

Report: EC 5 Posi Calcs (Job Header)

Printed: 13.7.2020 17.51.40

Version: 5.65.0.1

Project Information:

Job Reference: J200002
MBA Order No.:
Customer: Jetta Talo Oy
Project: 6880
Site Address: Talo Elements LTD
House Type:

Designed In Accordance With

EN 1990 Eurocode 0 - Basis Of Structural Design
EN 1991-1-1 Eurocode 1 - Actions on structures - General actions - Densities, self-weight, imposed loads for buildings
EN 1991-1-6 Eurocode 1 - Actions on structures - General actions - Actions during execution
EN 1991-1-7 Eurocode 1 - Actions on structures - General actions - Accidental actions
EN 1995-1-1 Eurocode 5 – Design of Timber Structures – General – Common rules and rules for buildings

And all relevant country National Annexes and NCCI documentation.

Building General Information

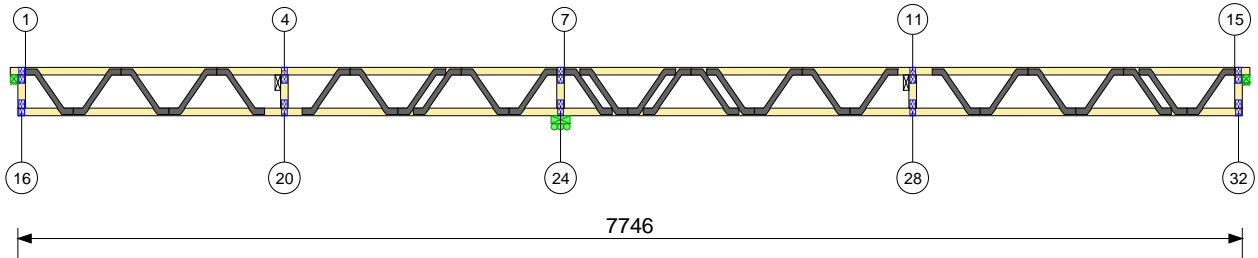
Length:	30000 mm	Width:	15000 mm
Building Category:	A	Service Class:	1
Creep Kdef:	0,6	Wall Plate Height:	10000 mm
Truss Spacing:	600 mm	Altitude:	200 m
Building Duration:	50 Years	Timber Moisture:	< 12%

Job Standard Loads

Floor Dead:	0,900 kN/m ²	Floor Imposed:	2,000 kN/m ²
Bottom Dead:	0,150 kN/m ²	Partitions:	0,300 kN/m ²

Approvals:

Connector Plates: Approved to EN 14545
Posi-Joists: European Technical Approval ETA-07/0161



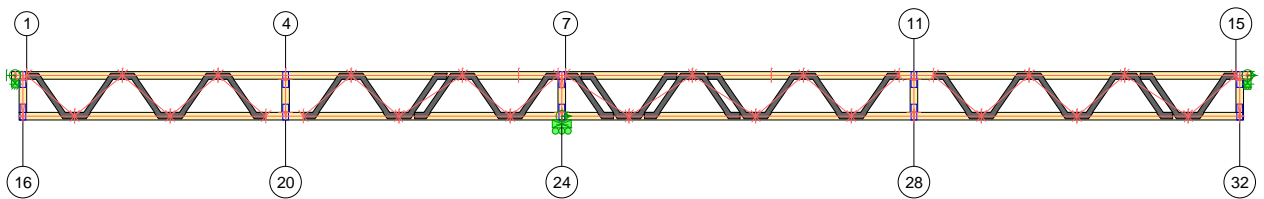
Truss Input Parameters

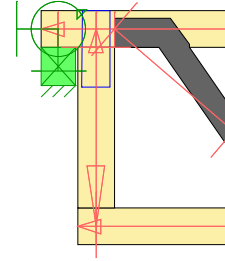
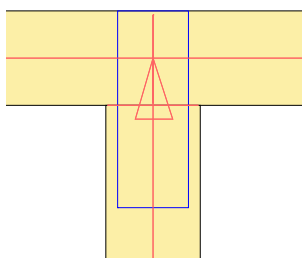
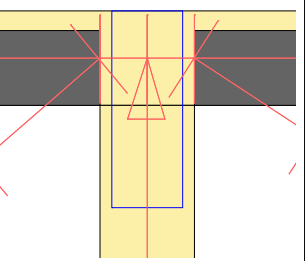
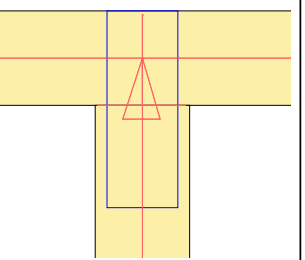
Span	7842 mm	Spacing	600 mm
Joist Depth	306 mm	Transport Length	7842 mm
Posi Strut	PS-12N		
Left Cantilever	0 mm	Right Cantilever	0 mm
Left Overhang	0 mm	Right Overhang	0 mm

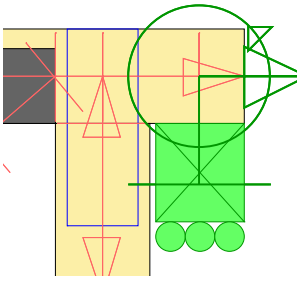
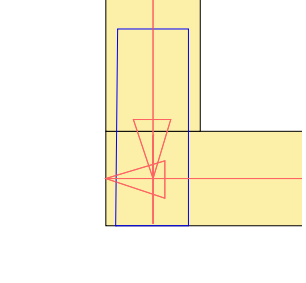
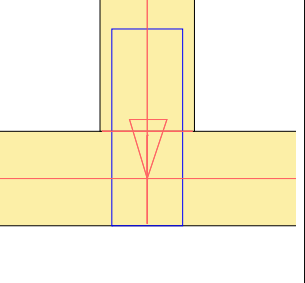
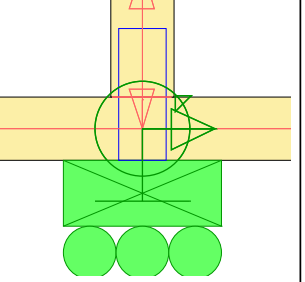
Maximum Summations

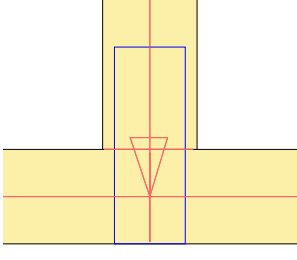
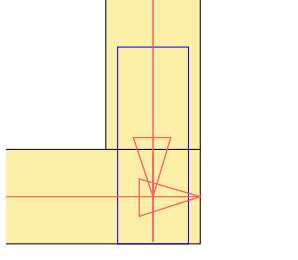
Position	Member	LC	CSI
Top Chord	6 - 7	8.1	0,959
Bottom Chord	24 - 25	8.1	0,930
Web	31 - 15	8.1	0,904

Analog Model



1	Coordinates (mm) X=96 Y=282	4	Coordinates (mm) X=1734 Y=282	7	Coordinates (mm) X=3505 Y=282	11	Coordinates (mm) X=5709 Y=282				
											
Fixity			Fixity			Fixity			Fixity		
X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free

15	Coordinates (mm) X=7746 Y=282	16	Coordinates (mm) X=72 Y=24	20	Coordinates (mm) X=1734 Y=24	24	Coordinates (mm) X=3481 Y=24				
											
Fixity			Fixity			Fixity			Fixity		
X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Fixed	R=Free

28	Coordinates (mm) X=5709 Y=24	32	Coordinates (mm) X=7770 Y=24		
					
Fixity		Fixity			
X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free

Load Case Diagrams

Additional Distributed Loads

Chord	Type	Direction	Start Pos (mm)	End Pos (mm)	Start Load (kN/m)	End Load (kN/m)	Action Type	Load From	Load Case applied to
1 - 15	Medium Term	Down	3207	4807	1,20	1,20	Variable	-	All

Critical Load Cases

Load Case	Description	Type	Name	Leading Action	Load Combination	Kmod	γm Timber
1.1	Pysyvä	Stress	EC5 6.10a	-	Σ 1,35G	0,60	1,30
2.1	Keskipitkä (1)	Stress	EC5 6.10a	-	Σ 1,35G + 1,05medium	0,80	1,30
6.1	Keskipitkä (1)	Stress	EC5 6.10b	Medium Term	Σ 1,15G + 1,50Q	0,80	1,30
7.1	Keskipitkä (2)	Stress	EC5 6.10b	Medium Term	Σ 1,15G + 1,50Q	0,80	1,30
8.1	Keskipitkä (3)	Stress	EC5 6.10b	Medium Term	Σ 1,15G + 1,50Q	0,80	1,30
9	Vibration check	Deflection	EC5 Deflection	-	-	0,60	1,30
10	Keskipitkä (1) KRT	Deflection	EC5 Deflection	Medium Term	Σ 1,60G + 1,18Q	0,80	1,30
11	Keskipitkä (2) KRT	Deflection	EC5 Deflection	Medium Term	Σ 1,60G + 1,18Q	0,80	1,30

Reactions - By Load Type

Joint	Type	Vertical (kN)		Horizontal (kN)
		Downwards	Uplift	
24	Dead	3,118	-	0,000
24	Long Term	0,837	-	0,000
24	Medium Term	7,409	-	0,000
1	Dead	0,892	-	0,000
1	Long Term	0,289	0,049	0,000
1	Medium Term	1,928	0,326	0,000
15	Dead	1,244	-	0,000
15	Long Term	0,356	0,021	0,000
15	Medium Term	2,400	0,139	0,000

Reactions - By Load Duration

Joint	Duration	Vertical (kN)				Horizontal (kN)	
		Downwards	LC	Uplift	LC	Force	LC
24	Permanent	5,338	1.1	-	-	-	-
24	Medium Term	15,652	8.1	-	-	-	-
1	Permanent	1,529	1.1	-	-	-	-
1	Medium Term	4,247	6.1	-	-	-	-
15	Permanent	2,131	1.1	-	-	-	-
15	Medium Term	5,412	8.1	-	-	-	-

Bearing Requirements

Joint	Wall Plate Strength	Input Size (mm)	Required Size (mm)	Max Bearing Stress Index Wallplate	Kc90	Max Bearing Stress Index Truss	Uplift (kN)
24		120	0	0,00	1,25	0,35	-
1		45	0	0,00	1,25	0,25	-
15		45	0	0,00	1,25	0,32	-

Worst Bearing Reactions

Joint	Max Reactions (kN) / LC			Dead Load Reactions (kN) / LC		Accidental Reactions (kN) / LC		
	Down	Uplift	Horizontal	Down	Uplift	Down	Uplift	Horizontal
24	15,652 (8.1)	-	-	5,338 (1.1)	-	-	-	-
1	4,247 (6.1)	-	-	1,529 (1.1)	-	-	-	-
15	5,412 (8.1)	-	-	2,131 (1.1)	-	-	-	-

Timber Properties

Strength Class C24

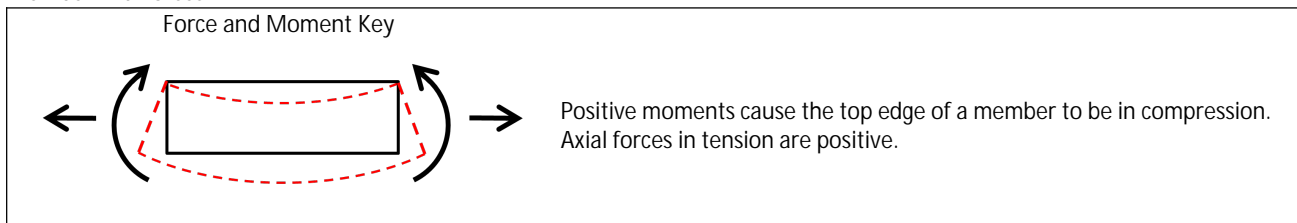
f(m,k)	24 N/mm ²	f(c,0,k)	21 N/mm ²	E(mean)	11000 N/mm ²	G(mean)	688 N/mm ²
f(t,0,k)	14 N/mm ²	f(c,90,k)	2,5 N/mm ²	E(0, 05)	7400 N/mm ²	ρ(mean)	420 kg/m ³
f(t,90,k)	0,4 N/mm ²	f(v,k)	4,0 N/mm ²	E(90,mean)	367 N/mm ²	ρ(k)	350 kg/m ³

Member Description

Member	Start/End	Nominal Size	Design Size	Grade	Ply	Wxx	Wyy	Kc,r	Kh Axial	Bending
T1	1 - 2	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	2 - 3	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	3 - 4	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	4 - 5	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	5 - 6	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	6 - 7	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
T1	7 - 8	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
T1	8 - 9	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	9 - 10	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	10 - 11	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	11 - 12	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	12 - 13	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	13 - 14	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	14 - 15	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
EL1	16 - 1	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
ER1	32 - 15	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
B1	16 - 17	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	17 - 18	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	18 - 19	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	19 - 20	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	20 - 21	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	21 - 22	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	22 - 23	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	23 - 24	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	24 - 25	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	25 - 26	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	26 - 27	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	27 - 28	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	28 - 29	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	29 - 30	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	30 - 31	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	31 - 32	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
W1	1 - 17	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W3	2 - 18	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W5	3 - 19	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W8	5 - 22	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W11	6 - 23	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W14	7 - 25	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W18	8 - 26	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W21	9 - 27	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W30	12 - 29	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W25	13 - 30	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W28	14 - 31	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W2	17 - 2	PS-12N	98 x 48	-	1	0	0	1,000	-	-

W4	18 - 3	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W6	20 - 4	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
W7	21 - 5	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W10	22 - 6	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W12	23 - 7	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W13	24 - 7	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
W16	25 - 8	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W20	26 - 9	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W22	27 - 10	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W23	28 - 11	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
W24	29 - 13	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W26	30 - 14	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W29	31 - 15	PS-12N	98 x 48	-	1	0	0	1,000	-	-

Member End Forces



Member Information			Force						
Member	Start/ End	LC	Start			End			Middle
			Axial (kN)	Moment (kNm)	Shear (kN)	Axial (kN)	Moment (kNm)	Shear (kN)	Moment (kNm)
T1	1 - 2	6.1	-4,327	0,30	0,120	-4,327	-0,12	1,483	0,21
T1	2 - 3	6.1	-10,361	-0,12	1,013	-10,361	0,01	0,590	0,07
T1	3 - 4	6.1	-11,651	0,01	0,560	-11,651	0,01	0,574	0,07
T1	4 - 5	6.1	-11,651	0,01	0,467	-11,651	-0,03	0,632	0,05
T1	5 - 6	6.1	-7,029	-0,03	0,848	-7,029	-0,09	1,016	0,11
T1	6 - 7	8.1	9,362	-0,05	0,113	9,362	-0,52	1,940	-0,14
T1	7 - 8	8.1	4,571	-0,46	2,258	4,571	-0,08	1,310	0,09
T1	8 - 9	8.1	-11,295	-0,08	1,555	-11,295	-0,05	1,209	0,19
T1	9 - 10	7.1	-17,587	-0,02	0,751	-17,587	-0,05	0,852	0,09
T1	10 - 11	7.1	-19,536	-0,05	0,665	-19,536	0,01	-0,417	-0,02
T1	11 - 12	8.1	-19,536	0,01	0,546	-19,536	0,05	-0,218	0,03
T1	12 - 13	8.1	-19,002	0,05	0,673	-19,002	-0,02	0,930	0,14
T1	13 - 14	8.1	-15,544	-0,02	0,646	-15,544	-0,12	0,957	0,05
T1	14 - 15	8.1	-5,772	-0,12	1,649	-5,772	0,39	0,215	0,30
EL1	16 - 1	6.1	0,182	0,00	0,000	0,182	0,00	0,000	0,00
ER1	32 - 15	1.1	0,021	0,00	0,000	0,021	0,00	0,000	0,00
B1	16 - 17	6.1	0,000	0,00	0,179	0,000	0,05	-0,137	0,03
B1	17 - 18	6.1	0,613	0,01	-0,005	0,613	-0,01	0,082	0,00
B1	18 - 19	8.1	8,243	0,01	0,275	8,243	0,16	-0,199	0,09
B1	19 - 20	6.1	7,304	0,16	-0,602	7,304	0,08	0,618	0,12
B1	20 - 21	6.1	7,304	0,08	-1,644	7,304	-0,11	1,659	-0,01
B1	21 - 22	6.1	4,970	-0,11	0,332	4,970	0,07	-0,255	-0,01
B1	22 - 23	8.1	-4,325	0,07	-0,099	-4,325	-0,03	0,188	0,03
B1	23 - 24	8.1	-12,981	-0,03	-1,397	-12,981	-0,49	1,438	-0,26
B1	24 - 25	8.1	-12,981	-0,49	1,303	-12,981	0,05	-1,249	-0,22
B1	25 - 26	8.1	5,589	0,05	0,123	5,589	0,11	-0,021	0,09
B1	26 - 27	8.1	2,341	0,02	0,013	2,341	0,00	0,077	0,02

