

F70

"T" SHAPED POST BASE

PARTIAL INTERLOCKING

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

INVISIBLE

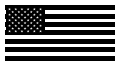
The internal knife plate is used to create a totally concealed joint. Designed to accommodate columns of all dimensions. Hot-dip galvanisation and aluminium versions ensure durability in outdoor settings.

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 DESIGN VALUES

CANADA, EU and more design values available online.



VIDEO



ETA-10/0422

SERVICE CONDITION



MATERIAL



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



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



F70LIFT: S235 hot dip bright zinc plated carbon steel

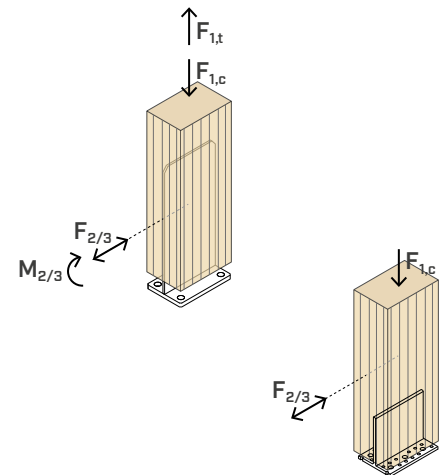


ALUMIDI: EN AW-6005A° aluminium alloy

GROUND CLEARANCE

from 0.8 to 1.6 in

EXTERNAL LOADS



VIDEO

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

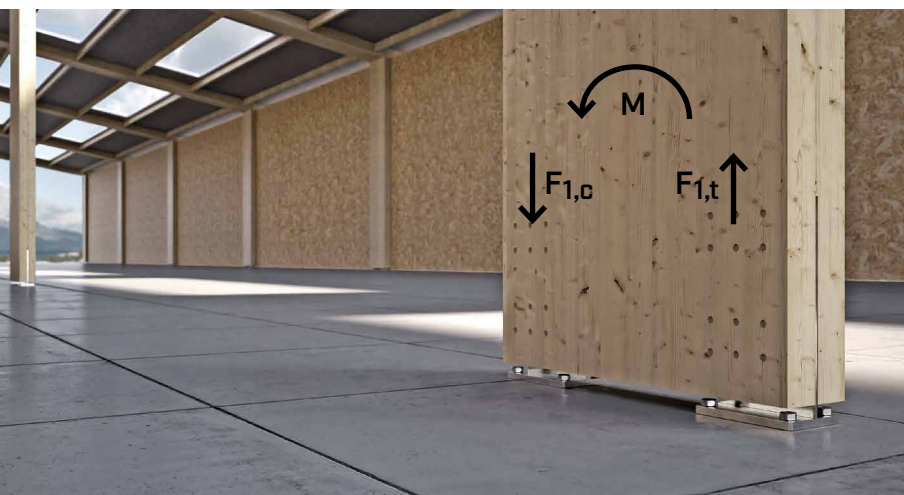


FIELDS OF USE

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.).

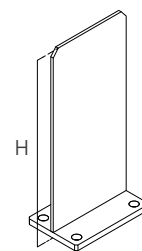
SPECIAL STRUCTURES

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

CODES AND DIMENSIONS

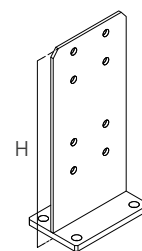
F70

CODE	H [in]	bottom plate [in]	base holes [n. x in]	knife plate thickness [in]	pcs
F7080	6 1/8	3 1/8 x 3 1/8 x 0.237	4 x Ø0.36	0.158	1
F70100	8 1/8	4 x 4 x 0.237	4 x Ø0.36	0.237	1
F70140	12 1/8	5 1/2 x 5 1/2 x 0.315	4 x Ø0.46	0.315	1
F70180	15 3/4	7 1/8 x 4 3/4 x 0.473	4 x Ø0.71	0.237	1
F70220	15 3/4	8 5/8 x 5 1/2 x 0.591	4 x Ø0.71	0.237	1



