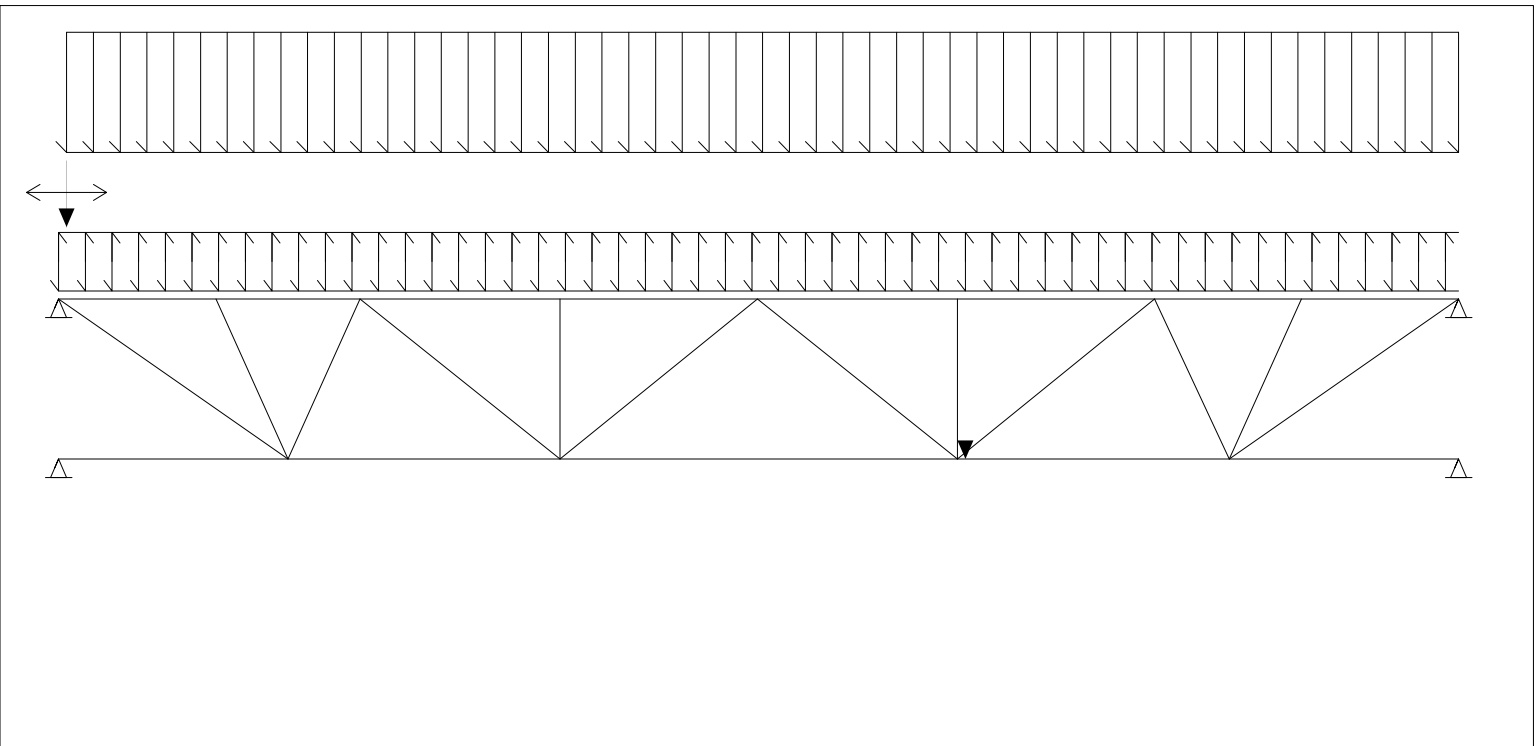
