Tekniset tiedot

TUS
Concealed Beam Hanger for Skew option

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

TU face

Ominaisuudet

Materiaali

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

Hyödyt

- Invisible assembly
- Optimized implementation complies with Eurocodes
- Half-hour fire resistance subject to a special installation.

Sovellus

Liitos

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

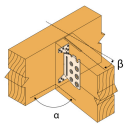
Käyttökohteet

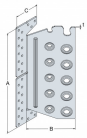
- Joists.
- Purlins.
- Supporting beam.

TUS
Concealed Beam Hanger for Skew option

Technical Data

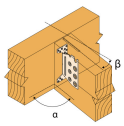
Mitat ja ominaisarvot

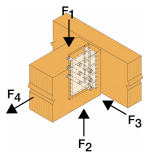




Tuotenro	Mitat, SB [mm]						Mitat HB [mm]	Mitat ja ominaisarvot [mm]						Reiät HB	Reiät, SB	
	Leveys			Korkeus			Pilariin leveys	B	C	A	t	α [°]		Ø5	Ø8,5	Ø12,5
	Minimi	Min	Maksimi	Min β=0	Min β≠0	Maksimi	Minimi					Minimi	Maksimi			
TU/S12	40	60	120	120	160	200	68	96	97.5	40	3	30	85	6	4	-
TU/S16	60	60	160	160	190	240	88	134	104.5	60	3	30	85	18	-	3
TU/S20	60	60	160	200	225	280	88	174	104.5	60	3	30	85	22	-	4
TU/S24	60	60	160	240	260	300	88	214	104.5	60	3	30	85	26	-	5
TU/S28	60	60	160	280	295	340	88	254	104.5	60	3	30	85	30	-	6

Product characteristic capacities - Timber beam to timber beam - full nailing - with slope and skew α=30°





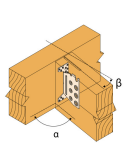
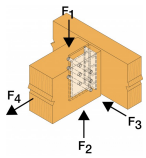
Tuotenro	Product characteristic capacities - Timber beam to timber beam - full nailing - with slope and skew α=30°																					
	Liitoskiinnikkeet				Kestävyyden ominaisarvot [kN]																	
	Primääripalkki		SB		$R_{1,k}$ - Slope β=0°						$R_{1,k}$ - Slope β=15°						$R_{1,k}$ - Slope β=30°					
	Määrä	Tyyppi	Määrä	Tyyppi	Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnar pituus [mm]					
					60	80	100	120	140	160	60	80	100	120	140	160	60	80	100	120	140	16
TU/S12	6	CNA4,0x50	4	STD8	7.4	8.1	9	9.5	9.5	9.5	7.1	7.8	8.6	9.3	9.3	9.3	6.8	7.4	8.2	8.9	9	9
TU/S16	18	CNA4,0x50	3	STD12	16.4	16.9	17.8	18.8	20	21.3	15.9	16.3	17	18	19	20.2	15.5	15.8	16.4	17.2	18.1	19.
TU/S20	22	CNA4,0x50	4	STD12	24.9	25.6	26.9	28.6	30.3	32.2	24.2	24.7	25.8	27.2	28.8	30.5	23.6	24	24.9	26.1	27.5	28.
TU/S24	26	CNA4,0x50	5	STD12	34.2	35.1	36.9	39.1	41.5	43.9	33.2	33.9	35.3	37.2	39.4	41.6	32.3	32.9	34.1	35.8	37.6	39.
TU/S28	30	CNA4,0x50	6	STD12	43.9	45.1	47.3	50.1	53	56	42.7	43.5	45.4	47.7	50.4	53.2	41.5	42.4	44	46	48.3	50.

$R_{2,k}$ capacities can be 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.

Tekniset tiedot

TUS
Concealed Beam Hanger for Skew option

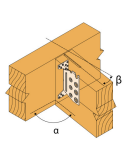
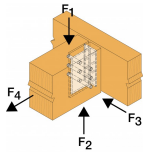
Product characteristic capacities - Timber beam to timber beam - full nailing - with slope and skew α=45°

