

TU Concealed Beam Hanger

These concealed hangers ensure a completely invisible assembly. The slot in the head facilitates on-site installation. TUS, factory bent, are suitable for skewed applications.

Właściwości

Material

- Steel S250GD + Z275 according to NF EN 10346.
- Thickness 3 mm

Benefits

- Invisible assembly
- Mounting on wood or concrete
- Optimized implementation complies with Eurocodes
- Half-hour fire resistance subject to a special installation.

Zastosowanie

Header member

- **Supporting member:** solid wood, glued-laminated wood, composite lumber.
- **Supported member:** solid wood, glued-laminated wood, composite lumber.

For Use With

- Joists.
- Purlins.
- Supporting beam.

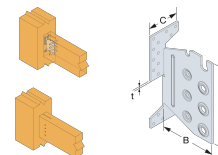
Options

- **The standard installation will leave a 5mm gap between carried and supporting beams**
- **Pocket installation gives a fully concealed connection**
- **Skewed installation up to 60°. Sloped installation maximum 45°**
- **Options: Skewed TU available (to be factory ordered)**
- **Additional screws are available to order**



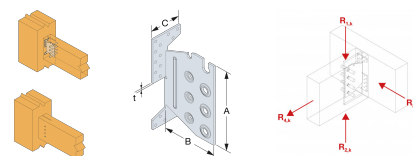
Dane techniczne

Wymiary złącza



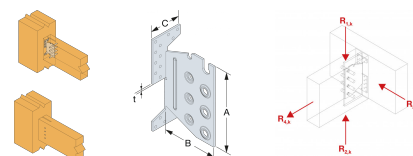
Referencje	Joist Dimensions [mm]						Header dimensions [mm]	Wymiary złącza [mm]				Header holes		Joist holes	
	Width		Height				Post width	A	B	C	t	Ø5	Ø8,5	Ø12,5	
	Min.	Max.	Min	Min β=0	Min β≠0	Max.	Min.								
TU12	45	120	60	120	160	200	68	96	97.5	40	3	6	4	-	
TU16	60	160	60	160	190	240	88	134	104.5	60	3	18	-	3	
TU20	60	160	60	200	225	280	88	174	104.5	60	3	22	-	4	
TU24	60	160	60	240	260	300	88	214	104.5	60	3	26	-	5	
TU28	60	160	60	280	295	340	88	254	104.5	60	3	30	-	6	

Product characteristic capacities - Timber beam to timber beam - full nailing



Referencje	Product characteristic capacities - Timber beam to timber beam - full nailing																						
	Łączniki						Product characteristic capacities - Timber C24 [kN]																
	Header			Joist			R _{1,k}						R _{2,k}						Dowels				
	szt.	Typ	Typ	szt.	Typ	Typ	Dowels length [mm]						Dowels length [mm]						Dowels				
							45	60	80	100	120	140	160	45	60	80	100	120	140	160	45	60	80
TU12	6	CNA4,0x50	CSA5,0x40	4	STD8	7.6	8.1	9	10.1	10.7	10.7	10.7	5.7	6.1	6.8	7.6	8	8	8	0.9	1.1	1.6	2
TU16	18	CNA4,0x50	CSA5,0x40	3	STD12	-	17.5	18.1	19.2	20.5	22	23.5	-	11.7	12.1	12.8	13.7	14.7	15.7	-	1.5	2.1	2
TU20	22	CNA4,0x50	CSA5,0x40	4	STD12	-	26.7	27.6	29.2	31.1	33.3	35.6	-	20	20.7	21.9	23.3	25	26.7	-	2	2.8	3
TU24	26	CNA4,0x50	CSA5,0x40	5	STD12	-	36.6	37.7	39.8	42.5	45.4	48.3	-	29.3	30.2	31.8	34	36.3	38.6	-	2.5	3.5	4
TU28	30	CNA4,0x50	CSA5,0x40	6	STD12	-	46.9	48.3	50.9	54.1	57.6	61.1	-	39.1	40.3	42.4	45.1	48	50.9	-	2.9	4.1	5

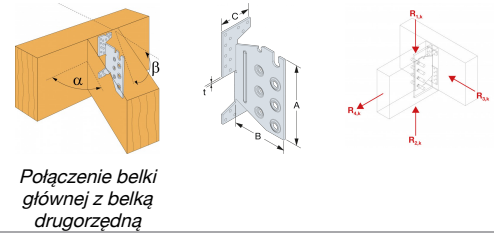
Product characteristic capacities - Timber beam to timber post - full nailing



