

## CONCEALED HOOK TIMBER-TO-TIMBER CONNECTOR

### PRACTICAL

Easy and quick to install, it can be fastened with a single type of screw. Joint that can be easily disassembled, ideal for the construction of temporary structures.

### SLENDER STRUCTURES

It can also be used concealed in timber elements having small cross-section. Ideal for structures, gazebos and furnishings.

### VERSATILE

It provides excellent assembly tolerance. It can be integrated with side locking plates and vertical anti-slip screw.



LOCK T FLOOR

## CHARACTERISTICS

FOCUS	joints that can be disassembled
TIMBER SECTIONS	from 35 x 80 mm to 200 x 440 mm from 1 3/8 x 3 1/8 inches to 8 x 17 1/4 inches
STRENGTH	R <sub>v,k</sub> up to 65 kN Z' up to 8736 lbs
FASTENERS	LBS

### VIDEO

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



## MATERIAL

Aluminium alloy three dimensional perforated plate.

## FIELDS OF USE

Timber-to-timber shear joint

- solid timber and glulam
- CLT, LVL



## AESTHETICS

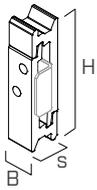
Completely concealed joint; satisfies fire safety requirements. Thanks to the assembly with only one type of screw, installation is quick and easy.

## CLT FLOORS

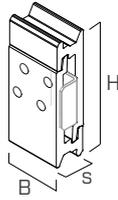
The rod version is specially designed for fastening CLT panel floors. Innovative joint with exceptional strength values.

## CODES AND DIMENSIONS

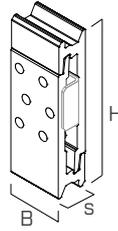
LOCKT Ø5 | 0.20 inch



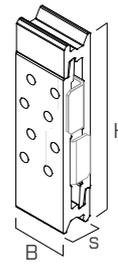
LOCKT1880



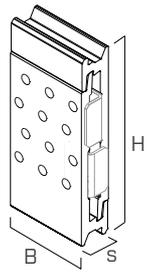
LOCKT3580



LOCKT35100



LOCKT35120



LOCKT53120

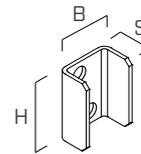
CODE	B		H		s		n <sub>screws</sub> - Ø	n <sub>LOCKSTOP</sub> - type	pcs *
	[mm]	[in]	[mm]	[in]	[mm]	[in]			
LOCKT1880	17,5	0.69	80	3.15	20	0.79	4-Ø5   0.20	1 LOCKSTOP5U	50
LOCKT3580	35	1.38	80	3.15	20	0.79	8-Ø5   0.20	2 LOCKSTOP5	50
LOCKT35100	35	1.38	100	3.94	20	0.79	12-Ø5   0.20	2 LOCKSTOP5	50
LOCKT35120	35	1.38	120	4.72	20	0.79	16-Ø5   0.20	4 LOCKSTOP5	25
LOCKT53120	52,5	2.07	120	4.72	20	0.79	24-Ø5   0.20	4 LOCKSTOP5	25

Screws and LOCK STOP not included in the package.

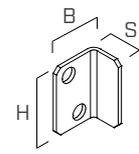
\* number of connector pairs

LOCK STOP Ø5 | 0.20 inch

CODE	B		H		s		pcs
	[mm]	[in]	[mm]	[in]	[mm]	[in]	
LOCKSTOP5U	21,5	0.85	27,5	1.08	13	0.51	50
LOCKSTOP5	19	0.75	27,5	1.08	13	0.51	100



LOCKSTOP5U



LOCKSTOP5

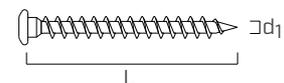
LOCKSTOP5U for use with LOCKT1880.

LOCKSTOP5 for use with other models.

The use of LOCK STOP is optional and does not affect structural performance.

LBS

CODE	d <sub>1</sub>		L		b		TX	pcs
	[mm]	[in]	[mm]	[in]	[mm]	[in]		
LBS550	5	0.20	50	1 15/16	46	1 13/16	TX20	200
LBS570	5	0.20	70	2 3/4	66	2 5/8	TX20	200



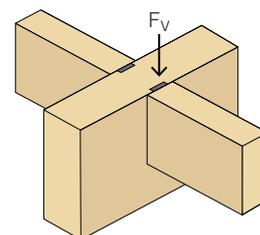
### MATERIAL AND DURABILITY

LOCK T: EN AW-6005A aluminium alloy  
To be used in dry service conditions.

### FIELD OF USE

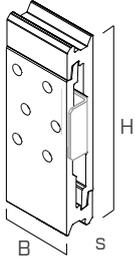
- Timber-to-timber joints between solid timber, glulam, LVL and CLT structural elements