Tuotenro	Product characteristic capacities - Timber beam to timber beam - full nailing - with slope and skew α=45°																					
	Liitoskiinnikkeet				Kestävyyden ominaisarvot [kN]																	
	Primääripalkki		SB		$R_{1,k}$ - Slope β=0°						$R_{1,k}$ - Slope β=15°						$R_{1,k}$ - Slope β=30°					
	Määrä	Tyyppi	Määrä	Tyyppi	Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnar pituus [mm]					
					60	80	100	120	140	160	60	80	100	120	140	160	60	80	100	120	140	16
TU/S12	6	CNA4,0x50	4	STD8	7.4	8.2	8.9	9.5	9.5	9.5	7.1	7.8	8.6	9.3	9.3	9.3	6.8	7.4	8.2	9	9	9
TU/S16	18	CNA4,0x50	3	STD12	16.3	16.9	17.9	18.9	20.2	21.4	15.9	16.3	17	18	19.1	20.2	15.4	15.7	16.3	17.2	18.1	19.
TU/S20	22	CNA4,0x50	4	STD12	24.9	25.6	27.2	28.7	30.5	32.3	24.1	24.7	25.8	27.3	28.9	30.6	23.5	23.9	24.9	26.1	27.5	29
TU/S24	26	CNA4,0x50	5	STD12	34.2	35.2	37.2	39.2	41.7	44.1	33.2	33.9	35.4	37.4	39.5	41.8	32.3	32.9	34.2	35.9	37.8	39.
TU/S28	30	CNA4,0x50	6	STD12	44	45.2	47.8	50.3	53.2	56.1	42.7	43.6	45.5	47.9	50.6	53.4	41.5	42.5	44.1	46.2	48.5	51

$R_{2,k}$ capacities can be 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.

Product characteristic capacities - Timber beam to timber beam - full nailing - with slope and skew α=60°

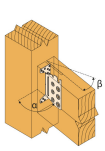



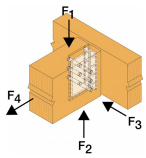
Tuotenro	Product characteristic capacities - Timber beam to timber beam - full nailing - with slope and skew α																					
	Liitoskiinnikkeet					Kestävyyden ominaisarvot [kN]																
	Primääripalkki			SB		$R_{1,k}$ - Slope β=0°						$R_{1,k}$ - Slope β=15°						$R_{1,k}$ - Slope β				
	Määrä	Tyyppi	Tyyppi	Määrä	Tyyppi	Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = pituus [mm				
						60	80	100	120	140	160	60	80	100	120	140	160	60	80	100	12	
TU/S12	6	CNA4,0x50	CSA5,0x40	4	STD8	7.4	8.2	9.1	9.6	9.6	9.6	7.2	7.9	8.7	9.3	9.3	9.3	6.9	7.5	8.2	9	
TU/S16	18	CNA4,0x50	CSA5,0x40	3	STD12	16.4	16.9	17.8	19	20.2	21.5	15.9	16.3	17.1	18.1	19.2	20.4	15.4	15.7	16.4	17.	
TU/S20	22	CNA4,0x50	CSA5,0x40	4	STD12	25	25.8	27.2	28.9	30.7	32.6	24.2	24.8	25.9	27.4	29.1	30.9	23.6	24	25	26.	
TU/S24	26	CNA4,0x50	CSA5,0x40	5	STD12	34.4	35.4	37.3	39.5	42	44.4	33.3	34.1	35.6	37.6	39.8	42.1	32.4	33.1	34.4	36.	
TU/S28	30	CNA4,0x50	CSA5,0x40	6	STD12	44.3	45.5	47.8	50.6	53.6	56.4	43	43.8	45.8	48.2	51	53.7	41.7	42.7	44.3	46.	

$R_{2,k}$ capacities can be 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.

TUS
Concealed Beam Hanger for Skew option

Product characteristic capacities - Timber beam to timber post - partial nailing - with slope and skew α=30°

