

METAL HANGER WITH INTERNAL WINGS

FAST USE

Standardized, certified, fast and inexpensive system. Thanks to the internal wings, the junction is almost entirely concealed.

MIXED MODE BENDING

Suitable for the fastening of joints in mixed mode bending.

WIDE RANGE

Suitable for beams with width from 40 to 200 mm. Strengths of up to 75 kN for use in heavy structural applications on both timber and concrete.



USA, Canada and more design values available online.

SERVICE CLASS

SC1

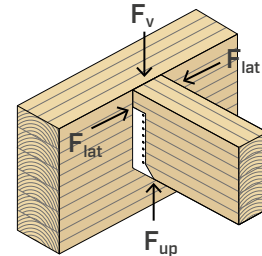
SC2

MATERIAL

S250
Z275

Z275 bright zinc plated S250GD carbon steel

EXTERNAL LOADS



BSIS



BSIG



FIELD OF USE

Beam joint in timber-to-timber configuration, suitable for beams in floors and roofs.

Can be applied to:

- solid timber softwood and hardwood
- glulam, LVL



CONCEALED

Thanks to the internal wings, the junction is almost entirely concealed. Additionally, the distribution of the nailing on the secondary beam makes the system light, highly effective and relatively inexpensive.

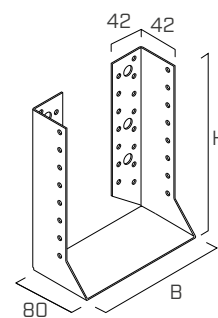
LARGE SCALE STRUCTURES

A quick and economical system, it offers a method for the fastening of large size beams using hangers with a minimal thickness.

CODES AND DIMENSIONS

BSIS - smooth

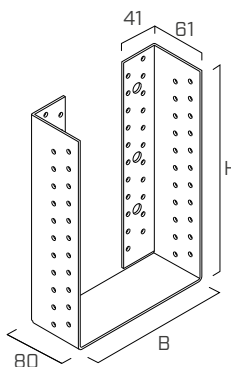
CODE	B [mm]	H [mm]	s [mm]	B [in]	H [in]	s [in]			pcs
BSIS40110	40	110	2,0	1 9/16	4 3/8	0.08	●	-	50
BSIS60100	60	100	2,0	2 3/8	4	0.08	●	-	50
BSIS60160	60	160	2,0	2 3/8	6 1/4	0.08	●	-	50
BSIS70125	70	125	2,0	2 3/4	4 15/16	0.08	●	-	50
BSIS80120	80	120	2,0	3 1/8	4 3/4	0.08	●	-	50
BSIS80150	80	150	2,0	3 1/8	6	0.08	●	-	50
BSIS80180	80	180	2,0	3 1/8	7 1/8	0.08	●	-	25
BSIS90145	90	145	2,0	3 1/2	5 11/16	0.08	●	-	50
BSIS10090	100	90	2,0	4	3 1/2	0.08	●	-	50
BSIS100120	100	120	2,0	4	4 3/4	0.08	●	-	50
BSIS100140	100	140	2,0	4	5 1/2	0.08	●	-	50
BSIS100170	100	170	2,0	4	6 3/4	0.08	●	-	50
BSIS100200	100	200	2,0	4	8	0.08	●	-	25
BSIS120120	120	120	2,0	4 3/4	4 3/4	0.08	●	-	25
BSIS120160	120	160	2,0	4 3/4	6 1/4	0.08	●	-	25
BSIS120190	120	190	2,0	4 3/4	7 1/2	0.08	●	-	25
BSIS140140	140	140	2,0	5 1/2	5 1/2	0.08	●	-	25
BSIS140180	140	180	2,0	5 1/2	7 1/8	0.08	●	-	25



S250
2275

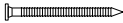
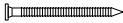
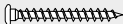
BSIG - large size

CODE	B [mm]	H [mm]	s [mm]	B [in]	H [in]	s [in]			pcs
BSIG120240	120	240	2,5	4 3/4	9 1/2	0.10	●	-	20
BSIG140240	140	240	2,5	5 1/2	9 1/2	0.10	●	-	20
BSIG160160	160	160	2,5	6 1/4	6 1/4	0.10	●	-	15
BSIG160200	160	200	2,5	6 1/4	8	0.10	●	-	15
BSIG180220	180	220	2,5	7 1/8	8 5/8	0.10	●	-	10
BSIG200200	200	200	2,5	8	8	0.10	●	-	10
BSIG200240	200	240	2,5	8	9 1/2	0.10	●	-	10



S250
2275

ADDITIONAL PRODUCTS - FASTENING

type	description		d [mm]	support 	page
LBA	high bond nail		4		570
LBS	round head screw		5		571

