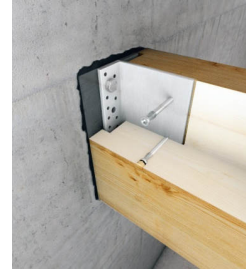
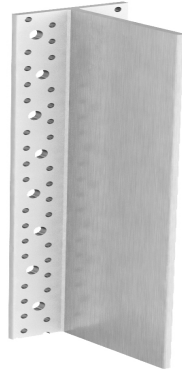




„Innovationen im Holzbau“

Integral connector type aluminium combination SB 7.0

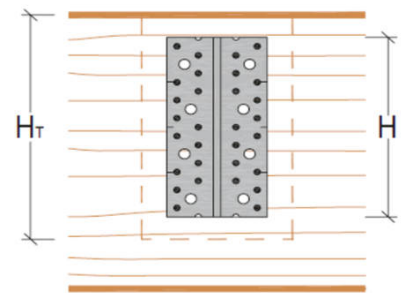
ETA-16/0044



Structural values

Timber-to-timber main/secondary member with threaded dowel $\varnothing 7.0\text{mm}$

Height [mm]	Timber cross-sections [mm]		Fixing		Resistance
	Secondary member $B_{NT,MIN}$	Main member $H_{T,MIN}$	Anchor nails _{nH} $\varnothing 4.0 \times 60$	SB dowel $\varnothing 7 \times 113$	EN 1995:2008 $R_{v,k}$ [kN]
80	120	120	14	3	9,1
120	120	160	22	4	16,6
160	120	200	30	5	25,7
200	120	240	38	7	36,7
240	120	280	46	9	50,0
280*	140	320	54	10 x $\varnothing 7 \times 133$	64,3
320*	140	360	62	11 x $\varnothing 7 \times 133$	75,7
360*	160	400	70	12 x $\varnothing 7 \times 153$	93,2
400*	160	440	78	13 x $\varnothing 7 \times 153$	106,7

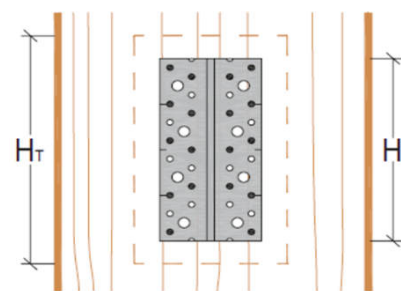


Full nailing

*These sizes are to be made using Art. 30422 (L=2200mm)

Timber-to-timber column joint with threaded dowel $\varnothing 7.0\text{mm}$

Height [mm]	Timber cross-sections [mm]		Fixing		Resistance
	Secondary member $B_{NT,MIN}$	Main member $H_{T,MIN}$	Anchor nails _{nH} $\varnothing 4.0 \times 60$	SB dowel $\varnothing 7 \times 113$	EN 1995:2008 $R_{v,k}$ [kN]
80	120	120	8	3	7,4
120	120	160	12	4	14,6
160	120	200	16	5	20,6
200	120	240	20	7	27,2
240	120	280	24	9	34,4
280*	140	320	54	9 x $\varnothing 7 \times 133$	44,2
320*	140	360	62	11 x $\varnothing 7 \times 133$	54,6
360*	160	400	70	11 x $\varnothing 7 \times 153$	63,5
400*	160	440	78	13 x $\varnothing 7 \times 153$	74,4



Partial nailing

*These sizes are to be made using Art. 30422 (L=2200mm)

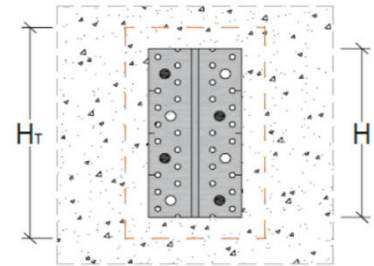


Timber-to-concrete, masonry

Example on concrete with screw anchor $\varnothing 10 \times 801$

Height [mm]	Timber cross-sections [mm]		Fixing		Resistance
	Secondary member $B_{NT,MIN}$	Main member $H_{T,MIN}$	Screw anchor _{nH} $\varnothing 10 \times 80$	SB dowel $*\varnothing 7 \times 113$	EN 1995:2008 $^1 R_{V,k}$ [kN]
80	120	120	2	2	6,9
120	120	160	3	3	11,4
160	120	200	4	4	16,0
200	120	240	5	5	20,6
240	120	280	6	6	25,5
280*	140	320	7	7 x $\varnothing 7 \times 133$	29,7
320*	140	360	8	8 x $\varnothing 7 \times 133$	34,3
360*	160	400	9	9 x $\varnothing 7 \times 153$	38,9
400*	160	440	10	10 x $\varnothing 7 \times 153$	43,2

¹The given resistance (load-carrying capacity) values are only example values and depend on the dowel manufacturer and type.