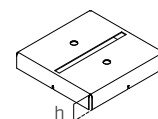
F70 L

CODE	H [in]	bottom plate [in]	base holes [n. x in]	knife plate thickness [in]	knife plate hole [n. x in]	pcs
F70100L	8 1/8	4 x 4 x 0.237	4 x Ø0.36	0.237	4 x Ø0.52	1
F70140L	12 1/8	5 1/2 x 5 1/2 x 0.315	4 x Ø0.46	0.315	6 x Ø0.52	1
F70180L	15 3/4	7 1/8 x 4 3/4 x 0.473	4 x Ø0.71	0.237	8 x Ø0.52	1
F70220L	15 3/4	8 5/8 x 5 1/2 x 0.591	4 x Ø0.71	0.237	12 x Ø0.52	1



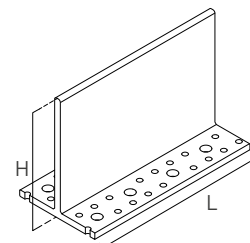
F70 LIFT

CODE	h [in]	plate [in]	thickness [in]	suitable for	pcs
LIFT44	1	3 1/2 X 3 1/2	0.119	F7080	1
LIFT66	1	5 3/8 X 5 3/8	0.119	F70100 - F70100L	1
LIFT88	1	7 1/4 X 7 1/4	0.119	F70140 - F70140L	1



