CROSS TIMBER SYSTEMS

SKONTO ENTERPRISES

MEET THE CLT TECHNOLOGY

CROSS TIMBER SYSTEMS

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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.

Cross Timber Systems 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.

Cross Timber Systems 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.

LESS EXPENSIVE

LESS WASTE PRODUCED

SHORTER CONSTRUCTION TIME

MORE DURABILITY

BETTER LOGISTICS

ENVIRONMENTALLY FRIENDLY

CROSS TIMBER SYSTEMS

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OUR MANUFACTURING PLANT IN JELGAVA, LATVIA

"Cross Timber Systems" is the biggest cross-laminated timber panel production plant in Northern Europe and Scandinavia.

Plant occupies more than 8000m2 production area and warehouse facilities. It is equipped with the state-of-art technology and state-of-art CNC routers supplied by the general supplier Ledinek.

Cross Timber Systems annual production capacity is 25000 m3. Maximum size of panels in mm – 13 800 x 3 100 x 400

ADDRESS:
18 Aviacijas street, Jelgava, LV-3004, Latvia

LOCATED IN NORTHERN EUROPE

8 000 m2 OF SPACE

AUTOMATION: LESS OPERATORS

GREAT INFRASTRUCTURE

PLANT CAPACITY: 25000 m3 / YEAR


CROSS TIMBER
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LEDINEK

CLT STANDARD DESIGNS

Length laminated panels

Nominal thickness (mm)	Item	Layers	Lamella structure (mm)							Standard panel widths (m)	Maximum panel length (m)
			L	C	L	C	L	C	L		
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 (mm)	Item	Layers	Lamella structure (mm)							Standard panel widths (m)	Maximum panel length (m)
			C	L	C	L	C	L	C		
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

info@crosstimbersystems.com
www.crosstimbersystems.com


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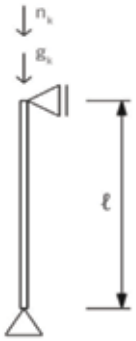
GENERAL INFORMATION

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)

Height

Dead weight gk*	Imposed load nk	2,50 m				3,00 m				4,00 m			
		R0	R30	R60	R90	R0	R30	R60	R90	R0	R30	R60	R90
10,00	10,00	60 C3	80 C3	80 C3	100 C3	60 C3	80 C3	80 C3	120 C3	60 C3	80 C3	100 C5	120 C3
	20,00												
	30,00			100 C5	120C3			100 C5		80 C3	90 C3	120 C5	140 C5
	40,00												
	50,00					80 C3			140 C5		100 C3		
	60,00												
20,00	10,00	60 C3	80 C3	80 C3	120 C3	60 C3	80 C3	100 C5	120 C3	60 C3	80 C3	100 C5	120 C3
	20,00												
	30,00			100 C5						80 C3	90 C3	120 C5	140 C5
	40,00					80 C3			140 C5		100 C3		
	50,00												
	60,00	80 C3			140 C5		90 C3	120 C5		90 C3	100 C5		
30,00	10,00	60 C3	80 C3	100 C5	120 C3	60 C3	80 C3	100 C5	120 C3	80 C3	80 C3	100 C5	140 C5
	20,00										90 C3	120 C5	
	30,00					80 C3			140 C5		100 C3		
	40,00									90 C3			
	50,00	80 C3			140 C5		90 C3	120 C5			100 C5		
	60,00												
40,00	10,00	60 C3	80 C3	100 C5	120 C3	60 C3	80 C3	100 C5	120 C3	80 C3	90 C3	120 C5	140 C5
	20,00										100 C3		
	30,00					80 C3			140 C5				
	40,00									90 C3	100 C5		
	50,00	80 C3			140 C5		90 C3	120 C5			120 C3		
	60,00												
50,00	10,00	60 C3	80 C3	100 C5	120 C3	80 C3	80 C3	100 C5	140 C5	80 C3	90 C3	120 C5	140 C5
	20,00										100 C3		
	30,00						90 C3			90C3	100 C5		
	40,00	80 C3			140 C5			120 C5			120 C3		
	50,00												
	60,00		90 C3				100 C3			100 C3			
60,00	10,00	60 C3	80 C3	100 C5	120 C3	80 C3	90 C3	100 C5	140 C5	80 C3	100 C3	120 C5	140 C5
	20,00												
	30,00									90 C3	100 C5		
	40,00	80 C3			140 C5			120 C5					
	50,00		90 C3				100 C3			100 C3	120 C3		
	60,00			120 C5									

*** In the table the CLT self-weight is already taken into account.**
Service class 1, imposed load category A (ψ0 = 0.7; ψ1 = 0.5; ψ2 = 0.3)

