3	6,5	
F70220	16-Ø7,5x175	200x240	190,0	307,0		190,0	237,0		45,1		17,2	11,4	

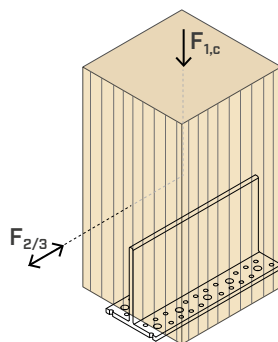
F70 L

CODE	fasteners for timber STA Ø12 ⁽²⁾ pcs - Ø x L [mm]	column Bs,min [mm]	COMPRESSION			TENSION			SHEAR		MOMENT		
			R1,c k timber	R1,c k steel	Ysteel	R1,t k timber	R1,t k steel	Ysteel	R2/3,t k steel	Ysteel	M2/3 k timber	M2/3 k steel	Ysteel
			[kN]	[kN]		[kN]	[kN]		[kN]		[kNm]	[kNm]	
F70100L	4-Ø12x120	140x140	55,7	67,8	YM1	55,7	15,7	YM0	3,8	YM0	2,5	2,0	YM0
F70140L	6-Ø12x140	160x160	104,0	103,0		104,0	25,7		6,2		4,9	3,5	
F70180L	8-Ø12x160	160x200	115,0	246,0		115,0	172,0		25,9		10,6	6,5	
F70220L	12-Ø12x180	200x240	173,0	307,0		173,0	237,0		45,1		18,0	11,4	

■ STIFFNESS

CODE	fasteners for timber	configuration pcs - Ø [mm]	K2/3,ser [kNm/rad]
F70100	SBD	6 - Ø7,5	60
F70140		8 - Ø7,5	190
F70180		12 - Ø7,5	640
F70220		16 - Ø7,5	900
F70100L	STA	4 - Ø12	50
F70140L		6 - Ø12	190
F70180L		8 - Ø12	580
F70220L		12 - Ø12	700

NOTES and GENERAL PRINCIPLES see page 474.



				COMPRESSION
CODE	L [mm]	fasteners for timber SBD Ø7,5 ⁽¹⁾ pcs - Ø x L [mm]	column B _{s,min} [mm]	R _{1,c} k [kN]
ALUMIDI80	80	2-Ø7,5x75	83	16,4
ALUMIDI80	80	3-Ø7,5x95	106	27,5
ALUMIDI120	120	4-Ø7,5x115	129	43,9
ALUMIDI160	160	6-Ø7,5x155	175	72,1
ALUMIDI200	200	8-Ø7,5x195	221	110,9
ALUMIDI240	240	9-Ø7,5x235	244	160,0

				SHEAR
CODE	L [mm]	fasteners for timber SBD Ø7,5 ⁽¹⁾ pcs - Ø x L [mm]	column B _{s,min} [mm]	R _{2/3} k [kN]
ALUMIDI80	80	2-Ø7,5x75	83	11,6
ALUMIDI80	80	3-Ø7,5x95	106	21,1
ALUMIDI120	120	4-Ø7,5x115	129	33,1
ALUMIDI160	160	5-Ø7,5x155	175	46,3
ALUMIDI200	200	7-Ø7,5x195	221	74,4
ALUMIDI240	240	8-Ø7,5x235	244	96,2

NOTES

⁽¹⁾ SBD self-drilling dowels Ø7,5:

- L = 75 mm: M_{yik} = 42000 Nmm;
- L ≥ 95mm: M_{yik} = 75000 Nmm.

⁽²⁾ STA smooth dowels Ø12, M_{yik} = 69100 Nmm. 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 1995-1-1:2014, in accordance with ETA-10/0422 (F70) and ETA-09/0361 (ALUMIDI).
- Design values can be obtained from characteristic values as follows:

$$R_{d,F70} = \min \left\{ \frac{R_{i,k \text{ timber}} \cdot k_{mod}}{\gamma_{MC}}, \frac{R_{i,k \text{ steel}}}{\gamma_{Mi}} \right\} \quad R_{i,d \text{ ALUMIDI}} = \frac{R_{i,k} \cdot k_{mod}}{\gamma_{MC}}$$

The coefficients k_{mod}, γ_M and γ_{Mi} should be taken according to the current regulations used for the calculation.