Member End Forces



Member Information			Force						
Member	Start/ End	LC	Start			End			Middle
			Axial (kN)	Moment (kNm)	Shear (kN)	Axial (kN)	Moment (kNm)	Shear (kN)	Moment (kNm)
B1	27 - 28	8.1	19,536	0,03	0,139	19,536	0,07	-0,089	0,05
B1	28 - 29	8.1	19,536	0,07	-0,040	19,536	0,04	0,094	0,06
B1	29 - 30	8.1	18,197	0,04	0,138	18,197	0,10	-0,061	0,08
B1	30 - 31	8.1	13,083	0,10	-0,103	13,083	0,00	0,192	0,06
B1	31 - 32	1.1	0,000	0,00	0,032	0,000	0,00	0,017	0,00
W1	1 - 17	6.1	5,688	0,00	0,000	5,688	0,00	0,000	0,00
W3	2 - 18	6.1	2,042	0,00	0,000	2,042	0,00	0,000	0,00
W5	3 - 19	8.1	-1,234	0,00	0,000	-1,234	0,00	0,000	0,00
W8	5 - 22	8.1	-5,564	0,00	0,000	-5,564	0,00	0,000	0,00
W11	6 - 23	8.1	-6,620	0,00	0,000	-6,620	0,00	0,000	0,00
W14	7 - 25	8.1	10,002	0,00	0,000	10,002	0,00	0,000	0,00
W18	8 - 26	8.1	6,786	0,00	0,000	6,786	0,00	0,000	0,00
W21	9 - 27	7.1	2,806	0,00	0,000	2,806	0,00	0,000	0,00
W30	12 - 29	8.1	-0,701	0,00	0,000	-0,701	0,00	0,000	0,00
W25	13 - 30	8.1	-3,487	0,00	0,000	-3,487	0,00	0,000	0,00
W28	14 - 31	8.1	-8,695	0,00	0,000	-8,695	0,00	0,000	0,00
W2	17 - 2	6.1	-5,888	0,00	0,000	-5,888	0,00	0,000	0,00
W4	18 - 3	6.1	-1,734	0,00	0,000	-1,734	0,00	0,000	0,00
W6	20 - 4	6.1	-1,041	0,00	0,000	-1,041	0,00	0,000	0,00
W7	21 - 5	8.1	3,068	0,00	0,000	3,068	0,00	0,000	0,00
W10	22 - 6	8.1	6,019	0,00	0,000	6,019	0,00	0,000	0,00
W12	23 - 7	6.1	5,772	0,00	0,000	5,772	0,00	0,000	0,00
W13	24 - 7	8.1	-12,911	0,00	0,000	-12,911	0,00	0,000	0,00
W16	25 - 8	8.1	-12,081	0,00	0,000	-12,081	0,00	0,000	0,00
W20	26 - 9	8.1	-5,843	0,00	0,000	-5,843	0,00	0,000	0,00
W22	27 - 10	7.1	-2,363	0,00	0,000	-2,363	0,00	0,000	0,00
W23	28 - 11	6.1	0,018	0,00	0,000	0,018	0,00	0,000	0,00
W24	29 - 13	8.1	1,058	0,00	0,000	1,058	0,00	0,000	0,00
W26	30 - 14	8.1	3,234	0,00	0,000	3,234	0,00	0,000	0,00
W29	31 - 15	8.1	7,586	0,00	0,000	7,586	0,00	0,000	0,00

- * indicates a multi-ply member
- indicates a staggered posi web



MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F1
 H/T:
 Quantity: 14
 Ply: 1
 Page: 8/66

Design Results - Stress and Buckling

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
T1	1 - 2	98 x 48	C24	1	37632	76832	6.1	-4,327	0,30	1,483	0,740	0,060	0,857	1,051	605	100	0	0,510	0,367	0,510	7	6.1	0,67	0,287
T1	2 - 3	98 x 48	C24	1	37632	76832	6.1	-10,361	-0,12	1,016	0,740	0,060	0,857	1,051	605	100	0	0,366	0,279	0,366	0	8.1	0,67	0,197
T1	3 - 4	98 x 48	C24	1	37632	76832	6.1	-11,651	0,07	0,609	0,523	0,060	0,943	1,051	428	100	0	0,304	0,253	0,304	49	8.1	0,67	0,118
T1	4 - 5	98 x 48	C24	1	37632	76832	6.1	-11,651	0,05	0,682	0,508	0,060	0,948	1,051	415	100	0	0,273	0,232	0,273	43	8.1	0,67	0,132
T1	5 - 6	98 x 48	C24	1	37632	76832	6.1	-7,029	0,11	1,016	0,861	0,060	0,788	1,051	703	100	0	0,304	0,220	0,304	45	6.1	0,67	0,196
T1	6 - 7	98 x 48	C24	1	37632	76832	8.1	9,362	-0,52	1,940	-	-	-	-	-	-	0	0,959	-	0,959	100	8.1	0,67	0,375
T1	7 - 8	98 x 48	C24	1	37632	76832	8.1	4,571	-0,46	2,258	-	-	-	-	-	-	0	0,760	-	0,760	0	8.1	0,67	0,437
T1	8 - 9	98 x 48	C24	1	37632	76832	8.1	-11,295	0,19	1,555	0,861	0,060	0,788	1,051	703	100	0	0,513	0,371	0,513	50	8.1	0,67	0,301
T1	9 - 10	98 x 48	C24	1	37632	76832	7.1	-17,587	0,09	0,852	0,740	0,060	0,857	1,051	605	100	0	0,460	0,361	0,460	47	7.1	0,67	0,165
T1	10 - 11	98 x 48	C24	1	37632	76832	7.1	-19,536	-0,05	0,682	0,115	0,060	-	1,051	94	100	0	0,175	0,153	0,175	0	7.1	0,67	0,132
T1	11 - 12	98 x 48	C24	1	37632	76832	8.1	-19,536	0,05	0,570	0,151	0,060	-	1,051	124	100	0	0,179	0,156	0,179	100	7.1	0,67	0,110
T1	12 - 13	98 x 48	C24	1	37632	76832	8.1	-19,002	0,14	0,930	0,740	0,060	0,857	1,051	605	100	0	0,563	0,436	0,563	42	8.1	0,67	0,180
T1	13 - 14	98 x 48	C24	1	37632	76832	8.1	-15,544	-0,12	0,958	0,740	0,060	0,857	1,051	605	100	0	0,469	0,363	0,469	100	7.1	0,67	0,185
T1	14 - 15	98 x 48	C24	1	37632	76832	8.1	-5,772	0,39	1,649	0,861	0,060	0,788	1,051	703	100	0	0,685	0,485	0,685	88	8.1	0,67	0,319
EL1	16 - 1	98 x 48	C24	1	37632	76832	6.1	0,182	0,00	0,000	-	-	-	-	-	-	0	0,004	-	0,004	0	-	0,67	0,000
ER1	32 - 15	98 x 48	C24	1	37632	76832	1.1	0,021	0,00	0,000	-	-	-	-	-	-	0	-	-	0,001	0	-	0,67	0,000
B1	16 - 17	98 x 48	C24	1	37632	76832	6.1	0,000	0,05	0,179	-	0,060	-	1,051	327	100	0	0,074	0,052	0,074	100	6.1	0,67	0,035
B1	17 - 18	98 x 48	C24	1	37632	76832	6.1	8,807	0,05	0,101	-	-	-	-	-	-	0	0,274	-	0,274	9	8.1	0,67	0,020
B1	18 - 19	98 x 48	C24	1	37632	76832	8.1	8,243	0,16	0,275	-	-	-	-	-	-	0	0,411	0,100	0,411	100	8.1	0,67	0,053
B1	19 - 20	98 x 48	C24	1	37632	76832	6.1	11,651	0,09	0,673	-	-	-	-	-	-	0	0,394	0,095	0,394	100	7.1	0,67	0,130
B1	20 - 21	98 x 48	C24	1	37632	76832	6.1	11,651	0,09	1,659	-	-	-	-	-	-	0	0,394	0,093	0,394	0	8.1	0,67	0,321
B1	21 - 22	98 x 48	C24	1	37632	76832	6.1	10,208	0,06	0,332	0,740	0,060	0,857	1,051	605	100	0	0,324	0,135	0,324	100	8.1	0,67	0,064
B1	22 - 23	98 x 48	C24	1	37632	76832	8.1	-4,325	0,07	0,188	0,861	0,060	0,788	1,051	703	100	0	0,193	0,140	0,193	0	8.1	0,67	0,036
B1	23 - 24	98 x 48	C24	1	37632	76832	8.1	-12,981	-0,49	1,438	0,400	0,060	0,977	1,051	327	100	0	0,923	0,696	0,923	100	8.1	0,67	0,278



Designed By:
 MiTek Finland Oy
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 Designer: Joonas Siira



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Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F1
 H/T:
 Quantity: 14
 Ply: 1
 Page: 9/66

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
B1	24 - 25	98 x 48	C24	1	37632	76832	8.1	-12,981	-0,49	1,303	0,520	0,060	0,944	1,051	425	100	0	0,930	0,696	0,930	0	8.1	0,67	0,252
B1	25 - 26	98 x 48	C24	1	37632	76832	8.1	5,589	0,11	0,126	-	-	-	-	-	-	0	0,282	0,057	0,282	100	7.1	0,67	0,024
B1	26 - 27	98 x 48	C24	1	37632	76832	8.1	15,741	0,11	0,175	-	-	-	-	-	-	0	0,512	-	0,512	0	8.1	0,67	0,034
B1	27 - 28	98 x 48	C24	1	37632	76832	8.1	19,536	0,07	0,143	-	-	-	-	-	-	0	0,544	-	0,544	100	7.1	0,67	0,028
B1	28 - 29	98 x 48	C24	1	37632	76832	8.1	19,536	0,07	0,098	-	-	-	-	-	-	0	0,544	-	0,544	0	7.1	0,67	0,019
B1	29 - 30	98 x 48	C24	1	37632	76832	8.1	18,197	0,10	0,138	-	-	-	-	-	-	0	0,559	-	0,559	100	7.1	0,67	0,027
B1	30 - 31	98 x 48	C24	1	37632	76832	8.1	13,083	0,10	0,192	-	-	-	-	-	-	0	0,443	-	0,443	0	8.1	0,67	0,037
B1	31 - 32	98 x 48	C24	1	37632	76832	1.1	0,000	0,00	0,032	-	0,060	-	1,051	327	100	0	0,005	0,003	0,005	0	1.1	0,67	0,008
W1	1 - 17	PS-12N	-	1	0	0	6.1	5,688	0,00	0,000	-	-	-	-	-	-	0	0,678	-	0,678	0	-	1,00	0,000
W3	2 - 18	PS-12N	-	1	0	0	6.1	2,042	0,00	0,000	-	-	-	-	-	-	0	0,369	-	0,369	0	-	1,00	0,000
W5	3 - 19	PS-12N	-	1	0	0	8.1	-1,234	0,00	0,000	-	-	-	-	-	-	0	0,152	-	0,152	0	-	1,00	0,000
W8	5 - 22	PS-12N	-	1	0	0	8.1	-5,564	0,00	0,000	-	-	-	-	-	-	0	0,683	-	0,683	0	-	1,00	0,000
W11	6 - 23	PS-12N	-	1	0	0	8.1	-6,620	0,00	0,000	-	-	-	-	-	-	0	0,813	-	0,813	0	-	1,00	0,000
W14	7 - 25	PS-12N*	-	1	0	0	8.1	10,002	0,00	0,000	-	-	-	-	-	-	0	0,784	-	0,784	0	-	1,00	0,000
W18	8 - 26	PS-12N*	-	1	0	0	8.1	6,786	0,00	0,000	-	-	-	-	-	-	0	0,532	-	0,532	0	-	1,00	0,000
W21	9 - 27	PS-12N	-	1	0	0	7.1	2,806	0,00	0,000	-	-	-	-	-	-	0	0,508	-	0,508	0	-	1,00	0,000
W30	12 - 29	PS-12N	-	1	0	0	8.1	-0,701	0,00	0,000	-	-	-	-	-	-	0	0,086	-	0,086	0	-	1,00	0,000
W25	13 - 30	PS-12N	-	1	0	0	8.1	-3,487	0,00	0,000	-	-	-	-	-	-	0	0,428	-	0,428	0	-	1,00	0,000
W28	14 - 31	PS-12N*	-	1	0	0	8.1	-8,695	0,00	0,000	-	-	-	-	-	-	0	0,644	-	0,644	0	-	1,00	0,000
W2	17 - 2	PS-12N	-	1	0	0	6.1	-5,888	0,00	0,000	-	-	-	-	-	-	0	0,723	-	0,723	0	-	1,00	0,000
W4	18 - 3	PS-12N	-	1	0	0	6.1	-1,734	0,00	0,000	-	-	-	-	-	-	0	0,213	-	0,213	0	-	1,00	0,000
W6	20 - 4	98 x 48	C24	1	37632	76832	6.1	-1,041	0,00	0,000	-	-	-	-	-	-	0	-	-	0,000	0	-	0,67	0,000
W7	21 - 5	PS-12N	-	1	0	0	8.1	3,068	0,00	0,000	-	-	-	-	-	-	0	0,555	-	0,555	0	-	1,00	0,000
W10	22 - 6	PS-12N*	-	1	0	0	8.1	6,019	0,00	0,000	-	-	-	-	-	-	0	0,472	-	0,472	0	-	1,00	0,000
W12	23 - 7	PS-12N	-	1	0	0	6.1	5,772	0,00	0,000	-	-	-	-	-	-	0	0,688	-	0,688	0	-	1,00	0,000
W13	24 - 7	98 x 48	C24	1	37632	76832	8.1	-12,911	0,00	0,000	-	-	-	-	-	-	0	0,045	0,045	0,045	0	-	0,67	0,000



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 Designer: Joonas Siira



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Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F1
 H/T:
 Quantity: 14
 Ply: 1
 Page: 10/66

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
W16	25 - 8	PS-12N*	-	1	0	0	8.1	-12,081	0,00	0,000	-	-	-	-	-	-	0	0,894	-	0,894	0	-	1,00	0,000
W20	26 - 9	PS-12N	-	1	0	0	8.1	-5,843	0,00	0,000	-	-	-	-	-	-	0	0,718	-	0,718	0	-	1,00	0,000
W22	27 - 10	PS-12N	-	1	0	0	7.1	-2,363	0,00	0,000	-	-	-	-	-	-	0	0,290	-	0,290	0	-	1,00	0,000
W23	28 - 11	98 x 48	C24	1	37632	76832	6.1	0,018	0,00	0,000	-	-	-	-	-	-	0	-	-	0,000	0	-	0,67	0,000
W24	29 - 13	PS-12N	-	1	0	0	8.1	1,058	0,00	0,000	-	-	-	-	-	-	0	0,192	-	0,192	0	-	1,00	0,000
W26	30 - 14	PS-12N	-	1	0	0	8.1	3,234	0,00	0,000	-	-	-	-	-	-	0	0,585	-	0,585	0	-	1,00	0,000
W29	31 - 15	PS-12N	-	1	0	0	8.1	7,586	0,00	0,000	-	-	-	-	-	-	0	0,904	-	0,904	0	-	1,00	0,000

- * indicates a multi-ply member
- indicates a staggered posi web



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Deflection Checks - Details

	Deflection Test	Location	Load Case	Permissible Deflection	Actual Deflection (mm)
Bottom Chord Span	W(inst)	16 - 32	10	1	4.15
Bottom Chord Span	W(net,fin)	16 - 32	11	1	-4.61
Bottom Chord Span	W(fin)	16 - 32	10	1	5.56
Top Chord Span	Unknown	1 - 15	9	3	1.79

Camber

Beam has been pre-cambered to at least the deadload deflection.
 Camber at mid span in member = 3,85mm.

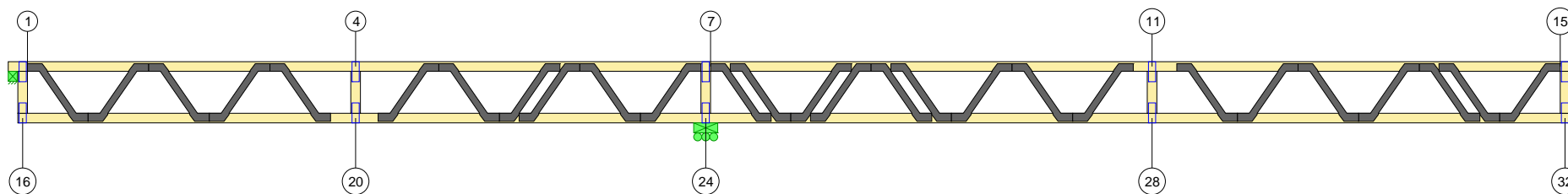


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Job Ref: J200002
Order Number:
Customer: Jetta Talo Oy
Project: 6880
Site Address:

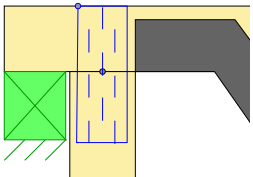
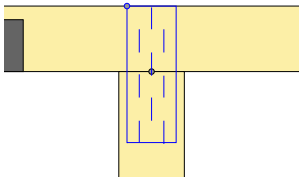
Truss: F1
H/T:
Quantity: 14
Ply: 1
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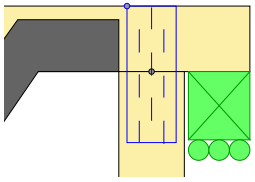
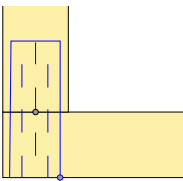
Punched Metal Plate Fastener Checks

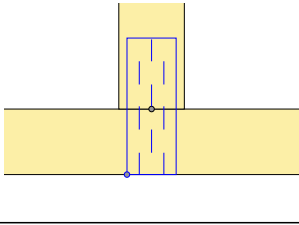
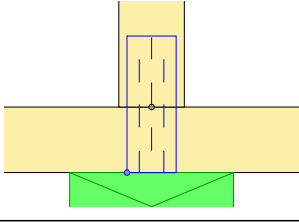


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Designed: 13.7.2020 17.28.58
Designer: Joonas Siira

		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	$F_{a,\alpha,\beta}$ (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
1	TOP_W 36x100 36x100	6.1	1-15	0,000	0,436	-90	0,00	90	0	2,52	988	12225	0,02	6.1	36	0,436	0,000	90	149,7	55,87	0,00
		6.1	1-16	-0,182	0,000	-90	0,00	0	0	3,56	962	11701	0,00	6.1	36	0,182	0,000	90	149,7	55,87	0,00
		 <p>Joint Type NCMV+p</p>																			
11	TOP_W 36x100 36x100	7.1	1-15	0,000	-0,137	-90	0,00	90	0	2,52	988	12225	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
		7.1	11-28	0,137	0,000	-90	0,00	0	0	3,56	962	11701	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
		 <p>Joint Type NTMW+p</p>																			

Anchorage														Steel							
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	F_a, α, β (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
15	TOP_W 36x100 36x100	7.1	1-15	0,000	0,274	-90	0,00	90	0	2,52	988	12225	0,01	7.1	36	0,274	0,000	90	149,7	55,87	0,00
		-	15-32	0,000	1,784	-90	0,00	90	90	1,88	962	11701	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
 <p>Joint Type NCMV+p</p>																					
16	TOP_W 36x100 36x100	6.1	16-32	0,000	-0,179	-90	0,00	90	0	2,52	988	12225	0,01	6.1	36	0,179	0,000	90	149,7	55,87	0,00
		6.1	1-16	0,182	0,000	-90	0,00	0	0	3,56	962	11701	0,00	6.1	36	0,182	0,000	90	149,7	55,87	0,00
 <p>Joint Type NBMV+p</p>																					