### EXTERNAL LOADS

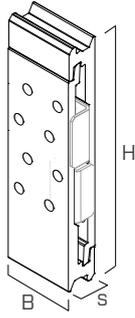


## CODES AND DIMENSIONS

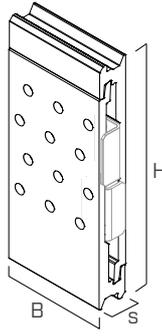
### LOCK T Ø7 | 0.28 inch



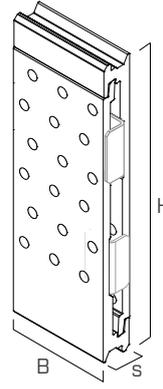
LOCKT50135



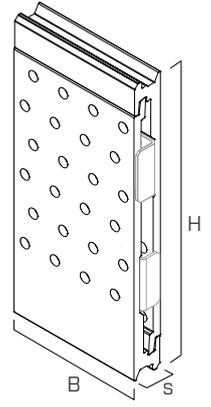
LOCKT50175



LOCKT75175



LOCKT75215



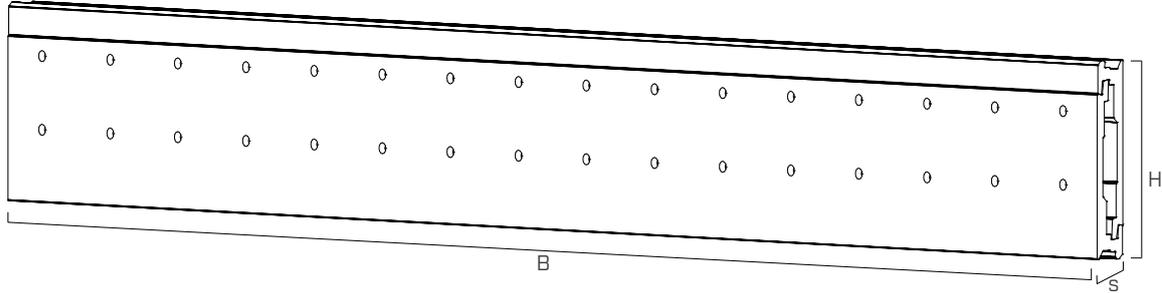
LOCKT100215

CODE	B		H		s		n <sub>screws</sub> - Ø	n <sub>LOCKSTOP</sub> - type	pcs*
	[mm]	[in]	[mm]	[in]	[mm]	[in]			
LOCKT50135	50	1.97	135	5.31	22	0.86	12-Ø7   0.28	2 LOCKSTOP7	25
LOCKT50175	50	1.97	175	6.89	22	0.86	16-Ø7   0.28	4 LOCKSTOP7	18
LOCKT75175	75	2.95	175	6.89	22	0.86	24-Ø7   0.28	4 LOCKSTOP7	12
LOCKT75215	75	2.95	215	8.46	22	0.86	36-Ø7   0.28	4 LOCKSTOP7	12
LOCKT100215	100	3.94	215	8.46	22	0.86	48-Ø7   0.28	4 LOCKSTOP7	8

Screws and LOCK STOP not included in the package.

\* number of connector pairs

### LOCK T FLOOR Ø7 | 0.28 inch



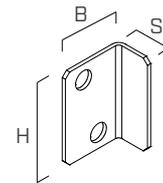
CODE	B		H		s		n <sub>screws</sub> - Ø	pcs*
	[mm]	[in]	[mm]	[in]	[mm]	[in]		
LOCKTFLOOR135	1200	47.24	135	5.31	22	0.87	64-Ø7   0.28	1

Screws not included in the box.

\* number of connector pairs

### LOCK STOP Ø7 | 0.28 inch

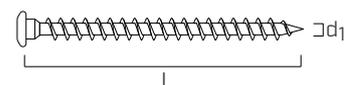
CODE	B		H		s		pcs
	[mm]	[in]	[mm]	[in]	[mm]	[in]	
LOCKSTOP7	26,5	10.43	38	9.37	15	0.59	50



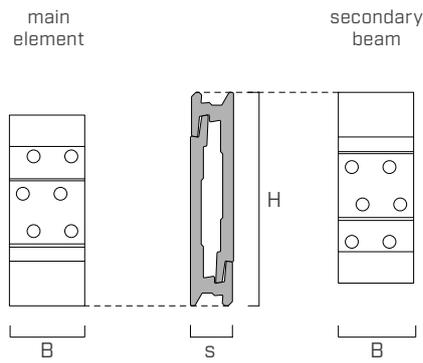
The use of LOCK STOP is optional and does not affect structural performance.

### LBS

CODE	d <sub>1</sub>		L		b		TX	pcs
	[mm]	[in]	[mm]	[in]	[mm]	[in]		
LBS780	7	0.28	80	3 1/8	75	2 15/16	TX30	100



## GEOMETRY | LOCK T Ø5 | 0.20 inch



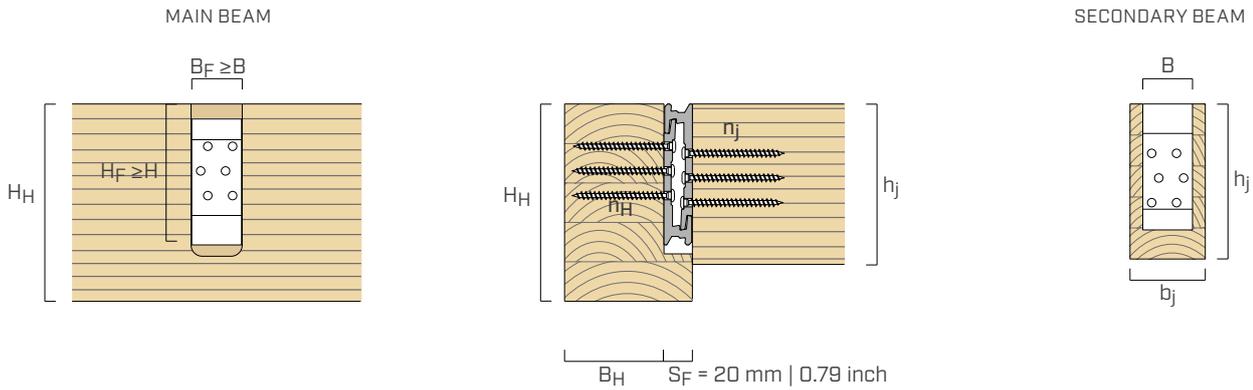
### SINGLE CONNECTOR

LOCK T CONNECTOR		SCREWS	MAIN ELEMENT		SECONDARY BEAM	
type	B x H x s [in]	LBS $n_H + n_j - \varnothing x L$ [in]	column	beam	$b_{j,min} \times h_{j,min}$ [in]	
			$B_{s,min} \times H_{s,min}$ [in] with pre-drilled hole	$B_{H,min} \times H_{H,min}$ [in] without pre-drilled hole	with pre-drilled hole	without pre-drilled hole
LOCKT1880	0.69 x 3.15 x 0.79	2+2 - Ø0.20 x 1 15/16 2+2 - Ø0.20 x 2 3/4	1.38 x 1.97 1.38 x 2.75	1.97 x 3.74 2.75 x 3.74	1.38 x 3.15	1.69 x 3.15
LOCKT3580	1.38 x 3.15 x 0.79	4+4 - Ø0.20 x 1 15/16 4+4 - Ø0.20 x 2 3/4	2.08 x 1.97 2.08 x 2.75	1.97 x 3.74 2.75 x 3.74	2.08 x 3.15	2.40 x 3.15
LOCKT35100	1.38 x 3.93 x 0.79	6+6 - Ø0.20 x 1 15/16 6+6 - Ø0.20 x 2 3/4	2.08 x 1.97 2.08 x 2.75	1.97 x 4.53 2.75 x 4.53	2.08 x 3.98	2.40 x 3.98
LOCKT35120	1.38 x 4.72 x 0.79	8+8 - Ø0.20 x 1 15/16 8+8 - Ø0.20 x 2 3/4	2.08 x 1.97 2.08 x 2.75	1.97 x 5.31 2.75 x 5.31	2.08 x 4.72	2.40 x 4.72
LOCKT53120	2.06 x 120 x 0.79	12+12 - Ø0.20 x 1 15/16 12+12 - Ø0.20 x 2 3/4	2.75 x 1.97 2.75 x 2.75	1.97 x 5.31 2.75 x 5.31	2.75 x 4.72	3.07 x 4.72

