

5.1 metre Truss

User Manual

Read in conjunction with
Kwiktech Build Guide and
Kwiktech Tips & Tricks

Designed by

kwiktech.

Engineered by

sbcc. SCHMIDT
BENTLEY
ENGINEERING
CONSULTING

Rating: 7KN

as per Truss Length

Rev 2

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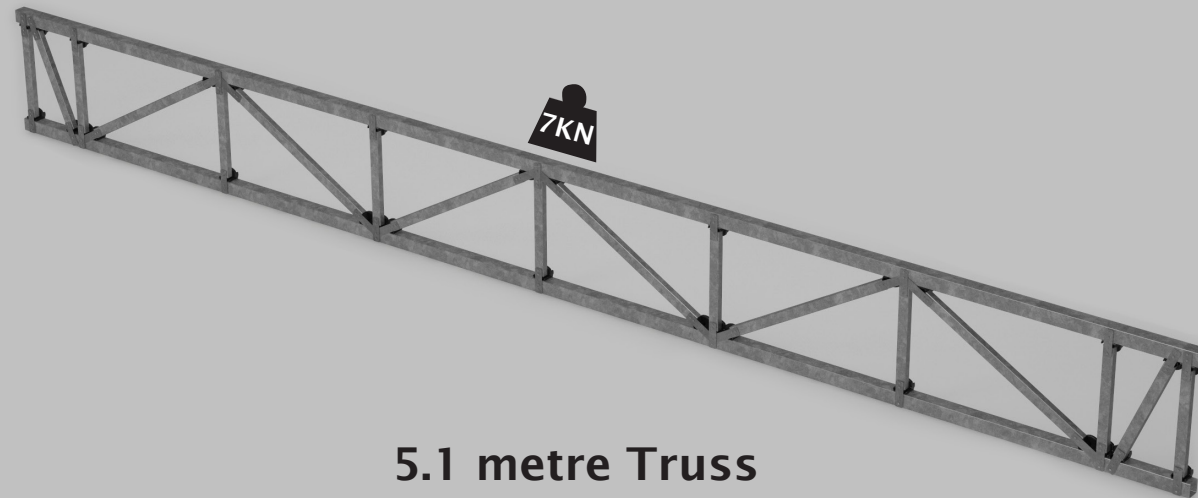
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All dimensions are in millimeters
(mm)

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Material List

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5.1m TRUSS KWIKTECH KITS

ITEM	LENGTH	COLOUR	QUANTITY	RESELLER PRICE
Kwiktech Truss Kit (NOTE: Some items will not be used)	-	-	2	

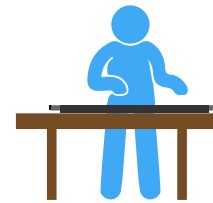
5.1m TRUSS NON KWIKTECH ITEMS

ITEM	ITEM ID #	ASSEMBLY ID #	LENGTH	COLOUR	QUANTITY	RESELLER PRICE
SHS 50x50x1.5 or 1.6mm	①		5083	Galv	2	
RHS 38x25x1.2 or 1.6mm	②		685	Galv	6	
RHS 38x25x1.2 or 1.6mm	③		402	Galv	2	
RHS 38x25x1.2 or 1.6mm	④		366	Galv	9	

Build Preparation



Rail Inserts



End Inserts
(Optional)



Universal
Connectors

REQUIRED KWIKTECH ITEMS (INCLUDED IN KITS)

ITEM	QUANTITY	ITEM	QUANTITY
Post Connector (KT-P-001)	0	10G x 16 Self Drilling Wafer Head Screw	204
Universal Connector (KT-P-002)	34	M6 x 40 Socket Head Cap Screw - Zinc	34
Rail Inserts (KT-P-003)	22	M6 x 20 Hex Head Bolt - Galv	0
60° Rail Inserts (KT-P-004)	12	M6 Nut - Galv	0
Star Picket Guide (KT-P-005)	0	Kwiktech 2mm Displacement Plate	18
Post Cap (KT-P-006)	0	Right Angle Bracket - Zinc	0
Tension Strapping 0.8 x 30 x 85mm	22	Assembly Wedge - Rubber	0
Tension Strapping 0.8x 30 x 95mm	0	10G x 16 Self Drilling Small Head Flat Top Screw	136
Tension Strapping 0.8 x 30 x 135mm	12		
Tension Strapping 0.8 x 30 x 250mm	0		