Referencje	Product characteristic capacities - Timber beam to timber post - full nailing																							
	Łączniki						Product characteristic capacities - Timber C24 [kN]																	
	Header			Joist			R _{1,k}						R _{2,k}						R _{3,k}					
	szt.	Typ	Typ	szt.	Typ	Typ	Dowels length [mm]						Dowels length [mm]						Dowels length [mm]					
							45	60	80	100	120	140	160	45	60	80	100	120	140	160	45	60	80	
TU12	6	CNA4,0x50	4	STD8	7.6	8.1	9	10.1	10.7	-	-	5.7	6.1	6.8	7.6	8	-	-	0.9	1.1	1.6	2.1	2.7	3.
TU16	14	CNA4,0x50	3	STD12	-	16.1	16.7	17.7	19	20.4	21.9	-	10.7	11.1	11.8	12.7	13.6	14.6	-	1.5	2.1	2.8	3.6	4.
TU20	14	CNA4,0x50	4	STD12	-	22.9	23.7	25.1	26.8	28.6	30.1	-	17.2	17.8	18.8	20.1	21.5	22.6	-	2	2.8	3.7	4.5	5.
TU24	18	CNA4,0x50	5	STD12	-	31.9	33	34.8	36.9	38.9	39.9	-	25.5	26.4	27.8	29.5	31.1	31.9	-	2.5	3.5	4.4	5.6	6.
TU28	18	CNA4,0x50	6	STD12	-	38	38.9	39.9	39.9	39.9	39.9	-	31.7	32.4	33.3	33.3	33.3	33.3	-	2.9	4.1	5.3	6.5	7.

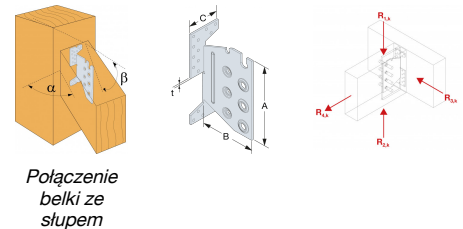
TU Concealed Beam Hanger

Product characteristic capacities - Timber beam to timber beam - full nailing - with slope and skew $\alpha=90^\circ$



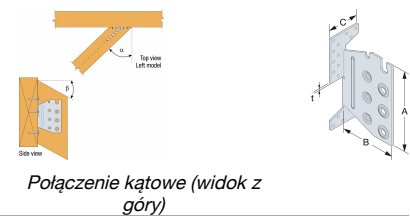
Referencje	Product characteristic capacities - Timber beam to timber beam - full nailing - with slope and skew $\alpha=90^\circ$																					
	Łączniki					Product characteristic capacities - Timber C24 [kN]																
	Header		Joist			$R_{1,k}$ - Slope $\beta=15^\circ$					$R_{1,k}$ - Slope $\beta=30^\circ$					$R_{1,k}$						
	szt.	Typ	Typ	szt.	Typ	Dowels length [mm]					Dowels length [mm]					Dowels length [mm]						
45						60	80	100	120	140	160	45	60	80	100	120	140	160	45	60	80	
TU12	6	CNA4,0x50	CSA5,0x40	4	STD8	7.6	8.1	9	10.1	10.7	10.7	10.7	7.6	8.1	9	10.1	10.7	10.7	10.7	7.6	8.1	9
TU16	18	CNA4,0x50	CSA5,0x40	3	STD12	-	16.9	17.4	18.3	19.4	20.7	22.1	-	16.5	16.8	17.5	18.5	19.6	20.8	-	15.9	16.4
TU20	22	CNA4,0x50	CSA5,0x40	4	STD12	-	25.8	26.4	27.8	29.5	31.4	33.5	-	25.1	25.6	26.7	28.1	29.8	31.6	-	24.4	25.1
TU24	26	CNA4,0x50	CSA5,0x40	5	STD12	-	35.4	36.2	38	40.2	42.8	45.5	-	34.3	35.2	36.6	38.6	40.8	43.2	-	33.6	34.7
TU28	30	CNA4,0x50	CSA5,0x40	6	STD12	-	45.5	46.4	48.6	51.4	54.5	57.8	-	44	45.3	47.1	49.5	52.3	55.2	-	43.4	44.9

Product characteristic capacities - Timber beam to timber post - full nailing - with slope and skew $\alpha=90^\circ$



Referencje	Product characteristic capacities - Timber beam to timber post - full nailing - with slope and skew $\alpha=90^\circ$																						
	Łączniki				Product characteristic capacities - Timber C24 [kN]																		
	Header		Joist		$R_{1,k}$ - Slope $\beta=0^\circ$						$R_{1,k}$ - Slope $\beta=15^\circ$						$R_{1,k}$ - Slope $\beta=30^\circ$						
	szt.	Typ	szt.	Typ	Dowel Lengths						Dowels length [mm]						Dowels length [mm]						
45					60	80	100	120	160	45	60	80	100	120	140	160	45	60	80	100	120	140	160
TU12	6	CNA4,0x50	4	STD8	7	7.4	8.2	9.1	9.6	-	6.8	7.2	7.9	8.7	9.3	-	-	6.6	6.9	7.5	8.2	9	-
TU16	14	CNA4,0x50	3	STD12	-	16.4	16.9	17.8	19	-	-	15.9	16.3	17.1	18.1	-	-	-	15.4	15.7	16.4	17.2	-
TU20	14	CNA4,0x50	4	STD12	-	25	25.8	27.2	28.9	-	-	24.2	24.8	25.9	27.4	-	-	-	23.6	24	25	26.2	-
TU24	18	CNA4,0x50	5	STD12	-	34.4	35.4	37.3	39.5	-	-	33.3	34.1	35.6	37.6	-	-	-	32.4	33.1	34.4	36.1	-
TU28	18	CNA4,0x50	6	STD12	-	44.3	45.5	47.8	50.6	-	-	43	43.8	45.8	48.2	-	-	-	41.7	42.7	44.3	46.5	-