### COUPLED CONNECTORS

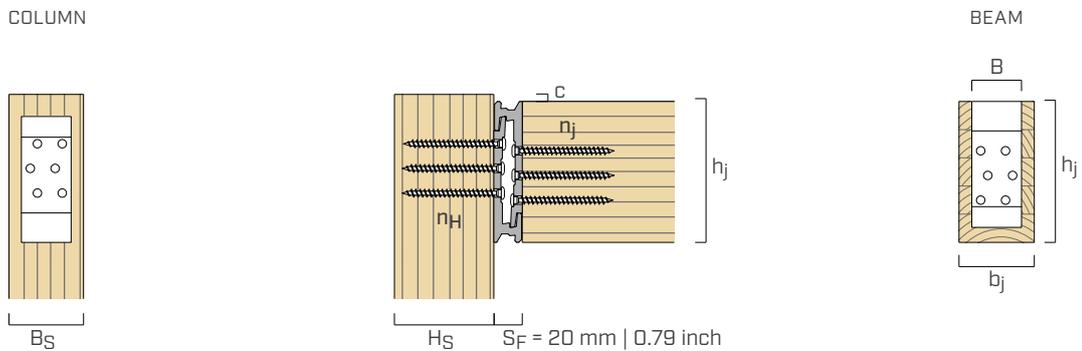
LOCK T CONNECTOR		SCREWS	MAIN ELEMENT		SECONDARY BEAM	
type	B x H x s [in]	LBS $n_H + n_j - \varnothing x L$ [in]	column	beam	$b_{j,min} \times h_{j,min}$ [in]	
			$B_{s,min} \times H_{s,min}$ [in] with pre-drilled hole	$B_{H,min} \times H_{H,min}$ [in] without pre-drilled hole	with pre-drilled hole	without pre-drilled hole
LOCKT 35100 + 35100	2.75 x 3.94 x 0.79	12+12 - Ø0.20 x 1 15/16 12+12 - Ø0.20 x 2 3/4	3.46 x 1.97 3.46 x 2.75	1.97 x 4.53 2.75 x 4.53	3.46 x 3.98	3.78 x 3.98
LOCKT 35120 + 35120	2.75 x 3.94 x 0.79	16+16 - Ø0.20 x 1 15/16 16+16 - Ø0.20 x 2 3/4	3.46 x 1.97 3.46 x 2.75	1.97 x 4.53 2.75 x 4.53	3.46 x 4.72	3.78 x 4.72
LOCKT 35120 + 53120	3.44 x 4.72 x 0.79	20+20 - Ø0.20 x 1 15/16 20+20 - Ø0.20 x 2 3/4	4.13 x 1.97 4.13 x 2.75	1.97 x 5.31 2.75 x 5.31	4.13 x 4.72	4.45 x 4.72

## INSTALLATION ON BEAM | LOCK T Ø5 | 0.20 inch



The  $H_F$  dimension refers to the minimum height of the grooving at constant width. The rounded part must be taken into account when grooving.

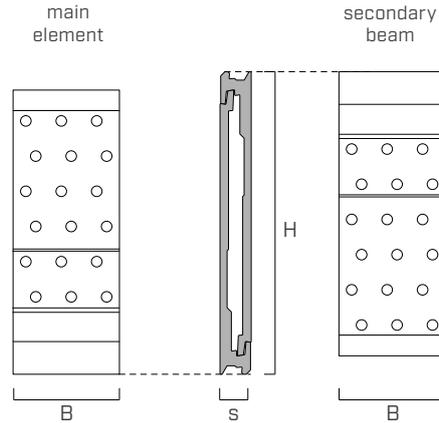
## INSTALLATION ON COLUMN | LOCK T Ø5 | 0.20 inch



## CONNECTOR POSITIONING | LOCK T Ø5 | 0.20 inch

connector	$c_{min}$	
	[mm]	[in]
LOCKT1880	7,5	0.29
LOCKT3580	7,5	0.29
LOCKT35100	5,0	0.20
LOCKT35120	2,5	0.98
LOCKT53120	2,5	0.98

For installation on column, respecting the minimum distance of the screw from the unloaded end of the column, requires to lower the connector by a quantity  $c$ , compared to the end of the column. This can be achieved either by raising the column with respect to the top of the beam (as in the image) or by lowering the connector with respect to the top of the beam by a  $c$  amount.



SINGLE CONNECTOR

LOCK T CONNECTOR		SCREWS	MAIN ELEMENT		SECONDARY BEAM	
type	B x H x s [in]	LBS $n_H+n_J - \text{Ø} \times L$ [in]	column	beam	$b_{J,min} \times h_{j,min}$ [in]	
			$B_{S,min} \times H_{S,min}$ [in] with pre-drilled hole	$B_{H,min} \times H_{H,min}$ [in] without pre-drilled hole	with pre-drilled hole	without pre-drilled hole
LOCKT50135	1.97 x 5.31 x 0.86	6+6 - Ø0.28 x 3 1/8	2.91 x 3.15	3.15 x 6.10	2.91 x 5.31	3.15 x 5.51 <sup>(1)</sup>
LOCKT50175	1.97 x 6.89 x 0.86	8+8 - Ø0.28 x 3 1/8	2.91 x 3.15	3.15 x 7.48	2.91 x 6.89	3.15 x 6.89
LOCKT75175	2.95 x 6.89 x 0.86	12+12 - Ø0.28 x 3 1/8	3.90 x 3.15	3.15 x 7.48	3.90 x 6.89	4.13 x 6.89
LOCKT75215	2.95 x 8.46 x 0.86	18+18 - Ø0.28 x 3 1/8	3.90 x 3.15	3.15 x 9.06	3.90 x 6.89	4.13 x 8.46
LOCKT100215	3.94 x 8.46 x 0.86	24+24 - Ø0.28 x 3 1/8	4.88 x 3.15	3.15 x 9.06	4.88 x 8.46	5.19 x 8.46