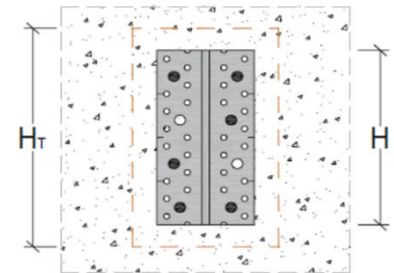
Example on concrete with adhesive (vinyl ester resin)

Height [mm]	Timber cross-sections [mm]		Fixing		Resistance
	Secondary member $B_{NT,MIN}$	Main member $H_{T,MIN}$	^{2,3} Threaded rod _{nH} $^1 \varnothing 8.0 \times 110$	SB dowel $*\varnothing 7 \times 113$	EN 1995:2008 $^3 R_{V,k}$ [kN]
80	120	120	4	3	11,9
120	120	160	4	4	19
160	120	200	6	5	30,3
200	120	240	7	7	37,8
240	120	280	8	9	46,8
280*	140	320	9	10 x $\varnothing 7 \times 133$	54,6
320*	140	360	11	11 x $\varnothing 7 \times 133$	58,5
360*	160	400	12	12 x $\varnothing 7 \times 153$	68,1
400*	160	440	14	13 x $\varnothing 7 \times 153$	78,1

¹Threaded rods, strength class 5.8

²Required minimum number of threaded rods for the given values

³The given resistance (load-carrying capacity) values are only example values and depend on the dowel manufacturer and type.

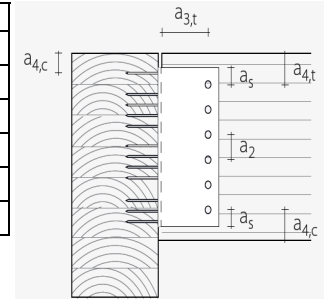




Minimum spacings

Timber-to-timber joint

SB dowel $\varnothing 7.0 \times L$ / anchor nail $\varnothing 4.0 \times L$			[mm]
Dowel spacing (centre-to-centre)	a_2	$\geq 3d$	≥ 21
Min. Distance to top of secondary member	$a_{4,t}$	$\geq 4d$	≥ 28
Min. Distance to bottom of secondary member	$a_{4,c}$ NT	$\geq 3d$	≥ 21
Min. Distance to the top of the main member	$a_{4,c}$ HT	$\geq 5d$	≥ 20
Min. Distance to the end-grain wood (end face)	$a_{3,t}$	$\geq \{7d; 80\}$	≥ 112
Min. Distance to top and bottom of connector	a_s	$\geq 1.2 d_o (1)$	≥ 10

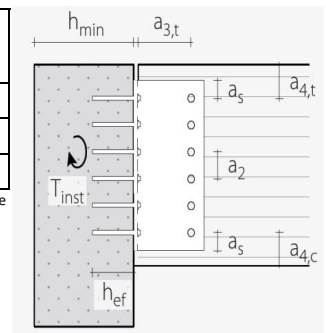


Timber-to-concrete joint

Example		Chemical anchor $\varnothing 8.0$	Screw anchor $\varnothing 10.0$
Minimum concrete thickness ²	h_{min}	$h_{ef} + 30mm \geq 100$	110
Hole diameter in concrete ²	d_o	10	8
Torque ²	T_{inst} [Nm]	10	25

²Example, data can differ depending on the dowel manufacturer

h_{ef} = effective (anchored) depth in concrete



General provisions

- Characteristic values to EN 1995:2004 / ETA-16/0044
- The values given relate to timber with density $\rho_k = 350 \text{ kg/m}^3$.

Before the execution, all values must be checked by the designer responsible.

Printing and typesetting errors excepted.