ALUMIDI

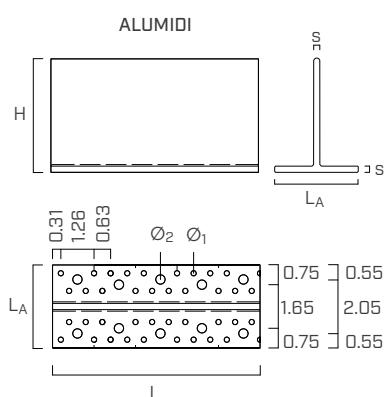
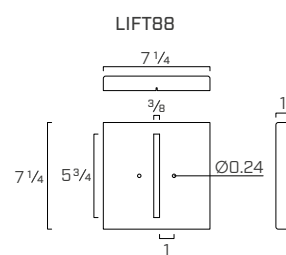
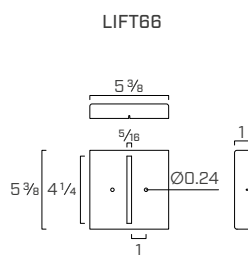
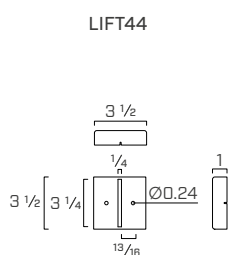
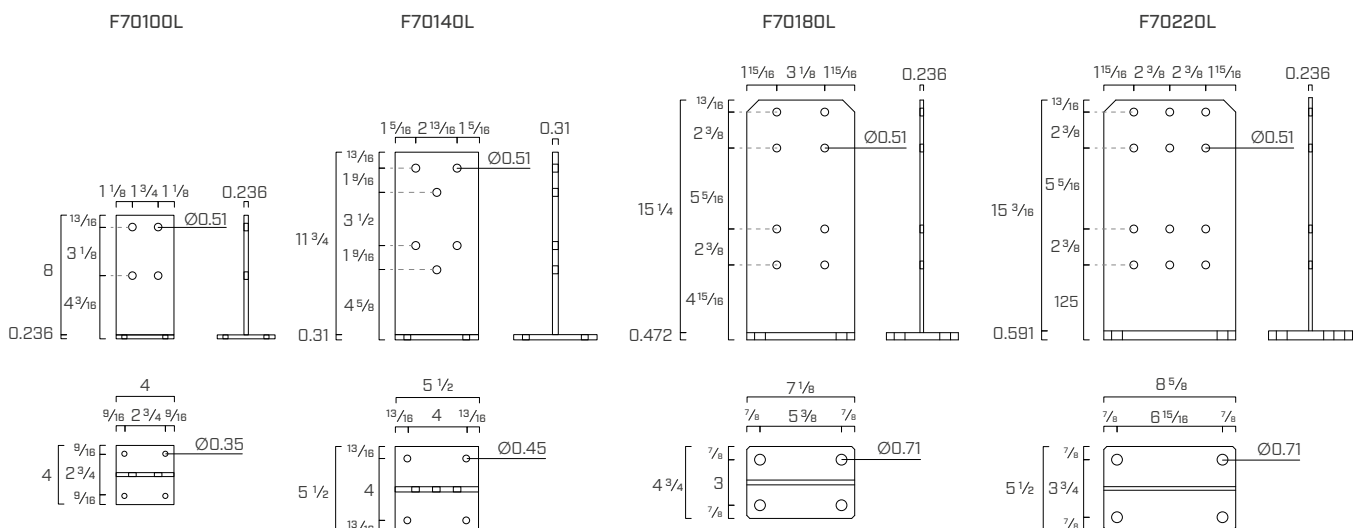
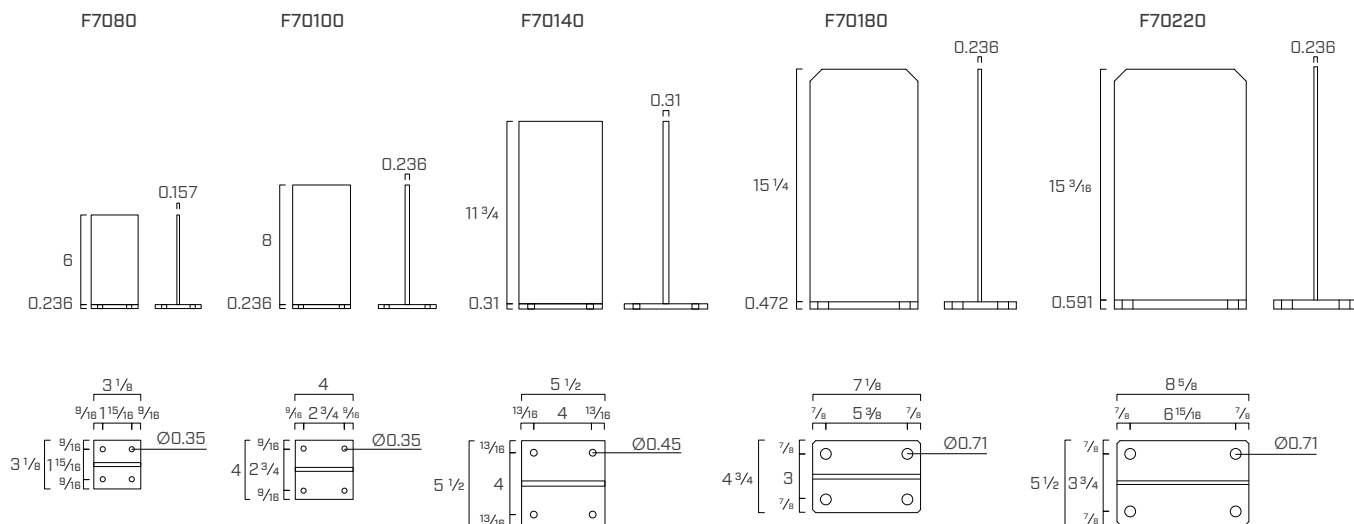
CODE	H [in]	type	L [in]	pcs
ALUMIDI80	4 5/16	without holes	3 1/8	25
ALUMIDI120	4 5/16	without holes	4 3/4	25
ALUMIDI160	4 5/16	without holes	6 1/4	25
ALUMIDI200	4 5/16	without holes	8	15
ALUMIDI240	4 5/16	without holes	9 1/2	15



