

MEET THE CLT TECHNOLOGY



WHAT IS CROSS LAMINATED TIMBER (CLT)?

CLT solid wood panels are made up of odd number of layers and are available in different panel thicknesses depending on structural requirements. The layers are bonded using environmentally friendly adhesives.

TROHIS panels are cut to size, including door and window openings, with state-of-the art technology and CNC machinery, CNC routers, capable of making complex cuts guaranteeing the highest precision and accuracy in every detail. Finished CLT panels are exceptionally strong, stable and stiff, handling load transfer on all sides. TROHIS panels are available in different qualities – industrial, non-visible and visible quality.

CLT panels can be easily combined with other construction and insulation materials and this association allows obtaining highly effective energy efficiency of a building.





CLT STANDARD DESIGNS

Length laminated panels

Nominal	ltem	Layers			Lamella	struc	ture			Standard panel	Maximum
thickness					(m	ım)				widths	panel length
(mm)			L	С	L	С	L	С	L	(m)	(m)
60	CLT60 L3	3	20	20	20					2.40 / 2.50 / 2.75 / 2.95	13,80
80	CLT80 L3	3	30	20	30					2.40 / 2.50 / 2.75 / 2.95	13,80
90	CLT90 L3	3	30	30	30					2.40 / 2.50 / 2.75 / 2.95	13,80
100	CLT100 L3	3	30	40	30					2.40 / 2.50 / 2.75 / 2.95	13,80
120	CLT120 L3	3	40	40	40					2.40 / 2.50 / 2.75 / 2.95	13,80
100	CLT100 L5	5	20	20	20	20	20			2.40 / 2.50 / 2.75 / 2.95	13,80
120	CLT120 L5	5	30	20	20	20	30			2.40 / 2.50 / 2.75 / 2.95	13,80
140	CLT140 L5	5	40	20	20	20	40			2.40 / 2.50 / 2.75 / 2.95	13,80
160	CLT160 L5	5	40	20	40	20	40			2.40 / 2.50 / 2.75 / 2.95	13,80
180	CLT180 L5	5	40	30	40	30	40			2.40 / 2.50 / 2.75 / 2.95	13,80
200	CLT200 L5	5	40	40	40	40	40			2.40 / 2.50 / 2.75 / 2.95	13,80
160	CLT160 L5/2	5	30+30	40	30+30					2.40 / 2.50 / 2.75 / 2.95	13,80
180	CLT180 L7	7	30	20	30	20	30	20	30	2.40 / 2.50 / 2.75 / 2.95	13,80
200	CLT200 L7	7	20	40	20	40	20	40	20	2.40 / 2.50 / 2.75 / 2.95	13,80
240	CLT240 L7	7	30	40	30	40	30	40	30	2.40 / 2.50 / 2.75 / 2.95	13,80
220	CLT220 L7/2	7	30+30	30	40	30	30+30			2.40 / 2.50 / 2.75 / 2.95	13,80
240	CLT240 L7/2	7	40+40	20	40	20	40+40			2.40 / 2.50 / 2.75 / 2.95	13,80
260	CLT260 L7/2	7	40+40	30	40	30	40+40			2.40 / 2.50 / 2.75 / 2.95	13,80
280	CLT280 L7/2	7	40+40	40	40	40	40+40			2.40 / 2.50 / 2.75 / 2.95	13,80
300	CLT300 L8/2	8	40+40	30	40+40	30	40+40			2.40 / 2.50 / 2.75 / 2.95	13,80
320	CLT320 L8/2	8	40+40	40	40+40	40	40+40			2.40 / 2.50 / 2.75 / 2.95	13,80

