

TITAN PLATE T TIMBER

PLATE FOR SHEAR LOADS



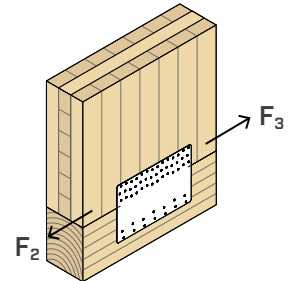
SERVICE CLASS



MATERIAL

DX51D
Z275 DX51D + Z275 carbon steel

EXTERNAL LOADS



TIMBER-TO-TIMBER

These plates are ideal for the flat connection of the base plate to load-bearing timber panels.

CONTINUOUS CONNECTION

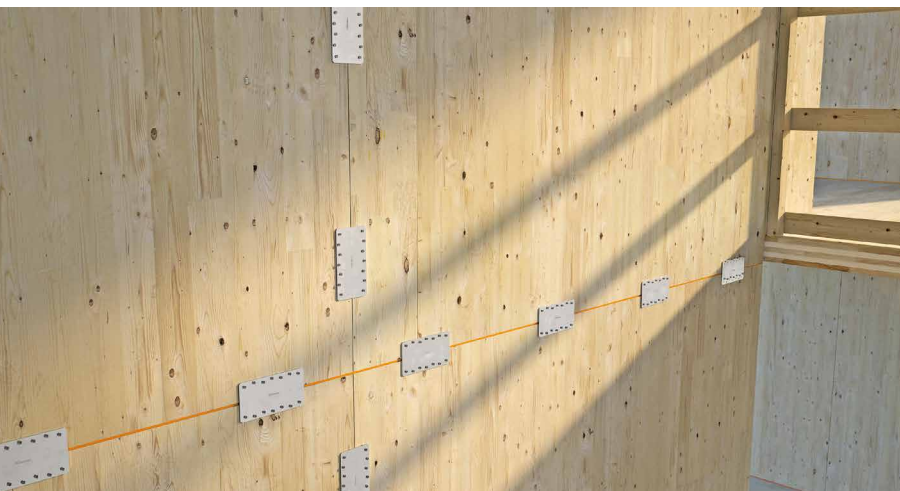
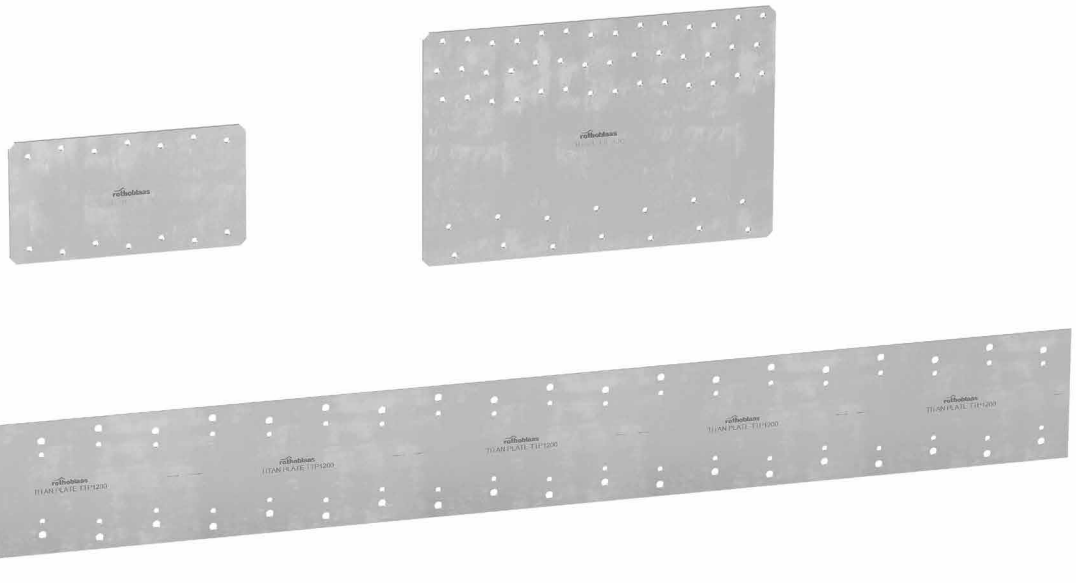
The 1.2 m long TTP1200 version allows the creation of long connections in panel floors, replacing the classic spline joint connection.