HOLLOW METAL

ITEM	TOTAL LENGTH
Duragal 50x50x1.5mm	10.2m
Duragal 38x25x1.2mm	8.5m

**FOR
INFORMATION
ONLY**

Member Locations

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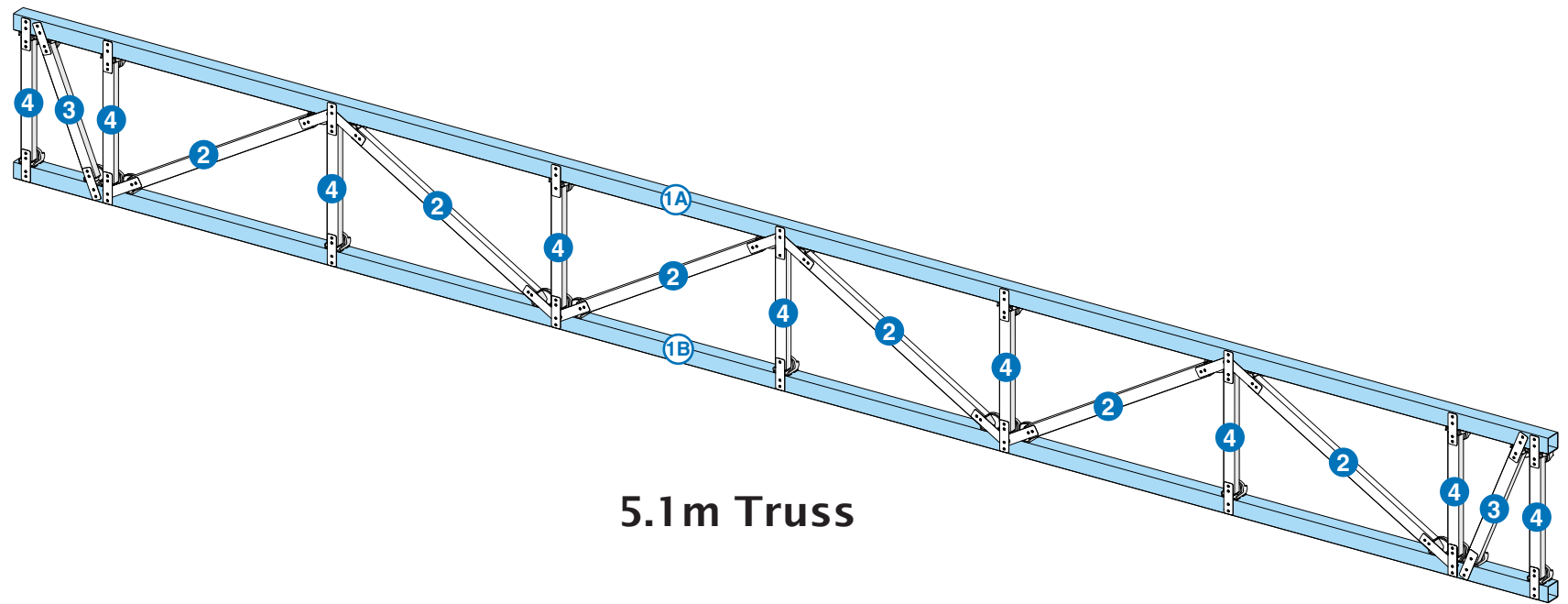
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Rail Assembly

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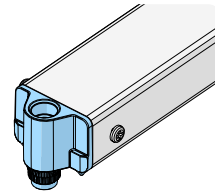
Rail Setup

Refer to build guide for assembly details.