Cross laminated panels

Nominal thickness	ltem	Layers	Lamella structure (mm)						Standard panel widths	Maximum panel length	
(mm)			С	L	С	L	С	L	С	(m)	(m)
60	CLT60 C3	3	20	20	20					2.40 / 2.50 / 2.75 / 2.95	13,80
80	CLT80 C3	3	30	20	30					2.40 / 2.50 / 2.75 / 2.95	13,80
90	CLT90 C3	3	30	30	30					2.40 / 2.50 / 2.75 / 2.95	13,80
100	CLT100 C3	3	30	40	30					2.40 / 2.50 / 2.75 / 2.95	13,80
120	CLT120 C3	3	40	40	40					2.40 / 2.50 / 2.75 / 2.95	13,80
100	CLT100 C5	5	20	20	20	20	20			2.40 / 2.50 / 2.75 / 2.95	13,80
120	CLT120 C5	5	30	20	20	20	30			2.40 / 2.50 / 2.75 / 2.95	13,80
140	CLT140 C5	5	40	20	20	20	40			2.40 / 2.50 / 2.75 / 2.95	13,80
160	CLT160 C5	5	40	20	40	20	40			2.40 / 2.50 / 2.75 / 2.95	13,80

Max dimensions of master elements 13800x3100x400mm

Min dimensions of master elements 6000x2450x60mm

Special CLT element designs are available on request

Charged dimensions: rectangle circumscribed by the charged width, including any cut-outs wich may result

Charged lenght: from minimum production lenght of 6m per charged width up to max 13.8m, in 10cm increments

Charded width: 2.40 / 2.50 / 2.75 / 2.95 m



GENERAL INFORMATION

Intended use:	Primary as a wall, ceiling and roof element in all type of buildings
Maximum width:	3.10 m
Maximum length:	13.80 m
Maximum thickness:	400 mm
Layer structure:	At least three bonded single-layer panels arranged at right angles to each other
Wood species:	Spruce
Grade:	C24 (for structural calculations)
Moisture content:	12% +/- 2%
Bonding adhesive:	Formaldehyde-free PUR adhesive
Surface quality:	Non-visual, industrial and visual quality, the surface is sanded
Appearance grade:	C or A/B in accordance with EN 13017-1
Weight:	5.0 kN/m ³ (for structural calculations)
Dimensional stability: (panel size)	0.02% change for every 1% change in panel moisture content
Dimensional stability: (panel thickness)	0.24% change for every 1% change in panel moisture content
Reaction to fire:	D-s2, d0 in accordance with Commission Decision 2003/43/EC
Resistance to fire:	Charring rate of 0.65 mm/min in accordance with EN 1995-1-2
Water vapor resistance µ:	20 to 50 in accordance with EN 12524
Thermal conductivity λ :	0.13 W/(mK) in accordance with EN 12524
Specific heat capacity:	1600 J/(kgK) in accordance with EN 12524
Air tightness:	CLT panels are made up of at least three single-layer panels and are therefore extremely airtight. The airtightness of a 3-layer CLT panel and of panel joints has been tested to EN 12114 where it was found that the volumetric rates of flow were outside the measurable range.
Service class:	1 and 2 only in accordance with EN 1995-1-1





INTERNAL WALLS (no wind pressure)

