

Technický list

SIMPSON

Strong-Tie

NPB

Nail plate for CLT

NPB nail plates have been especially designed for CLT building. They allow the installation of CLT panels to CLT support or concrete support.

Features

Material

- Pre-galvanised steel S250GD + Z275 according to standard NF EN 10346
- Thickness 2 and 3 mm

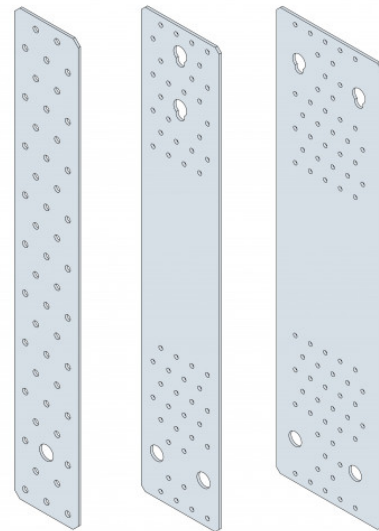
Advantages

- Ideal for CLT building,
- Great versatility: can be fixed on a wooden support and a concrete support,
- High capacity for vertical force directions.

Applications

Application

- Cross laminated panels (CLT),
- Solid panels...



NEW

CE



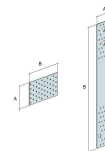
INT

Z275

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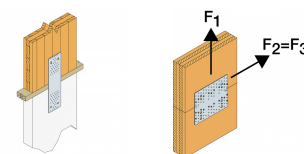
Technical Data

Dimensions



Art. nr.	Dimensions [mm]			Holes		
	A	B	t	Ø5	Ø13	Ø17
NPB60400	60	400	2	49	1	-
NPB100540	100	540	3	26+28	2 (Ø14)	2
NPB140540	140	540	3	36+36	-	2+2

Product characteristic capacities - CLT to CLT



Art. nr.	Product characteristic capacities - CLT to CLT							
	Product characteristic capacities - Timber C24 [kN]				Product characteristic capacities - Timber C24			
	Fasteners		$R_{1,k}$		Fastener		$R_{2,k}$ [kN]	
	Top part	Bottom part	CNA4,0x50	CSA5,0x50	Top part	Bottom part	CSA5,0x50	CNA4,0x50
NPB60400	n	n	min (26.7/kmod ; n x 2.22)	min (26.7/kmod ; n x 2.63)	-	-	-	-
NPB100540	n	n	min (71.3/kmod ; n x 2.22)	min (71.3/kmod ; n x 2.63)	-	-	-	-
NPB140540	n	n	min (102.5/kmod ; n x 2.22)	min (102.5/kmod ; n x 2.63)	-	-	-	-

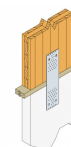
n = number of fasteners (CNA or CSA) on the top or bottom part of the plate. This number of fasteners has to be the same on both timber elements.

Distances to the edges of the timber must be checked.

$$\sum \frac{F_{i,d}}{R_{i,d}} \leq 1$$

For combined forces it's to check:

Product characteristic capacities - CLT to concrete



Art. nr.	Product characteristic capacities - CLT to concrete					
	Fasteners		Product characteristic capacities - Timber C24 [kN]			
	Top part	Bottom part	$R_{1,k}$			
			CNA4,0x50		CSA5,0x50	
NPB60400	n	1 Ø12	min (20.6/kmod ; n x 2.22)		min (20.6/kmod ; n x 2.63)	
NPB100540	n	2 Ø12	min (58.8/kmod ; n x 2.22)		min (58.8/kmod ; n x 2.63)	
NPB140540	n	2 Ø16	min (82.4/kmod ; n x 2.22)		min (82.4/kmod ; n x 2.63)	

n = number of fasteners (CNA or CSA) on the top part of the plate. The distances to the edges of the timber as well as the distances to the edges of the concrete must be checked.
Anchors resistance must also be checked

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Installation

Fasteners

On timber :

- CNA Ø4.0x50 mm nails
- CSA Ø5.0x40 or CSA Ø5.0x50 screws

On concrete :

- *Mechanical anchor* : WA M12-104/5 anchor
- *Chemical anchor* : AT-HP resin + LMAS M12-150/35 threaded rod

Installation

On timber :

- 1. Approach the two elements to be fixed,**
- 2. Point or screw the plate on the 1st element to be fixed,**
- 3. Point or screw the plate on the 2nd element.**

On concrete :

- 1. Approach the element to be fixed from the concrete support,**
- 2. Point the plate on the element to be fixed,**
- 3. Secure the plate to the concrete with the recommended anchors.**

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