

## "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



### SERVICE CLASS



### MATERIAL



**F70 versions 80, 100, 140:** carbon steel S235 with hot-dip galvanising 55  $\mu\text{m}$



**F70 versions 180 and 220:** S355 carbon steel with hot-dip galvanising 55  $\mu\text{m}$



**F70LIFT:** S235 hot dip bright zinc plated carbon steel

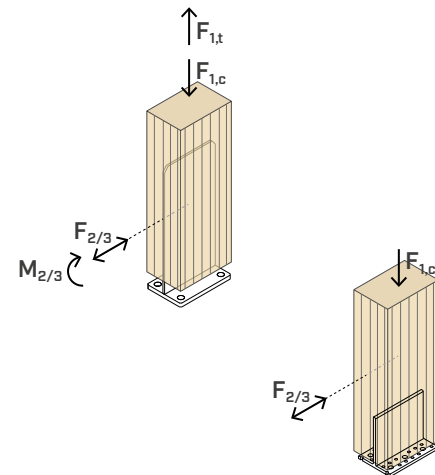


**ALUMIDI:** EN AW-6005A° aluminium alloy

### 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.).

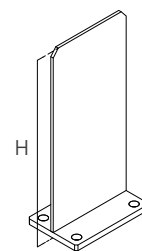
## SPECIAL STRUCTURES

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

## CODES AND DIMENSIONS

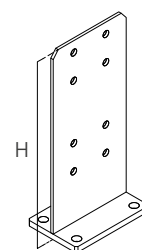
### F70

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



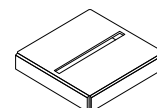