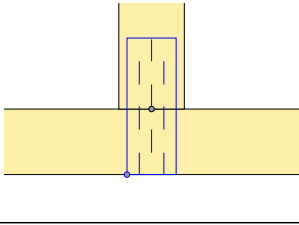
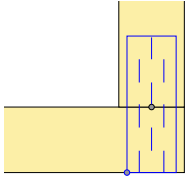
Anchorage														Steel							
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	$F_{a,\alpha,\beta}$ (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
20	TOP_W 36x100 36x100	6.1	16-32	0,000	1,041	-90	0,00	90	0	2,52	988	12225	0,02	6.1	36	-0,520	0,000	90	69,12	55,87	0,01
		6.1	4-20	-1,041	0,000	-90	0,00	0	0	3,56	962	11701	0,01	6.1	36	-0,520	0,000	90	69,12	55,87	0,01
 <p>Joint Type NCMW+p</p>																					
24	TOP_W 36x100 36x100	8.1	16-32	0,000	12,911	-90	0,00	90	0	2,52	988	12225	0,27	8.1	36	-6,456	0,000	90	69,12	55,87	0,09
		8.1	7-24	-12,911	0,000	-90	0,00	0	0	3,56	962	11701	0,15	8.1	36	-6,456	0,000	90	69,12	55,87	0,09
 <p>Joint Type NCMW+p</p>																					



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Job Ref: J200002
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 Project: 6880
 Site Address:

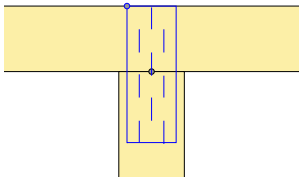
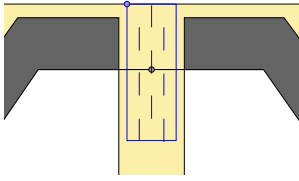
Truss: F1
 H/T:
 Quantity: 14
 Ply: 1
 Page: 16/66

		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	F_a, α, β (N/mm ²)	Aef (mm ²)	Wp (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														Fx,ed	Fy,ed		Fx,rk	Fy,rk			
28	TOP_W 36x100 36x100	7.1	16-32	0,000	0,137	-90	0,00	90	0	2,52	988	12225	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
		7.1	11-28	-0,137	0,000	-90	0,00	0	0	3,56	962	11701	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
 <p>Joint Type NCMW+p</p>																					
32	TOP_W 36x100 36x100	-	16-32	0,000	1,784	-90	0,00	90	0	2,52	988	12225	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
		-	15-32	0,000	1,784	-90	0,00	90	90	1,88	962	11701	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
 <p>Joint Type NBMV+p</p>																					



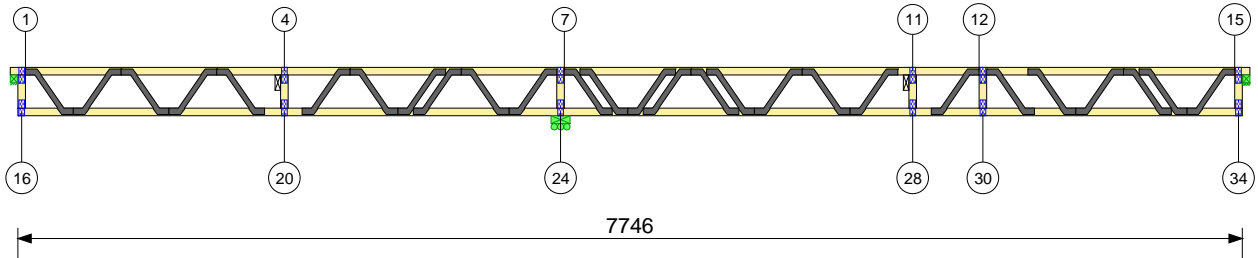
Designed By:
 MiTek Finland Oy
 Sepänkatu 7-9, 11710 RIIHIMÄKI, mitek@mittek.fi
 Tel: 019-77410

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 Build: 10.3.2017
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 Designed: 13.7.2020 17.28.58
 Designer: Joonas Siira

		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	F_a, α, β (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
4	TOP_W 36x100 36x100	6.1	1-15	0,000	-1,041	-90	0,00	90	0	2,52	988	12225	0,02	6.1	36	-0,520	0,000	90	69,12	55,87	0,01
		6.1	4-20	1,041	0,000	-90	0,00	0	0	3,56	962	11701	0,01	6.1	36	-0,520	0,000	90	69,12	55,87	0,01
																					
		Joint Type NTMW+p																			
7	TOP_W 36x100 36x100	8.1	1-15	12,031	-15,022	-90	0,00	51	39	2,71	988	12225	0,41	8.1	36	-7,511	12,03	90	69,12	55,87	0,24
		8.1	7-24	12,911	0,000	-90	0,00	0	0	3,56	962	11701	0,15	8.1	36	-6,456	0,000	90	69,12	55,87	0,09
																					
		Joint Type NTMW+p																			

Design Notes

1. This design conforms to the input data entered. Please ensure that the dimensions, pitch, and other design considerations have been correctly entered.
2. 2 D stiffness matrix analysis has been used.
3. System factor $K_{sys} = 1,0$ has been used.
4. Truss weight = 43 kg
5. Connector Plate location tolerance of 5 mm has been used.
6. Chords restraint provided by floor and ceiling material.
7. Strongback braces are required where a clear span of 4m and above exists. Strongbacks are to be placed at no more than 4m centres.
8. Strongback positions, section and strength class should be used as specified.
9. Floor deck material and ceiling material should be used as specified.
10. Forces: Compression is negative, Tension is positive.
Reactions: Uplift is Negative, Downwards reactions and deflections are positive.



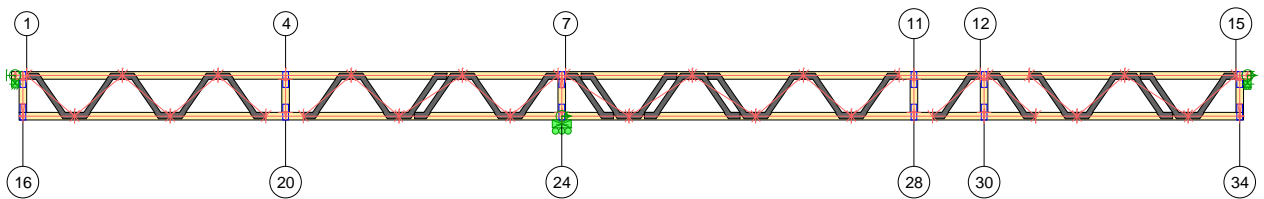
Truss Input Parameters

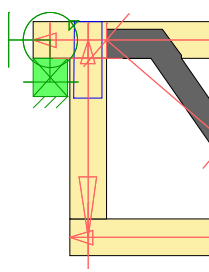
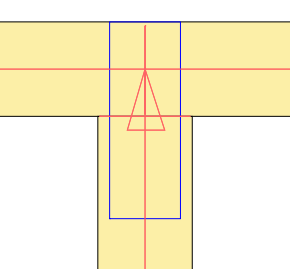
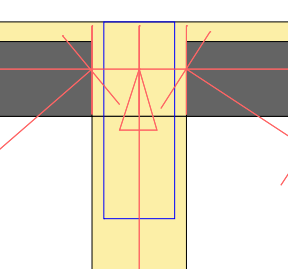
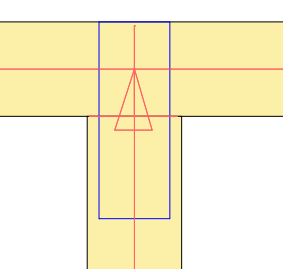
Span	7842 mm	Spacing	500 mm
Joist Depth	306 mm	Transport Length	7842 mm
Posi Strut	PS-12N		
Left Cantilever	0 mm	Right Cantilever	0 mm
Left Overhang	0 mm	Right Overhang	0 mm

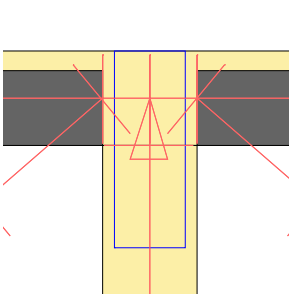
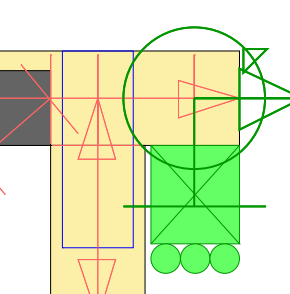
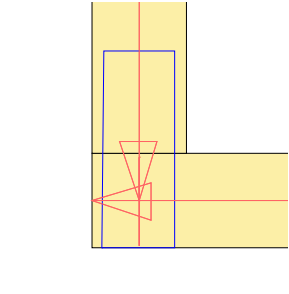
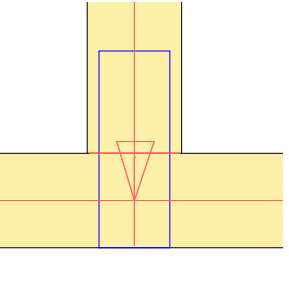
Maximum Summations

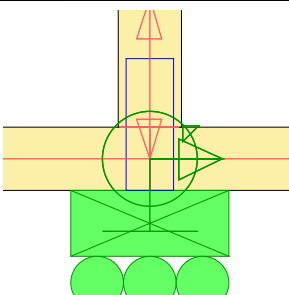
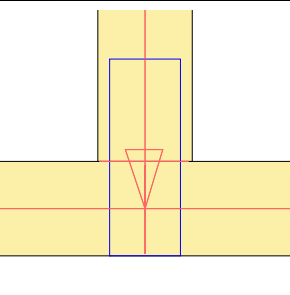
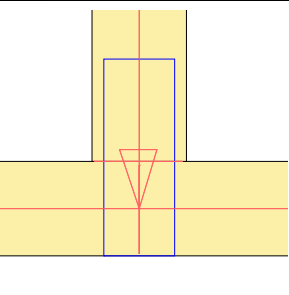
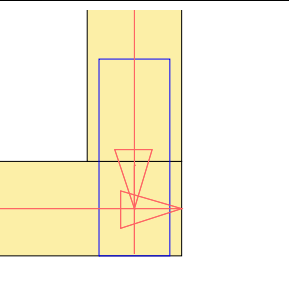
Position	Member	LC	CSI
Web	33 - 15	9.2	0,959
Bottom Chord	30 - 31	9.2	0,843
Top Chord	6 - 7	10.2	0,728

Analog Model



1	Coordinates (mm) X=96 Y=282	4	Coordinates (mm) X=1734 Y=282	7	Coordinates (mm) X=3505 Y=282	11	Coordinates (mm) X=5709 Y=282	
								
Fixity		Fixity		Fixity		Fixity		
X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free

12	Coordinates (mm) X=6129 Y=282	15	Coordinates (mm) X=7746 Y=282	16	Coordinates (mm) X=72 Y=24	20	Coordinates (mm) X=1734 Y=24	
								
Fixity		Fixity		Fixity		Fixity		
X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free

24	Coordinates (mm) X=3481 Y=24	28	Coordinates (mm) X=5709 Y=24	30	Coordinates (mm) X=6153 Y=24	34	Coordinates (mm) X=7770 Y=24	
								
Fixity		Fixity		Fixity		Fixity		
X=Free	Y=Fixed	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free

Load Case Diagrams

Additional Concentrated Loads

Chord	Type	Direction	X Pos (mm)	Load (kN)	Action Type	Load From	Load Case applied to
16 - 34	Permanent	Down	6107	0,52	Permanent	T1	All
16 - 34	Long Term	Down	6107	0,13	Variable	T1	All
16 - 34	Medium Term	Down	6107	0,87	Variable	T1	All

Critical Load Cases

Load Case	Description	Type	Name	Leading Action	Load Combination	Kmod	γ_m Timber
1.1	Pysyvä	Stress	EC5 6.10a	-	$\Sigma 1,35G$	0,60	1,30
2.1	Pitkäaikainen	Stress	EC5 6.10a	-	$\Sigma 1,35G$	0,70	1,30
8.1	Keskipitkä (1)	Stress	EC5 6.10b	Medium Term	$\Sigma 1,15G + 1,50Q$	0,80	1,30
9.2	Keskipitkä (2)	Stress	EC5 6.10b	Medium Term	$\Sigma 1,15G + 1,50Q$	0,80	1,30
10.2	Keskipitkä (3)	Stress	EC5 6.10b	Medium Term	$\Sigma 1,15G + 1,50Q$	0,80	1,30
11	Vibration check	Deflection	EC5 Deflection	-	-	0,60	1,30
12	Keskipitkä (1) KRT	Deflection	EC5 Deflection	Medium Term	$\Sigma 1,60G + 1,18Q$	0,80	1,30
13	Keskipitkä (2) KRT	Deflection	EC5 Deflection	Medium Term	$\Sigma 1,60G + 1,18Q$	0,80	1,30

Reactions - By Load Type

Joint	Type	Vertical (kN)		Horizontal (kN)
		Downwards	Uplift	
24	Dead	2,920	-	0,000
24	Long Term	0,769	-	0,000
24	Medium Term	5,127	-	0,000
1	Dead	0,705	-	0,000
1	Long Term	0,241	0,053	0,000
1	Medium Term	1,608	0,355	0,000
15	Dead	1,332	-	0,000
15	Long Term	0,367	0,017	0,000
15	Medium Term	2,444	0,115	0,000

Reactions - By Load Duration

Joint	Duration	Vertical (kN)				Horizontal (kN)	
		Downwards	LC	Uplift	LC	Force	LC
24	Permanent	4,887	1.1	-	-	-	-
24	Long Term	4,960	2.1	-	-	-	-
24	Medium Term	11,918	10.2	-	-	-	-
1	Permanent	1,220	1.1	-	-	-	-
1	Long Term	1,208	2.1	-	-	-	-
1	Medium Term	3,497	8.1	-	-	-	-
15	Permanent	2,174	1.1	-	-	-	-
15	Long Term	2,249	2.1	-	-	-	-
15	Medium Term	5,608	9.2	-	-	-	-

Bearing Requirements

Joint	Wall Plate Strength	Input Size (mm)	Required Size (mm)	Max Bearing Stress Index Wallplate	Kc90	Max Bearing Stress Index Truss	Uplift (kN)
24		120	0	0,00	1,25	0,26	-
1		45	0	0,00	1,25	0,21	-
15		45	0	0,00	1,25	0,33	-

Worst Bearing Reactions

Joint	Max Reactions (kN) / LC			Dead Load Reactions (kN) / LC		Accidental Reactions (kN) / LC		
	Down	Uplift	Horizontal	Down	Uplift	Down	Uplift	Horizontal
24	11,918 (10.2)	-	-	4,887 (1.1)	-	-	-	-
1	3,497 (8.1)	-	-	1,220 (1.1)	-	-	-	-
15	5,608 (9.2)	-	-	2,174 (1.1)	-	-	-	-

Timber Properties

Strength Class C24

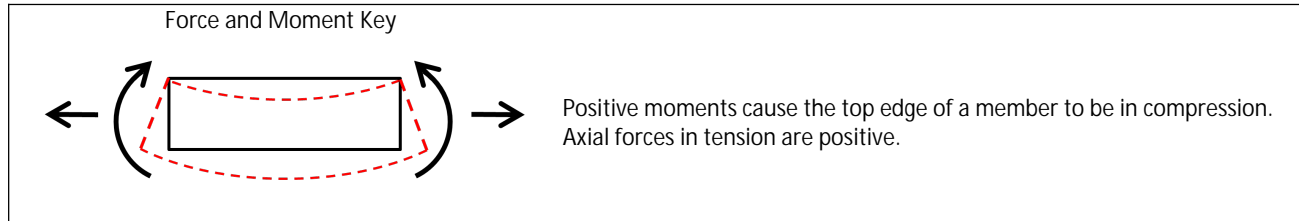
f(m,k)	24 N/mm ²	f(c,0,k)	21 N/mm ²	E(mean)	11000 N/mm ²	G(mean)	688 N/mm ²
f(t,0,k)	14 N/mm ²	f(c,90,k)	2,5 N/mm ²	E(0, 05)	7400 N/mm ²	ρ(mean)	420 kg/m ³
f(t,90,k)	0,4 N/mm ²	f(v,k)	4,0 N/mm ²	E(90,mean)	367 N/mm ²	ρ(k)	350 kg/m ³

Member Description

Member	Start/End	Nominal Size	Design Size	Grade	Ply	Wxx	Wyy	Kc,r	Kh Axial	Bending
T1	1 - 2	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	2 - 3	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	3 - 4	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	4 - 5	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	5 - 6	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	6 - 7	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
T1	7 - 8	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
T1	8 - 9	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	9 - 10	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	10 - 11	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	11 - 12	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	12 - 13	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	13 - 14	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	14 - 15	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
EL1	16 - 1	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
ER1	34 - 15	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
B1	16 - 17	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	17 - 18	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	18 - 19	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	19 - 20	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	20 - 21	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	21 - 22	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	22 - 23	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	23 - 24	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	24 - 25	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	25 - 26	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	26 - 27	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	27 - 28	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	28 - 29	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	29 - 30	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	30 - 31	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	31 - 32	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	32 - 33	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	33 - 34	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
W1	1 - 17	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W3	2 - 18	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W5	3 - 19	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W8	5 - 22	PS-12N	98 x 48	-	1	0	0	1,000	-	-

