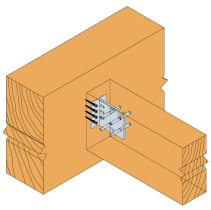
Technical Sheet

BT
Concealed joist hanger BT

The beam hanger are used as concealed connections of secondary beams on main beams or on posts.







Features

Material

Steel quality:
S 250 GD + Z 275 according to DIN EN 10346

Corrosion protection:
275 g / m galvanized on both sides 20mm

Benefits

- Connections with inclinations up to 45 ° can be executed.
- The mounting slot allows a safe and convenient hanging of the secondary beam.
- With this type of mounting, additional supports are no longer required.
- Fire protection according to DIN 4102.

Applications

Applicatons

Supporting member:
Solid wood, engineered wood
Supported member:
Solid wood, engineered wood

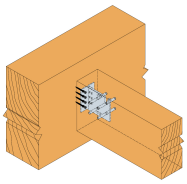
When to Use

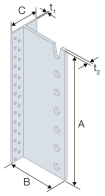
• for connecting secondary beams of wood or wooden materials to the main support structure of wood / wood materials.

Technical Sheet

BT
Concealed joist hanger BT

Technical Data





Product Dimensions

Reference	Connector Dimensions										
	Timber size[mm]		Product Dimensions[mm]					Header holes[mm]	Joist holes[mm]	Other	
	Width	Height[mm]	A[mm]	B[mm]	C[mm]	t1[mm]	t2[mm]	Round	Round	Qty per Box	Weight[kg]
	Min[mm]	Min[mm]						Ø5	Ø13[mm]		
BT280-B	60	312	280	106	62	3	6	52	7	10.0	1.8
BT320-B	60	352	320	106	62	3	6	60	8	10.0	2
BT360-B	60	392	360	106	62	3	6	68	9	8.0	2.3
BT440-B	60	472	440	106	62	3	6	84	11	6.0	2.8
BT480-B	60	512	480	106	62	3	6	92	12	6.0	3
BT560-B	60	592	560	106	62	3	6	108	14	5.0	3.5
BT600-B	60	632	600	106	62	3	6	116	15	5.0	3.8

Combined load:
\sum\frac{F_{i,d}} {R_{i,d}}\le1

Wood/wood fastening- Characteristic values in kn

Reference	Hanger capacity															
	Product Capacities[kN]															
	Number of Fasteners				Product characteristic capacities - Timber C24[kN]											
	Header		Joist		R1,k (2)						$R_{2,k}$					
	Qty	Type	Qty	Type	Dowels length[mm]						Dowels length[mm]					
					60	80	100	120	140	160	60	80	100	120	140	160
BT280-B	52.0	CNA4.0x50	7.0	STD12	64.6	68	71.7	76.4	81.7	87.2	55.4	58.3	61.5	65.5	70	74.7
BT320-B	60.0	CNA4.0x50	8.0	STD12	77	81	85.5	91.2	97.5	104.1	67.4	70.9	74.8	79.8	85.3	91.1
BT360-B	68.0	CNA4.0x50	9.0	STD12	89.1	93.8	99	105.8	113.3	121.1	79.2	83.4	88	94	100.7	107.6
BT440-B	84.0	CNA4.0x50	11.0	STD12	112.1	118	125.2	134.4	144.4	154.7	101.9	107.3	113.8	122.2	131.3	140.6
BT480-B	92.0	CNA4.0x50	12.0	STD12	122.8	129.3	137.7	148.2	159.7	171.3	112.6	118.5	126.2	135.8	146.4	157
BT560-B	108.0	CNA4.0x50	12.0	STD12	122.8	129.3	138.4	150.7	164.9	179.1	122.8	129.3	138.4	150.7	164.9	179.1
BT600-B	116.0	CNA4.0x50	12.0	STD12	122.8	129.3	138.4	150.7	164.9	180.4	122.8	129.3	138.4	150.7	164.9	180.4

The joist shall have as minimum a width = length of steel dowel.
For beams with a slope β the capacities shall be multiply with the factor.

β	0°	15°	30°	45°
factor	1.0	0.95	0.9	0.85

$R_{2,k}$ capacities are calculated as $R_{2,k} = R_{1,k}$ x (nb of dowels - 1) / (nb of dowels).
The top dowel is not considered for the uplift capacities as it is placed in an open hole.
More detailed information are given in the ETA.