FASTENERS

type	description		d [in]	support
LBS	round head screw		0.2	
SBD	self-drilling dowel		0.30	
STA	smooth dowel		0.48	
KOS/KOT	hexagonal/round head bolt		0.48 (M12)	
SKR/SKR EVO	screw-in anchor		0.3 - 8 - 10 - 0.63	
AB1	CE1 expansion anchor		0.4 - 0.63 (M8 - M10 - M16)	
ABE A4	CE1 expansion anchor		0.31 - 0.4 (M8 - M10)	
VIN-FIX	vinyl ester chemical anchor		0.31 - 0.4 - 0.63 (M8 - M10 - M16)	
HYB-FIX	hybrid chemical anchor		0.31 - 0.4 - 0.63 (M8 - M10 - M16)	
EPO-FIX	epoxy chemical anchor		0.31 - 0.4 - 0.63 (M8 - M10 - M16)	

GEOMETRY

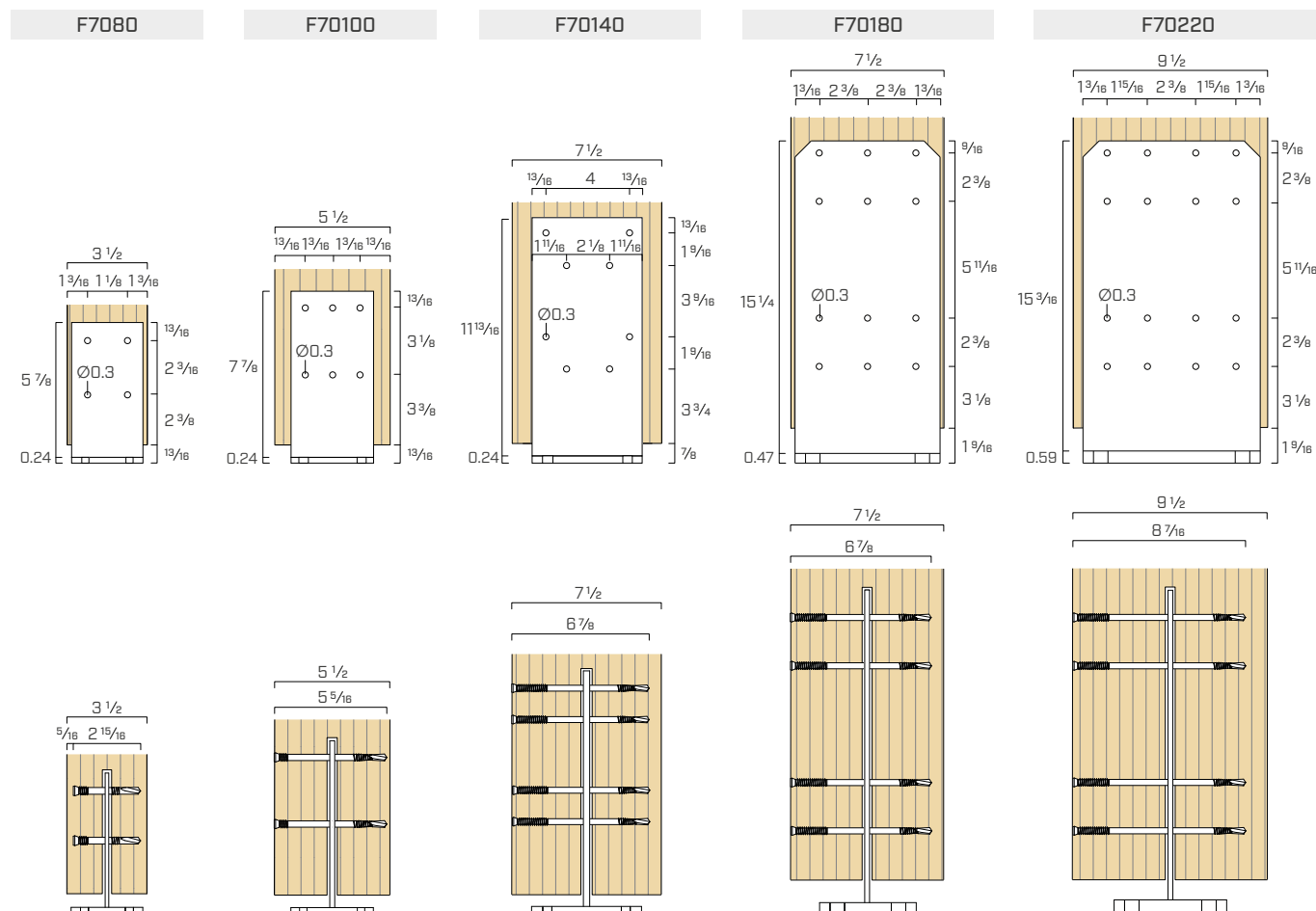


ALUMIDI

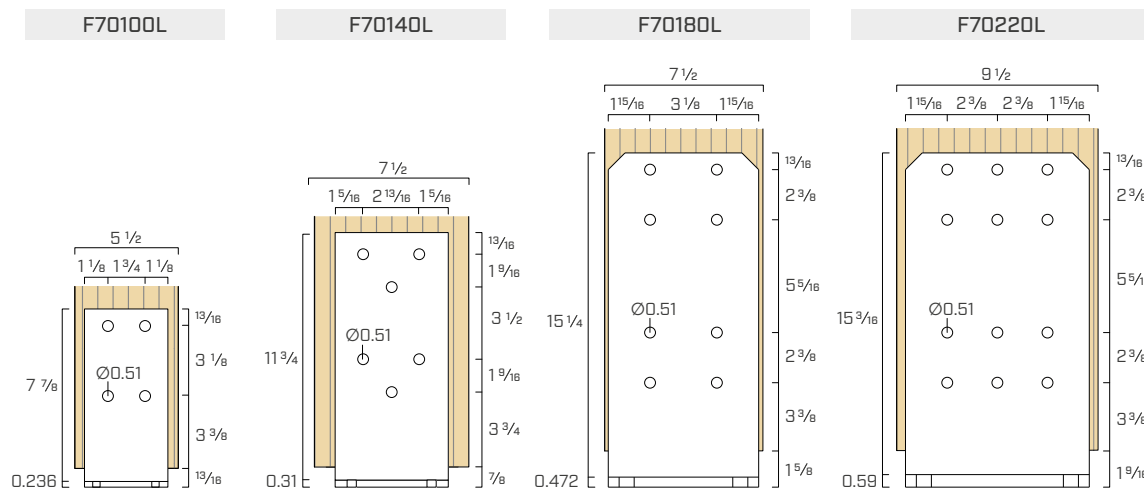
thickness	s	[in]	0.24
flange width	L _A	[in]	3 1/8
height	H	[in]	4 5/16
small flange-holes	Ø ₁	[in]	0.2
large flange-holes	Ø ₂	[in]	0.35