Load-bearing capacity:
a) Verification as a column (compression in accordance w ith 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

R0
R30
R60
R90

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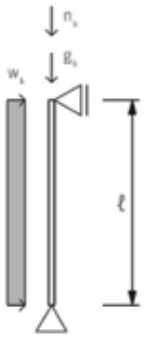

EXTERNAL WALLS (w=1.00 kN/m²)

Height

Dead weight gk*	Imposed load nk	2,50 m				3,00 m				4,00 m			
		R0	R30	R60	R90	R0	R30	R60	R90	R0	R30	R60	R90
10,00	10,00	60 C3	80 C3	80 C3	120 C3	60 C3	80 C3	100 C5	120 C3	60 C3	80 C3	100 C5	120 C3
	20,00			100 C5					140 C5	80 C3	90 C3	120 C5	140 C5
	30,00					80 C3					100 C3		
	40,00												
	50,00												
	60,00	80 C3					90 C3			90 C3	100 C5		
20,00	10,00	60 C3	80 C3	80 C3	120 C3	60 C3	80 C3	100 C5	120 C3	80 C3	80 C3	100 C5	140 C5
	20,00			100 C5					140 C5		90 C3	120 C5	
	30,00					80 C3					100 C3		
	40,00												
	50,00	80 C3			140 C5		90 C3	120 C5		90 C3	100 C5		
	60,00												
30,00	10,00	60 C3	80 C3	100 C5	120 C3	60 C3	80 C3	100 C5	120 C3	80 C3	90 C3	120 C5	140 C5
	20,00					80 C3			140 C5		100 C3		
	30,00												
	40,00												
	50,00	80 C3			140 C5		90 C3	120 C5		90 C3	100 C5		
	60,00												
40,00	10,00	60 C3	80 C3	100 C5	120 C3	60 C3	80 C3	100 C5	120 C3	80 C3	90 C3	120 C5	140 C5
	20,00					80 C3			140 C5		100 C3		
	30,00												
	40,00												
	50,00	80 C3			140 C5		90 C3	120 C5		90 C3	100 C5		
	60,00		90 C3				100 C3			100 C3	120 C3		
50,00	10,00	60 C3	80 C3	100 C5	120 C3	80 C3	80 C3	100 C5	140 C5	80 C3	100 C3	120 C5	140 C5
	20,00						90 C3			90 C3			
	30,00										100 C5		
	40,00	80 C3			140 C5			120 C5					
	50,00						100 C3			100 C3	120 C3		
	60,00		90 C3	120 C5									
60,00	10,00	60 C3	80 C3	100 C5	120 C3	80 C3	90 C3	100 C5	140 C5	90 C3	100 C3	120 C5	140 C5
	20,00										100 C5		
	30,00												
	40,00	80 C3			140 C5			120 C5					
	50,00		90 C3	120 C5			100 C3			100 C3	120 C3		160 C5
	60,00												

*** In the table the CLT self-weight is already taken into account.**
Service class 1, imposed load category A (ψ0 = 0.7; ψ1 = 0.5; ψ2 = 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

R0
R30
R60
R90

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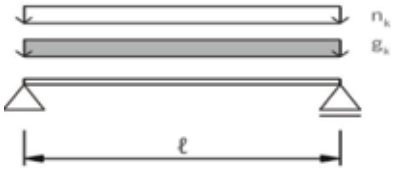


SINGLE SPAN BEAM - VIBRATION

Span of single - span beam

Dead weight gk*	Imposed 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	1,00	80 L3	80 L3	90 L3	120 L3	120 L3	140 L5	160 L5/2	180 L5	220 L7/2
	2,00		90 L3	100 L3		120 L3	160 L5/2	180 L5	200 L5	
	2,80					140 L5				
	3,50	80 L3	90 L3	120 L3	120 L3			200 L5	220 L7/2	
	4,00		100 L3		140 L5					240 L7/2
	5,00	90 L3	120 L3	120 L3		160 L5/2				
1,50	1,00	80 L3	90 L3	100 L3	120 L3	140 L5	160 L5/2	180 L5	200 L5	220 L7/2
	2,00									
	2,80	80 L3	100 L3	120 L3	120 L3			200 L5	220 L7/2	240 L7/2
	3,50				140 L5					
	4,00	90 L3		120 L3		160 L5/2				
	5,00	90 L3	120 L3				180 L5	220 L7/2		
2,00	1,00	80 L3	100 L3	120 L3	120 L3	140 L5	160 L5/2	200 L5	220 L7/2	240 L7/2
	2,00				140 L5					
	2,80	90 L3				160 L5/2	180 L5	220 L7/2		
	3,50									
	4,00	90 L3	120 L3	120 L3			200 L5		240 L7/2	260 L7/2
	5,00									
2,50	1,00	90 L3	100 L3	120 L3	140 L5	160 L5/2	160 L5/2	200 L5	220 L7/2	240 L7/2
	2,00						180 L5	220 L7/2		
	2,80	90 L3	120 L3	120 L3						
	3,50						200 L5		240 L7/2	260 L7/2
	4,00			140 L3						
	5,00	100 L3	120 L3		160 L5/2					
3,00	1,00	90 L3	120 L3	120 L3	140 L5	160 L5/2	180 L5	220 L7/2	220 L7/2	240 L7/2
	2,00	90 L3		140 L5			200 L5		240 L7/2	260 L7/2
	2,80	100 L3			160 L5/2					
	3,50		120 L3							
	4,00									
	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 (ψ0 = 0.7; ψ1 = 0.5; ψ2 = 0.3)

