04 TENSION TIES

TENSION TIES

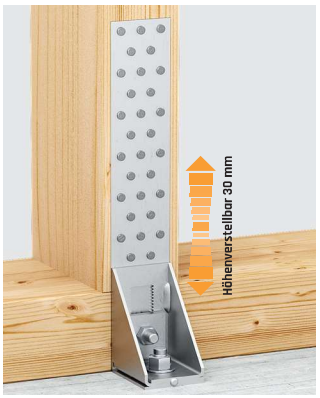
TENSION TIE HT

- Absorption of high tensile loads in timber framework construction
- Reduced overall height
- Short rib (150 mm)
- Optimised hole pattern
- They are also suitable for column connections
- Optional pressure platesl
- Use of pressure plates for tension loads up to 85 kN
- Without pressure plates for tension loads up to 42 kN

Basics of statics **from page 163** / Products & statics **from page 172**

TENSION TIEHT2

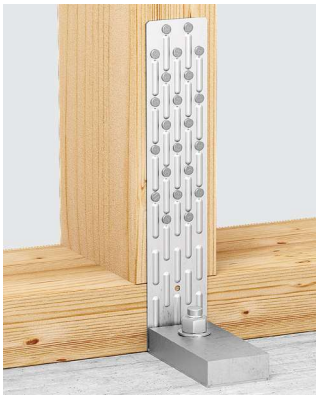
- Assembly of pull tab in wall production
- Interior walls can be fully panelled and completed
- No protruding parts during transport
- Simple and quick height compensation up to 30 mm possible on the building site
- Transfer of high tensile loads
- No improvement work on the building site



Basics of statics **from page 163** / Products & statics **from page 176**

TENSION TIE TOP 240 / TOP 280 VARIO

- Approved connection over intermediate layer
- Efficient wall or column connection on concrete
- Fast and practical processing
- Time savings - no more laborious marking and dowel drilling in advance
- Safe processing due to the coordinated system
- Direct connection to OSB boards between the timber beams is possible with GH screw



Basics of statics **from page 163** / Products & statics **from page 168**

CONNECTOR TOP 80 / TOP 120 VARIO

- No bothersome centre rib during processing
- Full nail fitting always possible
- High stability due to special, discreet corrugation
- Not a nail too many - optimal coordination of the bracket
- No fixing in the edge zone due to optimal hole pattern

Basics of statics **from page 163** / Products & statics **from page 184**

TENSION TIES

ASSORTMENT

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							Basics Statics & Diagrams from page	Products & Statics from page
TENSION TIE TOP 240 / TOP 280 VARIO		CE	250 GD Z275	NKL 2			163	168
TENSION TIE HT		CE	355 MC galv. verzinkt	NKL 2			163	172
TENSION TIEHT2		CE	355 MC galv. verzinkt	NKL 2			163	176
TENSION TIE INCLUDING PRESSURE PLATE		CE	250 GD Z275	NKL 2			163	182
CONNECTOR TOP 80 / TOP 120 VARIO		CE	250 GD Z275	NKL 2			163	184
TENSION TIE HS		CE	250 GD Z275	NKL 2			163	186
TENSION TIE HB		CE	250 GD Z275	NKL 2			163	186
TENSION TIE HSB / FLAT STEEL ANCHOR		CE	250 GD Z275	NKL 2			163	188

CE symbol

Steel with indication of the steel quality and galvanisation

Timber/timber connection

Timber/concrete-connection

NKL 1

Usage class 1
Moisture content in the building materials that corresponds to a temperature of 20° C and a relative humidity of the ambient air that only exceeds a value of 65% for a few weeks per year, e.g. in the case of buildings that are closed on all sides and heated.
Comment: In UC 1, the average moisture content of most softwoods does not exceed 12 %.

NKL 2

Usage class 2
Moisture content in the building materials that corresponds to a temperature of 20° C and a relative humidity of the ambient air that only exceeds a value of 85% for a few weeks per year, e.g. in the case of open buildings covered by a roof.
Comment: In UC 2, the average moisture content of most softwoods does not exceed 20 %.

NKL 3

Usage class 3
Includes climatic conditions that lead to higher moisture contents than in UC 2, e.g. structures that are exposed to the weather without protection. Eurocode 5 / DIN EN 1995-1-1 section 2.3.1.3

TENSION TIES

APPLICATIONS

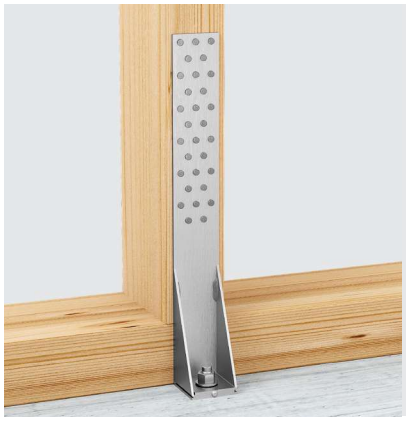
Application:
Absorption of tensile loads in timber construction

Materials:

250 GD Z275

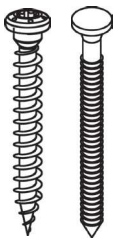
355 MC galv. verzinkt

Material thicknesses:
2,0 to 4,0 mm



Timber/concrete

Timber OSB / concrete



Connecting element:
GH threaded nails 4.0 x 35 / 40 / 50 / 60 / 75 / 100 mm
GH screws 5.0 x 25 / 35 / 40 / 50 / 60 / 70 mm

Bolt, dowel or concrete anchor M10 to M22

Connecting elements from page 274

For use in usage classes

NKL 1

NKL 2


NEW
optimised
bolt holes!
See page 174

TENSION TIES

TOPLINE KONSTRULINE

TYPE HT

1. Transfer of tensile forces, specially for timber framework construction
2. For use with new and existing timber constructions
3. Transfer of high forces into the concrete
4. Optional pressure plates for even higher tensile forces
5. For use on solid wood boards and in frame construction

ALWAYS THE RIGHT APPLICATION WITH VARYING PRESSURE PLATES

ADVANTAGES

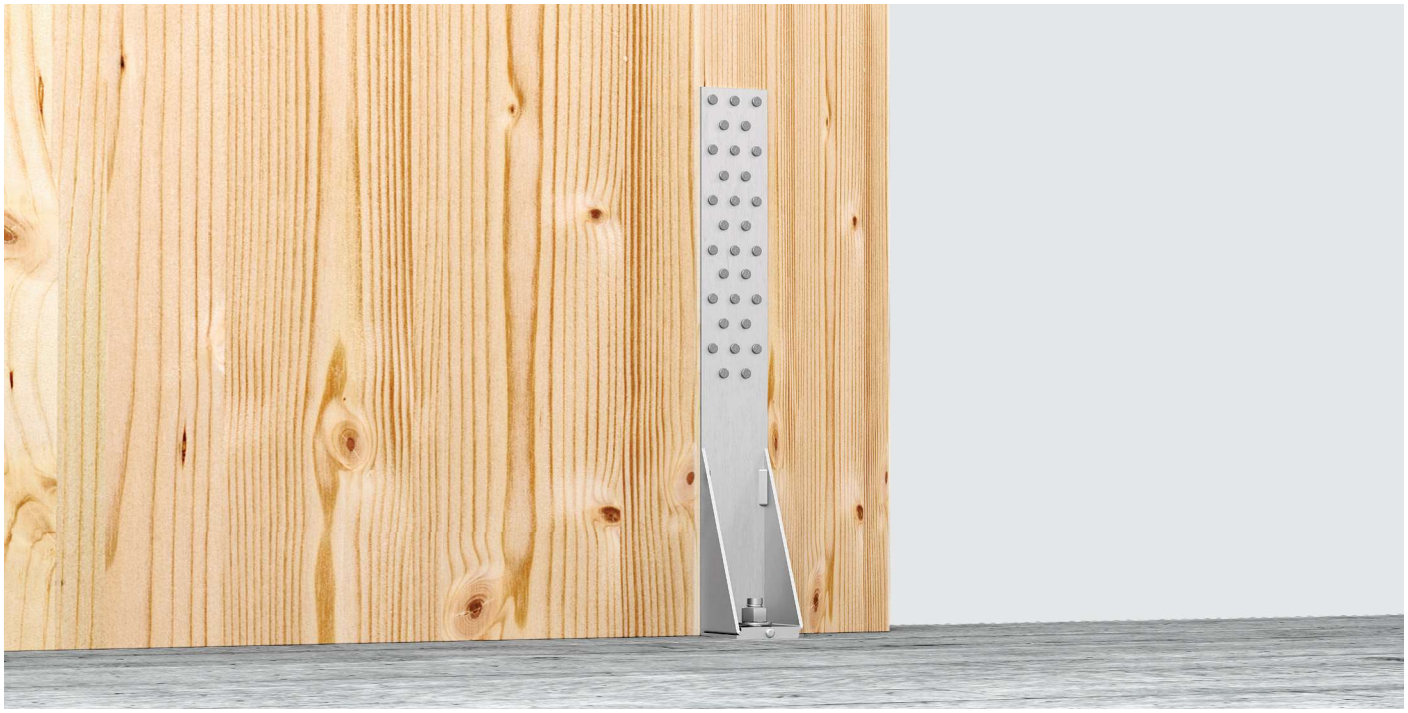
- Absorption of high tensile loads in timber framework construction
- Reduced overall height
- Short rib (150 mm)
- Optimised hole pattern
- GH HT are also suitable for column connections
- Fixing in timber, also over intermediate layers, with GH threaded nails 4.0 x 50 to 75 mm, or GH screws Ø 5.0 mm possible
- Optional pressure plates
- Use of pressure plates for tension loads up to 85 kN
- Without pressure plate for tension loads up to 42 kN
- Simple push-through assembly

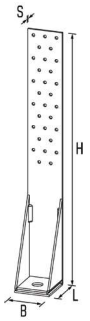
FASTENING ELEMENTS

- GH threaded nail or GH screws
- Ground fixing with bolt anchors or concrete screws

ACCESSORY ITEMS

- The optional pressure discs for HT 16 - HT 28 and pressure discs for HT 34 allow Tensile loads up to 85 kN





TOPLINE KONSTRULINE ETA-10 0010

TENSION TIES

NEW optimised bolt holes!