Product characteristic capacities - Safe working loads - skew = 0°



Referencje	Safe working loads (skew = 0°)																					
	Łączniki				Slope = 0°						Slope = 45°						Slope = 0°					
	Header		Joist		$R_{1,SWL}$ [kN]						$R_{1,SWL}$ [kN]						$R_{3,SWL}$ [kN]					
	szt.	Typ	szt.	Typ	Dowels length [mm]						Dowels length [mm]						Dowels length					
45					60	80	100	120	45	60	80	100	120	45	60	80	100	120				
TU12	6	CSA5,0x40	4	STD8	-	2.6	3.6	4.3	-	-	2.3	3.1	3.9	-	-	0.6	0.8	1	1.2			
TU16	18	CSA5,0x40	3	STD12	-	3.4	4.8	6.1	7.5	-	3	4.1	5.3	5.3	-	0.8	1.1	1.4	1.6			
TU20	22	CSA5,0x40	4	STD12	-	5.5	7.7	9.8	12	-	4.8	6.7	8.5	8.5	-	1.1	1.5	1.8	2.1			
TU24	26	CSA5,0x40	5	STD12	-	8	11.1	14.2	17.4	-	6.9	9.6	12.3	12.3	-	1.4	1.8	2.2	2.7			
TU28	30	CSA5,0x40	6	STD12	-	10.7	14.9	19.2	21.5	-	9.3	12.9	16.6	16.6	-	1.8	2.2	2.7	3.2			

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Rotational Installation

Referencje	Rotated Installation							
	Fasteners		Joist		Characteristic Capacities - Timber C24			
	Header		Qty	Dowel	Dowel Lengths [mm]			
	Qty	Type			60	80	100	120
TU12	6	CSA5.0x40	4	STD8	1.5	2	2.5	3
TU16	18	CSA5.0x40	3	STD12	2	2.6	3.3	4
TU20	22	CSA5.0x40	4	STD12	2.7	3.5	4.4	5.1
TU24	26	CSA5.0x40	5	STD12	3.4	4.4	5.3	6.4
TU28	30	CSA5.0x40	6	STD12	4.3	5.3	6.4	7.7

Montaż

Fixing

On supporting wood member: TU/TUB/TUBS

- CNA annular ring-shank nails dia. 4.0 x 50 mm or CSA screws dia. 5.0 x 40 mm.
- Lag screws and bolts dia. 10 mm only for TUB/TUBS.

On supported member: Steel dowel S235JR type STD12

- TU12: dia. 8 mm type STD 8.
- TU16 to 28: dia. 12 mm type STD 12.
- TUB/TUBS: dia. 12 mm type STD 12.

The length of the dowels is less than or equal to the width of the supported joist.

TU: wood/wood fastening only with nails/screws.

TUB: wood/wood fastening only with nails/screws or lag screws.

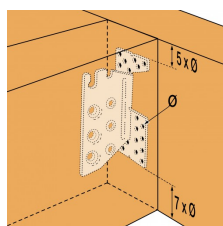
TUBS: wood/wood fastening only with nails/screws or lag screws.

Concrete and steel substrate:

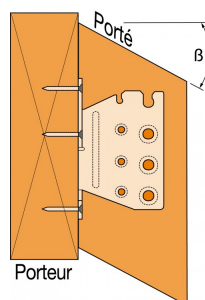
It is not recommended to use hangers on concrete or steel substrate as the size of the bolts makes the distance from the edge of the wood to the dowels non-compliant with Eurocode 5.

Installation

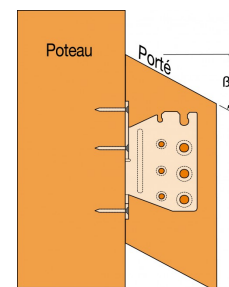
1. Réaliser une entaille verticale dans la poutre portée (largeur 6 mm pour le TU12 et largeur 9 mm pour les TU16 à TU28),
2. Identifier la position des broches sur la poutre avant de percer transversalement,
3. Insérer uniquement la première broche dans la poutre sur la partie supérieure (diamètre de perçage fonction du diamètre de la broche),
4. Réaliser un lamage d'une profondeur de 6 mm dans le support. Ce lamage n'est pas obligatoire, il permet d'améliorer l'esthétique de l'assemblage,
5. Fixer l'étrier sur le support à l'aide de pointes ou de vis,
6. Présenter la poutre portée de manière à placer la broche déjà en place dans l'encoche de l'étrier,
7. Mettre en place les broches restantes.



Assemblage droit sur poutre



Assemblage avec pente sur poutre



Assemblage avec pente sur poteau

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Technical Notes

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