							Hei	ght					
Dead weight	Imposed		2,50	m			3,00	m		4,00 m			
gk*	nk	RO	R30	R60	R90	RO	R30	R60	R90	RO	R30	R60	R90
	10,00			80 C3	100 C3			80 C3		60 C3		100 CE	120 C3
	20,00					60 C3			120 C3		00 C3	100 C5	
10,00	40,00	60 C3	80 C3	100 C5	120C3		80 C3	100 C5		90 C 2	90 C3		140 C5
	50,00			100 C5		80 C3			140 C5	80 C3	100 C3	120 C5	
	60,00			00.00			-						400.50
	10,00			80 C3		60 (3			120 C3	60 C3	80 C3	100 C5	120 C3
	20,00	60 C 3			120 C3	00 C3	80 C 3	100 C 5	120 C3		90.03		
20,00	0,00 40,00 50,00 cores		80 C3	100 C5						80 C3	50 05		140 C5
						80 C3			140 C5		100 C3	120 C5	
	60,00	80 C3			140 C5		90 C3	120 C5		90 C3	100 C5		
	10,00					60 C3			120 C3		80 C3	100 C5	
	20,00 6	60 C3			120 C3		80 C3	100 C5	120 00	80 C3	90 C3		
30,00	30,00		80 C3	100 C5		90 C 2					100 C3	120 CE	140 C5
	40,00					00 C3			140 C5	90 (3		120 C3	
	60,00	80 C3			140 C5		90 C3	120 C5		20 65	100 C5		
	10,00					60 C3			120 C3		90 C3		
	20,00	60 C3			120 C3		80 C3	100 C5	80 C3	80 C3	100 C3		
40.00	30,00		80 C3	100 C5							100 C5	120 C5	140 C5
,	40,00	00.00			140.05	80 C3	00.62	100 65	140 C5	00.52	100 C5		
	50,00	80 C3			140 C5		90.03	120 C5		90 03	120 C2		
	10.00										90.03		
	20,00	60 C3			120 C3		80 C3	100 C5		80 C3	100.00		
50.00	30,00		80 C3	100.05		80 (3			140.05		100 C3	120.05	140.05
50,00	40,00	80.03		100 C5		00 03	90 C3		140 05	90C3	100 C5	120 C3	140 CJ
	50,00	00 05			140 C5			120 C5			120 C3		
	60,00		90 C3				100 C3			100 C3			
	10,00	60 C3			120 C3		80 C3	100 C5		80 C3	100 C3		
	20,00		80 C3	100 C5			90 C3			90 C3	100 C 5	120 C5	
60,00	40,00	80 C3			.5	80 C3		100.07	140 C5		100 00		140 C5
-	50,00		00 C2		140 C5		100 C2	120 C5		100 C2	120 C3		
	60,00		90.05	120 C5			100 C3			100 C3			

* In the table the CLT self-weight is already taken into account. Service class 1, imposed load category A ($\psi 0 = 0.7$; $\psi 1 = 0.5$; $\psi 2 = 0.3$)

Load-bearing capacity:

a) Verification as a column (compression in accordance with equivalent member method)b) Shearing stresses

kmod = 0.8

The table referred is to be used for preliminary estimate purposes and is not a substitute for a structural calculation.

Fire resistance

v1,i = 0.63 mm/min v1,a = 0.86 mm/min





EXTERNAL WALLS (w=1.00 kN/m²)

							Hei	ght					
Dead weight	Imposed load		2,50	m			3,00	m			4,00	m	
gk*	nk	RO	R30	R60	R90	RO	R30	R60	R90	RO	R30	R60	R90
	10,00			80 C3						60 C3	80 C3	100 C5	120 C3
	20,00	60.02				60 C3	90 C 2		120 C3		00.00		
10,00	30,00	00 C3	80 C3	100.05	120 C3		00 CS	100 C5		80 C3	90 C3		140.05
	40,00 50.00			100 C3		80 (3			140 C 5		100 C3	120 C5	140 003
	60.00	80 C 3	-			00 05	90 C 3		110 03	90.C3	100 C 5		
	10.00	00 00		80 C3					100.00		80 C3	100 C5	
	20,00	(0.52				60 C3	00.50		120 C3	00.50	90 C3		
20.00	30,00	60 C3	90 C2		120 C3		- 80 C3	100 C5		80 C3	100 C2		140.05
20,00	40,00		00 CS	100 C5		80 (3			140.05		100 CS	120 C5	140 CS
	50,00	80 C 3	-			00 05	90 C 3		140 CJ	90 C3	100 C 5		
	60,00				140 C5			120 C5					
	10,00					60 C3	00.02		120 C3	00.02	90 C3		
	20,00	60 C3			120 C3		80 05	100 C5		80 05	100 C3		
30,00	30,00 40.00		80 C3	100 C5		80 (3						120 C5	140 C5
	50.00		-			00 05	90 C3		140 C5	90 C3	100 C5		
	60,00	80 C3			140 C5			120 C5					
	10,00					60 C3	00 C2		120 C3	90 C 2	90 C3		
	20,00	60 C3			120 C3		80 CS	100 C5		80 05	100 C3		
40.00	30,00		80 C3	100 C5								120 C 5	140 C 5
10,00	40,00			100 05		80 C3	90 C3		140 C5	90 C3	100 C5	120 03	110 03
	50,00	80 C3			140 C5		400.50	120 C5		100 50	100 50		
	60,00		90 C3				100 C3			100 C3	120 C3		
	20.00	60 C3			120 C3		00 05	100 C5		00 CS	100 C3		
	30.00		80 C3	100 C5			90 C3			90 C3			
50,00	40.00					80 C3			140 C5		100 C5	120 C5	140 C5
	50,00	80 C3	00.00		140 C5		100 C2	120 C5		100.00	120.02		
	60,00		90 C3	120 C5			100 C3			100 C3	120 C3		
	10,00	60 C3			120 C3			100 C5			100 C3		
	20,00		80 C3	100 C5			90 C3			90 C3	100 C5		
60,00	30,00				1 40 65	80 C3		100 65	140 C5			120 C5	140 C5
	40,00	80 C3	00.02		140 C5	; 00 05	100 C2	120 C5		100 C2	120 C3	-2	
	50,00		90 03	120 C5			100 C3			100 C3	120 C3	160 CE	
	00,00												100 CS