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

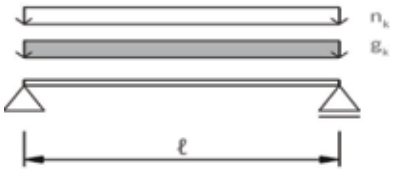
Serviceability:
a) Quasi-constant design situation
zul w fin = 250
b) Infrequent design situation:
zul w q,inst = 300
zul w fin - w g,inst = 200
c) Vibration
Vibration according to EN 1995-1-1 and Kreuzinger & Mohr
(f1 > 8 Hz or f1 > 5 Hz with a = 0.4m/s^2, v < vgrenz, wEF < 1 mm)
D = 2%, 5 cm cement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

Fire resistance

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

R0
R30
R60
R90

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.



SINGLE SPAN BEAM - DEFORMATION

Span of single - span beam

Dead weight gk*	Imposed 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	1,00	80 L3	80 L3	90 L3	120 L3	120 L3	140 L5	160 L5/2	160 L5/2	180 L5
	2,00		90 L3	100 L3		120 L3	160 L5/2		180 L5	200 L5
	2,80					140 L5				
	3,50	80 L3	90 L3	120 L3	120 L3			200 L5	200 L5	220 L7/2
	4,00		100 L3		140 L5					
	5,00	90 L3	120 L3	120 L3		160 L5/2				
1,50	1,00	80 L3	90 L3	100 L3	120 L3	140 L5	140 L5	160 L5/2	180 L5	200 L5
	2,00						160 L5/2		200 L5	220 L7/2
	2,80	80 L3	100 L3	120 L3	120 L3			180 L5		
	3,50				140 L5					
	4,00	90 L3		120 L3		160 L5/2		200 L5	220 L7/2	
	5,00	90 L3	120 L3							
2,00	1,00	80 L3	100 L3	120 L3	120 L3	140 L5	160 L5/2	180 L5	200 L5	220 L7/2
	2,00				140 L5					
	2,80	90 L3				160 L5/2		200 L5	220 L7/2	
	3,50		120 L3	120 L3			180 L5			
	4,00	90 L3								
	5,00									
2,50	1,00	90 L3	100 L3	120 L3	140 L5	160 L5/2	160 L5/2	180 L5	220 L7/2	220 L7/2
	2,00		120 L3	120 L3			180 L5	200 L5		
	2,80	90 L3								240 L7/2
	3,50			140 L3						
	4,00									
	5,00	100 L3	120 L3		160 L5/2		200 L5	220 L7		
3,00	1,00	90 L3	120 L3	120 L3	140 L5	160 L5/2	180 L5	200 L5	220 L7/2	220 L7/2
	2,00	90 L3		140 L5						240 L7/2
	2,80	100 L3			160 L5/2		200 L5	220 L7/2		
	3,50		120 L3							
	4,00									
	5,00					180 L5				

*** In the table the CLT self-weight is already taken into account.**
Service class 1, imposed load category A (ψ0 = 0.7; ψ1 = 0.5; ψ2 = 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

Fire resistance

HFA 2011
v1 = 0.65 mm/min

R0
R30
R60
R90

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.

CROSS TIMBER SYSTEMS
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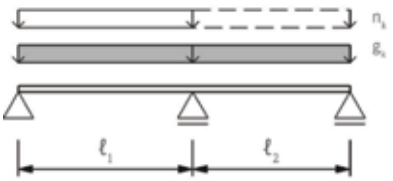