GENERAL PRINCIPLES

- Characteristic values are consistent with EN 1995:2014 and in accordance with ETA.
- Design values can be obtained from characteristic values as follows:

$$R_d = \frac{R_k \cdot k_{mod}}{\gamma_M}$$

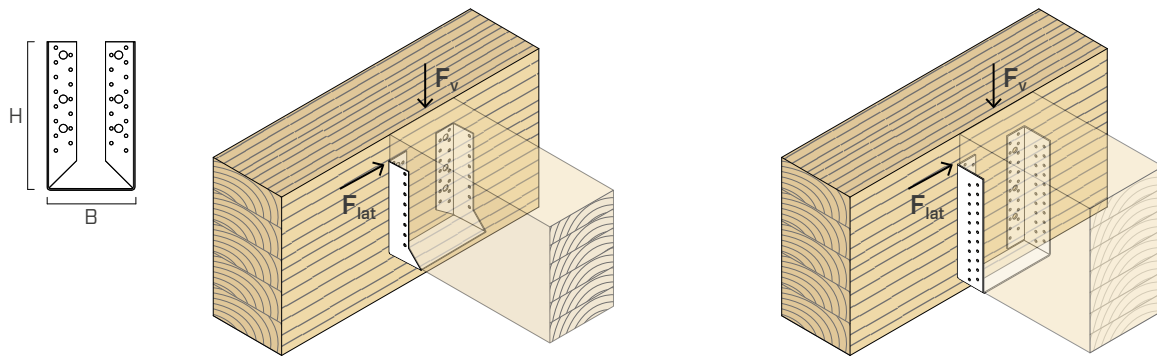
The coefficients k_{mod} and γ_M should be taken according to the current regulations used for the calculation.

- A timber density of $\rho_k = 350 \text{ kg/m}^3$ was considered for the calculation process.
- Dimensioning and verification of the timber elements must be carried out separately.

- In case of F_v parallel to the grain, partial nailing is required.
- The following verification shall be satisfied for combined loading:

$$\left(\frac{F_{v,d}}{R_{v,d}} \right)^2 + \left(\frac{F_{lat,d}}{R_{lat,d}} \right)^2 \leq 1$$

PARTIAL/TOTAL NAILING⁽¹⁾



BSIS - SMOOTH

			PARTIAL NAILING				FULL NAILING			
			fastening number		characteristic values		fastening number		characteristic values	
B	H	LBA nails	$n_H^{(2)}$	$n_J^{(3)}$	$R_{v,k}$	$R_{lat,k}$	$n_H^{(2)}$	$n_J^{(3)}$	$R_{v,k}$	$R_{lat,k}$
[mm]	[mm]	d x L [mm]	pcs	pcs	[kN]	[kN]	pcs	pcs	[kN]	[kN]
40 *	110	Ø4 x 40	8	4	8,7	1,9	-	-	-	-
60 *	100	Ø4 x 40	8	4	7,6	2,6	-	-	-	-
60 *	160	Ø4 x 40	12	6	15,0	3,4	-	-	-	-
70 *	125	Ø4 x 40	10	6	10,5	3,7	-	-	-	-
80	120	Ø4 x 40	10	6	10,4	4,0	18	10	18,3	6,7
80	150	Ø4 x 40	12	6	14,8	4,0	22	12	26,3	7,6
80	180	Ø4 x 40	14	8	12,8	4,8	26	14	30,0	8,4
90	145	Ø4 x 40	12	6	14,2	4,2	22	12	25,7	8,0
100	90	Ø4 x 60	6	4	8,7	4,8	12	6	16,8	7,2
100	120	Ø4 x 60	10	6	16,5	7,7	16	10	28,4	12,5
100	140	Ø4 x 60	12	6	18,9	6,5	22	12	33,1	12,3
100	170	Ø4 x 60	14	8	23,6	7,7	26	14	37,8	13,5
100	200	Ø4 x 60	16	8	23,6	7,7	30	16	42,5	14,6
120	120	Ø4 x 60	10	6	15,6	7,0	18	10	27,5	11,7
120	160	Ø4 x 60	14	8	23,6	8,5	26	14	37,8	14,9
120	190	Ø4 x 60	16	8	23,6	8,5	30	16	42,5	16,2
140	140	Ø4 x 60	12	6	18,9	7,4	22	12	33,1	14,3
140	180	Ø4 x 60	16	8	23,6	9,1	30	16	42,5	17,5

* It cannot be to completely nailed.

BSIG - LARGE SIZE

			PARTIAL NAILING				FULL NAILING			
			fastening number		characteristic values		fastening number		characteristic values	
B	H	LBA nails	$n_H^{(2)}$	$n_J^{(3)}$	$R_{v,k}$	$R_{lat,k}$	$n_H^{(2)}$	$n_J^{(3)}$	$R_{v,k}$	$R_{lat,k}$
[mm]	[mm]	d x L [mm]	pcs	pcs	[kN]	[kN]	pcs	pcs	[kN]	[kN]
120	240	Ø4 x 60	24	16	40,7	12,3	46	30	75,6	22,9
140	240	Ø4 x 60	24	16	40,7	13,3	46	30	75,6	25,6
160	160	Ø4 x 60	16	10	21,2	11,1	30	18	41,6	19,9
160	200	Ø4 x 60	20	12	30,7	12,3	38	22	56,7	22,4
180	220	Ø4 x 60	22	14	35,7	15,2	42	26	66,2	27,0
200	200	Ø4 x 60	20	12	30,7	13,7	38	22	56,7	25,0
200	240	Ø4 x 60	24	16	40,7	16,9	46	30	75,6	31,6

NOTES

⁽¹⁾ For total or partial nailing patterns please refer to the guidelines reported at p. 150.

⁽²⁾ n_H = number of fasteners on the main beam.

⁽³⁾ n_J = number of fasteners on the secondary beam.