CALCULATED AND CERTIFIED

CE marking according to European standard EN 14545. Available in three versions. TTP300 and TTP1200 versions ideal for CLT.



USA, Canada and more design values available online.

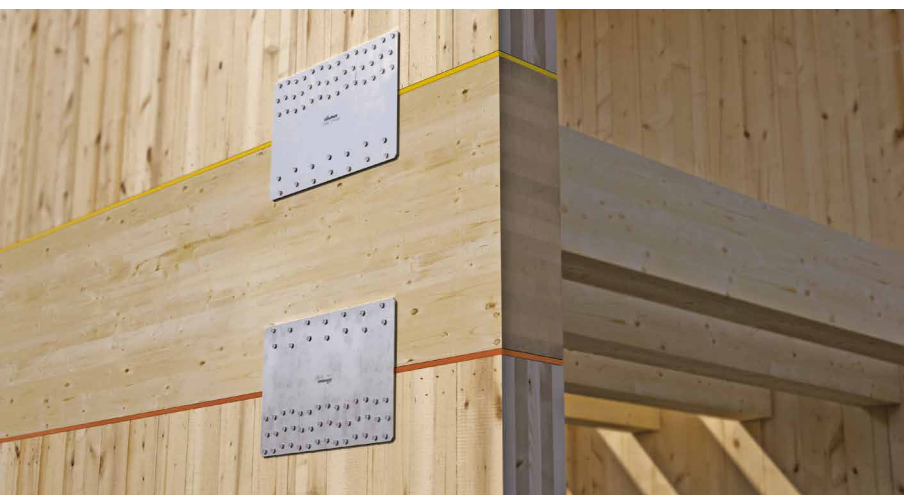


FIELDS OF USE

Shear joints for timber walls or floors. Timber-to-timber configuration.

Can be applied to:

- solid timber and glulam
- timber frame
- CLT and LVL panels



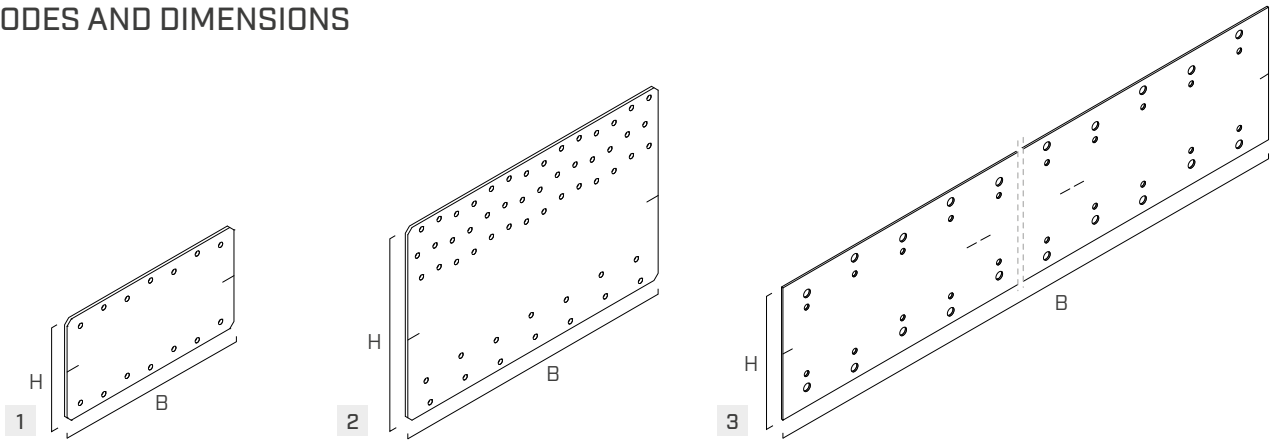
SPLINE STRAP

Ideal for the construction of floors with diaphragm behaviour, restoring shear continuity between the different panels that make up the floor.

FASTENING PATTERNS

The 300 mm version, with asymmetrical nailing, allows fastening on both beams and CLT with optimised fastening patterns.