### F70 L

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



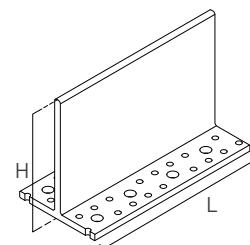
### F70 LIFT

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



### ALUMIDI

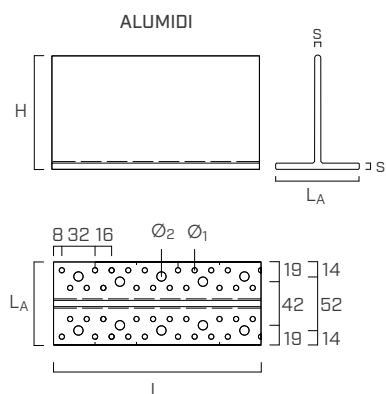
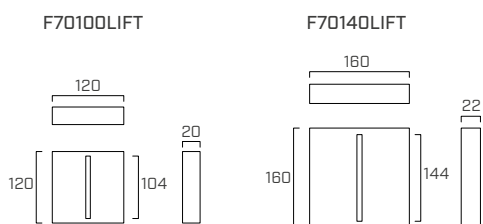
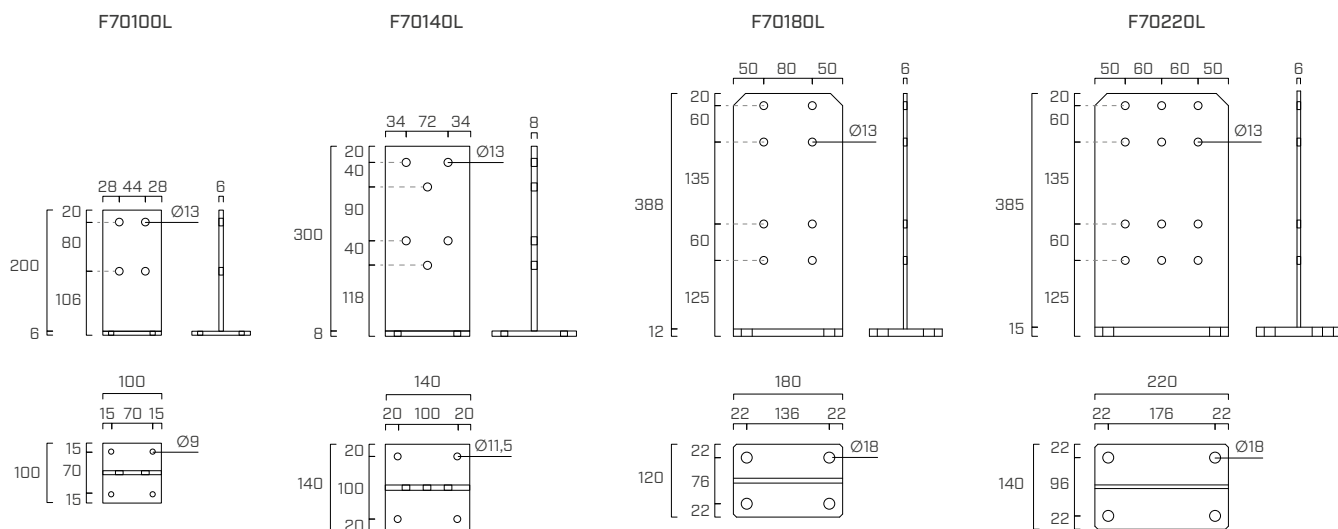
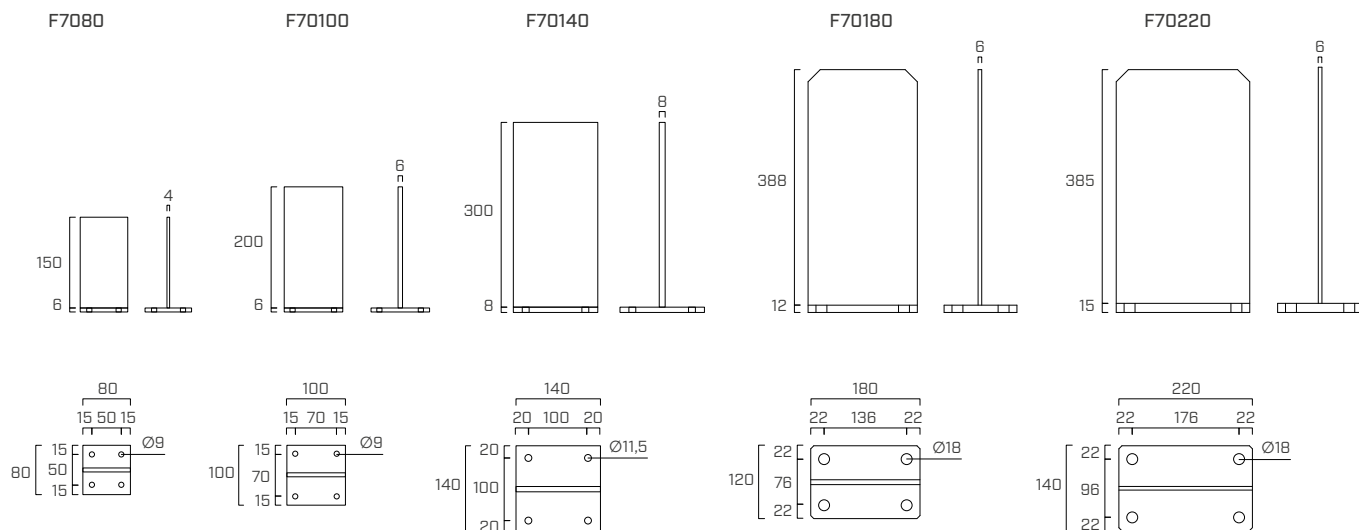
| CODE       | H<br>[mm] [in]  | type          | L<br>[mm] [in] | pcs |
|------------|-----------------|---------------|----------------|-----|
| ALUMIDI80  | 109,4<br>4 5/16 | without holes | 80<br>3 1/8    | 25  |
| ALUMIDI120 | 109,4<br>4 5/16 | without holes | 120<br>4 3/4   | 25  |
| ALUMIDI160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



## FASTENERS

| type        | description                 |  | d<br>[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