* In the table the CLT self-weight is already taken into account. Service class 1, imposed load category A ($\psi 0 = 0.7$; $\psi 1 = 0.5$; $\psi 2 = 0.3$)

Load-bearing capacity:

a) Verification as a column (compression in accordance with equivalent member method)b) Shearing stresses

kmod = 0.8

The table referred is to be used for preliminary estimate purposes and is not a substitute for a structural calculation.

Fire resistance

v1,i = 0.63 mm/min v1,a = 0.86 mm/min





SINGLE SPAN BEAM -VIBRATION

Dead	Imposed	Span of single - span beam												
weight gk*	load nk	3,00 m	3,50 m	4,00 m	4,50 m	5,00 m	5,50 m	6,00 m	6,50 m	7,00 m				
	1,00		80 L3	90 L3		120 L3	14015	160 5/2	180 L5					
	2,00	80 L3	9013	100 3	120 L3	120 L3	140 25	100 1072	20015	220 7/2				
1,00	2,80					44915		180 L5						
,	3,50	80 L3	90 L3	120 L3	120 L3	140 L5	160 L5/2		22017/2					
	4,00	0012	100 L3	120 2	140 L5	16015/2		200 L5	220 L//2	240 L7/2				
	5,00	90 L3	120 L3	120 L3		100 L5/2			20015					
	2.00	00 L3	90 L3	100 L3	120 L3			180 L5	200 L3	220 L7/2				
	2,80	80 L3		120 L3	120 L3	140 L5	160 L5/2							
1,50	3,50		100 L3					200 L5	220 L7/2	2 (2 7/2				
4,00 5,00	4,00	90 L3		12012	140 L5	160 5/2				240 L//2				
	5,00	90 L3	120 L3	120 L5		100 L5/2	180 L5	220 L7/2						
	1,00	8013			120 L3	140 5	160 5/2							
	2,00		100 L3	120 L3		110 23	100 20/2	200 L5						
2,00	2,80	90 L3			140 L5		10015		220 L7/2	240 L7/2				
	3,50	0013	120 L3	120 L3		160 L5/2	180 L5	220 L7/2	240 7/2					
	4,00	90 L3					20015			26017/2				
	5,00		100 3	120 2			200 L5	20015	240 L//2	200 L//2				
	2 00	90 L3	100 L3	120 L3			100 1072	200 L3	220 L7/2	240 L7/2				
	2,80			120 L3	140 L5		180 L5							
2,50	3,50	90 L3	120 L3			160 L5/2		220 L7/2						
	4,00			14012			200 L5		240 L7/2	260 L7/2				
	5,00	100 L3	120 L3	140 L3	160 L5/2									
	1,00	90 L3		120 L3	14015		180 L5		220 L7/2	240 L7/2				
	2,00	90 L3	120 L3											
3.00	2,80					160 L5/2		220 L7/2		260 L7/2				
3,00	3,50	100 L3		140 L5	160 L5/2		200 L5		240 L7/2	200 L//2				
	4,00		120 L3											
	5,00					180 L5				280 L7/2				