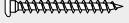
CODES AND DIMENSIONS



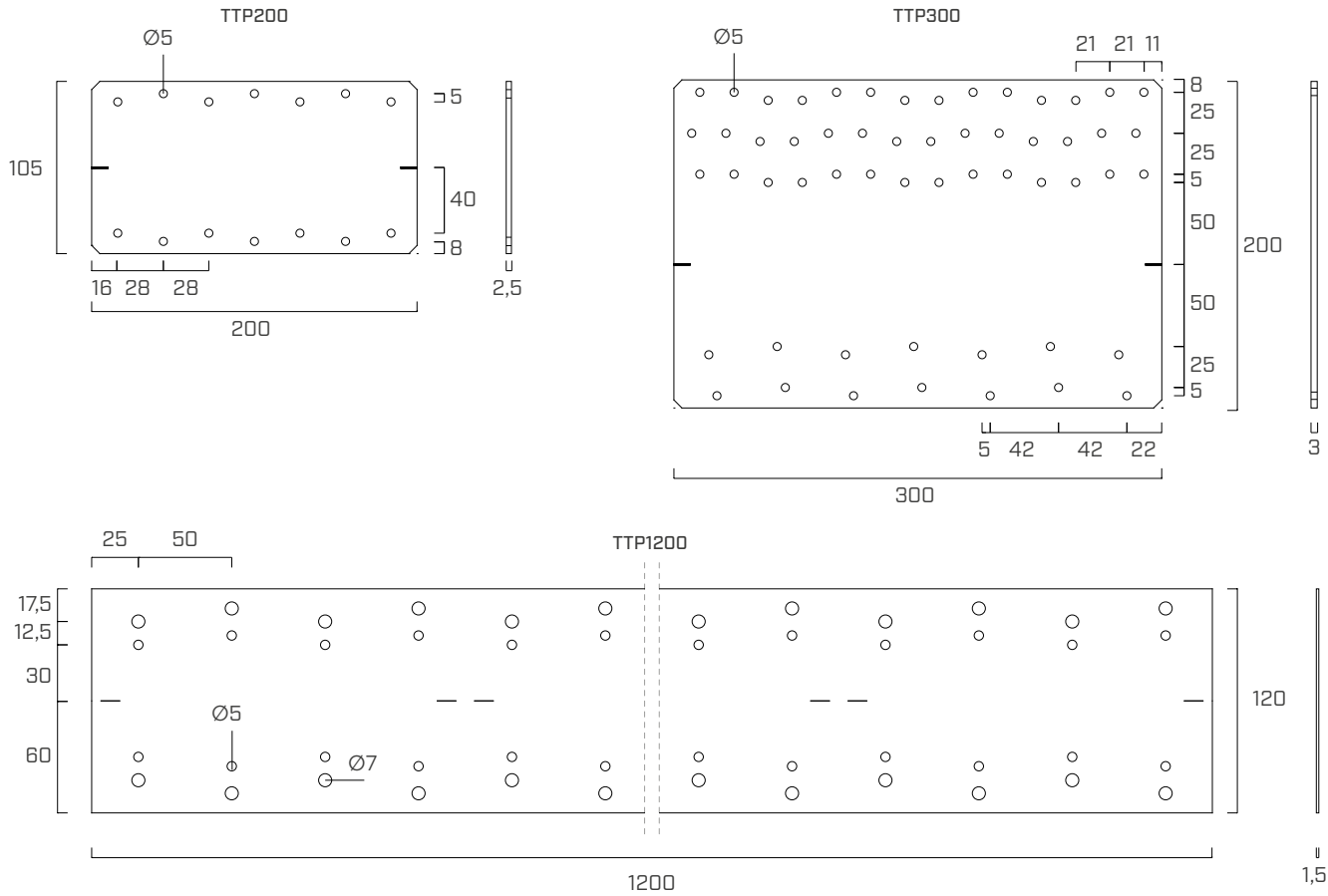
CODE	B	H	s	B	H	s	n _{v1} Ø5 n _{v1} Ø0.20	n _{v2} Ø5 n _{v2} Ø0.20	n _{v1} Ø7 n _{v1} Ø0.28	n _{v2} Ø7 n _{v2} Ø0.28		pcs
	[mm]	[mm]	[mm]	[in]	[in]	[in]	[pcs]	[pcs]	[pcs]	[pcs]		
1 TTP200	200	105	2,5	8	4 1/8	0.10	7	7	-	-	●	10
2 TTP300	300	200	3	11 3/4	8	0.12	42	14	-	-	●	5
3 TTP1200(*)	1200	120	1,5	47 1/4	4 3/4	0.06	48	48	48	48	●	5

(*)Not holding UKCA marking.

