

ALUMIDI

Concealed beam hanger with and without holes

Aluminum alloy tridimensional perforated plate



ETA 09/0361



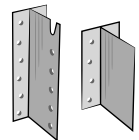
FIELD OF USE

Timber-to-Timber 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

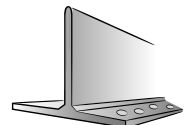
CERTIFIED

Available with and without holes.
The 86.614 in. model is also certified.



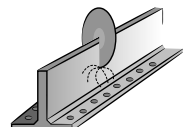
STEEL-ALUMINUM

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



SPARES MANAGEMENT

Versions without holes available in 86.614 in. long pieces with notches every 1.575 in., to be cut onsite according to the worksite needs.





INVISIBLE

The hidden connection provides a satisfying appearance to the joint and fulfills the fire safety requirements. A countersink where the first hole is located, facilitates the introduction of the secondary beam from the top

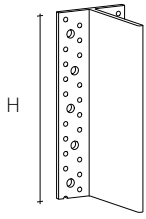


CERTIFIED SAFETY

AluMIDI bracket has been the subject of many research works, studies and international publications, both from theoretical (calculation models) and experimental point of view

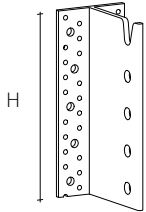
CODES AND DIMENSIONS

ALUMIDI WITHOUT HOLES



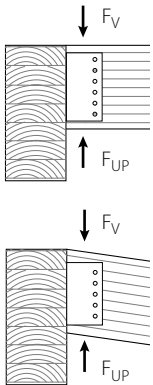
code	type	H [in]	pcs/box
ALUMIDI80	without holes	3.150	25
ALUMIDI120	without holes	4.724	25
ALUMIDI160	without holes	6.299	25
ALUMIDI200	without holes	7.874	15
ALUMIDI240	without holes	9.449	15
ALUMIDI2200	without holes	86.614	1

ALUMIDI WITH HOLES



code	type	H [in]	pcs/box
ALUMIDI120L	with holes	4.724	25
ALUMIDI160L	with holes	6.299	25
ALUMIDI200L	with holes	7.874	15
ALUMIDI240L	with holes	9.449	15
ALUMIDI280L	with holes	11.024	15
ALUMIDI320L	with holes	12.598	8
ALUMIDI360L	with holes	14.173	8

EXTERNAL LOADS



MATERIAL AND DURABILITY

ALUMIDI: EN AW-6005° aluminum alloy.

To be used in Service class 1 and 2 (EN 1995:2008).

FIELD OF USE

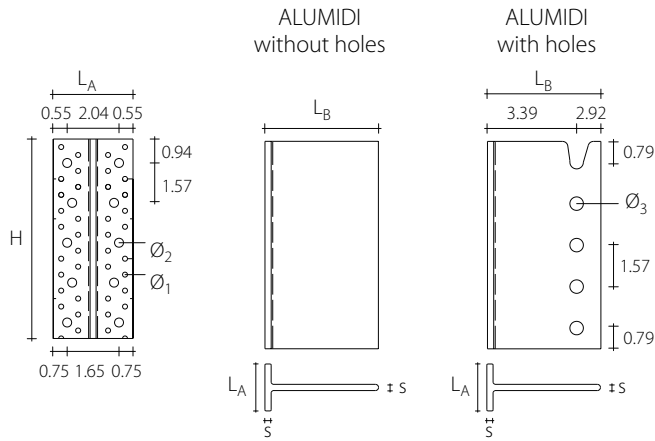
Timber to timber joints



ADDITIONAL PRODUCTS - FIXINGS

type	description	d [mm]	d [in]	support
LBA	Anker Nail	4	0.1575	
LBS	Screw for plates	5	0.1969	
SBD	Self-drilling dowel	7.5	0.2953	
STA	Smooth dowel	12	0.4724	

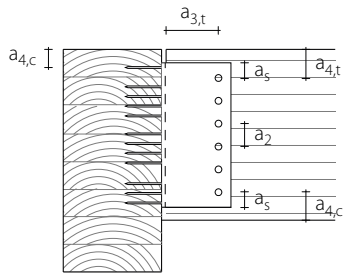
GEOMETRY



			AluMIDI without holes	AluMIDI with hole
Thickness	s	[in]	0.236	0.236
Flange width	LA	[in]	3.150	3.150
Web length	LB	[in]	4.307	4.307
Small flange-holes	Ø1	[in]	0.197	0.197
Large flange-holes	Ø2	[in]	0.354	0.354
Web holes (dowels)	Ø3	[in]	-	0.512