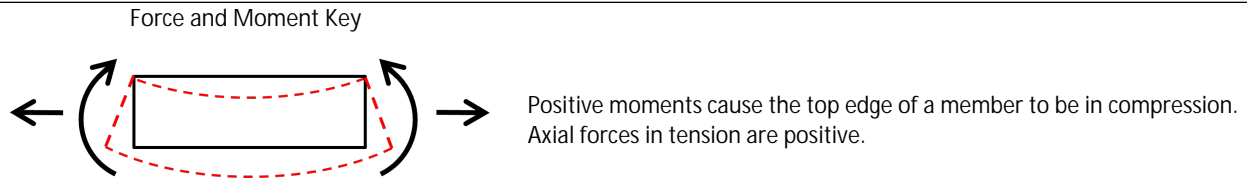
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W14	7 - 25	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W18	8 - 26	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W30	9 - 27	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W24	12 - 31	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W25	13 - 32	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W28	14 - 33	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W2	17 - 2	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W4	18 - 3	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W6	20 - 4	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
W7	21 - 5	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W10	22 - 6	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W12	23 - 7	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W13	24 - 7	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
W16	25 - 8	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W20	26 - 9	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W31	27 - 10	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W21	28 - 11	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
W32	29 - 12	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W23	30 - 12	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
W26	32 - 14	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W29	33 - 15	PS-12N	98 x 48	-	1	0	0	1,000	-	-

Member End Forces



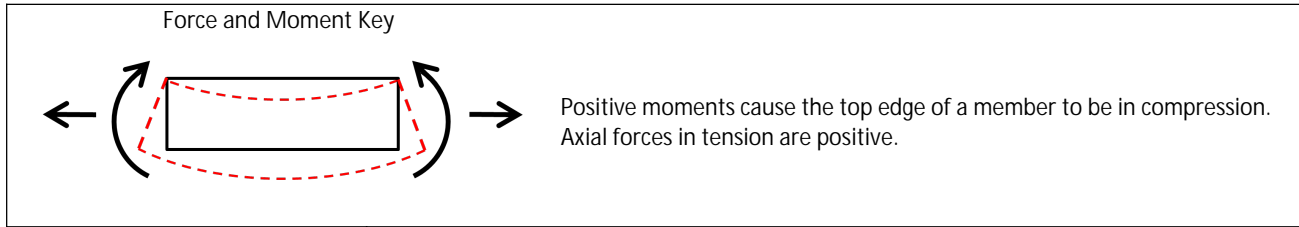
Member Information			Force						
Member	Start/ End	LC	Start			End			Middle
			Axial (kN)	Moment (kNm)	Shear (kN)	Axial (kN)	Moment (kNm)	Shear (kN)	Moment (kNm)
T1	1 - 2	8.1	-3,547	0,24	0,107	-3,547	-0,10	1,232	0,17
T1	2 - 3	8.1	-8,462	-0,10	0,846	-8,462	0,01	0,492	0,06
T1	3 - 4	8.1	-9,387	0,01	0,464	-9,387	0,01	0,482	0,06
T1	4 - 5	8.1	-9,387	0,01	0,388	-9,387	-0,02	0,530	0,04
T1	5 - 6	8.1	-5,364	-0,02	0,711	-5,364	-0,07	0,845	0,09
T1	6 - 7	10.2	8,944	-0,05	0,143	8,944	-0,37	1,196	-0,11
T1	7 - 8	10.2	5,327	-0,33	1,267	5,327	-0,02	0,507	0,00
T1	8 - 9	9.2	-11,275	-0,03	0,829	-11,275	0,00	0,728	0,12
T1	9 - 10	9.2	-18,808	0,00	0,535	-18,808	-0,08	0,803	0,06
T1	10 - 11	9.2	-21,492	-0,08	1,486	-21,492	0,05	-1,279	-0,01
T1	11 - 12	9.2	-21,492	0,05	0,928	-21,492	0,24	0,002	0,19
T1	12 - 13	9.2	-20,550	0,20	-0,906	-20,550	-0,11	1,482	0,07
T1	13 - 14	9.2	-17,962	-0,11	0,725	-17,962	-0,07	0,613	0,01
T1	14 - 15	9.2	-6,123	-0,07	1,454	-6,123	0,40	0,103	0,30
EL1	16 - 1	8.1	0,152	0,00	0,000	0,152	0,00	0,000	0,00
ER1	34 - 15	9.2	0,071	0,00	0,000	0,071	0,00	0,000	0,00
B1	16 - 17	8.1	0,000	0,00	0,150	0,000	0,04	-0,114	0,02
B1	17 - 18	8.1	0,028	0,01	-0,013	0,028	-0,02	0,079	0,00

Member End Forces



Member Information			Force						
Member	Start/ End	LC	Start			End			Middle
			Axial (kN)	Moment (kNm)	Shear (kN)	Axial (kN)	Moment (kNm)	Shear (kN)	Moment (kNm)
B1	18 - 19	10.2	6,430	0,01	0,252	6,430	0,14	-0,185	0,08
B1	19 - 20	8.1	5,523	0,14	-0,588	5,523	0,07	0,602	0,10
B1	20 - 21	8.1	5,523	0,07	-1,466	5,523	-0,10	1,478	-0,02
B1	21 - 22	8.1	8,103	-0,03	0,171	8,103	0,05	-0,104	0,02
B1	22 - 23	9.2	-7,856	0,02	-0,036	-7,856	-0,03	0,113	0,00
B1	23 - 24	10.2	-12,163	-0,03	-1,144	-12,163	-0,41	1,180	-0,21
B1	24 - 25	10.2	-12,163	-0,41	1,024	-12,163	0,02	-0,977	-0,19
B1	25 - 26	9.2	5,489	0,02	0,125	5,489	0,09	-0,037	0,06
B1	26 - 27	9.2	1,815	0,02	0,009	1,815	0,00	0,058	0,01
B1	27 - 28	9.2	21,492	0,02	0,142	21,492	0,07	-0,098	0,04
B1	28 - 29	9.2	5,514	0,00	0,461	5,514	0,05	-0,446	0,03
B1	29 - 30	9.2	6,131	0,05	-0,081	6,131	0,02	0,123	0,04
B1	30 - 31	9.2	22,216	0,05	0,583	22,216	0,24	-0,547	0,15
B1	31 - 32	9.2	20,550	0,24	-0,874	20,550	0,01	0,902	0,12
B1	32 - 33	9.2	14,252	0,01	0,054	14,252	0,02	0,024	0,02
B1	33 - 34	9.2	0,000	0,02	-0,032	0,000	0,00	0,068	0,01
W1	1 - 17	8.1	4,662	0,00	0,000	4,662	0,00	0,000	0,00
W3	2 - 18	8.1	1,629	0,00	0,000	1,629	0,00	0,000	0,00
W5	3 - 19	9.2	-1,375	0,00	0,000	-1,375	0,00	0,000	0,00
W8	5 - 22	10.2	-4,809	0,00	0,000	-4,809	0,00	0,000	0,00
W11	6 - 23	10.2	-5,742	0,00	0,000	-5,742	0,00	0,000	0,00
W14	7 - 25	9.2	8,415	0,00	0,000	8,415	0,00	0,000	0,00
W18	8 - 26	10.2	7,287	0,00	0,000	7,287	0,00	0,000	0,00
W30	9 - 27	10.2	4,286	0,00	0,000	4,286	0,00	0,000	0,00
W24	12 - 31	9.2	-2,190	0,00	0,000	-2,190	0,00	0,000	0,00
W25	13 - 32	9.2	-3,402	0,00	0,000	-3,402	0,00	0,000	0,00
W28	14 - 33	9.2	-9,667	0,00	0,000	-9,667	0,00	0,000	0,00
W2	17 - 2	8.1	-4,831	0,00	0,000	-4,831	0,00	0,000	0,00
W4	18 - 3	9.2	1,092	0,00	0,000	1,092	0,00	0,000	0,00
W6	20 - 4	8.1	-0,870	0,00	0,000	-0,870	0,00	0,000	0,00
W7	21 - 5	10.2	2,741	0,00	0,000	2,741	0,00	0,000	0,00
W10	22 - 6	10.2	5,177	0,00	0,000	5,177	0,00	0,000	0,00
W12	23 - 7	8.1	4,816	0,00	0,000	4,816	0,00	0,000	0,00
W13	24 - 7	10.2	-9,714	0,00	0,000	-9,714	0,00	0,000	0,00
W16	25 - 8	10.2	-9,706	0,00	0,000	-9,706	0,00	0,000	0,00
W20	26 - 9	10.2	-6,255	0,00	0,000	-6,255	0,00	0,000	0,00
W31	27 - 10	10.2	-3,905	0,00	0,000	-3,905	0,00	0,000	0,00
W21	28 - 11	10.2	0,654	0,00	0,000	0,654	0,00	0,000	0,00
W32	29 - 12	10.2	-1,399	0,00	0,000	-1,399	0,00	0,000	0,00
W23	30 - 12	9.2	2,837	0,00	0,000	2,837	0,00	0,000	0,00
W26	32 - 14	9.2	4,875	0,00	0,000	4,875	0,00	0,000	0,00

Member End Forces



Member Information			Force						
			Start			End			Middle
Member	Start/ End	LC	Axial (kN)	Moment (kNm)	Shear (kN)	Axial (kN)	Moment (kNm)	Shear (kN)	Moment (kNm)
W29	33 - 15	9.2	8,048	0,00	0,000	8,048	0,00	0,000	0,00

- * indicates a multi-ply member
- indicates a staggered posi web



MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F2
 H/T:
 Quantity: 2
 Ply: 1
 Page: 26/66

Design Results - Stress and Buckling

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
T1	1 - 2	98 x 48	C24	1	37632	76832	8.1	-3,547	0,25	1,232	0,740	0,060	0,857	1,051	605	100	0	0,420	0,302	0,420	8	8.1	0,67	0,238
T1	2 - 3	98 x 48	C24	1	37632	76832	8.1	-8,462	-0,10	0,849	0,740	0,060	0,857	1,051	605	100	0	0,301	0,230	0,301	0	10.2	0,67	0,164
T1	3 - 4	98 x 48	C24	1	37632	76832	8.1	-9,387	0,06	0,514	0,523	0,060	0,943	1,051	428	100	0	0,248	0,206	0,248	49	10.2	0,67	0,099
T1	4 - 5	98 x 48	C24	1	37632	76832	8.1	-9,387	0,04	0,568	0,508	0,060	0,948	1,051	415	100	0	0,221	0,187	0,221	42	10.2	0,67	0,110
T1	5 - 6	98 x 48	C24	1	37632	76832	8.1	-5,364	0,09	0,845	0,861	0,060	0,788	1,051	703	100	0	0,242	0,175	0,242	46	8.1	0,67	0,163
T1	6 - 7	98 x 48	C24	1	37632	76832	10.2	8,944	-0,37	1,196	-	-	-	-	-	-	0	0,728	-	0,728	100	10.2	0,67	0,231
T1	7 - 8	98 x 48	C24	1	37632	76832	10.2	5,327	-0,33	1,267	-	-	-	-	-	-	0	0,587	-	0,587	0	10.2	0,67	0,245
T1	8 - 9	98 x 48	C24	1	37632	76832	9.2	-11,275	0,12	0,829	0,861	0,060	0,788	1,051	703	100	0	0,408	0,297	0,408	53	9.2	0,67	0,160
T1	9 - 10	98 x 48	C24	1	37632	76832	9.2	-18,808	-0,08	0,816	0,740	0,060	0,857	1,051	605	100	0	0,476	0,375	0,476	100	10.2	0,67	0,158
T1	10 - 11	98 x 48	C24	1	37632	76832	9.2	-21,492	-0,08	1,718	0,115	0,060	-	1,051	94	100	0	0,241	0,206	0,241	0	10.2	0,67	0,332
T1	11 - 12	98 x 48	C24	1	37632	76832	9.2	-21,492	0,24	0,928	0,514	0,060	0,946	1,051	420	100	0	0,722	0,581	0,722	100	9.2	0,67	0,179
T1	12 - 13	98 x 48	C24	1	37632	76832	9.2	-20,550	0,20	1,482	0,319	0,060	0,996	1,051	261	100	0	0,629	0,525	0,629	0	9.2	0,67	0,287
T1	13 - 14	98 x 48	C24	1	37632	76832	9.2	-17,962	-0,11	0,725	0,740	0,060	0,857	1,051	605	100	0	0,501	0,390	0,501	0	9.2	0,67	0,140
T1	14 - 15	98 x 48	C24	1	37632	76832	9.2	-6,123	0,40	1,454	0,861	0,060	0,788	1,051	703	100	0	0,705	0,500	0,705	93	9.2	0,67	0,281
EL1	16 - 1	98 x 48	C24	1	37632	76832	8.1	0,152	0,00	0,000	-	-	-	-	-	-	0	0,003	-	0,003	0	-	0,67	0,000
ER1	34 - 15	98 x 48	C24	1	37632	76832	9.2	0,071	0,00	0,000	-	-	-	-	-	-	0	0,002	-	0,002	0	-	0,67	0,000
B1	16 - 17	98 x 48	C24	1	37632	76832	8.1	0,000	0,04	0,150	-	0,060	-	1,051	327	100	0	0,062	0,043	0,062	100	8.1	0,67	0,029
B1	17 - 18	98 x 48	C24	1	37632	76832	8.1	7,223	0,04	0,090	-	-	-	-	-	-	0	0,225	-	0,225	7	10.2	0,67	0,017
B1	18 - 19	98 x 48	C24	1	37632	76832	10.2	6,430	0,14	0,252	-	-	-	-	-	-	0	0,346	0,119	0,346	100	10.2	0,67	0,049
B1	19 - 20	98 x 48	C24	1	37632	76832	8.1	9,387	0,08	0,746	-	-	-	-	-	-	0	0,326	0,101	0,326	0	9.2	0,67	0,144
B1	20 - 21	98 x 48	C24	1	37632	76832	8.1	9,387	0,07	1,478	0,138	0,060	-	1,051	112	100	0	0,320	0,103	0,320	0	10.2	0,67	0,286
B1	21 - 22	98 x 48	C24	1	37632	76832	8.1	8,103	0,05	0,300	0,740	0,060	0,857	1,051	605	100	0	0,262	0,160	0,262	100	10.2	0,67	0,058
B1	22 - 23	98 x 48	C24	1	37632	76832	9.2	-7,856	-0,03	0,163	0,861	0,060	0,788	1,051	703	100	0	0,209	0,154	0,209	100	10.2	0,67	0,032
B1	23 - 24	98 x 48	C24	1	37632	76832	10.2	-12,163	-0,41	1,180	0,400	0,060	0,977	1,051	327	100	0	0,785	0,597	0,785	100	10.2	0,67	0,228



Designed By:
 MiTek Finland Oy
 Sepänkatu 7-9, 11710 RIIHIMÄKI, mitek@mittek.fi
 Tel: 019-77410

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 Build: 10.3.2017
 Printed: 07/13/2020 17:51:42
 Designed: 13.7.2020 17.46.58
 Designer: Joonas Siira



MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F2
 H/T:
 Quantity: 2
 Ply: 1
 Page: 27/66

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
B1	24 - 25	98 x 48	C24	1	37632	76832	10.2	-12,163	-0,41	1,024	0,520	0,060	0,944	1,051	425	100	0	0,792	0,597	0,792	0	10.2	0,67	0,198
B1	25 - 26	98 x 48	C24	1	37632	76832	9.2	5,489	0,09	0,125	-	-	-	-	-	-	0	0,251	0,048	0,251	100	9.2	0,67	0,024
B1	26 - 27	98 x 48	C24	1	37632	76832	9.2	15,782	0,09	0,149	-	-	-	-	-	-	0	0,484	-	0,484	0	9.2	0,67	0,029
B1	27 - 28	98 x 48	C24	1	37632	76832	9.2	21,492	0,07	0,142	-	-	-	-	-	-	0	0,581	-	0,581	100	9.2	0,67	0,027
B1	28 - 29	98 x 48	C24	1	37632	76832	9.2	21,492	0,12	0,712	-	-	-	-	-	-	0	0,655	-	0,655	100	10.2	0,67	0,138
B1	29 - 30	98 x 48	C24	1	37632	76832	9.2	22,216	0,12	0,245	-	-	-	-	-	-	0	0,672	-	0,672	0	10.2	0,67	0,047
B1	30 - 31	98 x 48	C24	1	37632	76832	9.2	22,216	0,24	0,583	-	-	-	-	-	-	0	0,843	-	0,843	100	9.2	0,67	0,113
B1	31 - 32	98 x 48	C24	1	37632	76832	9.2	20,550	0,24	0,902	-	-	-	-	-	-	0	0,805	-	0,805	0	9.2	0,67	0,174
B1	32 - 33	98 x 48	C24	1	37632	76832	9.2	14,252	0,02	0,046	-	-	-	-	-	-	0	0,350	-	0,350	70	1.1	0,67	0,012
B1	33 - 34	98 x 48	C24	1	37632	76832	9.2	0,000	0,02	0,068	-	0,060	-	1,051	326	100	0	0,023	0,016	0,023	0	9.2	0,67	0,013
W1	1 - 17	PS-12N	-	1	0	0	8.1	4,662	0,00	0,000	-	-	-	-	-	-	0	0,556	-	0,556	0	-	1,00	0,000
W3	2 - 18	PS-12N	-	1	0	0	8.1	1,629	0,00	0,000	-	-	-	-	-	-	0	0,295	-	0,295	0	-	1,00	0,000
W5	3 - 19	PS-12N	-	1	0	0	9.2	-1,375	0,00	0,000	-	-	-	-	-	-	0	0,169	-	0,169	0	-	1,00	0,000
W8	5 - 22	PS-12N	-	1	0	0	10.2	-4,809	0,00	0,000	-	-	-	-	-	-	0	0,591	-	0,591	0	-	1,00	0,000
W11	6 - 23	PS-12N	-	1	0	0	10.2	-5,742	0,00	0,000	-	-	-	-	-	-	0	0,705	-	0,705	0	-	1,00	0,000
W14	7 - 25	PS-12N*	-	1	0	0	9.2	8,415	0,00	0,000	-	-	-	-	-	-	0	0,660	-	0,660	0	-	1,00	0,000
W18	8 - 26	PS-12N*	-	1	0	0	10.2	7,287	0,00	0,000	-	-	-	-	-	-	0	0,571	-	0,571	0	-	1,00	0,000
W30	9 - 27	PS-12N	-	1	0	0	10.2	4,286	0,00	0,000	-	-	-	-	-	-	0	0,776	-	0,776	0	-	1,00	0,000
W24	12 - 31	PS-12N	-	1	0	0	9.2	-2,190	0,00	0,000	-	-	-	-	-	-	0	0,269	-	0,269	0	-	1,00	0,000
W25	13 - 32	PS-12N	-	1	0	0	9.2	-3,402	0,00	0,000	-	-	-	-	-	-	0	0,418	-	0,418	0	-	1,00	0,000
W28	14 - 33	PS-12N*	-	1	0	0	9.2	-9,667	0,00	0,000	-	-	-	-	-	-	0	0,715	-	0,715	0	-	1,00	0,000
W2	17 - 2	PS-12N	-	1	0	0	8.1	-4,831	0,00	0,000	-	-	-	-	-	-	0	0,593	-	0,593	0	-	1,00	0,000
W4	18 - 3	PS-12N	-	1	0	0	9.2	1,092	0,00	0,000	-	-	-	-	-	-	0	0,198	-	0,198	0	-	1,00	0,000
W6	20 - 4	98 x 48	C24	1	37632	76832	8.1	-0,870	0,00	0,000	-	-	-	-	-	-	0	-	-	0,000	0	-	0,67	0,000
W7	21 - 5	PS-12N	-	1	0	0	10.2	2,741	0,00	0,000	-	-	-	-	-	-	0	0,496	-	0,496	0	-	1,00	0,000
W10	22 - 6	PS-12N*	-	1	0	0	10.2	5,177	0,00	0,000	-	-	-	-	-	-	0	0,406	-	0,406	0	-	1,00	0,000