FASTENING CONFIGURATIONS

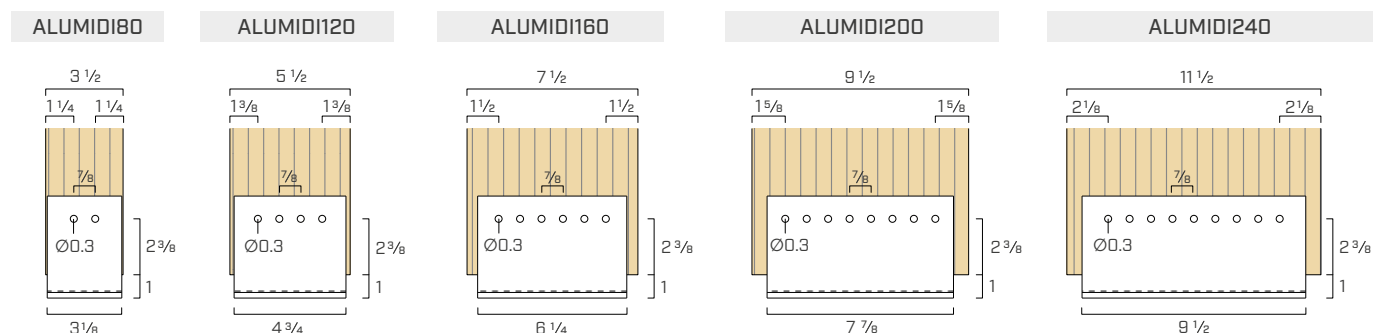
F70 WITH SBD SELF-DRILLING DOWELS



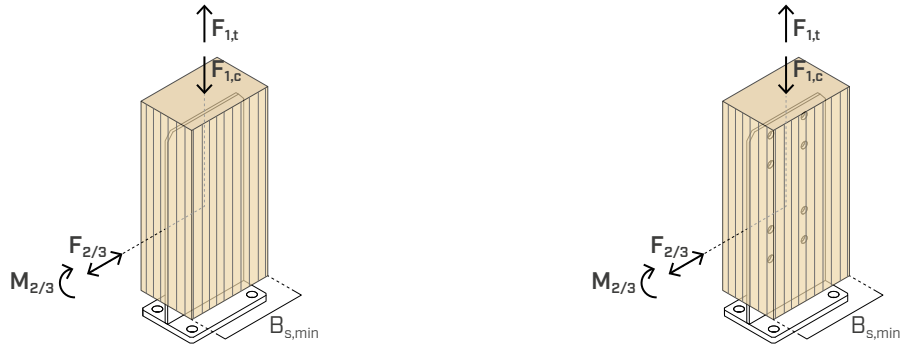
F70 WITH STA SMOOTH DOWELS OR BOLTS



ALUMIDI WITH SBD SELF-DRILLING DOWELS



STRUCTURAL VALUES | F70



F70

CODE	fasteners pcs - Ø x L [in]	column size ⁽¹⁾ B _s [in]	COMPRESSION		TENSION		SHEAR		MOMENT	
			F _{1,c} timber [lbs]	F _{1,c} steel [lbs]	F _{1,t} timber ⁽³⁾ [lbs]	F _{1,t} steel [lbs]	F _{2/3} , timber [lbs]	F _{2/3} , steel [lbs]	M _{2/3} , timber [lbs.ft]	M _{2/3} , steel [lbs.ft]
F7080	4 - Ø0.30x2 15/16	min 3.5x3.5 ⁽²⁾	3098	9132	4957	2278	1681	186	191	108
	4 - Ø0.30x5 5/16	5.5x5.5	3642	9132	5827	2278	2455	186	271	108
F70100	6 - Ø0.30x5 5/16	min 5.5x5.5	6169	17497	9871	3254	3657	269	629	215
	6 - Ø0.30x6 7/8	7.5x7.5	6577	17497	10524	3254	4170	269	708	215
F70140	8 - Ø0.30x5 5/16	min 7.5x5.5	8163	31963	13061	5669	4851	484	2023	517
	8 - Ø0.30x6 7/8	7.5x7.5	8729	31963	13966	5669	5541	484	2163	517
F70180	12 - Ø0.30x4 1/2	min 7.5x5.5	12410	32493	19856	32597	7344	3022	2985	3981
	12 - Ø0.30x6 7/8	7.5x7.5	13245	32493	21193	32597	8382	3022	3376	3981
F70220	16 - Ø0.30x6 7/8	min 9.5x7.5	17640	39998	28224	40724	11166	6200	4850	6540
	16 - Ø0.30x8 7/16	9.5x9.5	18489	39998	29583	40724	11817	6200	5123	6540

