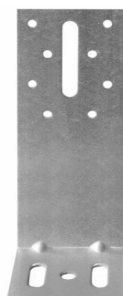




GH - Bracket angle

ETA-13/0900



Properties

Steel grade S 350 GD / 1.4571
 Surface Z 275 / Stainless steel

For angle bracket basic principles, see download document

Fasteners

Fixing in concrete, masonry, steel, ...

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

Fixing in timber with fasteners to ETA-13/0523

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

GH screw 5.0 x 25 / 35 / 40 / 50 / 60 / 70 mm

The joint can also be made with an interlayer (e.g. OSB).

Nail pattern

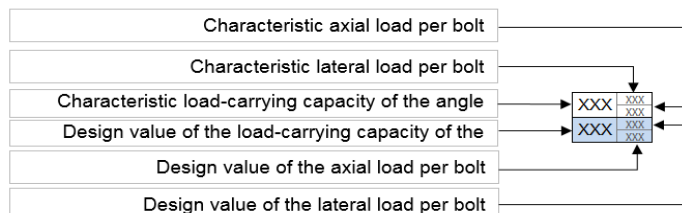
Full nailing / partial nailing, see technical drawing or ETA

Calculation of the design value of the load-carrying capacities to ETA-13/0900

The tables contain characteristic load-carrying capacities (resistances) and design values of the load-carrying capacity (resistance) "short-term" in kN

b = Purlin / joist width
 e = Distance of the load application point from the bottom of the angle bracket

Key for design tables:



Remarks:

Timber strength class 350 kg/m³ char. density.

The fastener minimum edge distances to EC 5 shall be satisfied.

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 makes.

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



Bracket angle Art. No. 1205460 120 x 54 x 60 x 2.5 mm

Characteristic load-carrying capacity (resistance) and design value of the load-carrying capacity (resistance) ("short-term") in kN,

Load direction F_1 for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Column-concrete	1,2,3,4,6,7	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
Purlin-to-concrete	1,2,3,4,6,7	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2

Load direction $F_{2/3}$ for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Timber-to-concrete	1,2,3,4,6,7,8,9	12	char.	2,3	2,3	3,3	3,3	4,6	2,3	6,5	3,3
			short-term	1,6	1,6	2,3	2,3	3,2	1,6	4,5	2,3



Bracket angle **Art. No. 1405460** **140 x 54 x 60 x 2.5 mm**

Characteristic load-carrying capacity (resistance) and design value of the load-carrying capacity (resistance) ("short-term") in kN,

Load direction F_1 for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Column-concrete	1,2,3,4,6,7,8.9	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
Purlin-to-concrete	1,2,3,4,6,7,8.9	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2

Load direction $F_{2/3}$ for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Timber-to-concrete	1,2,3,4,6,7,8.9	12	char.	2,1	2,1	2,9	2,9	4,2	2,1	5,8	2,9
			short-term	1,4	1,4	2,0	2,0	2,9	1,4	4,0	2,0



„Innovationen im Holzbau“

Bracket angle **Art. No. 1605460** **160 x 54 x 60 x 2.5 mm**

Characteristic load-carrying capacity (resistance) and design value of the load-carrying capacity (resistance) ("short-term") in kN,

Load direction F_1 for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Column-concrete	1,2,3,4,6,7,8.9	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
Purlin-to-concrete	1,2,3,4,6,7,8.9	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2

Load direction $F_{2/3}$ for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Timber-to-concrete	1,2,3,4,6,7,8.9	12	char.	1,9	1,9	2,6	2,6	3,8	1,9	5,2	2,6
			short-term	1,3	1,3	1,8	1,8	2,6	1,3	3,6	1,8



Bracket angle **Art. No. 1805460** **180 x 54 x 60 x 2.5 mm**

Characteristic load-carrying capacity (resistance) and design value of the load-carrying capacity (resistance) ("short-term") in kN,

Load direction F_1 for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Column-concrete	1,2,3,4,6,7,8.9	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
Purlin-to-concrete	1,2,3,4,6,7,8.9	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2

Load direction $F_{2/3}$ for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Timber-to-concrete	1,2,3,4,6,7,8.9	12	char.	1,7	1,7	2,3	2,3	3,5	1,7	4,7	2,3
			short-term	1,2	1,2	1,6	1,6	2,4	1,2	3,2	1,6



„Innovationen im Holzbau“

Bracket angle **Art. No. 2005460** **200 x 54 x 60 x 2.5 mm**

Characteristic load-carrying capacity (resistance) and design value of the load-carrying capacity (resistance) ("short-term") in kN,

Load direction F_1 for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Column-concrete	1,2,3,4,6,7,8.9	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
Purlin-to-concrete	1,2,3,4,6,7,8.9	12	char.	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2
			short-term	0,4	1,2	0,4	1,2	0,8	1,2	0,8	1,2

Load direction $F_{2/3}$ for one or two angle brackets

	Number of nail holes n_V	Number of nail holes n_H	LDC	1x angle brackets				2x angle brackets			
				Fasteners		Fasteners		Fasteners		Fasteners	
				4x40	4x60	4x40	4x60	4x40	4x60		
Timber-to-concrete	1,2,3,4,6,7,8.9	12	char.	1,6	1,6	2,1	2,1	3,2	1,6	4,2	2,1
			short-term	1,1	1,1	1,5	1,5	2,2	1,1	2,9	1,5