FASTENERS

type	description		d	support	page
			[mm]		
LBA	high bond nail		4		570
LBS	round head screw		5 - 7		571
LBS HARDWOOD EVO	C4 EVO round head screw on hardwoods		7		572

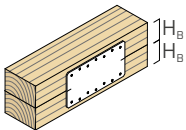
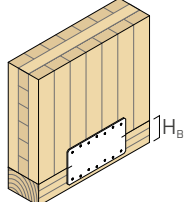
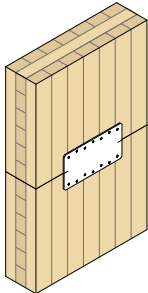
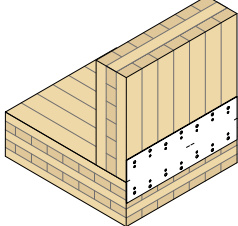
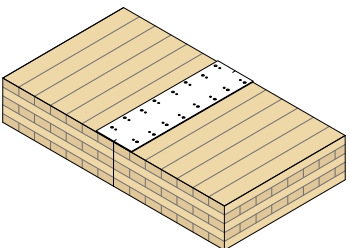
GEOMETRY



■ INSTALLATION

TITAN PLATE T plates can be used on both CLT and solid timber/glulam elements and must be positioned with the assembly notches at the timber-to-timber interface.

Possible fastening configurations are shown below:

configuration		fasteners	TTP200	TTP300	TTP1200
	timber-to-timber	LBA Ø4	●	●	-
		LBS Ø5	-	●	-
	CLT - timber	LBA Ø4	●	●	-
		LBS Ø5	-	●	-
	CLT - CLT lateral face - lateral face	LBA Ø4	●	●	-
		LBS Ø5	●	●	●
		LBS Ø7 LBSH EVO Ø7	-	-	●
	CLT - CLT lateral face - narrow face	LBA Ø4	-	-	-
		LBS Ø5	-	-	-
		LBS Ø7 LBSH EVO Ø7	-	-	●
	CLT - CLT lateral face - lateral face	LBA Ø4	●	●	●
		LBS Ø5	●	●	●
		LBS Ø7 LBSH EVO Ø7	-	-	●