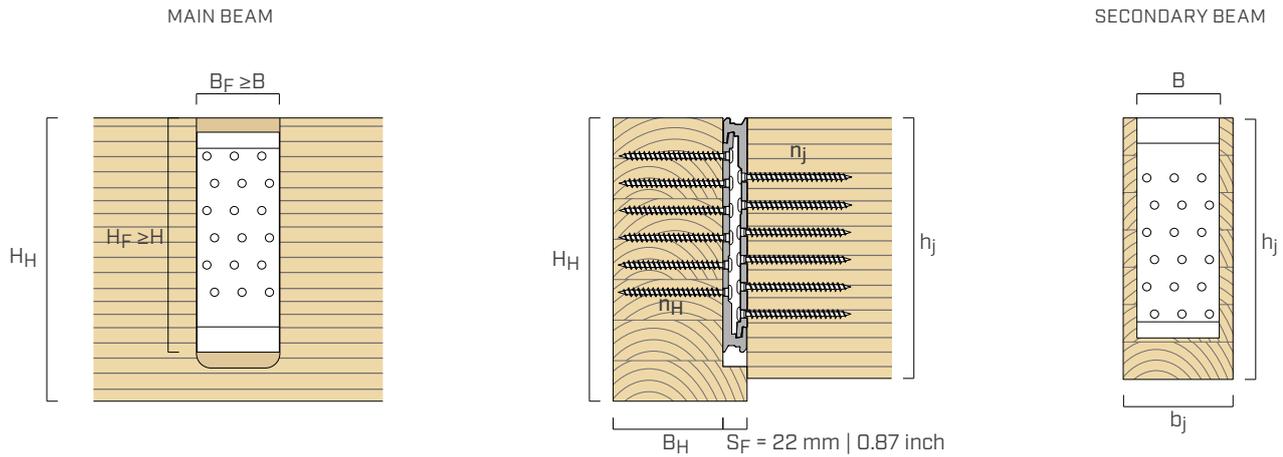
COUPLED CONNECTORS

LOCK T CONNECTOR		SCREWS	MAIN ELEMENT		SECONDARY BEAM	
type	B x H x s [in]	LBS $n_H+n_J - \text{Ø} \times L$ [in]	column	beam	$b_{J,min} \times h_{j,min}$ [in]	
			$B_{S,min} \times H_{S,min}$ [in] with pre-drilled hole	$B_{H,min} \times H_{H,min}$ [in] without pre-drilled hole	with pre-drilled hole	without pre-drilled hole
LOCKT 50135 + 50135	3.94 x 5.31 x 0.86	12+12 - Ø0.28 x 3 1/8	4.88 x 3.15	3.15 x 5.90	4.88 x 5.31	5.19 x 5.51 <sup>(1)</sup>
LOCKT 50175 + 50175	3.94 x 6.89 x 0.86	16+16 - Ø0.28 x 3 1/8	4.88 x 3.15	3.15 x 7.48	4.88 x 6.88	5.19 x 6.88
LOCKT 50175 + 75175	4.92 x 6.89 x 0.86	20+20 - Ø0.28 x 3 1/8	5.86 x 3.15	3.15 x 7.48	5.86 x 6.88	6.10 x 6.88
LOCKT 75215 + 75215	5.90 x 8.46 x 0.86	36+36 - Ø0.28 x 3 1/8	6.85 x 3.15	3.15 x 9.05	6.85 x 8.46	7.08 x 8.46
LOCKT 75215 + 100215	6.89 x 8.46 x 0.86	42+42 - Ø0.28 x 3 1/8	7.83 x 3.15	3.15 x 9.05	7.83 x 8.46	8.07 x 8.46

NOTES:

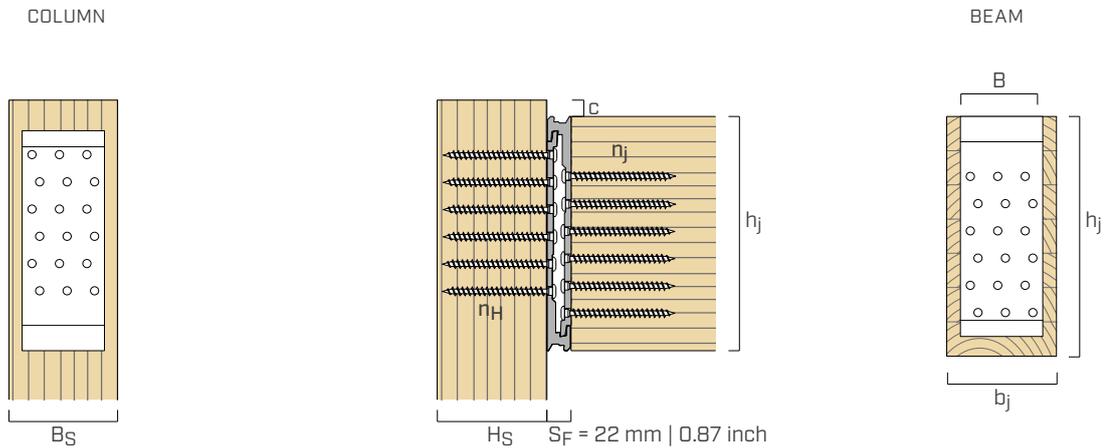
<sup>(1)</sup> In case of installation without pre-drilled hole, the LOCKT50135 connector must be installed 5 mm | 0.20 inch lower than the upper face of the secondary beam, in order to respect the minimum distances of the screws.

## INSTALLATION ON BEAM | LOCK T Ø7 | 0.28 inch



The  $H_F$  dimension refers to the minimum height of the grooving at constant width. The rounded part must be taken into account when grooving.

