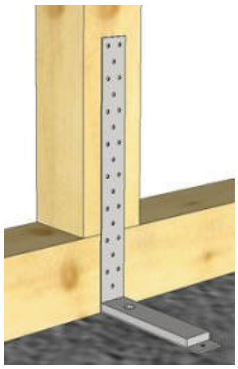
GH - Tension tie including washer

ETA-10/0010

0769



Properties

Steel grade	S 250 GD / DX 51 D
Surface	Z 275

Fasteners

Fixing on the floor in concrete, masonry, steel, timber

Concrete screw, stud anchor, chemical anchor, screws and bolts to DIN 601 / ISO 4016

Wall fixing in timber with connectors to ETA-13/0523

GH connector nails (threaded nails)	4.0 x 40 / 50 / 60 / 75 / 100 mm
GH screw	5.0 x 35 / 40 / 50 / 60 / 70 mm

The wall/column joint can also be made with an interlayer (e.g. OSB) according to ETA-10/0010.

Nail pattern

Minimum number of nails/screws, see load-capacity table, "min. $_{Nail/screw}$".column

Calculation of the design value of the load-carrying capacities to ETA-10/0010

n_1	=	Structurally useful number of holes, timber (vertical flange)
n_2	=	Number of holes, concrete
LDC	=	Load duration class to EN 1995-1-1
$n_{nail/screw}$	=	Minimum number of nails ∅ 4 mm or screws ∅ 5 mm in the vertical flange
$F_{z,Rk}$	=	Characteristic value of the load-carrying capacity in the load direction F_z
$F_{z,Rd}$	=	Design value of load-carrying capacity in load direction F_z
k_t	=	Factor for calculating the tensile force in the anchor bolt/concrete dowel: $F_{B,Ed} = k_t \cdot F_{z,Ed}$

Remarks:

The load-bearing capacities only apply to the given minimum number of fasteners min $n_{nail/screw}$.

The table values apply to a char. density of timber of at least 350 kg/m³.

The fastener minimum edge distances to EC5 shall be satisfied. Minimum distance of the fastener from the end-grain end a3,t: 60 mm for nails ∅ 4 mm and 75 mm for screws ∅ 5 mm.

All calculations and values are exclusively for GH products and their fasteners.

The load-bearing capacities were determined on the basis of ETA 13/0523. It is not possible to transfer the values to third party

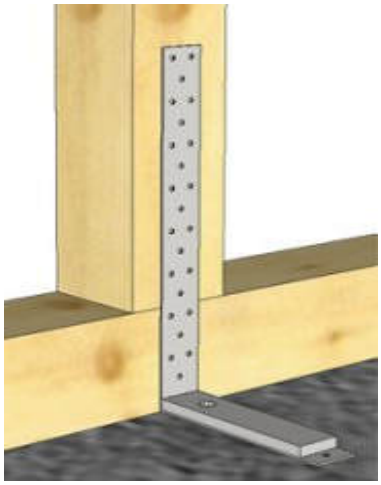
Disclaimer:

Despite careful calculations and checking, no liability is accepted for the technical data.

Subject to change without notice

For technical drawing, see website www.holzverbinder.de

Tension tie including washer



Resistances (load-carrying capacities) with washer

Art.No.	Description	Dimensions [mm] H		L		B		T	n_1 Ø 5.0	n_2 Ø	LDC	4x40 | 5x40 min. $n_{Nä/screw}$	4x40 | 5x40 F_z [kN]	4x50 | 5x50 min. $n_{Nä/screw}$	4x50 | 5x50 F_z [kN]	4x60 | 5x60 min. $n_{Nä/screw}$	4x60 | 5x60 F_z [kN]	k_t
110310		142	x	93	x	60	x	2,0	9	1x15	short-term	9	11,8	9	13,3	9	14,1	1,51
											instantaneous	9	14,4	9	16,3	9	17,2	
											charac.	9	17,0	9	17,3	8	17,3	
110305		280	x	122	x	40	x	2,0	11	1x15	short-term	9	11,5	8	11,5	8	11,5	1,51
											instantaneous	8		7		7		
											charac.	7		6		6		
110405		340	x	182	x	40	x	2,0	20	1x13	short-term	9	11,6	8	11,6	8	11,6	1,20
											instantaneous	8		7		7		
											charac.	7		6		6		
110410		400	x	123	x	40	x	3,0	24	1x18	short-term	14	17,3	12	17,3	12	17,3	1,33
											instantaneous	11		10		10		
											charac.	10		9		8		
110415		420	x	222	x	60	x	2,0	43	1x18	short-term	14	17,3	12	17,3	12	17,3	1,23
											instantaneous	11		10		10		
											charac.	10		9		8		
110420		420	x	102	x	60	x	2,0	43	1x22	short-term	14	17,3	12	17,3	12	17,3	1,88
											instantaneous	11		10		10		
											charac.	10		9		8		
110425		480	x	123	x	60	x	2,5	50	1x22	short-term	17	21,7	15	21,7	14	21,7	1,50
											instantaneous	14		13		12		
											charac.	12		11		10		
110430		520	x	222	x	60	x	2,5	18	1x18	short-term	17	21,7	15	21,7	14	21,7	1,31
											instantaneous	14		13		12		
											charac.	12		11		10		