

CONCEALED BRACKET WITHOUT HOLES

STEEL-ALUMINUM

EN AW-6060 aluminium alloy bracket obtained by extrusion and therefore weld-free.

SLENDER STRUCTURES

The small dimensions of the side allows to connect secondary beams with limited width (starting from 45 mm | 1 25/32 inch).

INCLINED JOINTS

Certified strengths calculated in all directions: vertical, horizontal and axial. They can be used in inclined joints.



CHARACTERISTICS

FOCUS	concealed joints
TIMBER SECTIONS	from 45 x 70 mm to 140 x 280 mm
	from 1 25/32 x 2 3/4 inch to 5 1/2 x 7 7/8 inch
STRENGTH	R _{v,k} up to 36 kN
	adjusted load carrying capacity up to 2871 lbs
FASTENERS	HBS PLATE EVO, SBD, STA, SKS

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 and timber-to-concrete shear joints, both perpendicular and inclined

- solid timber and glulam
- CLT, LVL
- timber based panels



QUICK ASSEMBLING

The fastening, simple and fast, is realized through screws HBS PLATE EVO on the main beam and self-drilling or smooth dowels on the secondary beam.

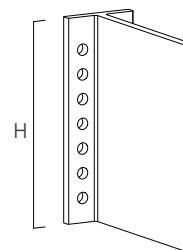
INVISIBLE

The concealed connection provides a satisfying appearance to the joint and fulfils the fire safety requirements. When adequately protected by timber, it is suitable for outdoor use.

CODES AND DIMENSIONS

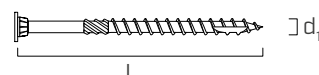
ALUMINI

CODE	type	H		pcs
		[mm]	[in]	
ALUMINI65	without holes	65	2.56	25
ALUMINI95	without holes	95	3.74	25
ALUMINI125	without holes	125	4.92	25
ALUMINI155	without holes	155	6.10	15
ALUMINI185	without holes	185	7.28	15
ALUMINI215	without holes	215	8.46	15
ALUMINI2165	without holes	2165	85.24	1



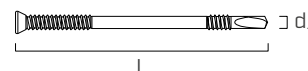
HBS PLATE EVO

CODE	d ₁		L		b	TX	pcs
	[mm]	[in]	[mm]	[in]			
HBSPEVO550	5	0.20	50	1 15/16	30	1 3/16 TX25	200
HBSPEVO560	5	0.20	60	2 3/8	35	1 3/8 TX25	200



SBD

CODE	d ₁		L		TX	pcs
	[mm]	[in]	[mm]	[in]		
SBD7555	7,5	0.30	55	2 3/16	TX40	50
SBD7575	7,5	0.30	75	2 15/16	TX40	50
SBD7595	7,5	0.30	95	3 3/4	TX40	50



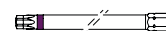
SKS ALUMINI

CODE	d ₁		L		TX	pcs
	[mm]	[in]	[mm]	[in]		
SKSALUMINI660	6	0.24	60	2 3/8	TX30	100



LONG BIT

CODE	L		colour	TX	pcs
	[mm]	[in]			
TX30200	200	7.87	purple	TX30	100



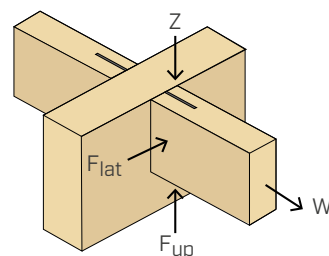
MATERIAL AND DURABILITY

ALUMINI: EN AW-6060 aluminium alloy.
To be used in dry service conditions.