## INSTALLATION ON COLUMN | LOCK T Ø7 | 0.28 inch

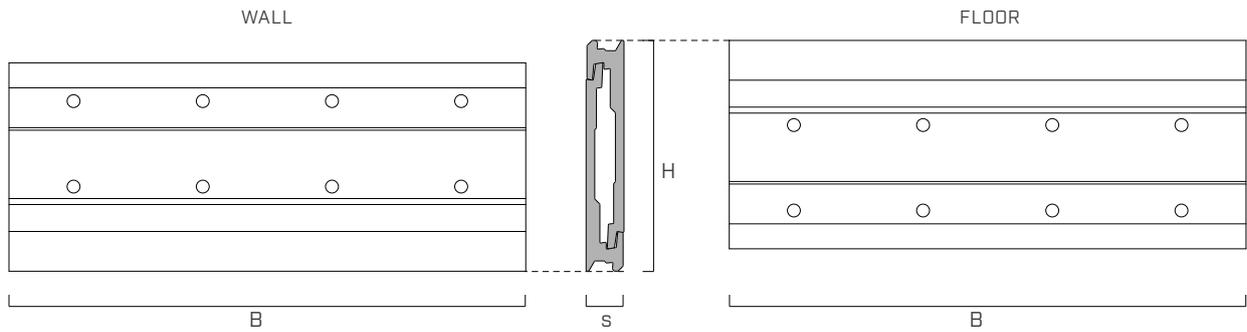


## CONNECTOR POSITIONING | LOCK T Ø7 | 0.28 inch

connector	$c_{min}$	
	[mm]	[in]
LOCKT50135	15	0.59
LOCKT50175	5	0.20
LOCKT75175	5	0.20
LOCKT75215	15	0.59
LOCKT100215	15	0.59

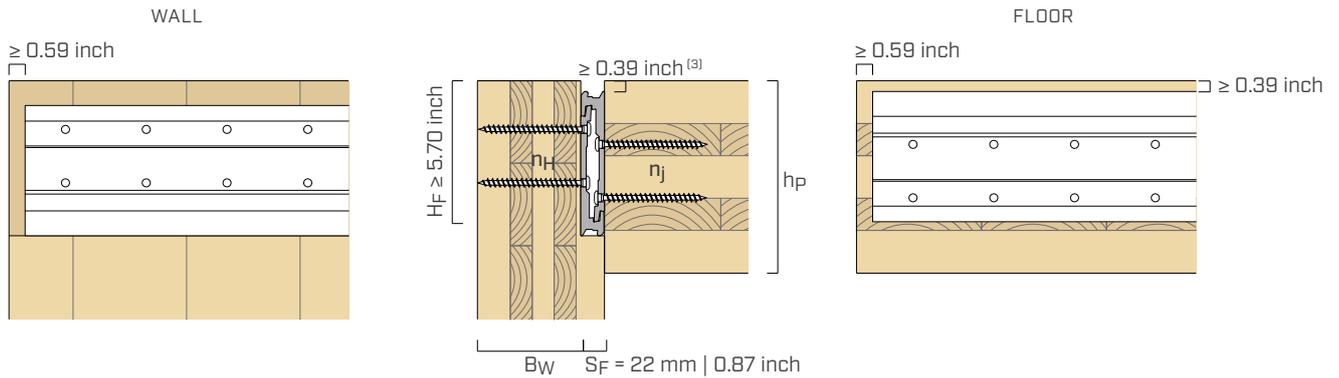
For installation on column, respecting the minimum distance of the screw from the unloaded end of the column, requires to lower the connector by a quantity  $c$ , compared to the end of the column. This can be achieved either by raising the column with respect to the top of the beam (as in the image) or by lowering the connector with respect to the top of the beam by a  $c$  amount.

## GEOMETRY | LOCK T FLOOR

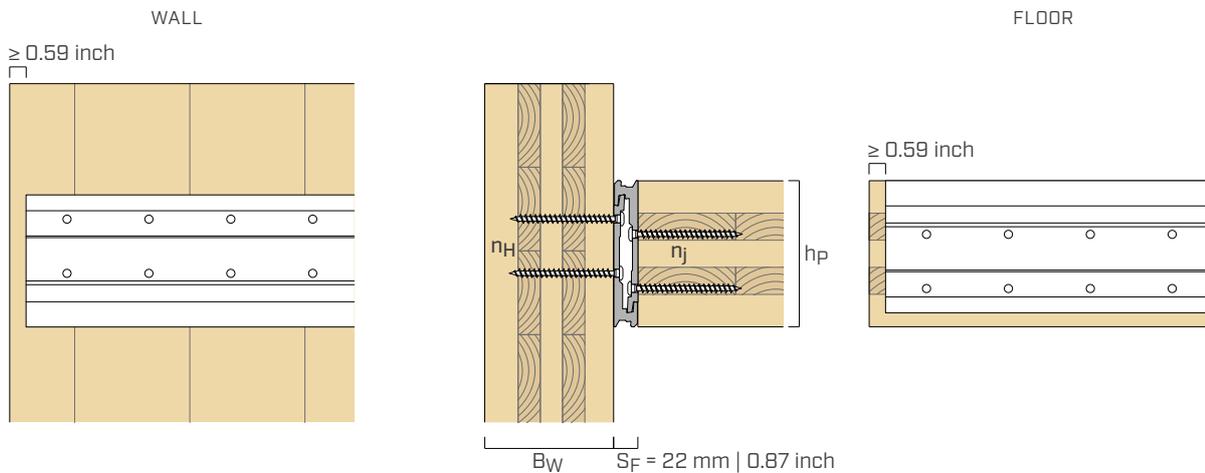


CONNECTOR LOCK T FLOOR			SCREWS	WALL	FLOOR
type	no. of modules <sup>(2)</sup>	B x H x s [in]	LBS $n_H+n_J - \varnothing \times L$ [in]	$B_{W,min}$ [in]	$h_{p,min}$ [in]
LOCKTFLOOR135	1	11.81 x 5.31 x 0.86	8+8 - $\varnothing 0.28 \times 3 \frac{1}{8}$	3.15	5.15 <sup>(3)</sup>
LOCKTFLOOR135	2	23.62 x 5.31 x 0.86	16+16 - $\varnothing 0.28 \times 3 \frac{1}{8}$		
LOCKTFLOOR135	3	35.43 x 5.31 x 0.86	24+24 - $\varnothing 0.28 \times 3 \frac{1}{8}$		
LOCKTFLOOR135	4	47.24 x 5.31 x 0.86	32+32 - $\varnothing 0.28 \times 3 \frac{1}{8}$		

## CONCEALED INSTALLATION | LOCK T FLOOR



## EXPOSED INSTALLATION | LOCK T INSTALLATION



### NOTES:

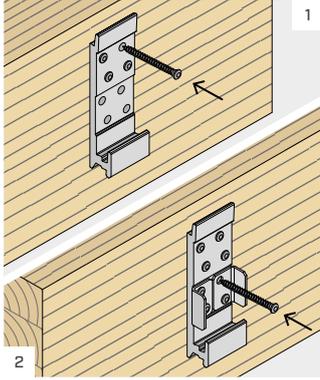
<sup>(2)</sup> The connector with 1200 mm | 47.24 inch length can be cut into modules with 300 mm | 11.81 inch width.