NKL 2 355 MC galv. verzinkt

HT

Art. No.	Type	Dimensions [mm]							n	nBo	EAN	Weight	Pallet	PU		
		H	x	L	x	W(B)	x	T(S)	Ø5	1x Ø	4019346	kg				
11050370	HT10	370	x	63	x	50	x	3,0	18	18	479643	0.831	240	10		■
11060341	HT16	340	x	63	x	60	x	3,0	20	18	479629	0.873	240	10		■
11060441	HT22	440	x	63	x	60	x	3,0	30	18	479636	1.100	240	10		■
11060541	HT28	540	x	63	x	60	x	3,0	45	22	479544	1.134	160	10		■
11080621	HT34	620	x	83	x	80	x	3,0	55	26	479551	1.800	170	10		■
110140740	HT36	740	x	83	x	140	x	3,0	75	29	479568	3.278	100	1		■

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OPTIMISED HT TENSION TIE!

HT16 and HT22

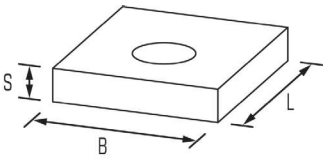
Simple push-through assembly when using bolt anchors. When installing with adhesive anchors/composite mortar, the drilled hole in the baseplate can be drilled directly through the pre-positioned HT tension tie.

HT28 and HT34

Larger bolts are possible, which means that higher loads can be transferred from the wall into the baseplate. The drilled hole in the baseplate is created directly by the pre-positioned HT tension tie.

The optimised hole diameters mean that dowels with a better load-bearing capacity can be used. This means that higher tensile loads can be transferred from the wall into the baseplate.

PRESSURE PLATES



NKL 2 235 JR verzinkt

HT

Art. No.	Dimensions [mm]					n	EAN	Weight	Pallet	PU		
	L	x	W(B)	x	T(S)	Ø	4019346	kg				
1105056	50	x	56	x	10	18	479605	0.200	960	10		■
1105057	50	x	56	x	10	22	479575	0.230	960	10		■
1107078	70	x	77	x	20	26	479582	0.763	960	10		■
11080130	80	x	130	x	40	29	479599	3.000	200	1		■

HT

Timber / Concrete

Art. No.		H	L	W(B)	T(S)	n Ø 5	nBo 1x Ø	charakt. / KLED	4.0x40 | 5.0x40 $F_{z,Rk/Rd}$	4.0x40 | 5.0x40 n_{erf}	4.0x50 | 5.0x50 $F_{z,Rk/Rd}$	4.0x50 | 5.0x50 n_{erf}	4,0x60 | 5,0x60 $F_{z,Rk/Rd}$	4,0x60 | 5,0x60 n_{erf}	$F_{Rd,steel}$	k_t
11050370	HT10	370	63	50	3,0	18	18	charact.	32,90	18	38,40	18	40,80	18	42,00	1,00
								Short	22,80	18	26,60	18	28,20	18		
								Very short	27,80	18	32,50	18	34,50	18		
11060341	HT16	340	63	60	3,0	20	18	charact.	36,54	20	42,00	20	42,00	19	42,00	1,00
								Short	25,29	20	29,57	20	31,39	20		
								Very short	30,92	20	36,14	20	38,36	20		
11060441	HT22	440	63	60	3,0	30	18	charact.	42,00	23	42,00	20	42,00	19	42,00	1,00
								Short	37,94	30	42,00	29	42,00	27		
								Very short	42,00	28	42,00	24	42,00	22		
11060541	HT28	540	63	60	3,0	45	22	charact.	42,00	23	42,00	20	42,00	19	42,00	1,00
								Short	42,00	34	42,00	29	42,00	27		
								Very short	42,00	28	42,00	24	42,00	22		
11060541 with pressure plate 1105056							---	charact.	63,40	35	63,40	30	63,40	28	50,72	1,00
								Short	50,72	41	50,72	35	50,72	33		
								Very short	50,72	33	50,72	29	50,72	27		
11080621	HT34	620	83	80	3,0	55	26	charact.	42,00	23	42,00	20	42,00	19	42,00	1,00
								Short	42,00	34	42,00	29	42,00	27		
								Very short	42,00	28	42,00	24	42,00	22		
11080621 with pressure plate 1107078							---	charact.	85,20	47	85,20	40	85,20	38	68,16	1,00
								Short	68,16	54	68,16	47	68,16	44		
								Very short	68,16	45	68,16	38	68,16	36		
110140740	HT36	740	83	140	3,0	75	29	charact.	137,01	75	158,00	74	158,00	70	126,40	1,00
								Short	94,85	75	110,88	75	117,70	75		
110140740 with pressure plate 11080130								Very short	115,93	75	126,40	70	126,40	66