F70 L

CODE	fasteners pcs - Ø x L [in]	column size B _s [in]	COMPRESSION		TENSION		SHEAR		MOMENT	
			F _{1,c} timber [lbs]	F _{1,c} steel [lbs]	F _{1,t} timber ⁽³⁾ [lbs]	F _{1,t} steel [lbs]	F _{2/3} , timber [lbs]	F _{2/3} , steel [lbs]	M _{2/3} , timber [lbs.ft]	M _{2/3} , steel [lbs.ft]
F70100L	6 - Ø0.48x3 1/8	min 3.5x5.5	4861	17497	7489	3254	2539	280	426	215
	6 - Ø0.48x4 3/4	5.5x5.5	5893	17497	9429	3254	2941	280	498	215
F70140L	8 - Ø0.48x4 3/4	min 5.5x5.5	8735	31963	13977	5669	4376	484	1124	517
	8 - Ø0.48x5 1/2	7.5x7.5	9105	31963	15468	5669	4762	484	1217	517
F70180L	12 - Ø0.48x6 1/4	min 5.5x7.5	12221	32493	19554	32597	7005	3022	2611	3981
F70220L	16 - Ø0.48x7 1/8	min 7.5x10.5	18332	3998	29331	40724	10851	5026	4270	6540

STIFFNESS

CODE	fasteners for timber	configuration	K _{2/3}
		pcs - Ø [in]	[kip-ft/rad]
F70100	SBD	6 - Ø0.30	44
F70140		8 - Ø0.30	140
F70180		12 - Ø0.30	472
F70220		16 - Ø0.30	664
F70100L	STA	4 - Ø0.47	37
F70140L		6 - Ø0.47	140
F70180L		8 - Ø0.47	428
F70220L		12 - Ø0.47	516

NOTES and GENERAL PRINCIPLES see page 7.

STRUCTURAL VALUES | F70 + LIFT

F70 + LIFT

CODE	fasteners	column size ⁽¹⁾	COMPRESSION ⁽⁴⁾		TENSION		SHEAR		MOMENT	
			F _{1,c} timber	F _{1,c} steel	F _{1,t} timber ⁽³⁾	F _{1,t} steel	F _{2/3} , timber	F _{2/3} , steel	M _{2/3} , timber	M _{2/3} , steel
	pcs - Ø x L [in]	B _s , [in]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs.ft]	[lbs.ft]
F7080 + LIFT 44	4 - Ø0.30x5 5/16	3.5x3.5 ⁽²⁾	16509	10400	4957	2278	1681	186	191	108
F70100 + LIFT66	6 - Ø0.30x5 5/16	5.5x5.5	40136	18600	9871	3254	3657	269	629	215
F70140 + LIFT88	8 - Ø0.30x6 7/8	7.5x7.5	70343	27500	13966	5669	5541	484	2163	517

F70L + LIFT

CODE	fasteners	column size	COMPRESSION ⁽⁴⁾		TENSION		SHEAR		MOMENT	
			F _{1,c} timber	F _{1,c} steel	F _{1,t} timber ⁽³⁾	F _{1,t} steel	F _{2/3} , timber	F _{2/3} , steel	M _{2/3} , timber	M _{2/3} , steel
	pcs - Ø x L [in]	B _s , [in]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs]	[lbs.ft]	[lbs.ft]
F70100L + LIFT66	4 - Ø0.48x4 3/4	5.5x5.5	40136	18600	9429	3254	2941	280	498	215
F70140L + LIFT88	6 - Ø0.48x5 1/2	7.5x7.5	70343	27500	15468	5669	4762	484	1217	517