<sup>(3)</sup> In case of installation with the floor aligned to the upper side of the wall, the connector should be installed 10 mm | 0.39 inch from the top edge of the CLT floor. This allows the minimum distance between the screws in the wall with respect to the top of the panel. In this case, the minimum thickness of the  $h_p$  floor is 145 mm | 5.70 inch.

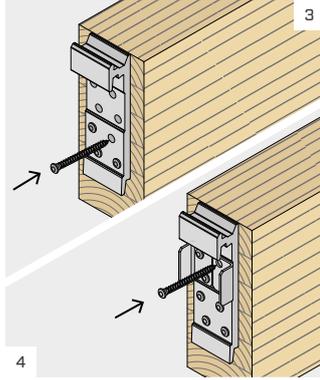
## INSTALLATION



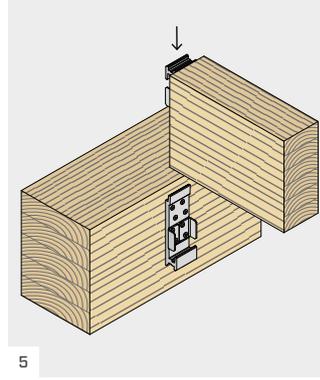
### EXPOSED INSTALLATION WITH LOCK STOP



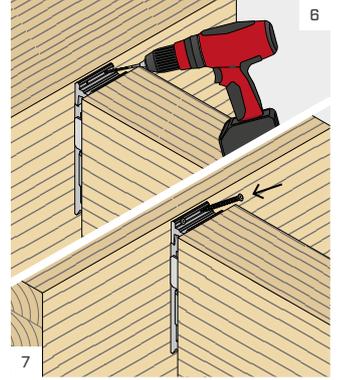
Place the connector on the main element and fasten the first screws. When using LOCK STOP (optional) position LOCK STOP and fasten the remaining screws.



Place the connector on the secondary beam and fasten the first screws. When using LOCK STOP (optional) position LOCK STOP and fasten the remaining screws.

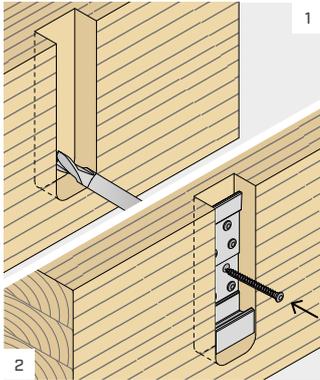


Hook the secondary beam fitting it from the top to the bottom.

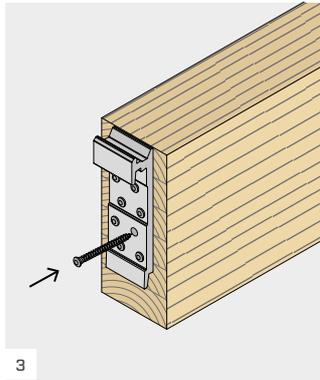


It is possible to insert anti-slip function, by drilling one hole  $\varnothing 5 \mid 0.20$  inch inclined at  $45^\circ$  in the upper part of the connector. A  $\varnothing 5 \mid 0.20$  inch screw must be inserted in the hole.

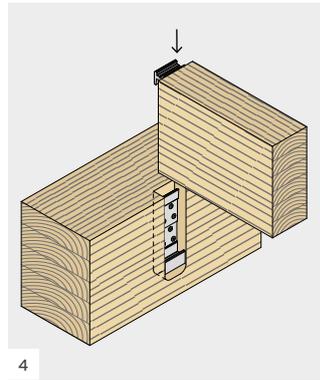
### CONCEALED INSTALLATION



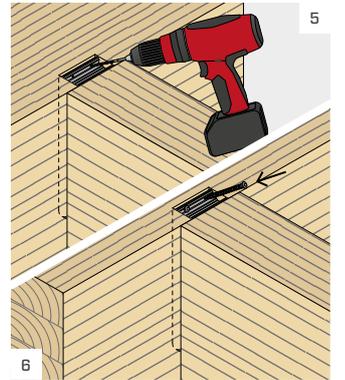
Carry out the grooving on the main element. Place the connector on the main element and fasten all screws.



Place the connector on the secondary beam and fasten all screws.

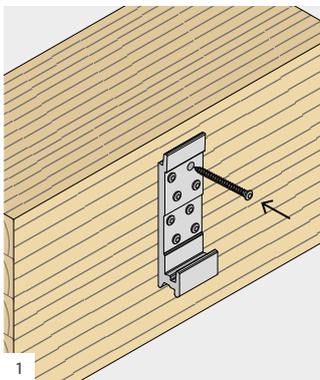


Hook the secondary beam fitting it from the top to the bottom.

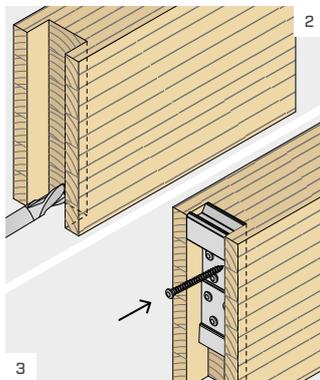


It is possible to insert anti-slip function, by drilling one or more holes  $\varnothing 5 \mid 0.20$  inch inclined at  $45^\circ$  in the upper part of the connector. A  $\varnothing 5 \mid 0.20$  inch screw must be inserted in the holes.