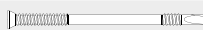
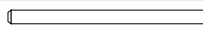
FIELDS OF USE

- Timber-to-timber, timber-to-concrete and timber-to-steel joints
- Perpendicular and inclined joints

EXTERNAL LOADS

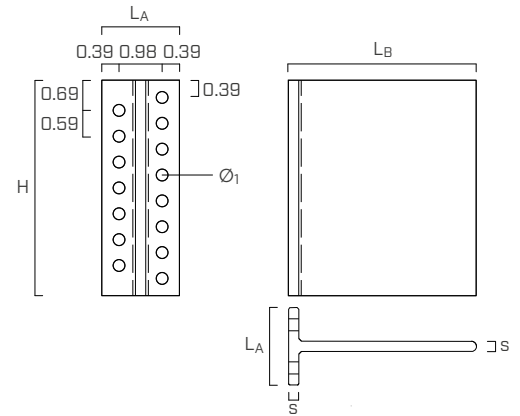


ADDITIONAL PRODUCTS - FASTENING

type	description		d		support
			[mm]	[in]	
HBS PLATE EVO	screw for timber		5	0.20	
SBD	self-drilling dowel		7,5	0.30	
STA	smooth dowel		8	0.32	

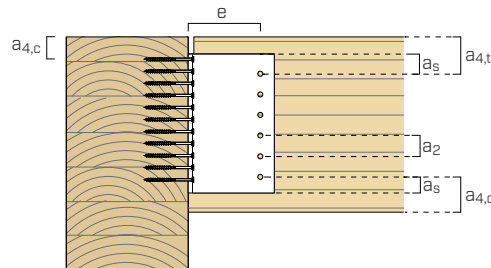
GEOMETRY

ALUMINI		[mm]	[in]
thickness	s	6	0.24
wing width	L _A	45	1.77
web length	L _B	109,9	4.33
small flange-holes	Ø ₁	7,0	0.27



INSTALLATION

MINIMUM DISTANCES



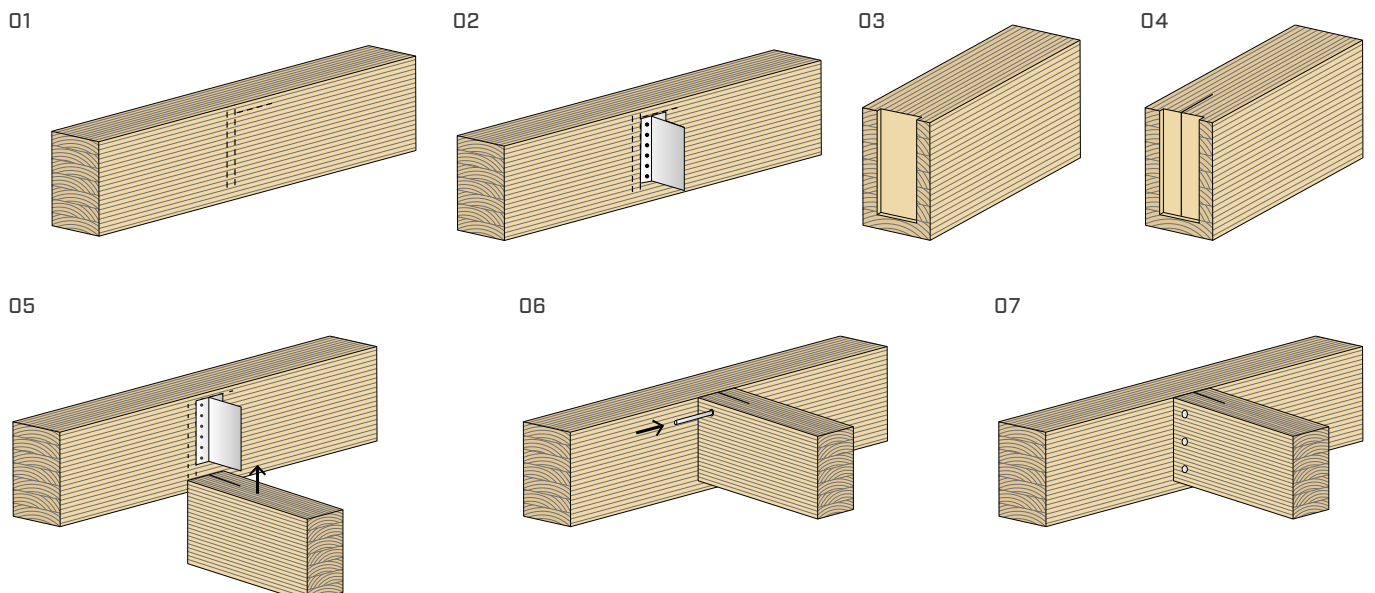
secondary beam-timber			self-drilling dowel	smooth dowel
			SBD Ø0.30	STA Ø0.32
dowel-dowel	a ₂	[in] ≥ 3 d	≥ 0.90	≥ 0.94
dowel-top of beam	a _{4,t}	[in] ≥ 4 d	≥ 1.18	≥ 1.26
dowel-bottom of beam	a _{4,c}	[in] ≥ 3 d	≥ 0.90	≥ 0.94
dowel-bracket edge	a _s	[in] ≥ 1,2 d ₀ ⁽¹⁾	≥ 0.39	≥ 0.47
dowel-main beam	e	[in]	3.38	3.38