* In the table the CLT self-weight is already taken into account. Service class 1, imposed load category A ($\psi 0 = 0.7$; $\psi 1 = 0.5$; $\psi 2 = 0.3$)

Load-bearing capacity:

a) Verification of bending stresses b) Verification of shearing stresses kmod = 0.8

Serviceability:

a) Quasi-constant design situation zul w fin = 250 b) Infrequent design situation: zul w q,inst = 300 zul w fin - w g,inst = 200 c) Vibration Vibration according to EN 1995-1-1 and Kreuzinger & Mohr (f1 > 8 Hz or f1 > 5 Hz with a = 0.4m/s², v < vgrenz, wEF < 1 mm) D = 2%, 5 cm cement screed, b = $1.2 \cdot \ell$ kdef = 0.6

This table specifies the required thicknesses for the normal design situation (R0)

The table referred is to use for the preliminary estimate purposes and is not a substitute for a structural calculation.

Fire resistance

v1,i = 0.63 mm/min v1,a = 0.86 mm/min





SINGLE SPAN BEAM -DEFORMATION

Dood	Imposed				Span of	single - spa	an beam			
weight gk*	load nk	3,00 m	3,50 m	4,00 m	4,50 m	5,00 m	5,50 m	6,00 m	6,50 m	7,00 m
	1,00		80 L3	90 L3		120 L3	14015		16015/2	180 L5
	2,00	80 L3	9013	100 3	120 L3	120 L3	140 L5	160 5/2	100 L5/2	200.1.5
1,00	2,80		90 L3	100 L3				100 L3/ 2	180 5	200 L3
1,00	3,50	8013	90 L3	12013	120 L3	140 L5	160 5/2			
	4,00	00 23	100 L3	120 25	140 L5		100 20/2	200 L5	200 L5	220 L7/2
	5,00	90 L3	120 L3	120 L3		160 L5/2				
	1,00	80 L3	90 L3	100 L3	120 L3		140 L5	160 L5/2	180 L5	200 L5
	2,00			10010		140 L5				
1,50	2,80	80 L3	10010	120 L3	120 L3		16015/0	10015	200 L5	220 L7/2
	3,50		100 L3		14015		160 L5/2	180 L5		
	4,00	90 L3	10010	120 L3	140 L5	160 L5/2		20015	22017/2	
	5,00	90 L3	120 L3		12012			200 L5	220 L//2	
	1,00	80 L3	100 1 2	12012	120 L3	140 L5		180 L5	200 L5	
	2,00	0012	100 L5	120 L5			160 L5/2			
2,00	2,00	90 L3			14015					220 L7/2
	4.00	9013	120 L3	12013	110 13	160 L5/2		200 L5	220 L7/2	
	5,00	50 25		120 23			180 L5			
	1.00		100 3	12013				180 5		
	2.00	90 L3	100 25	120 23			160 L5/2	100 25		220 L7/2
	2,80			120 L3	140 L5					
2,50	3.50	90 L3	120 L3			160 L5/2	180 L5	200 L5	220 L7/2	
	4,00									240 L7/2
	5,00	100 L3	120 L3	140 L3	160 L5/2		200 L5	220 L7		
	1,00	90 L3		120 L3	14015			20015		220 L7/2
3,00	2,00	90 L3	120 L3		140 L5		180 L5	200 L5		
	2,80					160 L5/2			22017/2	
	3,50	100 1 2		140 L5	16015/2			22017/2	220 L//2	240 L7/2
	4,00	100 LS	120 L3	110 25	100 L5/ 2		200 L5	220 L//2	2	
	5,00					180 L5				

