

ALUMAXI

Concealed beam hanger with and without holes

Aluminum alloy three dimensional perforated bracket

CE
ETA 09/0361



FIELD OF USE

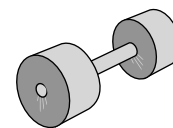
Timber-to-timber and timber-to-concrete shear connections, both perpendicular and inclined to the vertical plane.

- solid timber
- glulam (Glued Laminated Timber)
- CLT (Cross Laminated Timber)
- LVL (Laminated Veneer Lumber)
- wood-based panels

SUPERIOR STRENGTH STANDARD

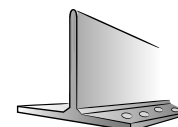
Standard connection system developed to guarantee higher values of design strength.

All values are calculated and certified.



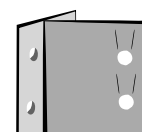
STEEL-ALUMINUM

EN AW-6005A high strength aluminum alloy, obtained through extrusion and thus weld-free.



SPARES MANAGEMENT

Versions without holes available in 85.197 in. long pieces with notches every 2.520 in., to be cut onsite according to the worksite needs.



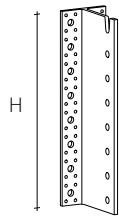


UNMATCHED

The low weight of the steel - aluminium alloy facilitates easy transportation and onsite movements, while guaranteeing a very high strength. Being a hidden joint, it satisfies the fire safety requirements.

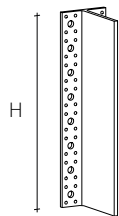
CODES AND DIMENSIONS

ALUMAXI WITH HOLES



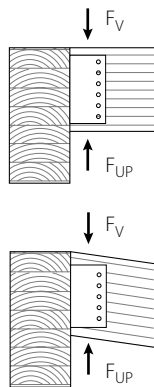
code	type	H [in]	pcs/box
ALUMAXI384L	with holes	15.118	1
ALUMAXI512L	with holes	20.157	1
ALUMAXI640L	with holes	25.197	1
ALUMAXI768L	with holes	30.236	1
ALUMAXI2176L	with holes	85.669	1

ALUMAXI WITHOUT HOLES



code	type	H [in]	pcs/box
ALUMAXI2176	without holes	85.669	1

EXTERNAL LOADS



MATERIAL AND DURABILITY

ALUMAXI: EN AW-6005° aluminum alloy.
To be used in Service class 1 and 2 (EN 1995:2008).

FIELD OF USE

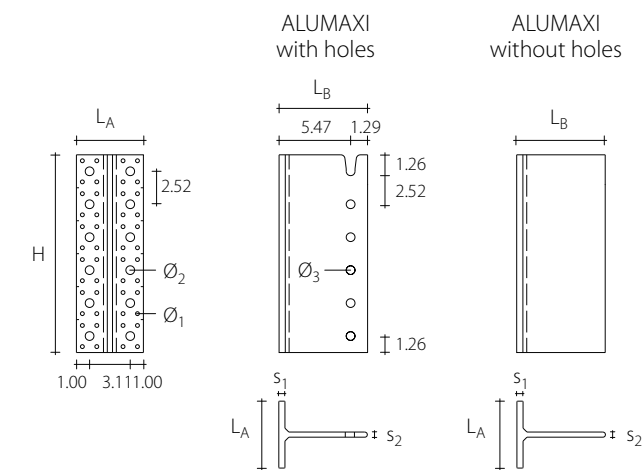
Timber to timber joint



ADDITIONAL PRODUCTS - FIXINGS

type	description		d [mm]	d [in]	support	p.
LBA	anker nail		6	0.236		340
STA	smooth dowel		16	0.630		50

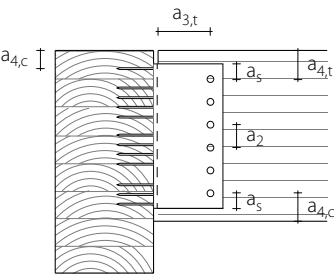
GEOMETRY



		AluMAXI with holes	AluMAXI without holes
Flange thickness	s_1 [in]	0.472	0.472
Web thickness	s_2 [in]	0.394	0.394
Flange width	L_A [in]	5.118	5.118
Web length	L_B [in]	6.772	6.772
Small flange-holes	$\varnothing_1$ [in]	0.295	0.295
Large flange-holes	$\varnothing_2$ [in]	0.669	0.669
Web holes (dowels)	$\varnothing_3$ [in]	0.669	-

INSTALLATION

MINIMUM DISTANCES



SECONDARY BEAM - TIMBER			smooth dowel STA Ø16
Dowel - Dowel	a_2 [in]	$\geq 3 d$	≥ 1.890
Dowel - Beam extrados	$a_{4,t}$ [in]	$\geq 4 d$	≥ 2.520
Dowel - Beam extrados	$a_{4,c}$ [in]	$\geq 3 d$	≥ 1.890
Dowel - Beam end	$a_{3,t}$ [in]	$\geq \{7 d; 80\}$	≥ 4.409
Dowel - Bracket edge	a_5 [in]	$\geq 1.2 d_0^{(1)}$	≥ 0.827