Designed By:
 MiTek Finland Oy
 Sepänkatu 7-9, 11710 RIIHIMÄKI, mitek@mittek.fi
 Tel: 019-77410

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 Printed: 07/13/2020 17:51:42
 Designed: 13.7.2020 17.46.58
 Designer: Joonas Siira



MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F2
 H/T:
 Quantity: 2
 Ply: 1
 Page: 28/66

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
W12	23 - 7	PS-12N	-	1	0	0	8.1	4,816	0,00	0,000	-	-	-	-	-	-	0	0,574	-	0,574	0	-	1,00	0,000
W13	24 - 7	98 x 48	C24	1	37632	76832	10.2	-9,714	0,00	0,000	-	-	-	-	-	-	0	0,026	0,026	0,026	0	-	0,67	0,000
W16	25 - 8	PS-12N*	-	1	0	0	10.2	-9,706	0,00	0,000	-	-	-	-	-	-	0	0,718	-	0,718	0	-	1,00	0,000
W20	26 - 9	PS-12N	-	1	0	0	10.2	-6,255	0,00	0,000	-	-	-	-	-	-	0	0,768	-	0,768	0	-	1,00	0,000
W31	27 - 10	PS-12N	-	1	0	0	10.2	-3,905	0,00	0,000	-	-	-	-	-	-	0	0,480	-	0,480	0	-	1,00	0,000
W21	28 - 11	98 x 48	C24	1	37632	76832	10.2	0,654	0,00	0,000	-	-	-	-	-	-	0	0,015	-	0,015	0	-	0,67	0,000
W32	29 - 12	PS-12N	-	1	0	0	10.2	-1,399	0,00	0,000	-	-	-	-	-	-	0	0,172	-	0,172	0	-	1,00	0,000
W23	30 - 12	98 x 48	C24	1	37632	76832	9.2	2,837	0,00	0,000	-	-	-	-	-	-	0	0,064	-	0,064	0	-	0,67	0,000
W26	32 - 14	PS-12N	-	1	0	0	9.2	4,875	0,00	0,000	-	-	-	-	-	-	0	0,882	-	0,882	0	-	1,00	0,000
W29	33 - 15	PS-12N	-	1	0	0	9.2	8,048	0,00	0,000	-	-	-	-	-	-	0	0,959	-	0,959	0	-	1,00	0,000

- * indicates a multi-ply member
- indicates a staggered posi web



Designed By:
 MiTek Finland Oy
 Sepänkatu 7-9, 11710 RIIHIMÄKI, mitek@mittek.fi
 Tel: 019-77410

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 Build: 10.3.2017
 Printed: 07/13/2020 17:51:42
 Designed: 13.7.2020 17.46.58
 Designer: Joonas Siira

Deflection Checks - Details

	Deflection Test	Location	Load Case	Permissible Deflection	Actual Deflection (mm)
Bottom Chord Span	W(inst)	16 - 34	12	1	3.42
Bottom Chord Span	W(net,fin)	16 - 34	13	1	-4.73
Bottom Chord Span	W(fin)	16 - 34	12	1	4.57
Top Chord Span	Unknown	1 - 15	11	3	1.83

Camber

Beam has been pre-cambered to at least the deadload deflection.
 Camber at mid span in member = 3,85mm.

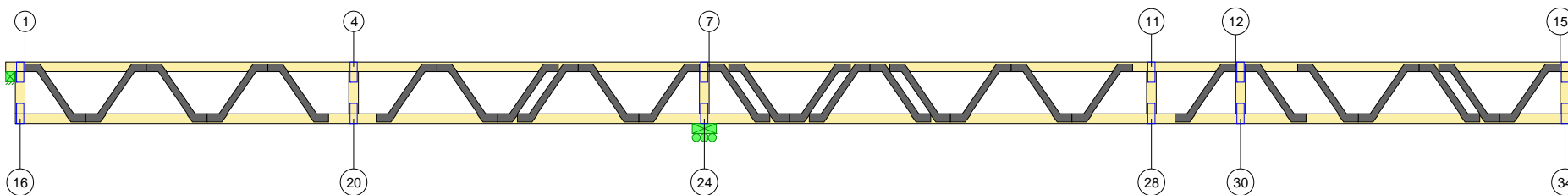


MiTek 2020 6.2.90.0

Job Ref: J200002
Order Number:
Customer: Jetta Talo Oy
Project: 6880
Site Address:

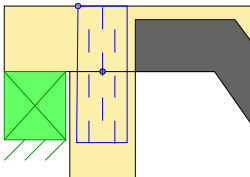
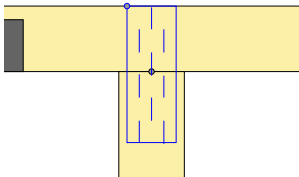
Truss: F2
H/T:
Quantity: 2
Ply: 1
Page: 30/66

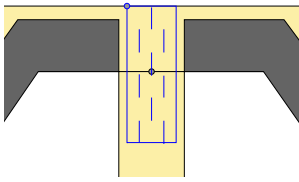
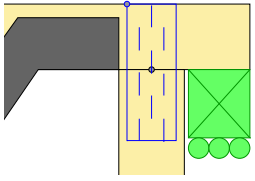
Punched Metal Plate Fastener Checks

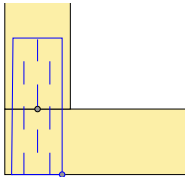
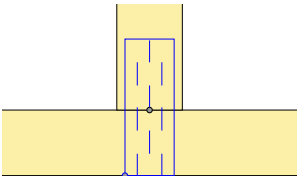


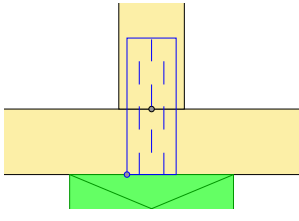
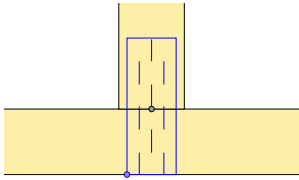
Designed By:
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Tel: 019-77410

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Build: 10.3.2017
Printed: 07/13/2020 17:51:43
Designed: 13.7.2020 17.46.58
Designer: Joonas Siira

		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	$F_{a,\alpha,\beta}$ (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
1	TOP_W 36x100 36x100	8.1	1-15	0,000	0,365	-90	0,00	90	0	2,52	988	12225	0,02	8.1	36	0,365	0,000	90	149,7	55,87	0,00
		8.1	1-16	-0,152	0,000	-90	0,00	0	0	3,56	962	11701	0,00	8.1	36	0,152	0,000	90	149,7	55,87	0,00
		 <p>Joint Type NCMV+p</p>																			
11	TOP_W 36x100 36x100	10.2	1-15	0,000	0,654	-90	0,00	90	0	2,52	988	12225	0,03	10.2	36	0,654	0,000	90	149,7	55,87	0,00
		10.2	11-28	-0,654	0,000	-90	0,00	0	0	3,56	962	11701	0,01	10.2	36	0,654	0,000	90	149,7	55,87	0,00
		 <p>Joint Type NTMW+p</p>																			

Anchorage														Steel							
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	$F_{a,\alpha,\beta}$ (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
12	TOP_W 36x100 36x100	10.2	1-15	1,457	1,656	-90	0,00	49	41	2,69	988	12225	0,07	9.2	36	1,522	1,666	90	149,7	55,87	0,03
		9.2	12-30	-2,837	0,000	-90	0,00	0	0	3,56	962	11701	0,06	9.2	36	2,837	0,000	90	149,7	55,87	0,02
 <p>Joint Type NTMW+p</p>																					
15	TOP_W 36x100 36x100	9.2	1-15	0,000	0,283	-90	0,00	90	0	2,52	988	12225	0,01	9.2	36	0,283	0,000	90	149,7	55,87	0,00
		9.2	15-34	-0,071	0,000	-90	0,00	0	0	3,56	962	11701	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
 <p>Joint Type NCMV+p</p>																					

Anchorage														Steel							
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	F_a, α, β (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
16	TOP_W 36x100 36x100	8.1	16-34	0,000	-0,150	-90	0,00	90	0	2,52	988	12225	0,01	8.1	36	0,150	0,000	90	149,7	55,87	0,00
		8.1	1-16	0,152	0,000	-90	0,00	0	0	3,56	962	11701	0,00	8.1	36	0,152	0,000	90	149,7	55,87	0,00
 <p>Joint Type NBMV+p</p>																					
20	TOP_W 36x100 36x100	8.1	16-34	0,000	0,870	-90	0,00	90	0	2,52	988	12225	0,02	8.1	36	-0,435	0,000	90	69,12	55,87	0,01
		8.1	4-20	-0,870	0,000	-90	0,00	0	0	3,56	962	11701	0,01	8.1	36	-0,435	0,000	90	69,12	55,87	0,01
 <p>Joint Type NCMW+p</p>																					

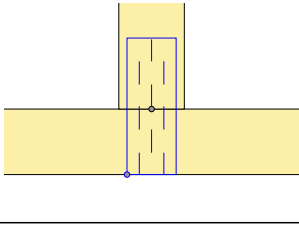
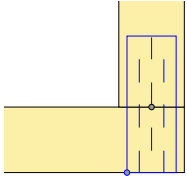
Anchorage														Steel							
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	$F_{a,\alpha,\beta}$ (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
24	TOP_W 36x100 36x100	10.2	16-34	0,000	9,714	-90	0,00	90	0	2,52	988	12225	0,20	10.2	36	-4,857	0,000	90	69,12	55,87	0,07
		10.2	7-24	-9,714	0,000	-90	0,00	90	0	3,56	962	11701	0,11	10.2	36	-4,857	0,000	90	69,12	55,87	0,07
 <p>Joint Type NCMW+p</p>																					
28	TOP_W 36x100 36x100	10.2	16-34	0,000	-0,654	-90	0,00	90	0	2,52	988	12225	0,03	10.2	36	0,654	0,000	90	149,7	55,87	0,00
		10.2	11-28	0,654	0,000	-90	0,00	90	0	3,56	962	11701	0,01	10.2	36	0,654	0,000	90	149,7	55,87	0,00
 <p>Joint Type NCMW+p</p>																					



MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

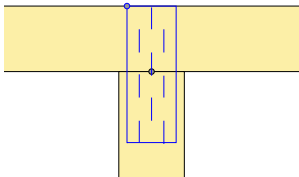
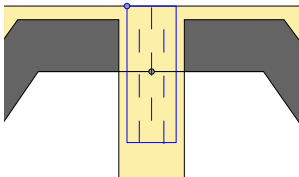
Truss: F2
 H/T:
 Quantity: 2
 Ply: 1
 Page: 35/66

Anchorage														Steel							
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	F_a, α, β (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
30	TOP_W 36x100 36x100	9.2	16-34	0,000	-2,837	-90	0,00	90	0	2,52	988	12225	0,12	9.2	36	2,837	0,000	90	149,7	55,87	0,02
		9.2	12-30	2,837	0,000	-90	0,00	0	0	3,56	962	11701	0,06	9.2	36	2,837	0,000	90	149,7	55,87	0,02
 <p>Joint Type NCMW+p</p>																					
34	TOP_W 36x100 36x100	9.2	16-34	0,000	-0,068	-90	0,00	90	0	2,52	988	12225	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
		9.2	15-34	0,071	0,000	-90	0,00	0	0	3,56	962	11701	0,00	-	0	0,000	1,784	2	0,000	0,000	0,00
 <p>Joint Type NBMV+p</p>																					



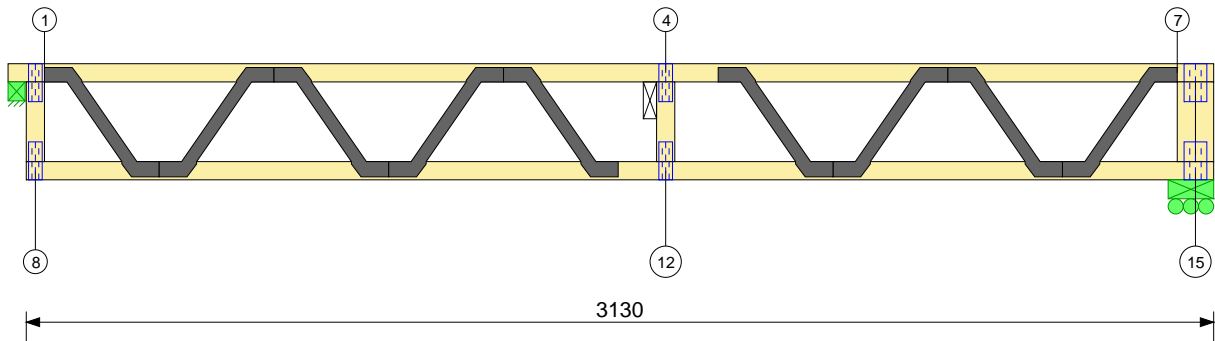
Designed By:
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 Sepänkatu 7-9, 11710 RIIHIMÄKI, mitek@mittek.fi
 Tel: 019-77410

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 Build: 10.3.2017
 Printed: 07/13/2020 17:51:43
 Designed: 13.7.2020 17.46.58
 Designer: Joonas Siira

		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	Fa, α,β (N/mm ²)	Aef (mm ²)	Wp (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														Fx,ed	Fy,ed		Fx,rk	Fy,rk			
4	TOP_W 36x100 36x100	8.1	1-15	0,000	-0,870	-90	0,00	90	0	2,52	988	12225	0,02	8.1	36	-0,435	0,000	90	69,12	55,87	0,01
		8.1	4-20	0,870	0,000	-90	0,00	0	0	3,56	962	11701	0,01	8.1	36	-0,435	0,000	90	69,12	55,87	0,01
																					
		Joint Type NTMW+p																			
7	TOP_W 36x100 36x100	10.2	1-15	10,055	-11,261	-90	0,00	48	42	2,69	988	12225	0,33	10.2	36	-5,631	10,05	90	69,12	55,87	0,20
		10.2	7-24	9,714	0,000	-90	0,00	0	0	3,56	962	11701	0,11	10.2	36	-4,857	0,000	90	69,12	55,87	0,07
																					
		Joint Type NTMW+p																			

Design Notes

1. This design conforms to the input data entered. Please ensure that the dimensions, pitch, and other design considerations have been correctly entered.
2. 2 D stiffness matrix analysis has been used.
3. System factor $K_{sys} = 1,0$ has been used.
4. Truss weight = 43 kg
5. Connector Plate location tolerance of 5 mm has been used.
6. Chords restraint provided by floor and ceiling material.
7. Strongback braces are required where a clear span of 4m and above exists. Strongbacks are to be placed at no more than 4m centres.
8. Strongback positions, section and strength class should be used as specified.
9. Floor deck material and ceiling material should be used as specified.
10. Forces: Compression is negative, Tension is positive.
Reactions: Uplift is Negative, Downwards reactions and deflections are positive.