NOTES

- ⁽¹⁾ Dowels are flushed to the timber surface (see FASTENING AND CONFIGURATION section). For timber sections thicker than those specified, verify that the SBD dowel length ensures full passage through the knife plate. Alternatively, the dowel may be recessed to compensate for increased timber thickness. A longer dowel can also be selected to achieve a flush installation with the timber surface.
- ⁽²⁾ Only for F7080 with a 3.5" x 3.5" column size, the SBD dowels must be recessed 8 mm (5/16") from the surface to ensure that the threads are not located in the knife-plate zone as shown in FASTENING AND CONFIGURATION section.
- ⁽³⁾ The timber-side tension capacities reported in the table are factored based on a load duration factor of C_d = 1.6.
- ⁽⁴⁾ The value on Timber side comes from calculating crushing of the wood post on the LIFT. The value on Steel side is a full assembly tested value (dowels +LIFT). In this case the load carrying capacity of the system is governed by the LIFT.

GENERAL PRINCIPLES

- The strength values indicated in the table are valid in compliance with the fasteners installation according to the configurations indicated.
- The verification of the fastener-to-concrete connection must be carried out separately.
- The moment and shear strength values are calculated individually. In case of

combined loading the verification must be carried out separately.

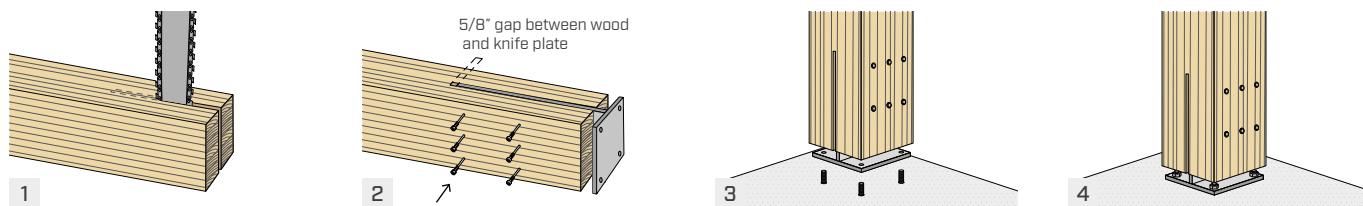
- For the calculation process a timber with a specific gravity of 0.42 has been considered.
- For the Timber side : The values are calculated according to the NDS (2024). The tabled reference design values are unfactored and should be multiplied by the adjustment factors to get the adjusted design values except for calculating Uplift capacity in which case C_d=1.6.
- For the steel side: calculations are based on AISC 360-16 and test-validated analysis.

INTELLECTUAL PROPERTY

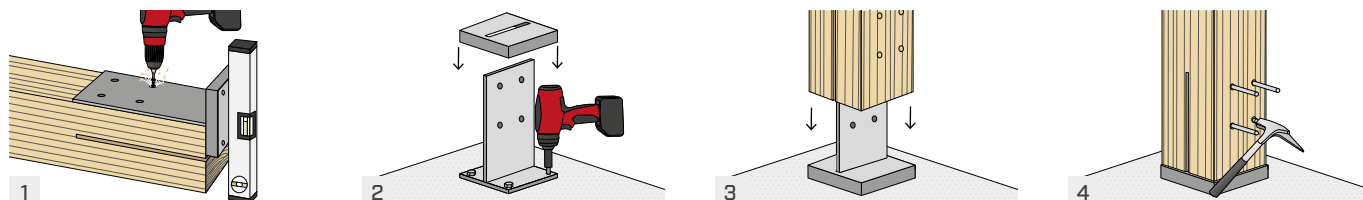
- Some models of F70 post bases are protected by the following Registered Community Designs:
 - RCD 015032190-0014;
 - RCD 015032190-0015.

MOUNTING

F70 or ALUMIDI with SBD self-drilling dowels



F70 L with STA dowels



ASSEMBLY WITH POSSIBILITY OF ADJUSTMENT

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