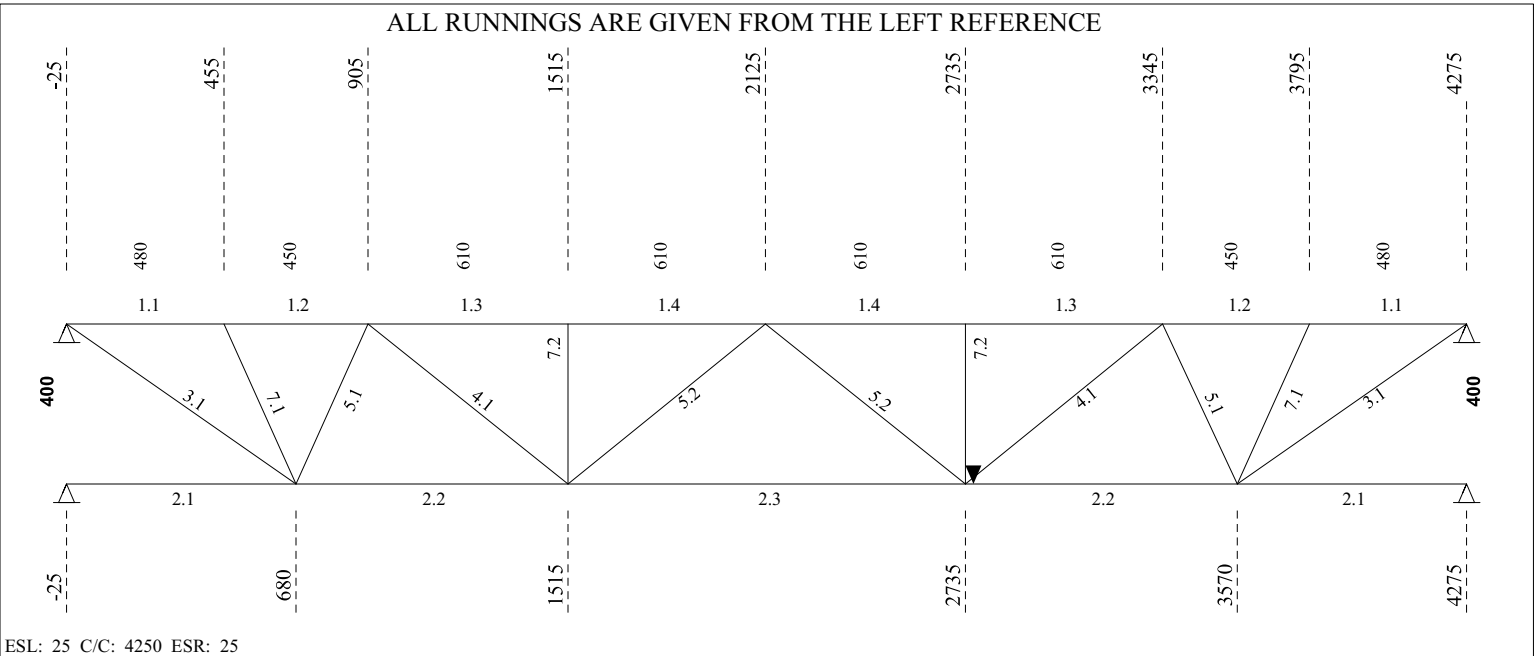