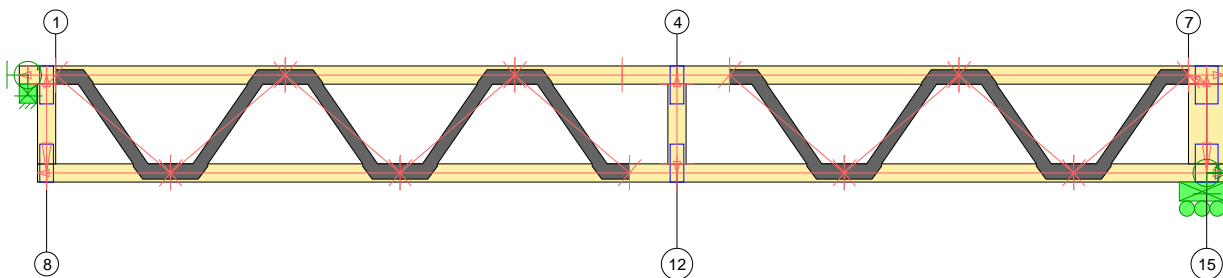
Truss Input Parameters

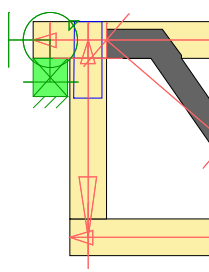
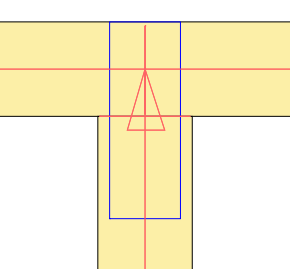
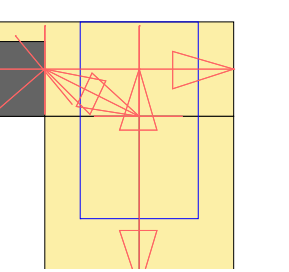
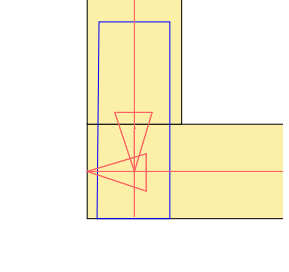
Span	3178 mm	Spacing	620 mm
Joist Depth	306 mm	Transport Length	3178 mm
Posi Strut	PS-12N		
Left Cantilever	0 mm	Right Cantilever	0 mm
Left Overhang	0 mm	Right Overhang	0 mm

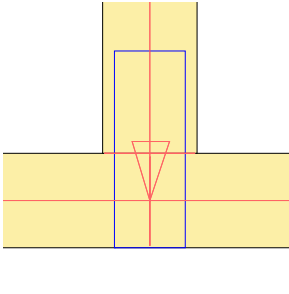
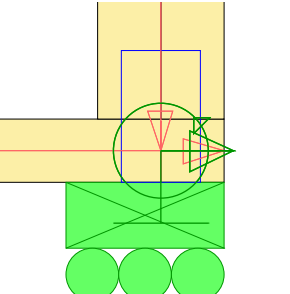
Maximum Summations

Position	Member	LC	CSI
Web	9 - 2	4.1	0,771
Top Chord	1 - 2	4.1	0,544
Bottom Chord	11 - 12	4.1	0,374

Analog Model



1	Coordinates (mm)		4	Coordinates (mm)		7	Coordinates (mm)		8	Coordinates (mm)	
	X=96	Y=282		X=1734	Y=282		X=3082	Y=282		X=72	Y=24
											
Fixity			Fixity			Fixity			Fixity		
X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free

12	Coordinates (mm)		15	Coordinates (mm)	
	X=1734	Y=24		X=3130	Y=24
					
Fixity			Fixity		
X=Free	Y=Free	R=Free	X=Free	Y=Fixed	R=Free

Load Case Diagrams

Critical Load Cases

Load Case	Description	Type	Name	Leading Action	Load Combination	Kmod	ym Timber
1.1	Pysyvä	Stress	EC5 6.10a	-	$\Sigma 1,35G$	0,60	1,30
4.1	Keskipitkä (1)	Stress	EC5 6.10b	Medium Term	$\Sigma 1,15G + 1,50Q$	0,80	1,30
5	Vibration check	Deflection	EC5 Deflection	-	-	0,60	1,30
6	Keskipitkä (1) KRT	Deflection	EC5 Deflection	Medium Term	$\Sigma 1,60G + 1,18Q$	0,80	1,30

Reactions - By Load Type

Joint	Type	Vertical (kN)		Horizontal (kN)
		Downwards	Uplift	
15	Dead	1,113	-	0,000
15	Long Term	0,298	-	0,000
15	Medium Term	1,987	-	0,000
1	Dead	1,090	-	0,000
1	Long Term	0,293	-	0,000
1	Medium Term	1,954	-	0,000

Reactions - By Load Duration

Joint	Duration	Vertical (kN)			Horizontal (kN)	
		Downwards	LC	Uplift	LC	Force
15	Permanent	1,905	1.1	-	-	-

Reactions - By Load Duration

Joint	Duration	Vertical (kN)				Horizontal (kN)	
		Downwards	LC	Uplift	LC	Force	LC
15	Medium Term	4,599	4.1	-	-	-	-
1	Permanent	1,867	1.1	-	-	-	-
1	Medium Term	4,518	4.1	-	-	-	-

Bearing Requirements

Joint	Wall Plate Strength	Input Size (mm)	Required Size (mm)	Max Bearing Stress Index Wallplate	Kc90	Max Bearing Stress Index Truss	Uplift (kN)
15		120	0	0,00	1,25	0,10	-
1		45	0	0,00	1,25	0,27	-

Worst Bearing Reactions

Joint	Max Reactions (kN) / LC			Dead Load Reactions (kN) / LC		Accidental Reactions (kN) / LC		
	Down	Uplift	Horizontal	Down	Uplift	Down	Uplift	Horizontal
15	4,599 (4.1)	-	-	1,905 (1.1)	-	-	-	-
1	4,518 (4.1)	-	-	1,867 (1.1)	-	-	-	-

Timber Properties

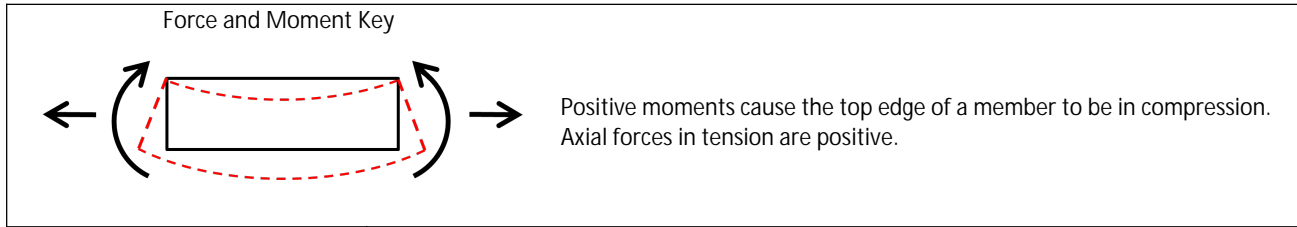
Strength Class C24

f(m,k)	24 N/mm ²	f(c,0,k)	21 N/mm ²	E(mean)	11000 N/mm ²	G(mean)	688 N/mm ²
f(t,0,k)	14 N/mm ²	f(c,90,k)	2,5 N/mm ²	E(0, 05)	7400 N/mm ²	ρ(mean)	420 kg/m ³
f(t,90,k)	0,4 N/mm ²	f(v,k)	4,0 N/mm ²	E(90,mean)	367 N/mm ²	ρ(k)	350 kg/m ³

Member Description

Member	Start/End	Nominal Size	Design Size	Grade	Ply	Wxx	Wyy	Kc,r	Kh Axial	Bending
T1	1 - 2	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	2 - 3	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	3 - 4	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	4 - 5	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	5 - 6	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	6 - 7	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
EL1	8 - 1	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
ER1	15 - 7	98 x 48*	98 x 48*	C24	1	120419	153664	0,670	-	1,093
B1	8 - 9	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	9 - 10	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	10 - 11	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	11 - 12	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	12 - 13	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	13 - 14	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	14 - 15	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
W1	1 - 9	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W3	2 - 10	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W5	3 - 11	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W7	5 - 13	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W9	6 - 14	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W2	9 - 2	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W4	10 - 3	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W6	12 - 4	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
W8	13 - 6	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W10	14 - 7	PS-12N	98 x 48	-	1	0	0	1,000	-	-

Member End Forces



Member Information			Force						
			Start			End			Middle
Member	Start/ End	LC	Axial (kN)	Moment (kNm)	Shear (kN)	Axial (kN)	Moment (kNm)	Shear (kN)	Moment (kNm)
T1	1 - 2	4.1	-4,647	0,32	0,109	-4,647	-0,12	1,548	0,22
T1	2 - 3	4.1	-11,179	-0,12	1,026	-11,179	0,00	0,631	0,06
T1	3 - 4	4.1	-12,876	0,00	0,700	-12,876	0,05	0,471	0,09
T1	4 - 5	4.1	-12,876	0,05	-0,419	-12,876	-0,04	0,798	0,01
T1	5 - 6	4.1	-11,050	-0,04	0,759	-11,050	-0,08	0,898	0,07
T1	6 - 7	4.1	-4,588	-0,08	1,173	-4,588	0,13	0,484	0,15
EL1	8 - 1	4.1	0,183	0,00	0,000	0,183	0,00	0,000	0,00
ER1	15 - 7	4.1	-4,430	0,00	0,270	-4,430	0,06	-0,270	0,03
B1	8 - 9	4.1	0,000	0,00	0,180	0,000	0,05	-0,137	0,03
B1	9 - 10	4.1	9,422	0,05	0,027	9,422	0,04	0,053	0,05
B1	10 - 11	4.1	12,808	0,04	0,057	12,808	0,05	0,023	0,05
B1	11 - 12	4.1	12,876	0,05	0,035	12,876	0,06	-0,019	0,06
B1	12 - 13	4.1	12,876	0,06	-0,034	12,876	0,03	0,092	0,05
B1	13 - 14	4.1	9,033	0,03	0,071	9,033	0,05	0,008	0,05
B1	14 - 15	4.1	0,270	0,05	-0,116	0,270	0,00	0,163	0,03
W1	1 - 9	4.1	6,107	0,00	0,000	6,107	0,00	0,000	0,00
W3	2 - 10	4.1	2,309	0,00	0,000	2,309	0,00	0,000	0,00
W5	3 - 11	4.1	0,090	0,00	0,000	0,090	0,00	0,000	0,00
W7	5 - 13	4.1	-2,400	0,00	0,000	-2,400	0,00	0,000	0,00
W9	6 - 14	4.1	-5,842	0,00	0,000	-5,842	0,00	0,000	0,00
W2	9 - 2	4.1	-6,277	0,00	0,000	-6,277	0,00	0,000	0,00
W4	10 - 3	4.1	-2,140	0,00	0,000	-2,140	0,00	0,000	0,00
W6	12 - 4	1.1	0,025	0,00	0,000	0,025	0,00	0,000	0,00
W8	13 - 6	4.1	2,652	0,00	0,000	2,652	0,00	0,000	0,00
W10	14 - 7	4.1	5,675	0,00	0,000	5,675	0,00	0,000	0,00

- * indicates a multi-ply member
- indicates a staggered posi web



MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F3
 H/T:
 Quantity: 4
 Ply: 1
 Page: 42/66

Design Results - Stress and Buckling

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
T1	1 - 2	98 x 48	C24	1	37632	76832	4.1	-4,647	0,32	1,548	0,740	0,060	0,857	1,051	605	100	0	0,544	0,391	0,544	7	4.1	0,67	0,299
T1	2 - 3	98 x 48	C24	1	37632	76832	4.1	-11,179	-0,12	1,026	0,740	0,060	0,857	1,051	605	100	0	0,387	0,296	0,387	0	4.1	0,67	0,198
T1	3 - 4	98 x 48	C24	1	37632	76832	4.1	-12,876	0,09	0,700	0,523	0,060	0,943	1,051	428	100	0	0,352	0,291	0,352	60	4.1	0,67	0,135
T1	4 - 5	98 x 48	C24	1	37632	76832	4.1	-12,876	0,05	0,798	0,169	0,060	-	1,051	138	100	0	0,114	0,093	0,114	0	4.1	0,67	0,154
T1	5 - 6	98 x 48	C24	1	37632	76832	4.1	-11,050	-0,08	0,898	0,740	0,060	0,857	1,051	605	100	0	0,323	0,251	0,323	100	4.1	0,67	0,174
T1	6 - 7	98 x 48	C24	1	37632	76832	4.1	-4,588	0,17	1,173	0,740	0,060	0,857	1,051	605	100	0	0,336	0,246	0,336	71	4.1	0,67	0,227
EL1	8 - 1	98 x 48	C24	1	37632	76832	4.1	0,183	0,00	0,000	-	-	-	-	-	-	0	0,004	-	0,004	0	-	0,67	0,000
ER1	15 - 7	98 x 48*	C24	1	120419	153664	4.1	-4,430	0,06	0,270	0,160	0,060	-	1,051	234	100	0	0,034	0,024	0,034	100	4.1	0,67	0,052
B1	8 - 9	98 x 48	C24	1	37632	76832	4.1	0,000	0,05	0,180	-	0,060	-	1,051	327	100	0	0,074	0,052	0,074	100	4.1	0,67	0,035
B1	9 - 10	98 x 48	C24	1	37632	76832	4.1	9,422	0,05	0,055	-	-	-	-	-	-	0	0,292	-	0,292	34	1.1	0,67	0,014
B1	10 - 11	98 x 48	C24	1	37632	76832	4.1	12,808	0,06	0,059	-	-	-	-	-	-	0	0,370	-	0,370	71	1.1	0,67	0,015
B1	11 - 12	98 x 48	C24	1	37632	76832	4.1	12,876	0,06	0,035	-	-	-	-	-	-	0	0,374	-	0,374	100	4.1	0,67	0,007
B1	12 - 13	98 x 48	C24	1	37632	76832	4.1	12,876	0,06	0,092	-	-	-	-	-	-	0	0,374	-	0,374	0	4.1	0,67	0,018
B1	13 - 14	98 x 48	C24	1	37632	76832	4.1	9,033	0,05	0,060	-	-	-	-	-	-	0	0,275	-	0,275	90	1.1	0,67	0,015
B1	14 - 15	98 x 48	C24	1	37632	76832	4.1	0,270	0,05	0,163	-	-	-	-	-	-	0	0,076	-	0,076	0	4.1	0,67	0,031
W1	1 - 9	PS-12N	-	1	0	0	4.1	6,107	0,00	0,000	-	-	-	-	-	-	0	0,728	-	0,728	0	-	1,00	0,000
W3	2 - 10	PS-12N	-	1	0	0	4.1	2,309	0,00	0,000	-	-	-	-	-	-	0	0,418	-	0,418	0	-	1,00	0,000
W5	3 - 11	PS-12N	-	1	0	0	4.1	0,090	0,00	0,000	-	-	-	-	-	-	0	0,016	-	0,016	0	-	1,00	0,000
W7	5 - 13	PS-12N	-	1	0	0	4.1	-2,400	0,00	0,000	-	-	-	-	-	-	0	0,295	-	0,295	0	-	1,00	0,000
W9	6 - 14	PS-12N	-	1	0	0	4.1	-5,842	0,00	0,000	-	-	-	-	-	-	0	0,717	-	0,717	0	-	1,00	0,000
W2	9 - 2	PS-12N	-	1	0	0	4.1	-6,277	0,00	0,000	-	-	-	-	-	-	0	0,771	-	0,771	0	-	1,00	0,000
W4	10 - 3	PS-12N	-	1	0	0	4.1	-2,140	0,00	0,000	-	-	-	-	-	-	0	0,263	-	0,263	0	-	1,00	0,000
W6	12 - 4	98 x 48	C24	1	37632	76832	1.1	0,025	0,00	0,000	-	-	-	-	-	-	0	-	-	0,001	0	-	0,67	0,000
W8	13 - 6	PS-12N	-	1	0	0	4.1	2,652	0,00	0,000	-	-	-	-	-	-	0	0,480	-	0,480	0	-	1,00	0,000



Designed By:
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 Sepänkatu 7-9, 11710 RIIHIMÄKI, mitek@mittek.fi
 Tel: 019-77410

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 Build: 10.3.2017
 Printed: 07/13/2020 17:51:44
 Designed: 13.7.2020 12.24.00
 Designer: Joonas Siira



MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F3
 H/T:
 Quantity: 4
 Ply: 1
 Page: 43/66

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
W10	14 - 7	PS-12N	-	1	0	0	4.1	5,675	0,00	0,000	-	-	-	-	-	-	0	0,676	-	0,676	0	-	1,00	0,000

- * indicates a multi-ply member
- indicates a staggered posi web



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 Designed: 13.7.2020 12.24.00
 Designer: Joonas Siira

Deflection Checks - Details

	Deflection Test	Location	Load Case	Permissible Deflection	Actual Deflection (mm)
Bottom Chord Span	W(inst)	8 - 15	6	1	3.79
Bottom Chord Span	W(net,fin)	8 - 15	6	1	3.6
Bottom Chord Span	W(fin)	8 - 15	6	1	5.14
Top Chord Span	Unknown	1 - 7	5	1	1.12

Camber

Beam has been pre-cambered to at least the deadload deflection.
 Camber at mid span in member = 1,53mm.

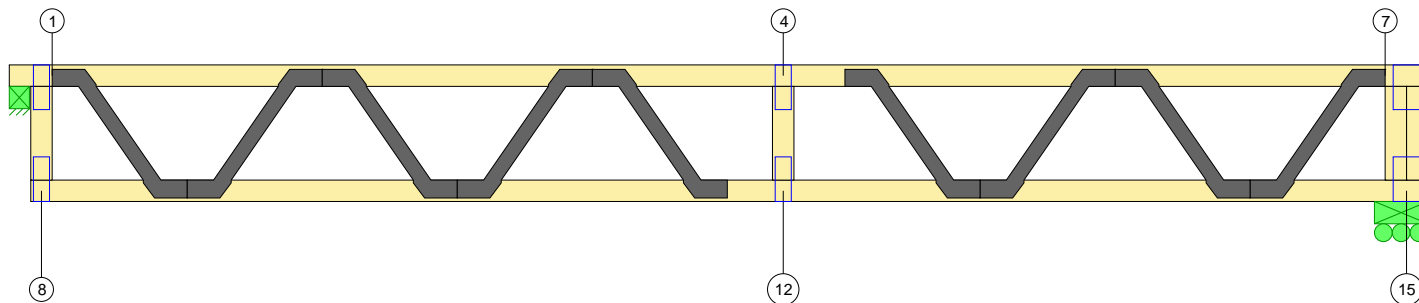


MiTek 2020 6.2.90.0

Job Ref: J200002
Order Number:
Customer: Jetta Talo Oy
Project: 6880
Site Address:

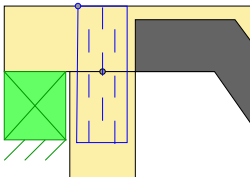
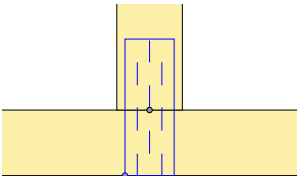
Truss: F3
H/T:
Quantity: 4
Ply: 1
Page: 45/66

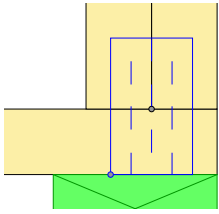
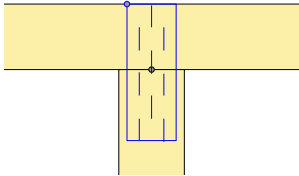
Punched Metal Plate Fastener Checks

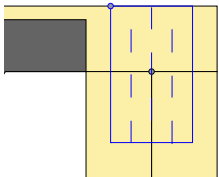
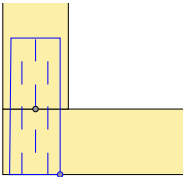


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Build: 10.3.2017
Printed: 07/13/2020 17:51:44
Designed: 13.7.2020 12.24.00
Designer: Joonas Siira