Span of single - span beam

* In the table the CLT self-weight is already taken into account. Service class 1, imposed load category A ($\psi 0 = 0.7$; $\psi 1 = 0.5$; $\psi 2 = 0.3$)

Load-bearing capacity:

a) Verification of bending stresses b) Verification of shearing stresses kmod = 0.8

Serviceability:

a) Quasi-constant design situation zul w fin = 250b) Infrequent design situation: zul w q, inst = 300 zul w fin - w g, inst = 200kdef = 0.6

This table specifies the required thicknesses for the normal design situation (R0) The table referred is to be used for preliminary estimate purposes and is not a substitute for a structural calculation.

Fire resistance

HFA 2011 v1 = 0.65 mm/min





TWO SPAN BEAM -VIBRATION

Dead	Imposed									
weight gk*	load nk	3,00 m	3,50 m	4,00 m	4,50 m	5,00 m	5,50 m	6,00 m	6,50 m	7,00 m
	1,00	60 L3	80 L3	80 L3	100 L3	120 L3	140 L5	160 5/2	180 L5	
	2,00	8013	90 L3	9013	120 3	120 L3		100 L3/2	200 L5	220 L7/2
1.00	2,80	00 15	8013	5013	120 00			180 5		
.,	3,50		00 10	100 L3		140 L5	160 L5/2		220 L7/2	
	4,00	80 L3	90 L3		120 L3			200 L5		240 L//2
	5,00		100 L3	120 L3						
	1,00	80 L3		90 L3	120 L3			180 L5		220 L7/2
	2,00		80 L3	10010		140 L5	160 L5/2			
1,50	2,80	9012		100 L3	12012			200 L5	220 L7/2	24017/2
	3,50	60 LS	0012	100 L3	120 L5					240 L77 Z
	4,00		90 L3	120 L3	14015	160 L5/2	180 L5	2217/2		
	5,00		100 LS		140 L5			22 L//2		
	2.00		80 L3	100 L3	120 L3	140 L5	160 L5/2	200 L5		
	2,00		8013	120 3	120 L3				22017/2	240 7/2
2,00	3 50	80 L3	00 25	120 25			180 L5			
	4.00		90 L3	120 L3	140 L5	160 L5/2		220 L7/2		
	5,00		100 L3				200 L5		240 L7/2	260 L7/2
	1,00		80 L3	120 L3			10015		22017/2	24017/2
	2,00		90 L3				180 L5		220 L//2	240 L//2
250	2,80	80 L3			14015	16015/2		22017/2		
2,50	3,50		90 L3	120 L3	140 LS	100 L5/2	20015	220 L//2	24017/2	26017/2
	4,00						200 L5		240 L//2	200 L/72
	5,00	80 L3	100 L3							
	1,00		90 L3							240 L7/2
	2,00	80 L3	90 L3			160 L 5/2				
3.00	2,80			120 L3	140 L5	100 13/ 2	200 L5	22017/2	240 17/2	260 L7/2
3,00	3,50		100 L3	.23 25				220 L//2	240 L//2	
	4,00	80 L3				180L5				280 L7/2
	5,00				160 L5/2		220 L7/2			

Span of single - span beam

* In the table the CLT self-weight is already taken into account. Service class 1, imposed load category A ($\psi 0 = 0.7$; $\psi 1 = 0.5$; $\psi 2 = 0.3$)

Load-bearing capacity: a) Verification of bending stresses b) Verification of shearing stresses kmod = 0.8

Serviceability:

a) Quasi-constant design situation zul w fin = 250 b) Infrequent design situation: zul w q,inst = 300 zul w fin - w g,inst = 200 c) Vibration Vibration according to EN 1995-1-1 and Kreuzinger & Mohr (f1 > 8 Hz or f1 > 5 Hz with a = 0.4m/s², v < vgrenz, wEF < 1 mm) D = 2%, 5 cm cement screed, b = $1.2 \cdot \ell$ kdef = 0.6

This table specifies the required thicknesses for the normal design situation (R0) The table referred is to be used for preliminary estimate purposes and is not a substitute for a structural calculation.