INSTALLATION

MINIMUM DISTANCES



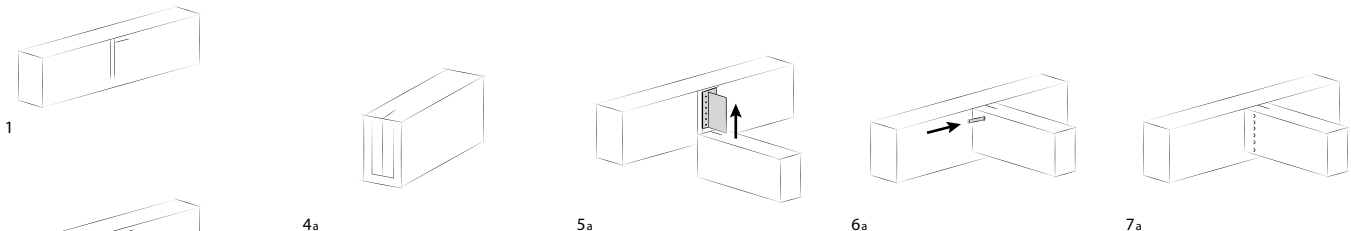
SECONDARY BEAM - TIMBER			Self-drilling dowel SBD Ø 7.5	Smooth dowel STA Ø 8
Dowel - Dowel	a2	[in] ≥ 3 d	≥ 0.906	≥ 1.417
Dowel - Beam extrados	a4,t	[in] ≥ 4 d	≥ 1.181	≥ 1.890
Dowel - Beam intrados	a4,c	[in] ≥ 3 d	≥ 0.906	≥ 1.417
Dowel - Beam end	a3,t	[in] ≥ {7 d; 80}	≥ 3.150	≥ 3.150
Dowel - Bracket edge	a5	[in] ≥ 1.2 d _o ⁽¹⁾	≥ 0.394	≥ 0.630

⁽¹⁾ hole diameter

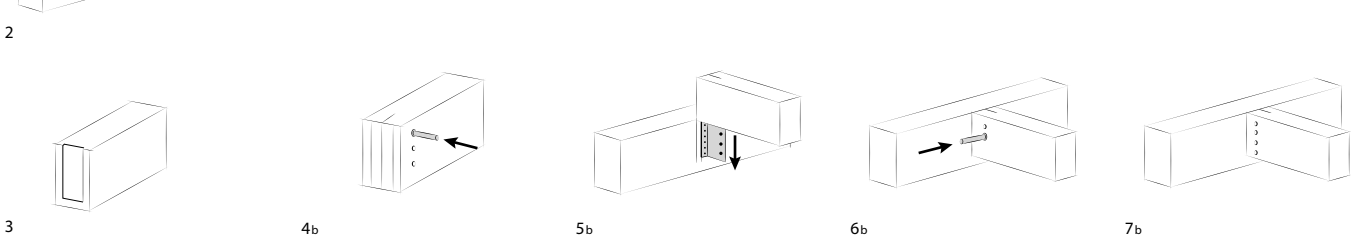
MAIN BEAM - TIMBER			Anker nail LBA Ø4	screw LBS Ø5
First connector - Beam extrados	a4,c	[in] ≥ 5 d	≥ 0.787	≥ 0.984

ASSEMBLY

ALUMIDI without holes

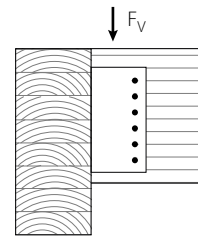
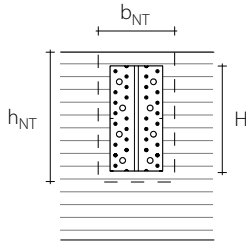


ALUMIDI with holes



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

TOTAL NAILING



ASD Values						
AluMIDI		Secondary beam		Dowel	Nails	
H		b_{NT}	h_{NT}	SBD Ø7.5	LBA Ø4 X 60	R_{vk}
[mm]	[in]	[in]	[in]	[pcs. - Ø x L]	[pcs.]	[lbs]
80	3.150	4.724	4.724	3 - Ø7.5 x 115	14	1033.0
120	4.724	4.724	6.299	4 - Ø7.5 x 115	22	2205.0
160	6.299	4.724	7.874	5 - Ø7.5 x 115	30	2756.0
200	7.874	4.724	9.449	7 - Ø7.5 x 115	38	3859.0
240	9.449	4.724	11.024	9 - Ø7.5 x 115	16	4962.0
280	11.024	5.512	12.598	10 - Ø7.5 x 135	54	5513.0
320	12.598	5.512	14.173	11 - Ø7.5 x 135	62	6064.0
360	14.173	6.299	15.748	12 - Ø7.5 x 155	70	6615.0
400	15.748	6.299	17.323	13 - Ø7.5 x 155	78	7167.0

$C_d = 1$, $C_M = 1$, $C_t = 1$

Specific Gravity: 0.49

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

