



„Innovationen im Holzbau“

**Integral connector Type aluminium Combination Maxi SD 16**

ETA-16/0044

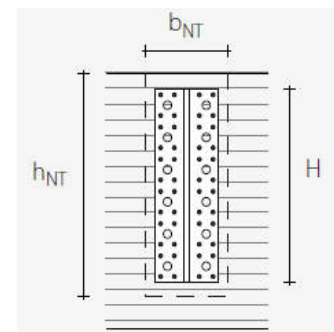


Structural values

**Timber-to-timber** main/secondary member with dowel  $\varnothing$  16 mm

Height [mm]	Timber cross-sections [mm]		Fixing			Resistance EN 1995:2008 $R_{v,k}$ [kN]
	Secondary member $B_{NT,MIN}$	Main member $H_{NT,MIN}$	Anchor nails $_{nH}$ $\varnothing$ 6.0 x 100	nN	Dowel $\varnothing$ x L [mm]	
384	160	432	48	6	16x 160	117,3
448*	160	496	56	7	16x 160	150,6
512	160	560	64	8	16x 160	172,1
576*	160	624	72	9	16x 160	193,7
640	160	688	80	10	16x 160	212,2
704*	160	752	88	11	16x 160	236,7
768	160	816	96	12	16x 160	258,2
832*	160	880	104	13	16x 160	279,7
896*	160	944	112	14	16x 160	301,2
960*	160	1008	120	15	16x 160	322,8

\*These sizes are to be made using Art. 30822 (L=2176mm)

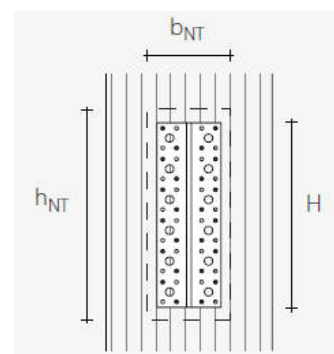


Full nailing

**Timber-to-timber** column joint with dowel  $\varnothing$  16 mm

Height [mm]	Timber cross-sections [mm]		Fixing			Resistance EN 1995:2008 $R_{v,k}$ [kN]
	Secondary member $B_{NT,MIN}$	Main member $H_{NT,MIN}$	Anchor nails $_{nH}$ $\varnothing$ 6.0 x 100	nN	Dowel $\varnothing$ x L [mm]	
384	160	432	24	6	16x 160	58,6
448*	160	496	28	7	16x 160	76,7
512	160	560	32	8	16x 160	95,9
576*	160	624	36	9	16x 160	116,0
640	160	688	40	10	16x 160	136,7
704*	160	752	44	11	16x 160	157,9
768	160	816	48	12	16x 160	179,3
832*	160	880	52	13	16x 160	200,9
896*	160	944	56	14	16x 160	222,5
960*	160	1008	60	15	16x 160	244,2

\*These sizes are to be made using Art. 30822 (L=2176mm)



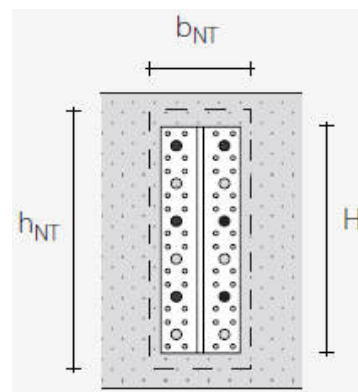
Partial nailing



**Joints on masonry / concrete**

Example in concrete with adhesive <sup>3</sup> (vinyl ester resin)

Height [mm]	Timber cross-sections [mm]		Fixing			Resistance
	Secondary member $B_{NT,MIN}$	Main member $H_{NT,MIN}$	<sup>2</sup> Threaded rod <sub>nH</sub> M 16 x 160	nN	Dowel $\varnothing \times L$ [mm]	EN 1995:2008 $R_{V,k}^1$ [kN]
384	160	432	6	6	16x 160	133,5
448*	160	496	8	7	16x 160	155,7
512	160	560	8	8	16x 160	178,0
576*	160	624	10	9	16x 160	200,2
640	160	688	10	10	16x 160	222,4
704*	160	752	12	11	16x 160	244,7
768	160	816	12	12	16x 160	266,9
832*	160	880	14	13	16x 160	289,2
896*	160	944	14	14	16x 160	311,4
960*	160	1008	16	15	16x 160	333,7



<sup>1</sup>Threaded rods, strength class 5.8

<sup>2</sup>Required minimum number of threaded rods for the given values

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

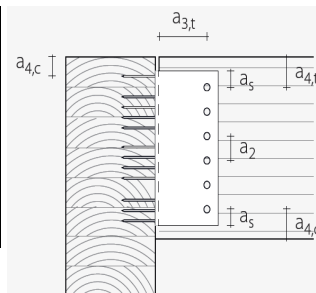
**Minimum spacings**

**Timber-to-timber joint**

Dowel  $\varnothing 16.0 \times L$  / Anchor nails  $\varnothing 4.0 \times L$

			[mm]
Dowel spacing (centre-to-centre)	$a_2$	$\geq 3d$	$\geq 48$
Min. Distance to top of secondary member	$a_{4,t}$	$\geq 4d$	$\geq 64$
Min. Distance to bottom of secondary member	$a_{4,c}$ NT	$\geq 3d$	$\geq 48$
Min. Distance from nail to top of main member	$a_{4,c}$ HT	$\geq 5d$	$\geq 30$
Min. Distance to end-grain wood	$a_{3,t}$	$\geq \{7 d; 80\}$	$\geq 112$
Min. Distance to bottom of connector	$a_5$	$\geq 1.2 d_o^{(1)}$	$\geq 21$

<sup>1</sup>Hole diameter

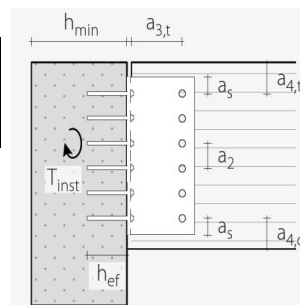


**Timber-to-concrete joint**

Minimum concrete thickness <sup>2</sup>	$h_{min}$	$h_{ef} + 2d_o$
Hole diameter in concrete <sup>2</sup>	$d_o$	18
Torque <sup>2</sup>	$T_{inst}$ [Nm]	80

<sup>2</sup>Example, 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.