Project: - Block 23

JOIST CALCULATION ACCORDING TO S16-09, S136-07 & NBC 2010 (rev 2021)

Mark : JT1 (Hybrid Mid Span, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

( THE SHOWN VALUES ARE UN-FACTORED )

(D) DEAD LOAD.....: 4.29 kN/m<sup>2</sup> ( 8.37 kN/m) SPACING...: 1.95 m  
 (L) LIVE LOAD.....: 2.40 kN/m<sup>2</sup> ( 4.68 kN/m) Companion load factor (live)...: 1.0  
 (S) SNOW LOAD.....: 0.00 kN/m<sup>2</sup> ( 0.00 kN/m)

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.00	1.20	0.00	0.00	0	0	4	1	90

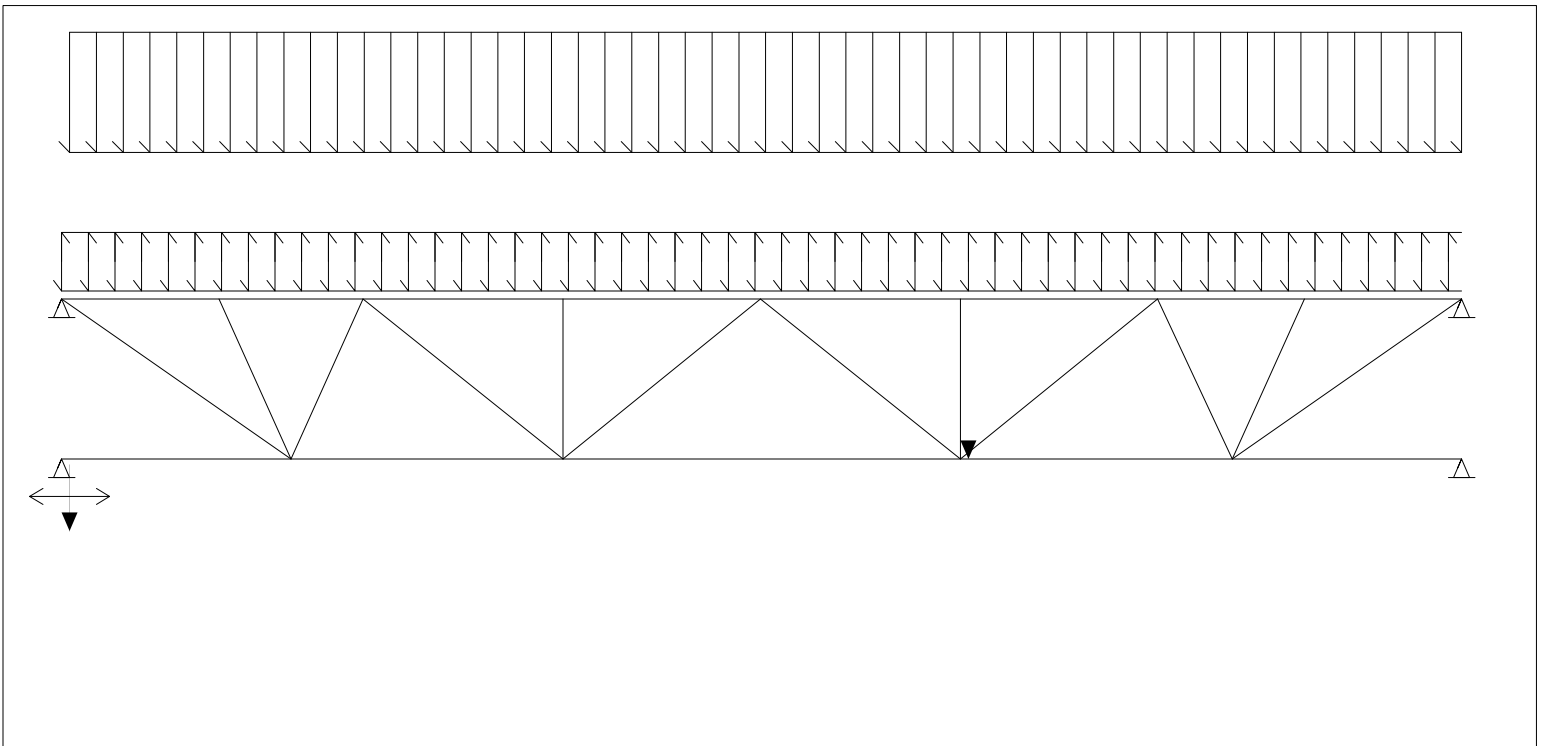
----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left [kN/m <sup>2</sup> ]	Right [kN/m <sup>2</sup> ]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.08	0.15	0	4250	1	1