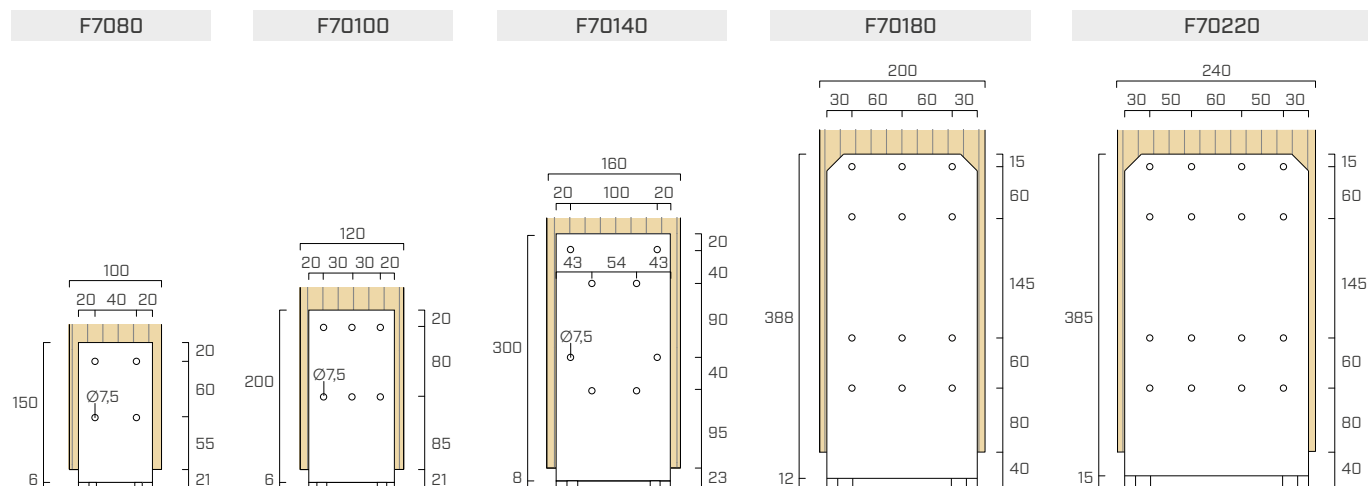


### ALUMIDI

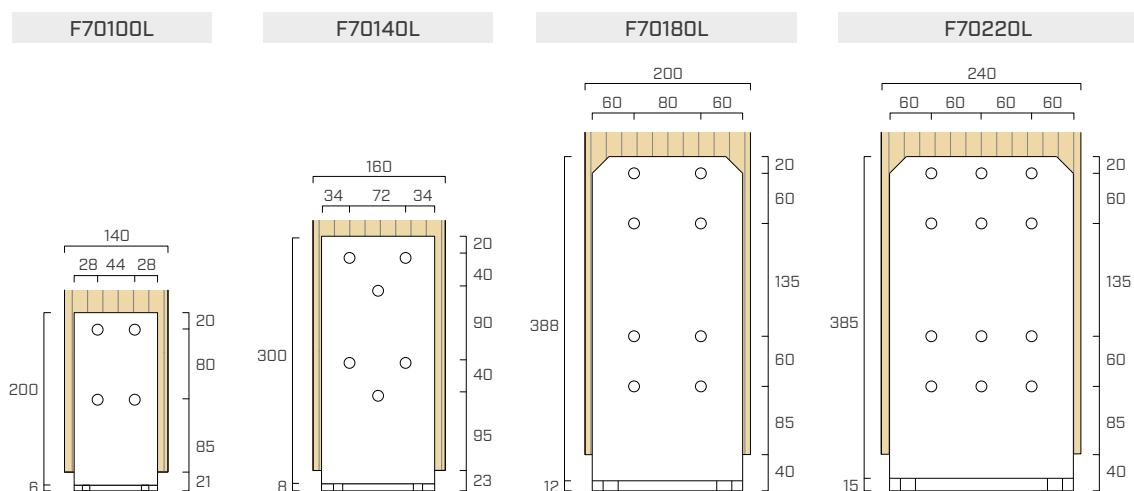
|                    |                      |      |       |
|--------------------|----------------------|------|-------|
| thickness          | <b>s</b>             | [mm] | 6     |
| flange width       | <b>L<sub>A</sub></b> | [mm] | 80    |
| height             | <b>H</b>             | [mm] | 109,4 |
| small flange-holes | <b>Ø<sub>1</sub></b> | [mm] | 5,0   |
| large flange-holes | <b>Ø<sub>2</sub></b> | [mm] | 9,0   |