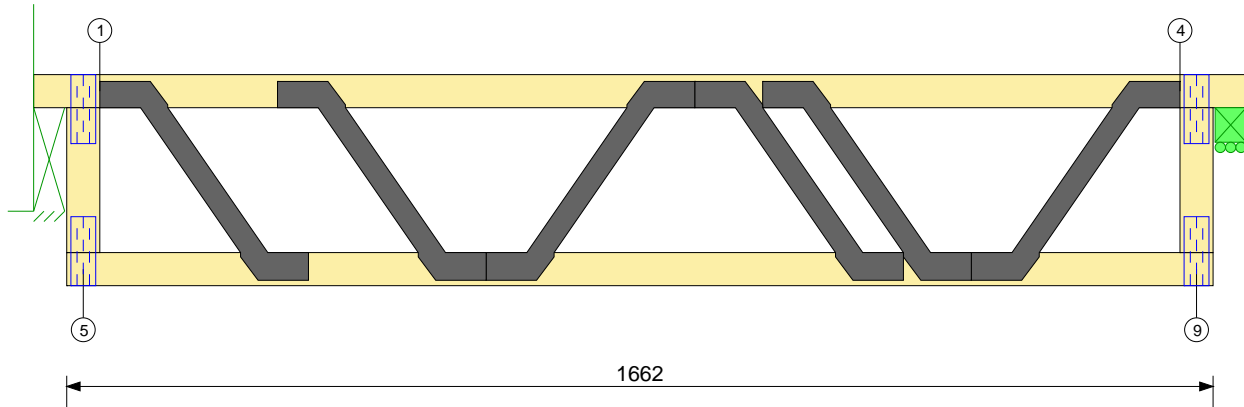
		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	F_a, α, β (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
1	TOP_W 36x100 36x100	4.1	1-7	0,000	0,446	-90	0,00	90	0	2,52	988	12225	0,02	4.1	36	0,446	0,000	90	149,7	55,87	0,00
		4.1	1-8	-0,183	0,000	-90	0,00	0	0	3,56	962	11701	0,00	4.1	36	0,183	0,000	90	149,7	55,87	0,00
		 <p>Joint Type NCMV+p</p>																			
12	TOP_W 36x100 36x100	1.1	8-15	0,000	-0,025	-90	0,00	90	0	2,52	988	12225	0,00	-	0	0,000	1,319	2	0,000	0,000	0,00
		-	4-12	0,000	1,319	-90	0,00	90	90	1,88	962	11701	0,00	-	0	0,000	1,319	2	0,000	0,000	0,00
		 <p>Joint Type NCMW+p</p>																			

Anchorage													Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	$F_{a,\alpha,\beta}$ (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
15	TOP_W 60x100 60x100	4.1	8-15	-0,270	4,437	-90	0,00	87	3	2,57	1900	32166	0,05	4.1	60	-2,218	0,270	90	115,2	93,12	0,02
		4.1	7-15	-2,215	0,135	-90	0,00	3	3	3,50	740	8287	0,03	4.1	30	-1,108	0,135	90	57,60	46,56	0,01
		4.1	7-15	-2,215	0,135	-90	0,00	3	3	3,50	740	8287	0,03	4.1	52	2,215	0,135	0	94,01	153,9	0,01
 <p>Joint Type NBMVQ1+p</p>																					
4	TOP_W 36x100 36x100	1.1	1-7	0,000	0,025	-90	0,00	90	0	2,52	988	12225	0,00	-	0	0,000	1,319	2	0,000	0,000	0,00
		-	4-12	0,000	1,319	-90	0,00	90	90	1,88	962	11701	0,00	-	0	0,000	1,319	2	0,000	0,000	0,00
 <p>Joint Type NTMW+p</p>																					

		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	$F_{a,\alpha,\beta}$ (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
7	TOP_W 60x100 60x100	4.1	1-7	0,270	-4,167	-90	0,13	86	4	2,58	1900	32166	0,10	4.1	60	-6,429	0,270	90	115,2	93,12	0,06
		4.1	7-15	3,120	-0,135	-90	0,06	2	2	3,52	740	8287	0,17	4.1	30	-3,665	0,135	90	57,60	46,56	0,03
		4.1	7-15	1,310	-0,135	-90	0,06	6	6	3,47	740	8287	0,17	4.1	30	-2,760	0,135	90	57,60	46,56	0,02
Joint Type NTMVQ+p																					
8	TOP_W 36x100 36x100	4.1	8-15	0,000	-0,180	-90	0,00	90	0	2,52	988	12225	0,01	4.1	36	0,180	0,000	90	149,7	55,87	0,00
		4.1	1-8	0,183	0,000	-90	0,00	0	0	3,56	962	11701	0,00	4.1	36	0,183	0,000	90	149,7	55,87	0,00
Joint Type NBMV+p																					

Design Notes

1. This design conforms to the input data entered. Please ensure that the dimensions, pitch, and other design considerations have been correctly entered.
2. 2 D stiffness matrix analysis has been used.
3. System factor $K_{sys} = 1,0$ has been used.
4. Truss weight = 18 kg
5. Connector Plate location tolerance of 5 mm has been used.
6. Chords restraint provided by floor and ceiling material.
7. Strongback braces are required where a clear span of 4m and above exists. Strongbacks are to be placed at no more than 4m centres.
8. Strongback positions, section and strength class should be used as specified.
9. Floor deck material and ceiling material should be used as specified.
10. Forces: Compression is negative, Tension is positive.
Reactions: Uplift is Negative, Downwards reactions and deflections are positive.



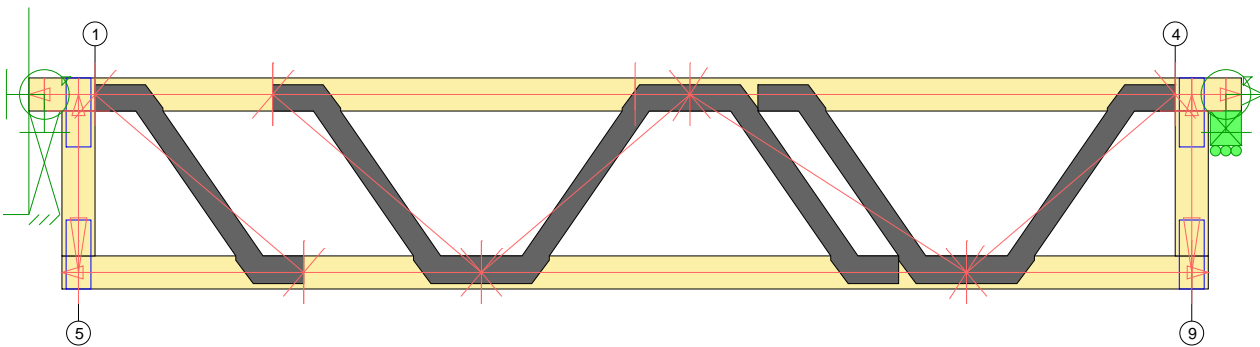
Truss Input Parameters

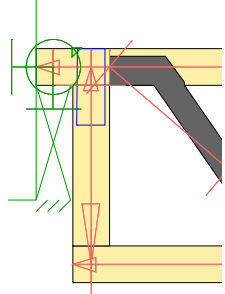
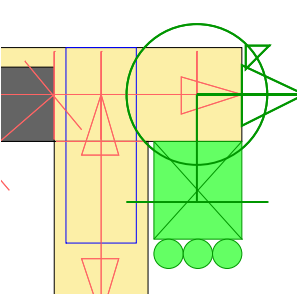
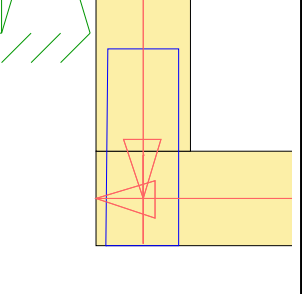
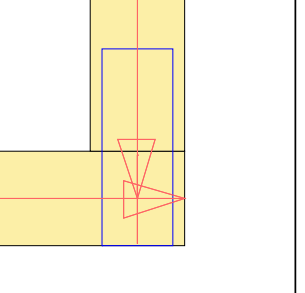
Span	1758 mm	Spacing	620 mm
Joist Depth	306 mm	Transport Length	1758 mm
Posi Strut	PS-12N		
Left Cantilever	0 mm	Right Cantilever	0 mm
Left Overhang	0 mm	Right Overhang	0 mm

Maximum Summations

Position	Member	LC	CSI
Bottom Chord	7 - 8	4.1	0,431
Web	1 - 6	4.1	0,419
Top Chord	1 - 2	4.1	0,386

Analog Model



1	Coordinates (mm)		4	Coordinates (mm)		5	Coordinates (mm)		9	Coordinates (mm)	
	X=96	Y=282		X=1662	Y=282		X=72	Y=24		X=1686	Y=24
											
Fixity			Fixity			Fixity			Fixity		
X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free	X=Free	Y=Free	R=Free

Load Case Diagrams

Critical Load Cases

Load Case	Description	Type	Name	Leading Action	Load Combination	Kmod	ym Timber
1.1	Pysyvä	Stress	EC5 6.10a	-	$\Sigma 1,35G$	0,60	1,30
4.1	Keskipitkä (1)	Stress	EC5 6.10b	Medium Term	$\Sigma 1,15G + 1,50Q$	0,80	1,30
5	Vibration check	Deflection	EC5 Deflection	-	-	0,60	1,30
6	Keskipitkä (1) KRT	Deflection	EC5 Deflection	Medium Term	$\Sigma 1,60G + 1,18Q$	0,80	1,30

Reactions - By Load Type

Joint	Type	Vertical (kN)		Horizontal (kN)
		Downwards	Uplift	
1	Dead	0,605	-	0,000
1	Long Term	0,163	-	0,000
1	Medium Term	1,090	-	0,000
4	Dead	0,605	-	0,000
4	Long Term	0,163	-	0,000
4	Medium Term	1,090	-	0,000

Reactions - By Load Duration

Joint	Duration	Vertical (kN)				Horizontal (kN)	
		Downwards	LC	Uplift	LC	Force	LC
1	Permanent	1,037	1.1	-	-	-	-
1	Medium Term	2,517	4.1	-	-	-	-
4	Permanent	1,037	1.1	-	-	-	-
4	Medium Term	2,517	4.1	-	-	-	-

Bearing Requirements

Joint	Wall Plate Strength	Input Size (mm)	Required Size (mm)	Max Bearing Stress Index Wallplate	Kc90	Max Bearing Stress Index Truss	Uplift (kN)
1		45	0	0,00	1,25	0,15	-
4		45	0	0,00	1,25	0,15	-

Worst Bearing Reactions

Joint	Max Reactions (kN) / LC			Dead Load Reactions (kN) / LC		Accidental Reactions (kN) / LC		
	Down	Uplift	Horizontal	Down	Uplift	Down	Uplift	Horizontal
1	2,517 (4.1)	-	-	1,037 (1.1)	-	-	-	-
4	2,517 (4.1)	-	-	1,037 (1.1)	-	-	-	-

Timber Properties

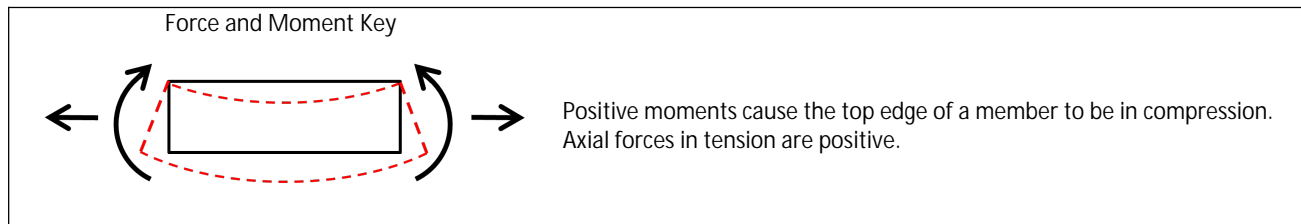
Strength Class C24

f(m,k)	24 N/mm ²	f(c,0,k)	21 N/mm ²	E(mean)	11000 N/mm ²	G(mean)	688 N/mm ²
f(t,0,k)	14 N/mm ²	f(c,90,k)	2,5 N/mm ²	E(0, 05)	7400 N/mm ²	ρ(mean)	420 kg/m ³
f(t,90,k)	0,4 N/mm ²	f(v,k)	4,0 N/mm ²	E(90,mean)	367 N/mm ²	ρ(k)	350 kg/m ³

Member Description

Member	Start/End	Nominal Size	Design Size	Grade	Ply	Wxx	Wyy	Kc,r	Kh Axial	Bending
T1	1 - 2	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	2 - 3	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
T1	3 - 4	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
EL1	5 - 1	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
ER1	9 - 4	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	-
B1	5 - 6	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
B1	6 - 7	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	7 - 8	98 x 48	98 x 48	C24	1	37632	76832	0,670	1,089	1,256
B1	8 - 9	98 x 48	98 x 48	C24	1	37632	76832	0,670	-	1,256
W1	1 - 6	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W2	2 - 7	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W5	3 - 8	PS-12N*	98 x 48*	-	1	0	0	1,000	-	-
W3	7 - 3	PS-12N	98 x 48	-	1	0	0	1,000	-	-
W6	8 - 4	PS-12N	98 x 48	-	1	0	0	1,000	-	-

Member End Forces



Member Information			Force						
Member	Start/ End	LC	Start			End			Middle
			Axial (kN)	Moment (kNm)	Shear (kN)	Axial (kN)	Moment (kNm)	Shear (kN)	Moment (kNm)
T1	1 - 2	4.1	-2,677	0,19	0,536	-2,677	0,23	0,170	0,23
T1	2 - 3	4.1	-2,308	0,23	0,144	-2,308	-0,18	1,513	0,15
T1	3 - 4	4.1	-2,171	-0,18	1,467	-2,171	0,17	0,459	0,17
EL1	5 - 1	4.1	-0,565	0,00	0,000	-0,565	0,00	0,000	0,00
ER1	9 - 4	4.1	-0,057	0,00	0,000	-0,057	0,00	0,000	0,00
B1	5 - 6	4.1	0,000	0,00	-0,568	0,000	-0,19	0,611	-0,09
B1	6 - 7	4.1	2,677	-0,19	1,672	2,677	0,23	-1,638	0,02
B1	7 - 8	4.1	4,241	0,23	-0,324	4,241	-0,03	0,417	0,11
B1	8 - 9	4.1	0,000	-0,03	0,103	0,000	0,00	-0,060	-0,01
W1	1 - 6	4.1	3,518	0,00	0,000	3,518	0,00	0,000	0,00
W2	2 - 7	4.1	-0,484	0,00	0,000	-0,484	0,00	0,000	0,00
W5	3 - 8	4.1	-2,461	0,00	0,000	-2,461	0,00	0,000	0,00
W3	7 - 3	4.1	-2,540	0,00	0,000	-2,540	0,00	0,000	0,00
W6	8 - 4	4.1	2,853	0,00	0,000	2,853	0,00	0,000	0,00

- * indicates a multi-ply member
- indicates a staggered posi web





MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F4
 H/T:
 Quantity: 4
 Ply: 1
 Page: 53/66

Design Results - Stress and Buckling

Mem.	Member Information										Buckling							Critical Stress						
	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
T1	1 - 2	98 x 48	C24	1	37632	76832	4.1	-2,677	0,24	0,536	0,315	0,060	0,997	1,051	258	100	0	0,386	0,281	0,386	76	4.1	0,67	0,104
T1	2 - 3	98 x 48	C24	1	37632	76832	4.1	-2,308	0,24	1,513	0,740	0,060	0,857	1,051	605	100	0	0,384	0,274	0,384	9	4.1	0,67	0,292
T1	3 - 4	98 x 48	C24	1	37632	76832	4.1	-2,171	0,21	1,467	0,861	0,060	0,788	1,051	703	100	0	0,349	0,247	0,349	76	4.1	0,67	0,284
EL1	5 - 1	98 x 48	C24	1	37632	76832	4.1	-0,565	0,00	0,000	-	-	-	-	-	0	-	-	0,000	0	-	0,67	0,000	
ER1	9 - 4	98 x 48	C24	1	37632	76832	4.1	-0,057	0,00	0,000	-	-	-	-	-	0	-	-	0,000	0	-	0,67	0,000	
B1	5 - 6	98 x 48	C24	1	37632	76832	4.1	0,000	-0,19	0,611	-	0,060	-	1,051	327	100	0	0,276	0,193	0,276	100	4.1	0,67	0,118
B1	6 - 7	98 x 48	C24	1	37632	76832	4.1	2,677	0,23	1,672	-	-	-	-	-	0	0,396	-	0,396	100	4.1	0,67	0,323	
B1	7 - 8	98 x 48	C24	1	37632	76832	4.1	4,241	0,23	0,417	-	-	-	-	-	0	0,431	-	0,431	0	4.1	0,67	0,081	
B1	8 - 9	98 x 48	C24	1	37632	76832	4.1	0,000	-0,03	0,103	-	0,060	-	1,051	327	100	0	0,038	0,027	0,038	0	4.1	0,67	0,020
W1	1 - 6	PS-12N	-	1	0	0	4.1	3,518	0,00	0,000	-	-	-	-	-	0	0,419	-	0,419	0	-	1,00	0,000	
W2	2 - 7	PS-12N	-	1	0	0	4.1	-0,484	0,00	0,000	-	-	-	-	-	0	0,059	-	0,059	0	-	1,00	0,000	
W5	3 - 8	PS-12N*	-	1	0	0	4.1	-2,461	0,00	0,000	-	-	-	-	-	0	0,182	-	0,182	0	-	1,00	0,000	
W3	7 - 3	PS-12N	-	1	0	0	4.1	-2,540	0,00	0,000	-	-	-	-	-	0	0,312	-	0,312	0	-	1,00	0,000	
W6	8 - 4	PS-12N	-	1	0	0	4.1	2,853	0,00	0,000	-	-	-	-	-	0	0,340	-	0,340	0	-	1,00	0,000	

- * indicates a multi-ply member
- indicates a staggered posi web



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 Tel: 019-77410

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 Printed: 07/13/2020 17:51:44
 Designed: 13.7.2020 12.23.51
 Designer: Joonas Siira

Deflection Checks - Details

	Deflection Test	Location	Load Case	Permissible Deflection	Actual Deflection (mm)
Bottom Chord Span	W(inst)	5 - 9	6	1	2.03
Bottom Chord Span	W(net,fin)	5 - 9	6	1	1.89
Bottom Chord Span	W(fin)	5 - 9	6	1	2.74
Top Chord Span	Unknown	1 - 4	5	1	0.91

Camber

Beam has been pre-cambered to at least the deadload deflection.
Camber at mid span in member = 0,81mm.