⁽¹⁾ Hole diameter.

main beam-timber			HBS PLATE EVO Ø0.20 screw
first connector-top of beam	a _{4,c}	[in] ≥ 5 d	≥ 0.98

The minimum spacing and distances of Rotho Blaas fasteners are according to the European Technical Assessment ETA-09/0361 and to the Eurocode 5. The values from ETA-09/0361 are based on experimental tests carried out according to ETAG015 for several configurations. The values from Eurocode 5 are based on extensive research studies.

ASSEMBLY



■ ADJUSTED DESIGN VALUES | TIMBER-TO-TIMBER JOINT

FULL NAILING - CONNECTION WITH SCREWS PERPENDICULAR TO THE GRAIN



ALUMINI with SBD dowels and HBS PLATE EVO screws - full nailing

ASD DESIGN VALUES

ALUMINI		dowels	screw	full
H		SBD Ø7.5 mm 0.30"	HBS PLATE EVO Ø5 x 70 mm 0.20 x 2 3/4"	Z'
[mm]	[in]	[pcs. - L]	[pcs.]	[lbs]
65	2.56	2 - 75 mm 3"	7	319
95	3.74	3 - 75 mm 3"	11	764
125	4.92	4 - 75 mm 3"	15	1333
155	6.10	5 - 75 mm 3"	19	1979
185	7.28	6 - 75 mm 3"	23	2665
215	8.46	7 - 75 mm 3"	27	2871

$C_d, C_M, C_T = 1$

Specific gravity = 0.49

Recommended minimum beam size: 45 mm | 1 25/32"

ALUMINI with STA dowels and HBS PLATE EVO screws - full nailing

ASD DESIGN VALUES

ALUMINI		dowels	screw	full
H		STA Ø8 0.31"	HBS PLATE EVO Ø5 x 70 mm 0.20 x 2 3/4"	Z'
[mm]	[in]	[pcs. - L]	[pcs.]	[lbs]
65	2.56	2 - 80 mm 3 1/6"	7	319
95	3.74	3 - 80 mm 3 1/6"	11	764
125	4.92	4 - 80 mm 3 1/6"	15	1333
155	6.10	5 - 80 mm 3 1/6"	19	1979
185	7.28	6 - 80 mm 3 1/6"	23	2665
215	8.46	7 - 80 mm 3 1/6"	27	2871

$C_d, C_M, C_T = 1$

Specific gravity = 0.49

Recommended minimum beam size: 45 mm | 1 25/32"

NOTES:

- Download the latest version of this document from www.rothoblaas.com.
- It is up to the designer to calculate the resistance of the ALUMINI with partial nailing in case of force parallel to the grain of the main structural member.

GENERAL PRINCIPLES:

- Contact Rothoblaas' technical office for more information about the product.
- 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.