$\beta = 0.65 \text{ mm/min}$

Incendie:





TWO SPAN BEAM -DEFORMATION

Span of single - span beam

Dead	imposea				-					
weight gk*	load nk	3,00 m	3,50 m	4,00 m	4,50 m	5,00 m	5,50 m	6,00 m	6,50 m	7,00 m
	1,00	6012	80 L3	0012	80 L3	90 L3	120 L3	12012		140 L5
	2,00	60 L3		80 L3	90 L3	100 L3	12012	120 L3	140 L5	160 L5/2
1.00	2,80	80 L3	80 L3	90 L3	100 L3		120 L3	14015		16015/2
1,00	3,50			10012		120 L3	14015	140 LS	160 5/2	100 L3/2
	4,00	80 L3	90 L3	100 LS	120 L3		140 L5	160 L5/2	100 L5/ Z	180 L5
	5,00		90 L3	120 L3		140 L5	160 L5/2	160 L5/2	180 L5	200 L5
	1,00	60 L3		80 L3	90 L3	100 L3		120 L3	14015	160 L5/2
	2,00		9013	90 L3	10013		120 L3		140 L5	
1.50	2,80		80 LS	90 L3	100 L3	120.12		140 L5		160 L5/2
1,50	3,50	80 L3		100 2		120 L3	14015		160 L5/2	
	4,00		90 L3	100 L5	120 L3		140 L5	16015/2		180 L5
	5,00		100 L3	120 L3		140 L5	160 L5/2	100 L5/2	180 L5	200 L5
	1,00		9012	90 L3	100 L3		120 L3		160 L5/2	16015/2
	2,00		00 LS	90 L3				140 L5		100 L5/ Z
2.00	2,80	9012	9013			120 L3	14015		16015/2	
2,00	3,50	80 LS	80 LS	100 L3	120 L3		140 L5		100 L5/2	180 L5
	4,00		90 L3					160 L5/2		
	5,00		100 L3	120 L3		140 L5	160 L5/2		180 L5	200 L5
	1,00		80 L3	90 L3				140 L5		160 L5/2
	2,00		80 L3			120 L3			16015/2	19015
250	2,80	80 L3		100 L3	12012		140 L5		100 L5/2	160 L5
2,50	3,50		90 L3		120 L5			160 L5/2		
	4,00			12012		140 L5			19015	200 L5
	5,00	80 L3	100 L3	120 L5			160 L5/2		160 L5	
	1,00		80 L3	100 1 3		120 L3			160 5/2	180 L5
	2,00	80 L3		100 L3			140 L5		100 L3/ 2	
2.00	2,80		0013		12012			160 5/2		20015
3,00	3,50		90 63	12012	120 L5	140 L5		100 L3/2	180 L5	20015
	4,00	80 L3		120 L3			160 L5/2			
	5,00		100 L3						200 L5	220 L7/2

* In the table the CLT self-weight is already taken into account. Service class 1, imposed load category A ($\psi 0 = 0.7$; $\psi 1 = 0.5$; $\psi 2 = 0.3$)

Load-bearing capacity:

a) Verification of bending stresses b) Verification of shearing stresses kmod = 0.8

Serviceability:

a) Quasi-constant design situation zul w fin = 250 b) Infrequent design situation: zul w q,inst = 300 zul w fin - w g,inst = 200 kdef = 0.6

This table specifies the required thicknesses for the normal design situation (R0) The table referred is to be used for preliminary estimate purposes and is not a substitute for a structural calculation.

Fire resistance

HFA 2011 v1 = 0.65 mm/min

RO	
R30	
R60	
R90	