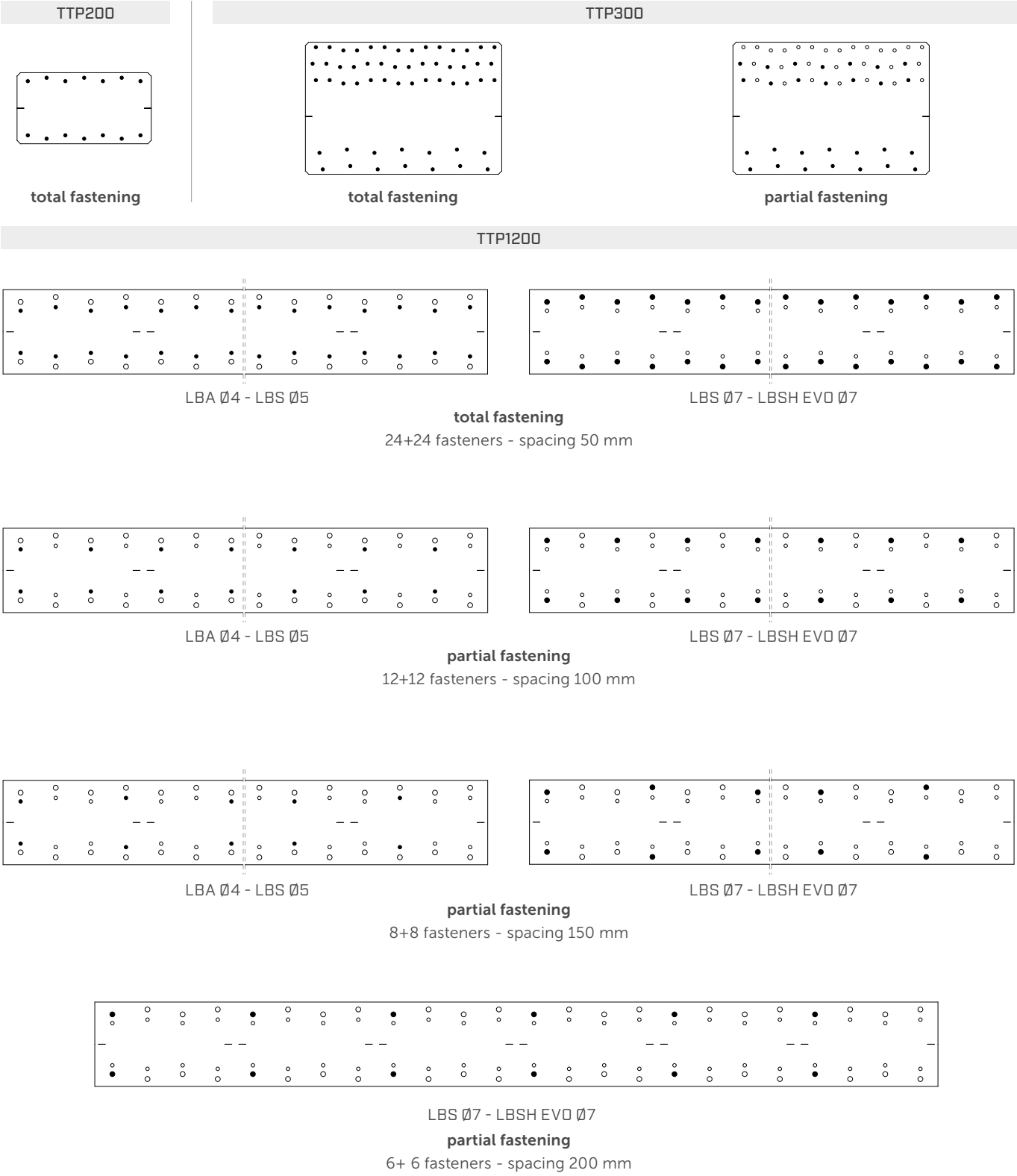
MINIMUM HEIGHT OF H_B ELEMENTS

In the case of fastening on beam/platform beam, the relative minimum H_B height of the elements is shown in the table with reference to the installation diagrams.

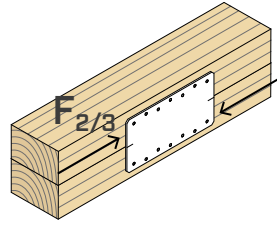
configuration	fasteners	$H_{B \min}$ [mm]		
		TTP200 total	TTP300 partial	TTP300 total
timber-to-timber	LBA Ø4	75	110	-
	LBS Ø5	-	130	-
CLT - timber	LBA Ø4	75	110	100
	LBS Ø5	-	130	105

The H_B height is determined taking into account the minimum distances for solid timber or glulam consistent with EN 1995:2014 considering a timber density $\rho_k \leq 420 \text{ kg/m}^3$.

FASTENING PATTERNS

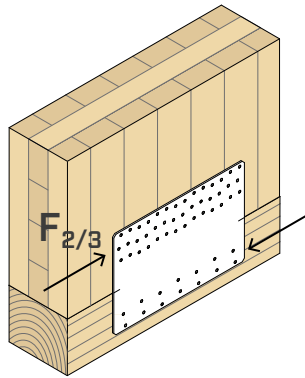


STRUCTURAL VALUES | TTP200 | F_{2/3}



configuration	type	fastening holes Ø5			R _{2/3,k timber} ⁽¹⁾ [kN]
		Ø x L [mm]	n _{v1} [pcs]	n _{v2} [pcs]	
total fastening	LBA	Ø4 x 60	7	7	8,8

STRUCTURAL VALUES | TTP300 | F_{2/3}



configuration	type	fastening holes Ø5			R _{2/3,k timber} ⁽¹⁾ [kN]
		Ø x L [mm]	n _{v1} [pcs]	n _{v2} [pcs]	
total fastening	LBA	Ø4 x 60	42	14	31,7
	LBS	Ø5 x 60	42	14	27,7
partial fastening	LBA	Ø4 x 60	14	14	17,2
	LBS	Ø5 x 60	14	14	15,0

NOTES

⁽¹⁾ Strength values are valid for all full/partial configurations indicated in the INSTALLATION section.