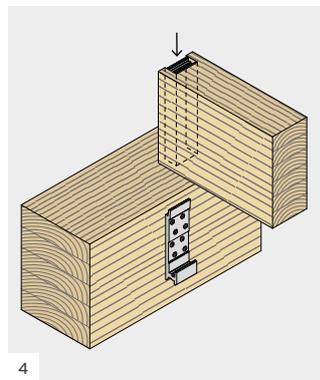
### SEMI-CONCEALED INSTALLATION



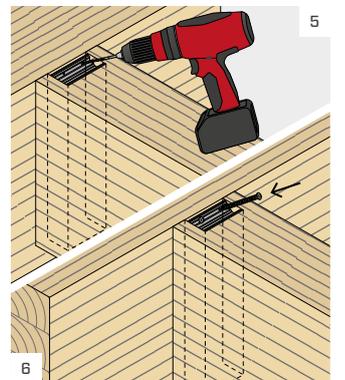
Place the connector on the main element and fasten all screws.



Perform full grooving on the secondary beam. Position the connector and fasten all screws.



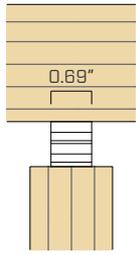
Hook the secondary beam fitting it from the top to the bottom.



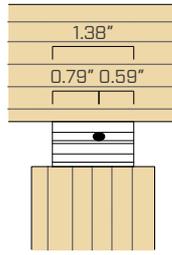
It is possible to insert anti-slip function, by drilling one or more holes  $\varnothing 5 \mid 0.20$  inch inclined at  $45^\circ$  in the upper part of the connector. A  $\varnothing 5 \mid 0.20$  inch screw must be inserted in the holes.

## OPTIONAL INCLINED SCREWS

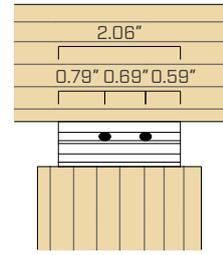
The holes inclined at 45° must be drilled on site using a drill and iron drill bit with a diameter of 5 mm | 0.20 inch. The image shows the positions for the optional inclined holes.



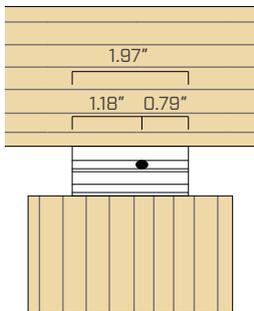
LOCKT1880



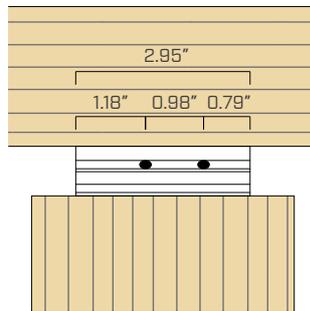
LOCKT3580  
LOCKT35100  
LOCKT35120



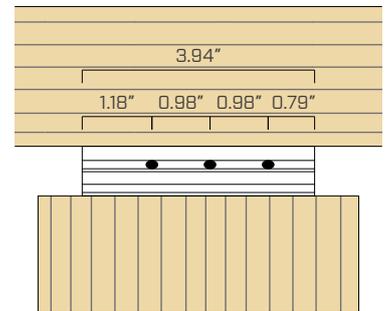
LOCKT53120



LOCKT50135  
LOCKT50175

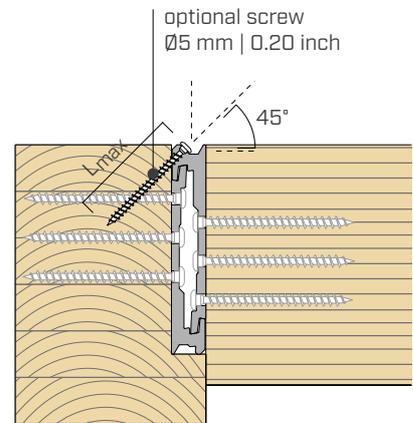


LOCKT75175  
LOCKT75215

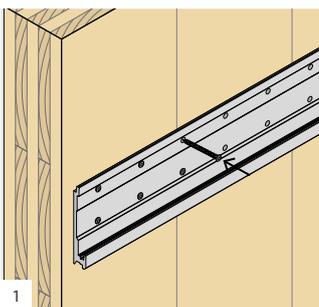


LOCKT100215

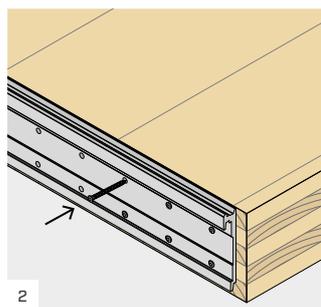
type	optional screws Ø5   0.20"	
	L <sub>max</sub> [mm]	L <sub>max</sub> [in]
LOCKT1880	50	1.97
LOCKT3580		
LOCKT35100		
LOCKT35120		
LOCKT53120		
LOCKT50135	80	3.15
LOCKT50175		
LOCKT75175		
LOCKT75215		
LOCKT100215		



