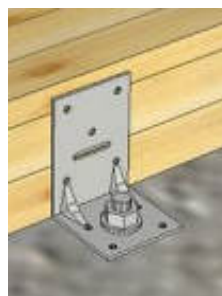




**GH - Angle bracket Type LL**

ETA-09/0322



**Properties**

Steel grade S 250 GD / DX 51 D / 1.4301 / 1.4401 / 1.4541 / 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).

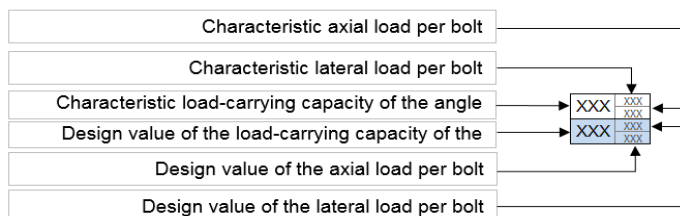
**Nail pattern**

Full nailing / partial nailing, see technical drawing or ETA

**Calculation of the design value of the load-carrying capacities to ETA-09/0322**

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



**Remarks:**

Timber strength class 350 kg/m<sup>3</sup> 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](http://www.holzverbinder.de)**



„Innovationen im Holzbau“

Angle bracket Type LL

Art. No. 26910 / 26913

90 x 60 x 60 x 2.5 mm

Timber-to-timber joint with full nailing

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

Load direction  $F_{23}$  for one angle bracket

	Fasteners	
	4x40	4x50
char.	3,3	3,9
short-term	2,3	2,7

Load direction  $F_{23}$  for two angle brackets

	Fasteners	
	4x40	4x50
char.	6,6	7,9
short-term	4,6	5,5

Load direction  $F_4$  for one angle bracket

	Height of the load application point e in [mm]																		
	40		60		80		100		120		140		160		180		200		
	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	
char.	0,4	0,5	0,1	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,0	0,1	0,0	0,1	0,0	0,0	0,0	0,0
short-term	0,3	0,4	0,1	0,1	0,1	0,1	0,0	0,1	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0



„Innovationen im Holzbau“

Angle bracket Type LL

Art. No. 26910 / 26913

90 x 60 x 60 x 2.5 mm

Timber-to-concrete joint with full nailing

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

Load direction  $F_{23}$  for one angle bracket

	Fasteners			
	4x40		4x50	
char.	7,1	$\frac{7,1}{0,0}$	8,4	$\frac{8,4}{0,0}$
short-term	4,9	$\frac{4,9}{0,0}$	5,8	$\frac{5,8}{0,0}$

Load direction  $F_{23}$  for two angle brackets

	Fasteners			
	4x40		4x50	
char.	14,2	$\frac{14,2}{0,0}$	16,9	$\frac{16,9}{0,0}$
short-term	9,8	$\frac{9,8}{0,0}$	11,7	$\frac{11,7}{0,0}$

Load direction  $F_4$  for one angle bracket

	Height of the load application point e in [mm]																															
	40		60		80		100		120		140		160		180		200															
	Fasteners		Fasteners		Fasteners		Fasteners		Fasteners		Fasteners		Fasteners		Fasteners		Fasteners															
	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50	4x40	4x50														
char.	0,4	$\frac{0,5}{4,2}$	0,4	$\frac{0,5}{4,2}$	0,1	$\frac{0,2}{2,4}$	0,2	$\frac{0,3}{3,2}$	0,1	$\frac{0,1}{2,0}$	0,1	$\frac{0,2}{2,6}$	0,1	$\frac{0,1}{1,8}$	0,1	$\frac{0,1}{2,4}$	0,0	$\frac{0,1}{1,6}$	0,1	$\frac{0,1}{2,1}$	0,0	$\frac{0,1}{1,6}$	0,1	$\frac{0,1}{2,1}$	0,0	$\frac{0,0}{1,5}$	0,0	$\frac{0,1}{2,0}$	0,0	$\frac{0,0}{1,5}$	0,0	$\frac{0,1}{2,0}$
short-term	0,3	$\frac{0,4}{3,1}$	0,3	$\frac{0,5}{3,8}$	0,1	$\frac{0,1}{1,7}$	0,1	$\frac{0,2}{2,2}$	0,1	$\frac{0,1}{1,4}$	0,1	$\frac{0,1}{1,8}$	0,0	$\frac{0,1}{1,2}$	0,1	$\frac{0,1}{1,6}$	0,0	$\frac{0,0}{1,1}$	0,1	$\frac{0,1}{1,5}$	0,0	$\frac{0,0}{1,1}$	0,0	$\frac{0,0}{1,1}$	0,0	$\frac{0,0}{1,4}$	0,0	$\frac{0,0}{1,1}$	0,0	$\frac{0,0}{1,4}$	0,0	$\frac{0,0}{1,4}$