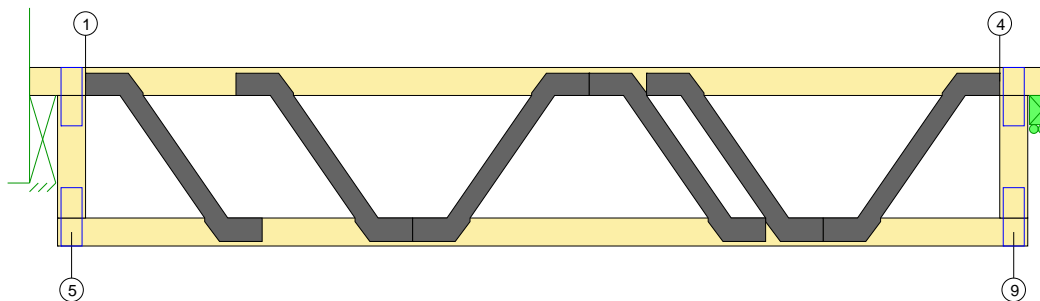


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Job Ref: J200002
Order Number:
Customer: Jetta Talo Oy
Project: 6880
Site Address:

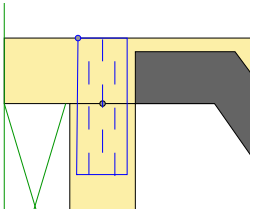
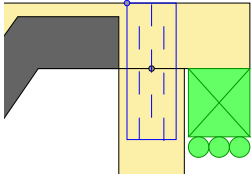
Truss: F4
H/T:
Quantity: 4
Ply: 1
Page: 55/66

Punched Metal Plate Fastener Checks



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Designed: 13.7.2020 12.23.51
Designer: Joonas Siira

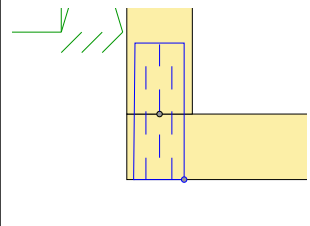
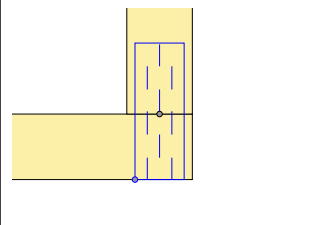
		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	F_a, α, β (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$			
1	TOP_W 36x100 36x100	4.1	1-4	0,000	-0,302	-90	0,00	90	0	2,52	988	12225	0,01	4.1	36	-0,151	0,000	90	69,12	55,87	0,00
		4.1	1-5	0,565	0,000	-90	0,00	0	0	3,56	962	11701	0,01	4.1	36	-0,282	0,000	90	69,12	55,87	0,00
		 <p>Joint Type NCMV+p</p>																			
4	TOP_W 36x100 36x100	4.1	1-4	0,000	0,206	-90	0,00	90	0	2,52	988	12225	0,01	4.1	36	0,206	0,000	90	149,7	55,87	0,00
		4.1	4-9	0,565	0,000	-90	0,00	0	0	3,56	962	11701	0,01	4.1	36	-0,028	0,000	90	69,12	55,87	0,00
		 <p>Joint Type NCMV+p</p>																			



MiTek 2020 6.2.90.0

Job Ref: J200002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: F4
 H/T:
 Quantity: 4
 Ply: 1
 Page: 57/66

		Anchorage											Steel								
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	F_a, α, β (N/mm ²)	Aef (mm ²)	Wp (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI		
														Fx,ed	Fy,ed		Fx,rk	Fy,rk			
5	TOP_W 36x100 36x100	4.1	5-9	0,000	0,568	-90	0,00	90	0	2,52	988	12225	0,01	4.1	36	-0,284	0,000	90	69,12	55,87	0,00
		4.1	1-5	-0,565	0,000	-90	0,00	0	0	3,56	962	11701	0,01	4.1	36	-0,282	0,000	90	69,12	55,87	0,00
Joint Type NBMV+p																					
9	TOP_W 36x100 36x100	4.1	5-9	0,000	-0,568	-90	0,00	90	0	2,52	988	12225	0,01	4.1	36	-0,030	0,000	90	69,12	55,87	0,00
		4.1	4-9	-0,565	0,000	-90	0,00	0	0	3,56	962	11701	0,01	4.1	36	-0,028	0,000	90	69,12	55,87	0,00
Joint Type NBMV+p																					

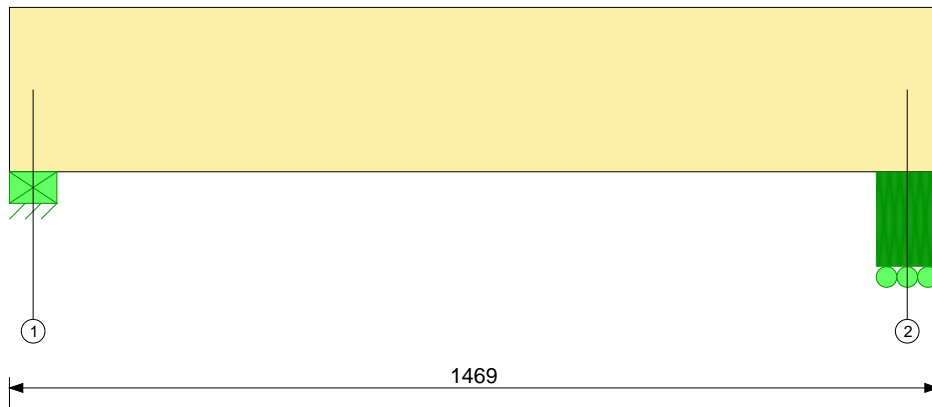


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 Tel: 019-77410

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 Build: 10.3.2017
 Printed: 07/13/2020 17:51:44
 Designed: 13.7.2020 12.23.51
 Designer: Joonas Siira

Design Notes

1. This design conforms to the input data entered. Please ensure that the dimensions, pitch, and other design considerations have been correctly entered.
2. 2 D stiffness matrix analysis has been used.
3. System factor $K_{sys} = 1,0$ has been used.
4. Truss weight = 10 kg
5. Connector Plate location tolerance of 5 mm has been used.
6. Chords restraint provided by floor and ceiling material.
7. Strongback braces are required where a clear span of 4m and above exists. Strongbacks are to be placed at no more than 4m centres.
8. Strongback positions, section and strength class should be used as specified.
9. Floor deck material and ceiling material should be used as specified.
10. Forces: Compression is negative, Tension is positive.
Reactions: Uplift is Negative, Downwards reactions and deflections are positive.



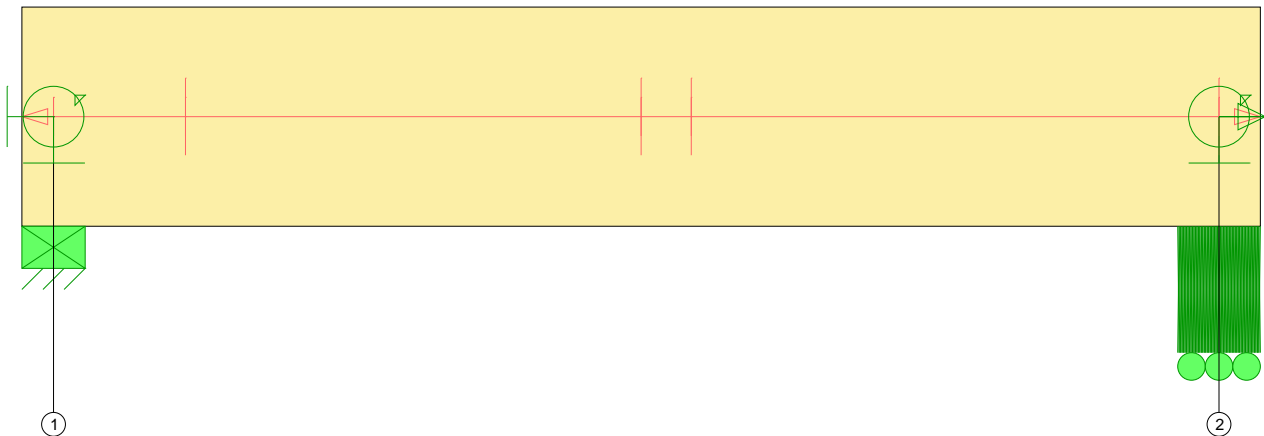
Truss Input Parameters

Span	1469 mm	Spacing	100 mm
Joist Depth	260 mm	Transport Length	1469 mm
Posi Strut			
Left Cantilever	0 mm	Right Cantilever	0 mm
Left Overhang	0 mm	Right Overhang	0 mm

Maximum Summations

Position	Member	LC	CSI
Bottom Chord	1 - 2	6.2	0,076

Analog Model



0	Coordinates (mm)	
	X=0	Y=0
Fixity		
X=Free	Y=Free	R=Free

Load Case Diagrams

Additional Concentrated Loads

Chord	Type	Direction	X Pos (mm)	Load (kN)	Action Type	Load From	Load Case applied to
1 - 2	Permanent	Down	194	0,60	Permanent	F4	All
1 - 2	Permanent	Down	794	0,60	Permanent	F4	All
1 - 2	Long Term	Down	194	0,16	Variable	F4	All
1 - 2	Long Term	Down	794	0,16	Variable	F4	All
1 - 2	Medium Term	Down	194	1,09	Variable	F4	All
1 - 2	Medium Term	Down	794	1,09	Variable	F4	All

Critical Load Cases

Load Case	Description	Type	Name	Leading Action	Load Combination	Kmod	ym Timber
1.1	Pysyvä	Stress	EC5 6.10a	-	$\Sigma 1,35G$	0,60	1,20
2.1	Pitkäaikainen	Stress	EC5 6.10a	-	$\Sigma 1,35G$	0,70	1,20
6.2	Keskipitkä (1)	Stress	EC5 6.10b	Medium Term	$\Sigma 1,15G + 1,50Q$	0,80	1,20
7	Vibration check	Deflection	EC5 Deflection	-	-	0,60	1,20
8	Keskipitkä (1) KRT	Deflection	EC5 Deflection	Medium Term	$\Sigma 1,00G + 1,00Q + 0,70long$	0,80	1,20

Reactions - By Load Type

Joint	Type	Vertical (kN)		Horizontal (kN)
		Downwards	Uplift	
1	Dead	0,930	-	0,000
1	Long Term	0,241	-	0,000
1	Medium Term	1,606	-	0,000
2	Dead	0,521	-	0,000
2	Long Term	0,130	-	0,000
2	Medium Term	0,868	-	0,000

Reactions - By Load Duration

Joint	Duration	Vertical (kN)				Horizontal (kN)	
		Downwards	LC	Uplift	LC	Force	LC
1	Permanent	1,284	1.1	-	-	-	-
1	Long Term	1,514	2.1	-	-	-	-
1	Medium Term	3,730	6.2	-	-	-	-

Reactions - By Load Duration

Joint	Duration	Vertical (kN)				Horizontal (kN)	
		Downwards	LC	Uplift	LC	Force	LC
2	Permanent	0,733	1.1	-	-	-	-
2	Long Term	0,846	2.1	-	-	-	-
2	Medium Term	2,038	6.2	-	-	-	-

Bearing Requirements

Joint	Wall Plate Strength	Input Size (mm)	Required Size (mm)	Max Bearing Stress Index Wallplate	Kc90	Max Bearing Stress Index Truss	Uplift (kN)
1		75	0	0,00	1,00	0,14	-
2		98	0	0,00	1,00	0,06	-

Worst Bearing Reactions

Joint	Max Reactions (kN) / LC			Dead Load Reactions (kN) / LC		Accidental Reactions (kN) / LC		
	Down	Uplift	Horizontal	Down	Uplift	Down	Uplift	Horizontal
1	3,730 (6.2)	-	-	1,284 (1.1)	-	-	-	-
2	2,038 (6.2)	-	-	0,733 (1.1)	-	-	-	-

Timber Properties

Strength Class CKS

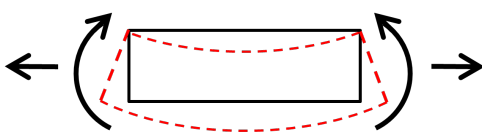
f(m,k)	44 N/mm ²	f(c,0,k)	35 N/mm ²	E(mean)	13800 N/mm ²	G(mean)	600 N/mm ²
f(t,0,k)	35 N/mm ²	f(c,90,k)	6,0 N/mm ²	E(0,05)	11600 N/mm ²	ρ(mean)	510 kg/m ³
f(t,90,k)	0,8 N/mm ²	f(v,k)	4,1 N/mm ²	E(90,mean)	450 N/mm ²	ρ(k)	480 kg/m ³

Member Description

Member	Start/End	Nominal Size	Design Size	Grade	Ply	Wxx	Wyy	Kc,r	Kh Axial	Bending
B1	1 - 2	45 x 260	45 x 260	CKS	1	507000	87750	1,000	-	1,017

Member End Forces

Force and Moment Key



Positive moments cause the top edge of a member to be in compression.
Axial forces in tension are positive.

Member Information			Force						
Member	Start/ End	LC	Start			End			Middle
			Axial (kN)	Moment (kNm)	Shear (kN)	Axial (kN)	Moment (kNm)	Shear (kN)	Moment (kNm)
B1	1 - 2	6.2	0,000	0,00	3,711	0,000	0,00	2,013	1,10

- * indicates a multi-ply member
- indicates a staggered posi web



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Job Ref: J200002
Order Number:
Customer: Jetta Talo Oy
Project: 6880
Site Address:

Truss: T1
H/T:
Quantity: 2
Ply: 1
Page: 62/66

Design Results - Stress and Buckling

Member Information											Buckling							Critical Stress						
Mem.	Start/End	Size	Grade	Ply	Wxx	Wyy	LC	Axial (kN)	Moment (kNm)	Shear (kN)	$\lambda_{rel IP}$	$\lambda_{rel OP}$	Kc,y	Kc,z	IP (mm)	OP (mm)	Brac.	IP CSI	OP CSI	Max CSI	Pos %	Shear LC	Kc,r	SSI
B1	1 - 2	45 x 260	CKS	1	507000	87750	6.2	0,000	1,16	3,711	-	0,135	-	1,017	1383	100	0	0,076	0,054	0,076	55	6.2	1,00	0,174

- * indicates a multi-ply member
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Designed: 13.7.2020 17.33.54
Designer: Joonas Siira

Deflection Checks - Details

	Deflection Test	Location	Load Case	Permissible Deflection	Actual Deflection (mm)
Bottom Chord Span	W(inst)	1 - 2	8	3.46	0.17
Bottom Chord Span	W(net,fin)	1 - 2	8	4.61	0.22
Bottom Chord Span	W(fin)	1 - 2	8	6.91	0.22
Bottom Chord Span	Unknown	1 - 2	7	3	0.06

Camber

Beam is not cambered.

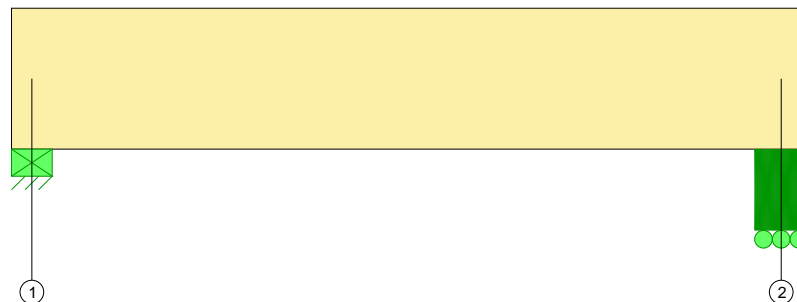


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Job Ref: J200002
Order Number:
Customer: Jetta Talo Oy
Project: 6880
Site Address:

Truss: T1
H/T:
Quantity: 2
Ply: 1
Page: 64/66

Punched Metal Plate Fastener Checks



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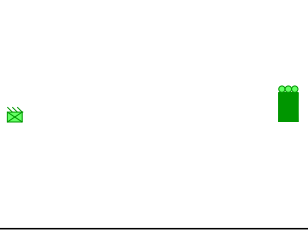
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Designed: 13.7.2020 17.33.54
Designer: Joonas Siira



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Job Ref: J20002
 Order Number:
 Customer: Jetta Talo Oy
 Project: 6880
 Site Address:

Truss: T1
 H/T:
 Quantity: 2
 Ply: 1
 Page: 65/66

		Anchorage											Steel							
LC	Mbr	Axial (kN)	Shear (kN)	Angle (°)	Moment (kNm)	α (°)	β (°)	$F_{a,\alpha,\beta}$ (N/mm ²)	A_{ef} (mm ²)	W_p (mm ³)	CSI	LC	Len (mm)	Force (kN)		γ (°)	Force (kN)		CSI	
														$F_{x,ed}$	$F_{y,ed}$		$F_{x,rk}$	$F_{y,rk}$		
0	-1000x-1000	0,000	0,000	0	0,00	0	0	0,00	0	0	0,00		0	0,000	0,000	0	0,000	0,000	0,00	
																				
Joint Type																				



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 Printed: 07/13/2020 17:51:45
 Designed: 13.7.2020 17.33.54
 Designer: Joonas Siira

Design Notes

1. This design conforms to the input data entered. Please ensure that the dimensions, pitch, and other design considerations have been correctly entered.
2. 2 D stiffness matrix analysis has been used.
3. System factor $K_{sys} = 1,0$ has been used.
4. Truss weight = 9 kg
5. Connector Plate location tolerance of 5 mm has been used.
6. Chords restraint provided by floor and ceiling material.
7. Strongback braces are required where a clear span of 4m and above exists. Strongbacks are to be placed at no more than 4m centres.
8. Strongback positions, section and strength class should be used as specified.
9. Floor deck material and ceiling material should be used as specified.