## FASTENING CONFIGURATIONS

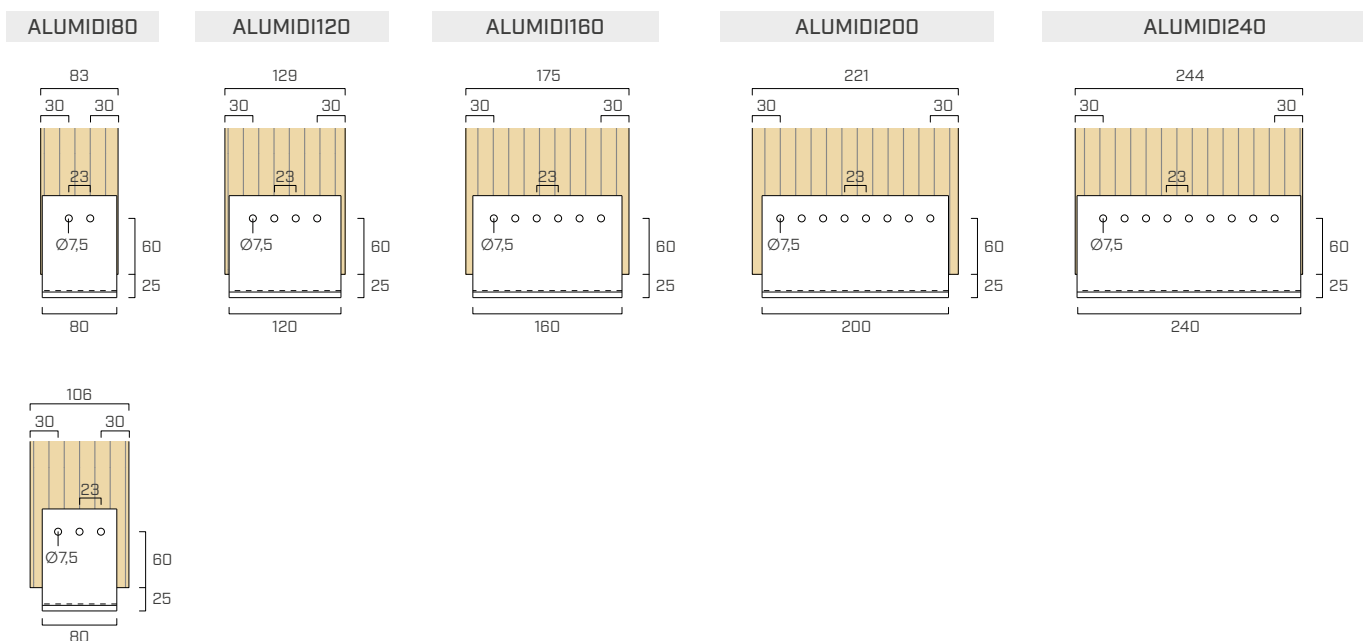
### F70 WITH SBD SELF-DRILLING DOWELS

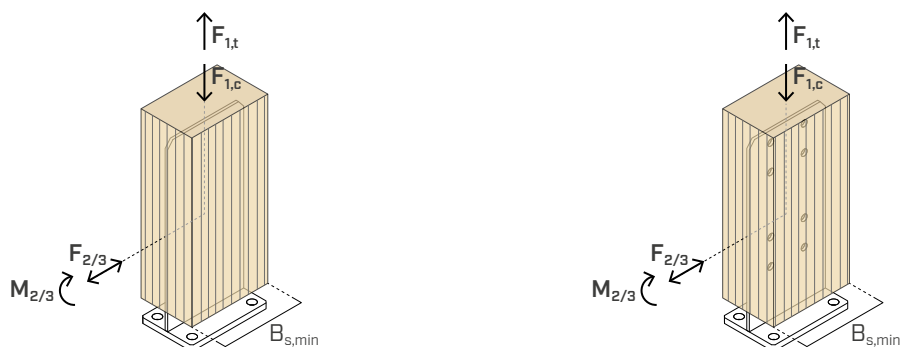


### F70 WITH STA SMOOTH DOWELS OR BOLTS



### ALUMIDI WITH SBD SELF-DRILLING DOWELS





## F70

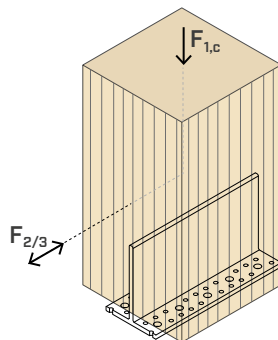
| CODE   | fasteners for timber<br>SBD Ø7,5 <sup>(1)</sup><br>pcs - Ø x L [mm] | column<br>Bs,min<br>[mm] | COMPRESSION   |              |        | TENSION       |              |        | SHEAR          |        | MOMENT        |              |        |
|--------|---------------------------------------------------------------------|--------------------------|---------------|--------------|--------|---------------|--------------|--------|----------------|--------|---------------|--------------|--------|
|        |                                                                     |                          | 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<br>STA Ø12 <sup>(2)</sup><br>pcs - Ø x L [mm] | column<br>Bs,min<br>[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<br>pcs - Ø [mm] | K2/3,ser<br>[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                   |



|            |           |                                                                     |                          | COMPRESSION                |
|------------|-----------|---------------------------------------------------------------------|--------------------------|----------------------------|
| CODE       | L<br>[mm] | fasteners for timber<br>SBD Ø7,5 <sup>(1)</sup><br>pcs - Ø x L [mm] | column<br>Bs,min<br>[mm] | R <sub>1,c</sub> k<br>[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<br>[mm] | fasteners for timber<br>SBD Ø7,5 <sup>(1)</sup><br>pcs - Ø x L [mm] | column<br>Bs,min<br>[mm] | R <sub>2/3</sub> k<br>[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

<sup>(1)</sup> SBD self-drilling dowels Ø7,5:

- L = 75 mm: M<sub>yik</sub> = 42000 Nmm;
- L ≥ 95mm: M<sub>yik</sub> = 75000 Nmm.