TWO SPAN BEAM - VIBRATION

Span of single - span beam

Dead weight gk*	Imposed 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	1,00	60 L3	80 L3	80 L3	100 L3	120 L3	140 L5	160 L5/2	180 L5	220 L7/2
	2,00	80 L3	90 L3	90 L3	120 L3	120 L3	160 L5/2		200 L5	
	2,80		80 L3			140 L5		180 L5	220 L7/2	
	3,50	80 L3		100 L3	120 L3					240 L7/2
	4,00		90 L3					200 L5		
	5,00		100 L3	120 L3						
1,50	1,00	80 L3	80 L3	90 L3	120 L3	140 L5	160 L5/2	180 L5	220 L7/2	220 L7/2
	2,00	80 L3		100 L3	120 L3			200 L5		240 L7/2
	2,80									
	3,50			100 L3						
	4,00		90 L3	120 L3		160 L5/2	180 L5	22 L7/2		
	5,00		100 L3		140 L5					
2,00	1,00	80 L3	80 L3	100 L3	120 L3	140 L5	160 L5/2	200 L5	220 L7/2	240 L7/2
	2,00				120 L3					
	2,80		80 L3	120 L3	140 L5	160 L5/2	180 L5	220 L7/2		
	3,50	80 L3	90 L3	120 L3						
	4,00						200 L5		240 L7/2	260 L7/2
	5,00		100 L3							
2,50	1,00	80 L3	80 L3	120 L3	140 L5	160 L5/2	180 L5	220 L7/2	220 L7/2	240 L7/2
	2,00		90 L3	120 L3			200 L5		240 L7/2	260 L7/2
	2,80		90 L3							
	3,50									
	4,00									
	5,00	80 L3	100 L3							
3,00	1,00	80 L3	90 L3	120 L3	140 L5	160 L5/2	200 L5	220 L7/2	240 L7/2	240 L7/2
	2,00		90 L3							260 L7/2
	2,80		100 L3							
	3,50									
	4,00	80 L3				180L5				280 L7/2
	5,00				160 L5/2		220 L7/2			

*** In the table the CLT self-weight is already taken into account.**
Service class 1, imposed load category A (ψ0 = 0.7; ψ1 = 0.5; ψ2 = 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/s^2, v < vgrenz, wEF < 1 mm)
D = 2%, 5 cm cement screed, b = 1.2 · ℓ
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.

Incendie:

β = 0.65 mm/min

R0
R30
R60
R90

CROSS TIMBER SYSTEMS
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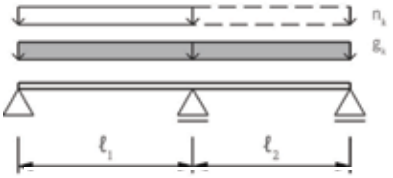

TWO SPAN BEAM - DEFORMATION

Span of single - span beam

Dead weight gk*	Imposed 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	1,00	60 L3	80 L3	80 L3	80 L3	90 L3	120 L3	120 L3	140 L5	140 L5
	2,00		80 L3		90 L3	100 L3	120 L3			160 L5/2
	2,80	80 L3		90 L3	100 L3	120 L3		140 L5		160 L5/2
	3,50	80 L3		100 L3	120 L3		140 L5	160 L5/2	160 L5/2	
	4,00		90 L3							180 L5
	5,00		90 L3	120 L3		140 L5	160 L5/2	160 L5/2	180 L5	200 L5
1,50	1,00	60 L3	80 L3	80 L3	90 L3	100 L3	120 L3	120 L3	140 L5	160 L5/2
	2,00	80 L3		90 L3	100 L3	120 L3		140 L5	160 L5/2	160 L5/2
	2,80			90 L3						
	3,50			100 L3	120 L3		140 L5	160 L5/2		180 L5
	4,00		90 L3							
	5,00		100 L3	120 L3		140 L5	160 L5/2	180 L5	200 L5	
2,00	1,00	80 L3	80 L3	90 L3	100 L3	120 L3	120 L3	140 L5	160 L5/2	160 L5/2
	2,00			90 L3	120 L3		140 L5		160 L5/2	
	2,80		80 L3	100 L3				160 L5/2		180 L5
	3,50									
	4,00		90 L3							
	5,00		100 L3	120 L3		140 L5	160 L5/2	180 L5	200 L5	
2,50	1,00	80 L3	80 L3	90 L3	120 L3	120 L3	140 L5	140 L5	160 L5/2	160 L5/2
	2,00		80 L3	100 L3				160 L5/2		180 L5
	2,80		90 L3			140 L5	140 L5		180 L5	200 L5
	3,50			120 L3			160 L5/2			
	4,00									
	5,00	80 L3	100 L3							
3,00	1,00	80 L3	80 L3	100 L3	120 L3	120 L3	140 L5	160 L5/2	160 L5/2	180 L5
	2,00		90 L3			140 L5			180 L5	200 L5
	2,80			120 L3			160 L5/2			
	3,50	80 L3								
	4,00									
	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 (ψ0 = 0.7; ψ1 = 0.5; ψ2 = 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

R0
R30
R60
R90

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