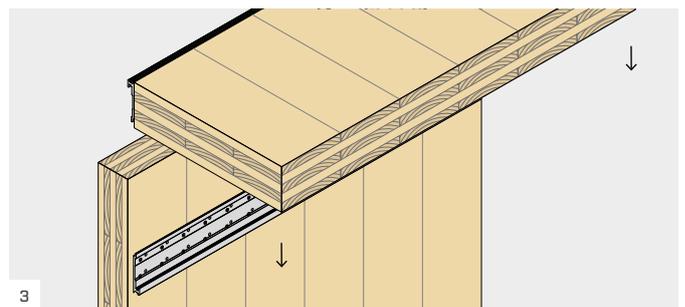
## LOCK T FLOOR INSTALLATION ON CLT



1 Place the connector on the wall and fasten all screws.



2 Place the connector on the floor and fasten all screws.



3 Hook the floor fitting it from the top to the bottom.

## STRUCTURAL VALUES | ADJUSTED LATERAL DESIGN VALUES

LOCK T Ø5 | 0.20 inch

LOCK T CONNECTOR		TIMBER				ALUMINIUM	
type	B x H x s [in]	LBS screws $n_H+n_j - \varnothing \times L$ [in]	Z'				Z'_{alu} * [lbs]
			G=0.35	G=0.42	G=0.49	G=0.55	
LOCKT1880	0.69 x 3.15 x 0.79	2+2 - Ø0.20 x 1 15/16 2+2 - Ø0.20 x 2 3/4	159	187	214	237	1798
LOCKT3580	1.38 x 3.15 x 0.79	4+4 - Ø0.20 x 1 15/16 4+4 - Ø0.20 x 2 3/4	318	375	429	474	3597
LOCKT35100	1.38 x 3.94 x 0.79	6+6 - Ø0.20 x 1 15/16 6+6 - Ø0.20 x 2 3/4	478	562	644	712	3597
LOCKT35120	1.38 x 4.72 x 0.79	8+8 - Ø0.20 x 1 15/16 8+8 - Ø0.20 x 2 3/4	637	750	859	949	3597
LOCKT53120	2.06 x 4.72 x 0.79	12+12 - Ø0.20 x 1 15/16 12+12 - Ø0.20 x 2 3/4	956	1125	1288	1424	5395
LOCKT 35100 + 35100	2.75 x 3.94 x 0.79	12+12 - Ø0.20 x 1 15/16 12+12 - Ø0.20 x 2 3/4	956	1125	1288	1424	7193
LOCKT 35120 +35120	2.75 x 4.72 x 0.79	16+16 - Ø0.20 x 1 15/16 16+16 - Ø0.20 x 2 3/4	1275	1500	1718	1899	7193
LOCKT 35120 + 53120	3.44 x 4.72 x 0.79	20+20 - Ø0.20 x 1 15/16 20+20 - Ø0.20 x 2 3/4	1594	1875	2147	2374	8992

\* Values according to ETA-19/0831.

LOCK T Ø7 | 0.28 inch

LOCK T CONNECTOR		TIMBER				ALUMINIUM	
type	B x H x s [in]	LBS screws $n_H+n_j - \varnothing \times L$ [in]	Z'				Z'_{alu} * [lbs]
			G=0.35	G=0.42	G=0.49	G=0.55	
LOCKT50135	1.97 x 5.31 x 0.87	6+6 - Ø0.28 x 3 1/8	837	985	1128	1247	5395
LOCKT50175	1.97 x 6.89 x 0.87	8+8 - Ø0.28 x 3 1/8	1116	1313	1504	1663	7194
LOCKT75175	2.95 x 6.89 x 0.87	12+12 - Ø0.28 x 3 1/8	1675	1970	2257	2495	10791
LOCKT75215	2.95 x 8.46 x 0.87	18+18 - Ø0.28 x 3 1/8	2513	2956	3385	3743	10791
LOCKT100215	3.93 x 8.46 x 0.87	24+24 - Ø0.28 x 3 1/8	3350	3941	4514	4991	14388
LOCKT 50135 + 50135	3.93 x 5.31 x 0.87	12+12 - Ø0.28 x 3 1/8	1675	1970	2257	2495	10791
LOCKT 50175 + 50175	3.93x 6.89 x 0.87	16+16 - Ø0.28 x 3 1/8	2233	2627	3009	3327	14388
LOCKT 50175 + 75175	4.92 x 6.89 x 0.87	20+20 - Ø0.28 x 3 1/8	2792	3284	3475	4159	17985
LOCKT 75215 + 75215	5.90 x 8.46 x 0.87	36+36 - Ø0.28 x 3 1/8	5026	5912	6771	7487	21582
LOCKT 75215 + 100215	6.89 x 8.46 x 0.87	42+42 - Ø0.28 x 3 1/8	5863	6897	7900	8735	25179

\* Values according to ETA-19/0831.

## STRUCTURAL VALUES | ADJUSTED LATERAL DESIGN VALUES

### LOCK T FLOOR FOR CLT

CONNECTOR LOCK T FLOOR		TIMBER				ALUMINIUM	
type	B x H x s [in]	LBS screws n <sub>H</sub> +n <sub>J</sub> - ØxL [in]	Z'				Z' <sub>alu</sub> * [lbs]
			G=0.35	G=0.42	G=0.49	G=0.55	
LOCKTFLOOR135	11.81 x 5.31 x 0.86	8+8 - Ø0.28 x 3 1/8	1116	1313	2504	1663	43164
LOCKTFLOOR135	23.62 x 5.31 x 0.86	16+16 - Ø0.28 x 3 1/8	2233	2627	3009	3327	86327
LOCKTFLOOR135	35.43 x 5.31 x 0.86	24+24 - Ø0.28 x 3 1/8	3350	3941	4514	4991	129491
LOCKTFLOOR135	47.24 x 5.31 x 0.86	32+32 - Ø0.28 x 3 1/8	4467	5255	6019	6655	172654

\* Values according to ETA-19/0831.

#### GENERAL PRINCIPLES:

- Values calculated according to the NDS (2018) for screws without pre-drilled holes and according to the design model reported in ETA-19/0831. The strength value can be accepted as valid, on the safety side, even in the presence of pre-drill.
- The resistance of the aluminium connector is according to the ETA - 19/0831. In the calculation of the aluminium resistance it was used the coefficient  $\gamma_{M2}$ , the partial safety factor for aluminium sections subject to tension. According to EN 1999-1-1, it was considered equal to  $\gamma_{M2}=1.25$ .
- Dimensioning and verification of the timber elements must be carried out separately. In particular, for loads perpendicular to the beam axis, it is recommended to perform a splitting check in both wooden elements.
- If coupled connectors are used, special care must be taken in alignment during installation to avoid different stresses in the two connectors.
- Screws with the same length must be used in all holes, separately for each side of the connector. It is possible to use screws of different length in the two connectors, main element side and secondary beam side.
- The connector must always be fully fastened using all the holes.
- The pre-drilled hole is not required for screws on main or secondary beam, with characteristic density  $\rho_k \leq 420 \text{ kg/m}^3$ . The pre-drilled hole is mandatory on main or secondary beam with characteristic density  $\rho_k > 420 \text{ kg/m}^3$  ( $G=0.47$ ).
- For screws on column, pre-drilling is always mandatory.
- For the LOCKTFLOOR135 connector installed on CLT panels no pre-drilled hole is required.
- The end grain factor is  $C_{eg} = 0.67$ , according to the NDS (2018).
- The factors used to calculate the adjusted design values are the following:  $C_M=1$ ,  $C_t=1$ ,  $C_D=1$ ,  $C_G=1$ ,  $C_A=1$ .
- It is up to the engineer to understand the calculation procedure and to verify it.
- The resistances of the connection is calculated considering the same specific gravity for the primary and secondary beam.