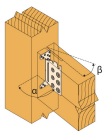


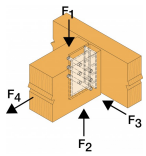


Tuotenro	Product characteristic capacities - Timber beam to timber post - full nailing - with slope and skew α=30°																					
	Liitoskiinnikkeet				Kestävyyden ominaisarvot [kN]																	
	Primääripalkki		SB		$R_{1,k}$ - Slope β=0°						$R_{1,k}$ - Slope β=15°						$R_{1,k}$ - Slope β=30°					
	Määrä	Tyyppi	Määrä	Tyyppi	Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnar pituus [mm]					
					60	80	100	120	140	160	60	80	100	120	140	160	60	80	100	120	140	16
TU/S12	5	CNA4,0x50	4	STD8	7.4	8.1	9	9.5	9.5	9.5	7.1	7.8	8.6	9.3	9.3	9.3	6.8	7.4	8.2	8.9	9	9
TU/S16	13	CNA4,0x50	3	STD12	15	15.5	16.3	17.3	18.5	19.6	14.5	14.9	15.6	16.5	17.6	18.6	14.1	14.4	15	15.8	16.7	17.
TU/S20	14	CNA4,0x50	4	STD12	21.2	21.9	23	24.4	25.8	26.1	20.6	21.1	22.1	23.3	24.6	26	20.1	20.4	21.3	22.3	23.5	24.
TU/S24	17	CNA4,0x50	5	STD12	29.4	30.3	31.9	33.6	34.4	34.4	28.6	29.2	30.6	32.2	33.9	34.4	27.8	28.3	29.4	30.8	32.4	34
TU/S28	18	CNA4,0x50	6	STD12	35.2	36.1	36.1	36.1	36.1	36.1	34.3	35	36.1	36.1	36.1	36.1	33.5	34	35.2	36.1	36.1	36.

$R_{2,k}$ capacities can be 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.

Product characteristic capacities - Timber beam to timber post - partial nailing - with slope and skew α=45°





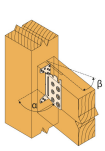
Tuotenro	Product characteristic capacities - Timber beam to timber post - full nailing - with slope and skew α=45°																					
	Liitoskiinnikkeet				Kestävyyden ominaisarvot [kN]																	
	Primääripalkki		SB		$R_{1,k}$ - Slope β=0°						$R_{1,k}$ - Slope β=15°						$R_{1,k}$ - Slope β=30°					
	Määrä	Tyyppi	Määrä	Tyyppi	Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnar pituus [mm]					
					60	80	100	120	140	160	60	80	100	120	140	160	60	80	100	120	140	16
TU/S12	5	CNA4,0x50	4	STD8	7.4	8.2	9	9.5	9.5	9.5	7.1	7.8	8.6	9.3	9.3	9.3	6.8	7.4	8.2	9	9	9
TU/S16	13	CNA4,0x50	3	STD12	15	15.5	16.3	17.4	18.5	19.7	14.5	14.9	15.6	16.6	17.6	18.7	14.1	14.4	15	15.8	16.7	17.
TU/S20	14	CNA4,0x50	4	STD12	21.3	22	23.1	24.5	25.8	26.1	20.6	21.2	22.2	23.4	24.7	26	20.1	20.4	21.3	22.4	23.6	24.
TU/S24	17	CNA4,0x50	5	STD12	29.5	30.4	32	33.7	34.4	34.4	28.7	29.3	30.7	32.3	34	34.4	27.9	28.4	29.5	31	32.5	34.
TU/S28	18	CNA4,0x50	6	STD12	35.3	36.1	36.1	36.1	36.1	36.1	34.4	35.1	36.1	36.1	36.1	36.1	33.6	34.1	35.2	36.1	36.1	36.

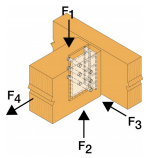
$R_{2,k}$ capacities can be calculated as $R_{2,k} = R_{1,k}$ x (nb of dowels - 1) / (nb of dowels).
The top dowel is not considered for the uplift capacities as it is placed in an open hole.

Tekniset tiedot

TUS
Concealed Beam Hanger for Skew option

Product characteristic capacities - Timber beam to timber post - partial nailing - with slope and skew α=60°

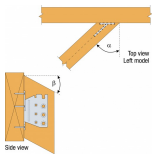




Tuotenro	Product characteristic capacities - Timber beam to timber post - full nailing - with slope and skew α=60°																					
	Liitoskiinnikkeet				Kestävyyden ominaisarvot [kN]																	
	Primääripalkki		SB		$R_{1,k}$ - Slope β=0°						$R_{1,k}$ - Slope β=15°						$R_{1,k}$ - Slope β=30°					
	Määrä	Tyyppi	Määrä	Tyyppi	Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnan pituus [mm]						Puutavaran leveys = teräsvaarnar pituus [mm]					
					60	80	100	120	140	160	60	80	100	120	140	160	60	80	100	120	140	16
TU/S12	5	CNA4,0x50	4	STD8	7.4	8.2	9.1	9.6	9.6	9.6	7.2	7.9	8.7	9.3	9.3	9.3	6.9	7.5	8.2	9	9	9
TU/S16	13	CNA4,0x50	3	STD12	15	15.5	16.4	17.5	18.7	19.9	14.5	14.9	15.7	16.7	17.7	18.9	14.1	14.4	15	15.8	16.8	17.
TU/S20	14	CNA4,0x50	4	STD12	21.4	22.1	23.3	24.6	25.8	26.1	20.7	21.3	22.3	23.5	24.8	26	20.1	20.5	21.4	22.5	23.7	24.
TU/S24	17	CNA4,0x50	5	STD12	29.7	30.6	32.2	33.8	34.4	34.4	28.8	29.5	30.9	32.5	34	34.4	28.1	28.6	29.7	31.2	32.7	34.
TU/S28	18	CNA4,0x50	6	STD12	35.4	36.1	36.1	36.1	36.1	36.1	34.6	35.2	36.1	36.1	36.1	36.1	33.8	34.3	35.4	36.1	36.1	36.