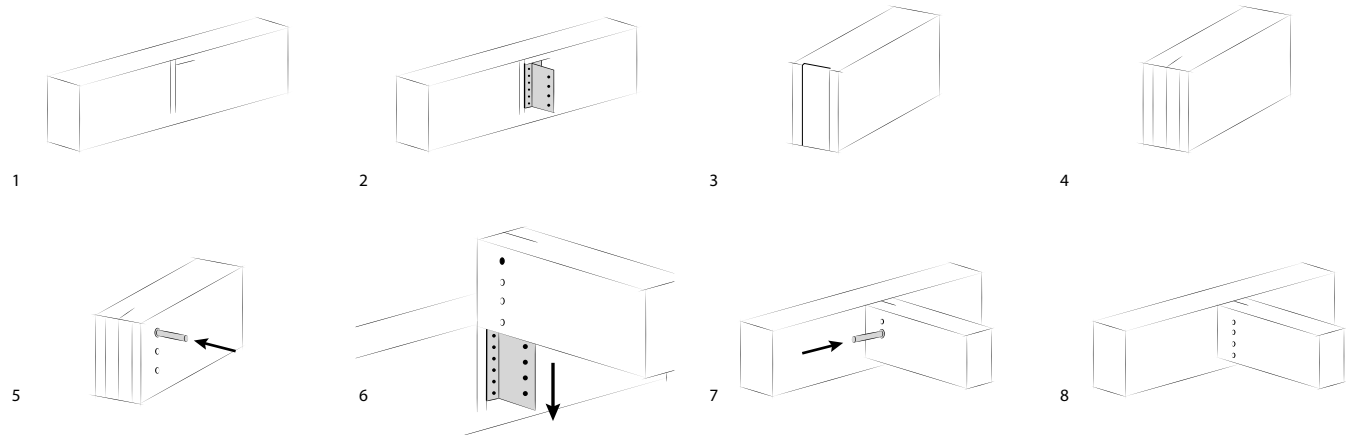
(1) hole diameter

MAIN BEAM – TIMBER			anker nail LBA Ø6
First connector – Beam extrados	$a_{4,c}$ [in]	$\geq 5 d$	≥ 1.181

ASSEMBLY

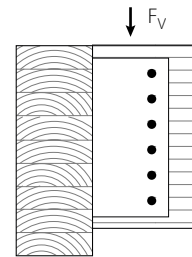
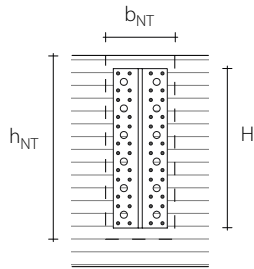


ALUMAXI with holes



STATIC VALUES - TIMBER-TO-TIMBER JOINT - RIGHT ANGLE

TOTAL NAILING



ASD Values

AluMAXI		Secondary beam		Dowel	Nails	
H		b_{NT}	h_{NT}	STA Ø16	LBA Ø4 X 60	$R_{V,k}$
[mm]	[in]	[in]	[in]	[pcs. - Ø x L]	[pcs.]	[lbs]
384	15.118	6.299	17.008	6 - Ø16 x 160	48	10634.0
448	17.638	6.299	19.528	7 - Ø16 x 160	56	12407.0
512	20.157	6.299	22.047	8 - Ø16 x 160	64	14179.0
576	22.677	6.299	24.567	9 - Ø16 x 160	72	15951.0
640	25.197	6.299	27.087	10 - Ø16 x 160	80	17724.0
704	27.717	6.299	29.606	11 - Ø16 x 160	88	19496.0
768	30.236	6.299	32.126	12 - Ø16 x 160	96	21268.0
832	32.756	6.299	34.646	13 - Ø16 x 160	104	23041.0
896	35.276	6.299	37.165	14 - Ø16 x 160	112	24813.0
960	37.795	6.299	39.685	15 - Ø16 x 160	120	26585.0

$C_D = 1, C_M = 1, C_T = 1$

Specific Gravity: 0.49

* dimension obtainable from ALUMAXI2176L or ALUMAXI2176

NOTES

- Values based on the "Technical Design Guide USA", download from www.rothoblaas.com
- Download the latest version of this document from www.rothoblaas.com

GENERAL PRINCIPLES

- For different configurations or service conditions, please refer to the analytical model in ETA-09/0361 or contact Rothoblaas technical office for more information
- Dimensioning and verification of the timber elements must be carried out separately
- Strength values of the connection system are valid under the calculation hypotheses listed in the table.
- All reference lateral design values are calculated in accordance with the NDS. The analytical model is outlined in ETA-09/0361



AluMAXI
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