- The strength values indicated in the table are valid in compliance with the fasteners positioning and the timber column according to the configurations indicated.
- Resistance values for the fastening system are valid for the calculation examples shown in the table. In ALUMIDI, the distance value a_{3,c} = 60 mm is valid if the following stress condition is met: F_{2/3} ≤ F_{1,c}.

- In ALUMIDI, install the anchors 2 by 2 starting from the top. Consider a minimum number of 4 anchors.
- In the ALUMIDI, the values provided are calculated with a 8 mm thick routing in the timber, while in the F70s, a routing of s + 2 mm was considered (where s refers to the thickness of the blade of the post base).
- 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. Refer to ETA-10/0422 (F70) and ETA-09/0361 (ALUMIDI).
- For the calculation process a timber characteristic density ρ_k = 350 kg/m³ has been considered.
- Dimensioning and verification of timber and concrete elements must be carried out separately.

INTELLECTUAL PROPERTY

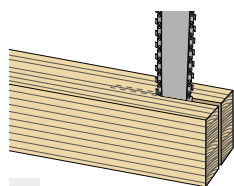
- Some models of F70 post bases are protected by the following Registered Community Designs:
 - RCD 015032190-0014;
 - RCD 015032190-0015.

UK CONSTRUCTION PRODUCT EVALUATION

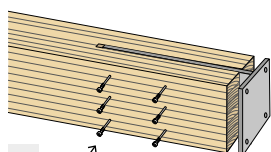
- UKTA-0836-22/6374.

MOUNTING

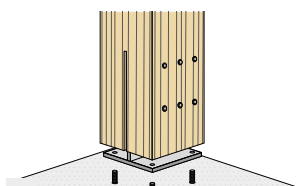
F70 or ALUMIDI with SBD self-drilling dowels



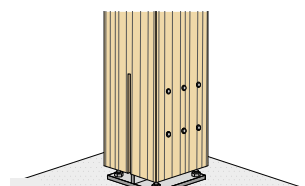
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2

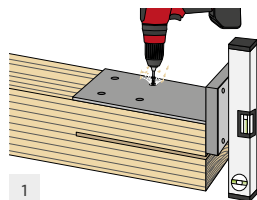


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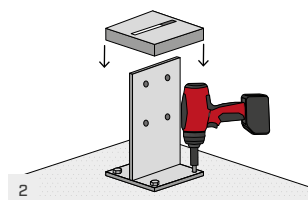


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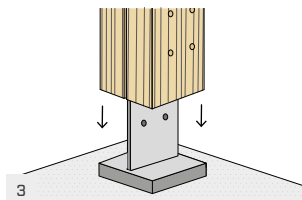
F70 L with STA dowels



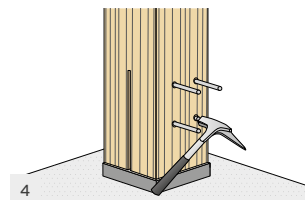
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2



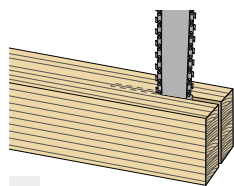
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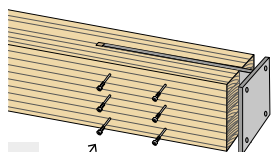
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ASSEMBLY WITH POSSIBILITY OF ADJUSTMENT

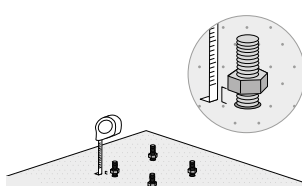
As an alternative to classic positioning, it is possible to assemble the product by levelling it as follows:



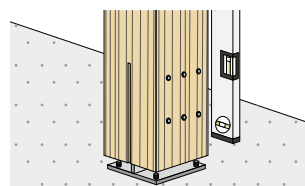
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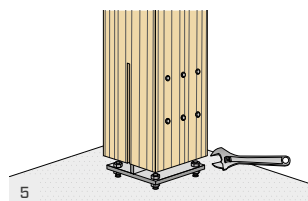
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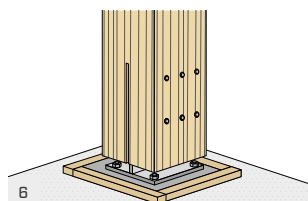
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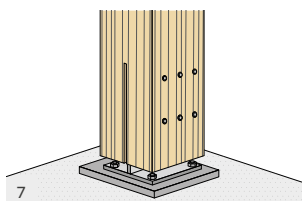
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6



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