$R_{2,k}$ capacities can be 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.

Product characteristic capacities - Safe working loads - skewed connection



To view Left model

Tuotenro	Safe working loads - skewed connection											
	Liitoskiinnikkeet				Installation: skew = 0° to 60°, slope = 0°				Installation: skew = 0° to 60°, slope = 45°			
	Primääripalkki		SB		$R_{1.SWL}$ [kN]				$R_{1.SWL}$ [kN]			
	Määrä	Tyyppi	Määrä	Tyyppi	Puutavaran leveys = teräsvaarnan pituus [mm]				Puutavaran leveys = teräsvaarnan pituus [mm]			
					60	80	100	120	60	80	100	120
TU/S12	6	CSA5,0x40	4	STD8	2.5	2.5	2.5	-	2.3	2.5	2.5	-
TU/S16	18	CSA5,0x40	3	STD12	3.4	4.8	6.1	6.1	3	4.1	5.3	5.3
TU/S20	22	CSA5,0x40	4	STD12	5.5	7.7	9.8	9.8	4.8	6.7	8.5	8.5
TU/S24	26	CSA5,0x40	5	STD12	8	11.1	13.3	13.3	6.9	9.6	12.3	12.3
TU/S28	30	CSA5,0x40	6	STD12	10.7	14.9	16.3	16.3	9.3	12.9	16.3	16.3

The skew may be precise when ordering the products

TUS
Concealed Beam Hanger for Skew option

Asennus

Kiinnittäminen

<u>On supporting wood member:</u> TUS

- CNA annular ring-shank nails dia. 4.0 x 50 mm or CSA screws dia. 5.0 x 40 mm

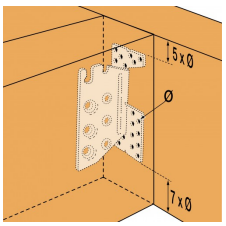
<u>On supported member:</u> Steel dowel S235JR type STD12

- TUS12: dia. 8 mm type STD 8.
- TUS16 to 28: dia. 12 mm type STD 12.

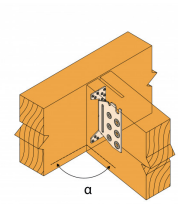
The length of the dowels is less than or equal to the width of the supported joist.
***TUS:* wood/wood fastening only with nails/screws.**

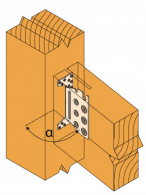
Kiinnittäminen

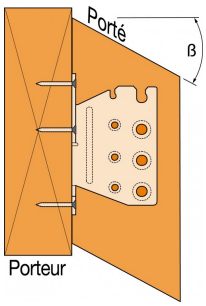
1. Do a vertical cut in the joist (6 mm width for TUS12 and 9 mm width for TUS16 to TUS28),
2. Identifiy the position of dowels on the joist before to drill transversaly,
3. Insert only the top dowel in the joist (drilling diameter depending on dowel diameter),
4. Do a 6 mm depth milling in the header. This milling is not compulsory but allow to improve the assembly esthetic,
5. Fix the hanger on the header using nails or screws,
6. Present the joist in order to place the top dowel, already inserted in the joist, at the top of hanger
7. install the remaining dowels.



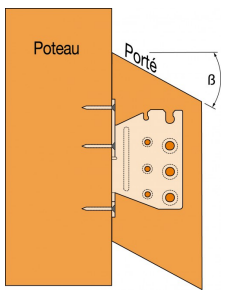
Assemblage droit sur poutre



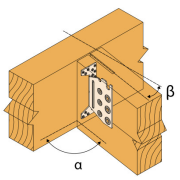


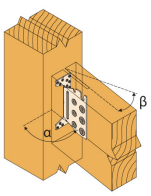


Assemblage avec pente sur poutre



Assemblage avec pente sur poteau





Tekniset tiedot

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2023-08-17