Technical Sheet

BT
Concealed joist hanger BT

Product characteristic capacities - Timber beam to timber beam - $R_{3,k}$ and $R_{4,k}$

Reference	Hanger capacity											
	Product Capacities[kN]											
	Number of Fasteners				Product characteristic capacities - Timber C24[kN]							
	Header		Joist		$R_{4,k}$[kN]	$R_{3,k}$						
	Qty	Type	Qty	Type		Dowels length[mm]						
						60	80	100	120	140	160	
BT280-B	52.0	CNA4.0x50	7.0	STD12	22.8	4.8	6.1	7.3	8.5	9.9	11.3	
BT320-B	60.0	CNA4.0x50	8.0	STD12	26.2	5.5	6.8	8.3	9.7	11.1	12.9	
BT360-B	68.0	CNA4.0x50	9.0	STD12	29.6	6.1	7.6	9.2	10.9	12.4	14.4	
BT440-B	84.0	CNA4.0x50	11.0	STD12	36.5	7.3	9.1	11	13.2	15.2	17.2	
BT480-B	92.0	CNA4.0x50	12.0	STD12	39.9	7.9	9.8	11.9	14.3	16.6	18.7	
BT560-B	108.0	CNA4.0x50	12.0	STD12	46.7	9.2	11.3	13.8	16.5	19.1	21.5	
BT600-B	116.0	CNA4.0x50	12.0	STD12	50.1	9.8	12.1	14.7	17.6	20.4	23	

The joist shall have as minimum a width = length of steel dowel.
The capacities R_4 are for all length of steel dowel.

Product characteristic capacities - Timber beam to timber post

Reference	Hanger capacity																Connector Dimensions
	Product characteristic capacities - Timber beam to timber post - partial nailing																Header dimensions[mm]
	Number of Fasteners				Product characteristic capacities - Timber C24[kN]												Post Width
	Header		Joist		$R_{1,k}$						$R_{2,k}$						Min[mm]
	Qty	Type	Qty	Type	Dowels length[mm]						Dowels length[mm]						
					60	80	100	120	140	160	60	80	100	120	140	160	
BT280-B	28.0	CNA4.0x50	7.0	STD12	52	54.7	57.5	60.5	62	62	44.6	46.9	49.3	51.9	53.1	53.1	96
BT320-B	32.0	CNA4.0x50	8.0	STD12	61.8	65.1	68.1	70.7	70.9	70.9	54.1	57	59.6	61.9	62	62	96
BT360-B	36.0	CNA4.0x50	9.0	STD12	71.7	75.5	78.5	79.8	79.8	79.8	63.7	67.1	69.8	70.9	70.9	70.9	96
BT440-B	44.0	CNA4.0x50	11.0	STD12	91	95.8	97.5	97.5	97.5	97.5	82.7	87.1	88.6	88.6	88.6	88.6	96
BT480-B	48.0	CNA4.0x50	12.0	STD12	100.3	105.6	106.4	106.4	106.4	106.4	91.9	96.8	97.5	97.5	97.5	97.5	96
BT560-B	56.0	CNA4.0x50	12.0	STD12	109.9	115.7	120.3	124	124.1	124.1	109.9	115.7	120.3	124	124.1	124.1	96
BT600-B	60.0	CNA4.0x50	12.0	STD12	113.8	119.8	125	130.5	133	133	113.8	119.8	125	130.5	133	133	96

The joist shall have as minimum a width = length of steel dowel.
For beams with a slope β the capacities shall be multiply with the factor.

β	0°	15°	30°	45°
factor	1.0	0.95	0.9	0.85

The capacities from this table are also valid for partial nailing beam to beam.
$R_{2,k}$ capacities are calculated as $R_{2,k} = R_{1,k}$ x (nb of dowels - 1) / (nb of dowels).
The top dowel is not considered for the uplift capacities as it is placed in an open hole.
More detailed information are given in the ETA.

Technical Sheet

BT
Concealed joist hanger BT

Product characteristic capacities - Timber beam to timber post - $R_{3.k}$ and $R_{4.k}$

Reference	Hanger capacity											Connector Dimensions
	Product characteristic capacities - Timber beam to timber post - partial nailing											Header dimensions[mm]
	Number of Fasteners				Product characteristic capacities - Timber C24[kN]							Post Width
	Header		Joist		$R_{4.k}$[kN]	$R_{3,k}$						Min[mm]
	Qty	Type	Qty	Type		Dowels length[mm]						
						60	80	100	120	140	160	
BT280-B	28.0	CNA4.0x50	7.0	STD12	13.7	4.5	5.6	6.7	7.7	8.9	10.1	96
BT320-B	32.0	CNA4.0x50	8.0	STD12	15.7	5.2	6.4	7.7	8.8	10.2	11.5	96
BT360-B	36.0	CNA4.0x50	9.0	STD12	17.6	5.8	7.2	8.6	9.9	11.5	12.9	96
BT440-B	44.0	CNA4.0x50	11.0	STD12	21.6	7.1	8.8	10.5	12.1	14	15.8	96
BT480-B	48.0	CNA4.0x50	12.0	STD12	23.5	7.7	9.5	11.5	13.2	15.3	17.2	96
BT560-B	56.0	CNA4.0x50	12.0	STD12	27.4	9	11.1	13.4	15.4	17.8	20.1	96
BT600-B	60.0	CNA4.0x50	12.0	STD12	29.4	9.7	11.9	14.4	16.5	19.1	21.5	96

The joist shall have as minimum a width = length of steel dowel.
The capacities $R_{4.k}$ are for all length of steel dowel.

Installation

Fasteners

- CNA4,0xl threaded nails
- or CSA5,0xl screws and rod dowels Ø12mm

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