----- **(REAL) DEFLECTION** -----

Allowed deflection under live and snow load..... = 11.67 mm (L/ 360)  
 Calculated deflection under combined loads (L + 0.9S) = 3.03 mm (L/ 1385)  
 Gross joist inertia..... = 44.76 x10<sup>6</sup> mm<sup>4</sup>  
 Required camber..... = 12.00 mm  
 Use of the joist (Ref. S16-09, art.16.5.1)..... = Floor

===== **LOAD NO 2 ( M1#02 )** =====



Project: - Block 23

(V10249) 20/02/27 13:03:38

----- **LOADING CONDITIONS** -----

( THE SHOWN VALUES ARE UN-FACTORED )

(D) DEAD LOAD.....: 4.29 kN/m<sup>2</sup> ( 8.37 kN/m) SPACING...: 1.95 m  
 (L) LIVE LOAD.....: 2.40 kN/m<sup>2</sup> ( 4.68 kN/m) Companion load factor (live)...: 1.0  
 (S) SNOW LOAD.....: 0.00 kN/m<sup>2</sup> ( 0.00 kN/m)

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Hole	Dead Load [kN]	Live load [kN]	Snow Load [kN]	Gross Uplift [kN]	Position [mm]	Spacing [mm]	Cat. 0-9	Chord 1/2	Incl. [deg]
1	1	No	0.00	1.20	0.00	0.00	0	0	4	2	90

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left [kN/m <sup>2</sup> ]	Right [kN/m <sup>2</sup> ]	Start [mm]	Length [mm]	Chord	Cat.
1	1	0.08	0.15	0	4250	1	1

----- **(REAL) DEFLECTION** -----

Allowed deflection under live and snow load..... = 11.67 mm (L/ 360)  
 Calculated deflection under combined loads (L + 0.9S) = 3.03 mm (L/ 1385)  
 Use of the joist (Ref. S16-09, art.16.5.1)..... = Floor

===== **End of multiple loads** =====

----- **F O R C E S I N M E M B E R S [kN]** -----

(THE SHOWN FORCES ARE FACTORED)

Gap.....: 25.4 (Fy = 380 MPa U/N) (Eff. depth = 374.78 mm)

Left Reaction = 40.41/ 0.00 kN Right Reaction = 40.41/ 0.00 kN

**REQUIRED MATERIAL**

**REQUIRED WELD**

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
<b>Top Chord</b>							
1.1	0.00	-61.02	LL 1 3/4 x 1 3/4 x .157 CF	z 45 0.56	480		
1.2	0.00	-56.18	do	z 47 0.83	450		
1.3	0.00	-99.78	do	z 64 0.94	610		
1.4	0.00	-99.78	LL 1 3/4 x 1 3/4 x .157 CF	z 64 0.94	610		
<b>Bottom Chord</b>							
2.1	0.00	0.00	LL 1 5/8 x 1 5/8 x .157	yy 97 0.46	705		
2.2	72.19	0.00	do	z 105 0.69	835		
2.3	108.97	0.00	LL 1 5/8 x 1 5/8 x .157	z 153 0.69	1220		
<b>End Diagonal</b>							
3.1	66.99	0.00	BR 15/16 (50W)	z 129 0.49	767	5.00 - 31	
<b>Diagonal Towards End</b>							
4.1	33.65	0.00	U 1 x 7/8 x 0.091	z 110 0.72	729	2.30 - 48	
<b>Diagonal Towards Center</b>							
5.1	0.00	-31.28	U 1 x 1 1/8 x 0.118	z 47 0.80	459	3.00 - 38	
5.2	4.47	-18.23	U 1 x 7/8 x 0.091	z 99 0.96	729	2.30 - 38	
<b>Secondary Web Member</b>							
7.1	0.00	-22.12	U 1 x 7/8 x 0.091	z 62 0.74	459	2.30 - 31	
7.2	0.00	-22.05	U 1 x 7/8 x 0.091	z 54 0.69	400	2.30 - 31	

----- **BRIDGING** -----

Maximum spacing between rows of bridging @ Top Chord: 4815.82 ==> 1 Row(s) Minimum Lateral Supports Deck (304.8)