<sup>(2)</sup> STA smooth dowels Ø12, M<sub>yik</sub> = 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<sub>mod</sub>, γ<sub>M</sub> and γ<sub>Mi</sub> 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<sub>3,c</sub> = 60 mm is valid if the following stress condition is met: F<sub>2/3</sub> ≤ F<sub>1,c</sub>.

- 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<sub>k</sub> = 350 kg/m<sup>3</sup> has been considered.
- Dimensioning and verification of timber and concrete elements must be carried out separately.

## INTELLECTUAL PROPERTY

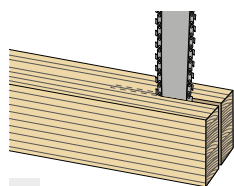
- Some models of F70 post bases are protected by the following Registered Community Designs:
  - RCD 015032190-0014;
  - RCD 015032190-0015.

## UK CONSTRUCTION PRODUCT EVALUATION

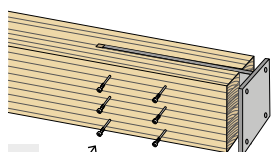
- UKTA-0836-22/6374.

## MOUNTING

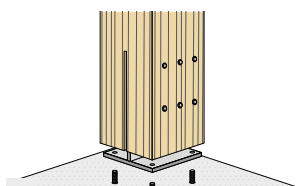
F70 or ALUMIDI with SBD self-drilling dowels



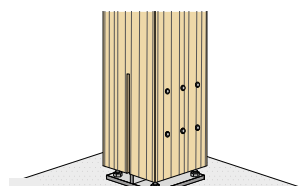
1



2

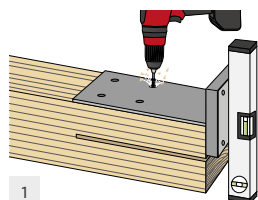


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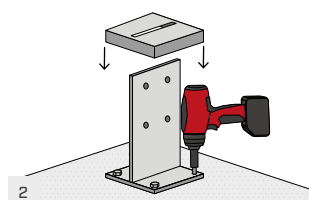


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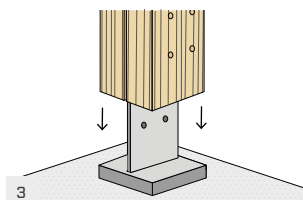
F70 L with STA dowels



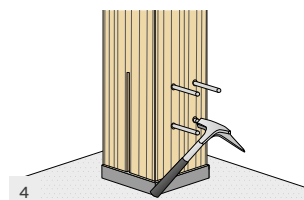
1



2



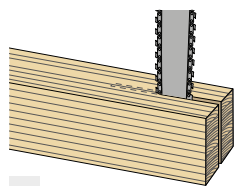
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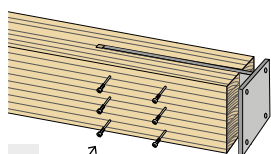
4

## ASSEMBLY WITH POSSIBILITY OF ADJUSTMENT

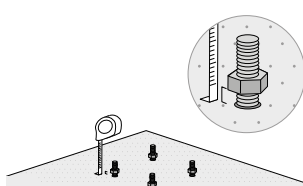
As an alternative to classic positioning, it is possible to assemble the product by levelling it as follows:



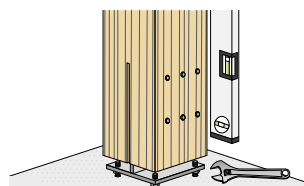
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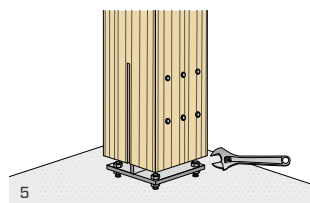
2



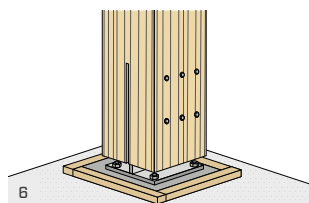
3



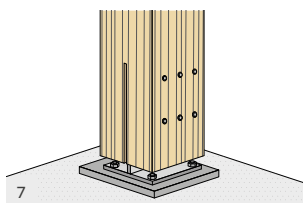
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5



6



7