INTELLECTUAL PROPERTY

- TITAN PLATE T plates are protected by the following Registered Community Designs:
 - RCD 008254353-0015;
 - RCD 008254353-0016;
 - RCD 015051914-0006.

GENERAL PRINCIPLES

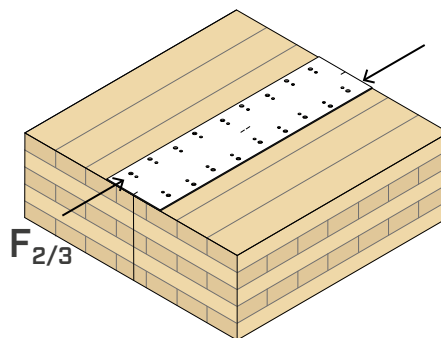
- Characteristic values according to EN 1995:2014.
- Design values can be obtained from characteristic values as follows:

$$R_d = \frac{R_{k \text{ timber}} \cdot k_{mod}}{\gamma_M}$$

The coefficients k_{mod} , γ_M should be taken according to the current regulations used for the calculation.

- A timber density of $\rho_k = 350 \text{ kg/m}^3$ was considered for the calculation process.
- Dimensioning and verification of the timber elements must be carried out separately.

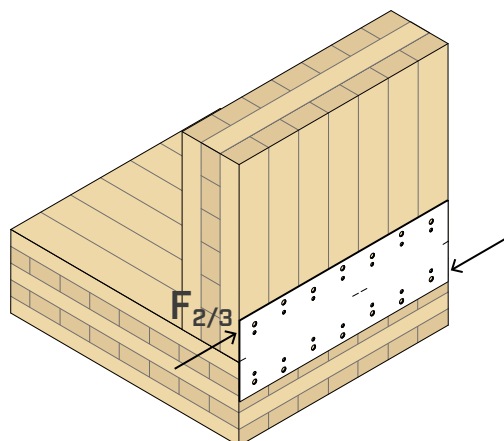
CLT - CLT
lateral face - lateral face



configuration	fastening holes Ø5				R _{2/3,k} timber	
	type	Ø x L [mm]	n _{V1} [pcs]	n _{V2} [pcs]	[kN]	[kN/m] ⁽¹⁾
total fastening 24+24 fasteners spacing 50 mm	LBA	Ø4 x 60	24	24	58,8	49,0
	LBS	Ø5 x 60	24	24	48,3	40,3
	LBS	Ø7 x 100	24	24	74,8	62,3
	LBSH EVO	Ø7 x 120	24	24	91,3	76,1
partial fastening 12+12 fasteners spacing 100 mm	LBA	Ø4 x 60	12	12	29,8	24,9
	LBS	Ø5 x 60	12	12	24,5	20,4
	LBS	Ø7 x 100	12	12	38,1	31,8
	LBSH EVO	Ø7 x 120	12	12	46,6	38,8
partial fastening 8+8 fasteners spacing 150 mm	LBA	Ø4 x 60	8	8	19,8	16,5
	LBS	Ø5 x 60	8	8	16,3	13,6
	LBS	Ø7 x 100	8	8	25,3	21,0
	LBSH EVO	Ø7 x 120	8	8	30,8	25,7
partial fastening 6+6 fasteners spacing 200	LBS	Ø7 x 100	6	6	19,3	16,1
	LBSH EVO	Ø7 x 120	6	6	23,6	19,6

⁽¹⁾It is possible to cut the plate into modules with a length of 600 mm. The strength in kN/m remains unchanged.

CLT - CLT
lateral face - narrow face



configuration	fastening holes Ø5				R _{2/3,k} timber	
	type	Ø x L [mm]	n _{V1} [pcs]	n _{V2} [pcs]	[kN]	[kN/m] ⁽¹⁾
total fastening 24+24 fasteners spacing 50 mm	LBS	Ø7 x 100	24	24	49,2	41,0
	LBSH EVO	Ø7 x 120	24	24	59,2	49,3
partial fastening 12+12 fasteners spacing 100 mm	LBS	Ø7 x 100	12	12	25,1	20,9
	LBSH EVO	Ø7 x 120	12	12	30,2	25,2

⁽¹⁾It is possible to cut the plate into modules with a length of 600 mm. The strength in kN/m remains unchanged.