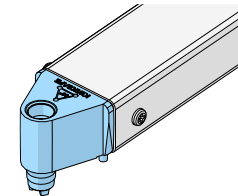
All members have a Standard insert unless otherwise noted.

Mark item ID on each member.

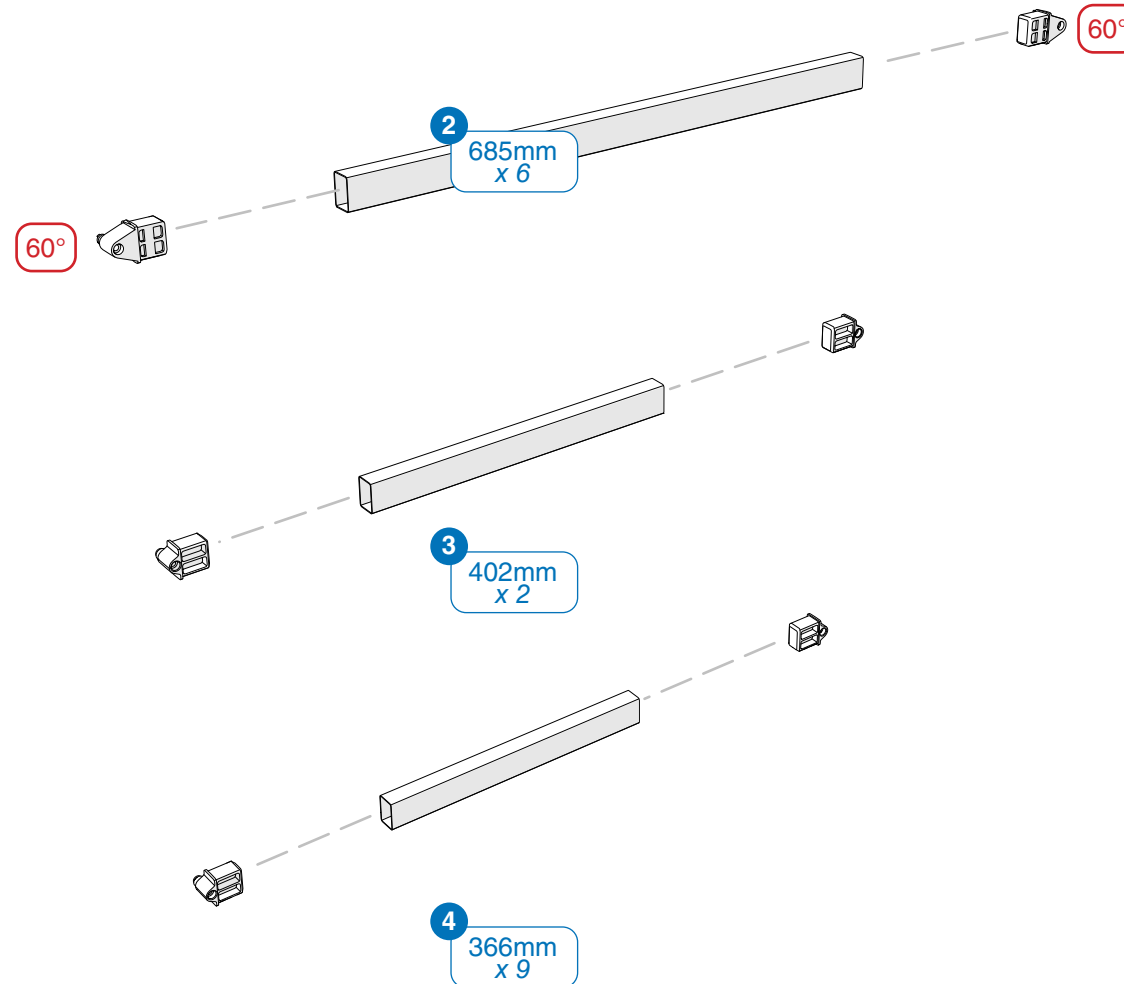
RAIL INSERT TYPES



Standard



60°



Approximate time required: 1.5 Hours

End Inserts (Optional)

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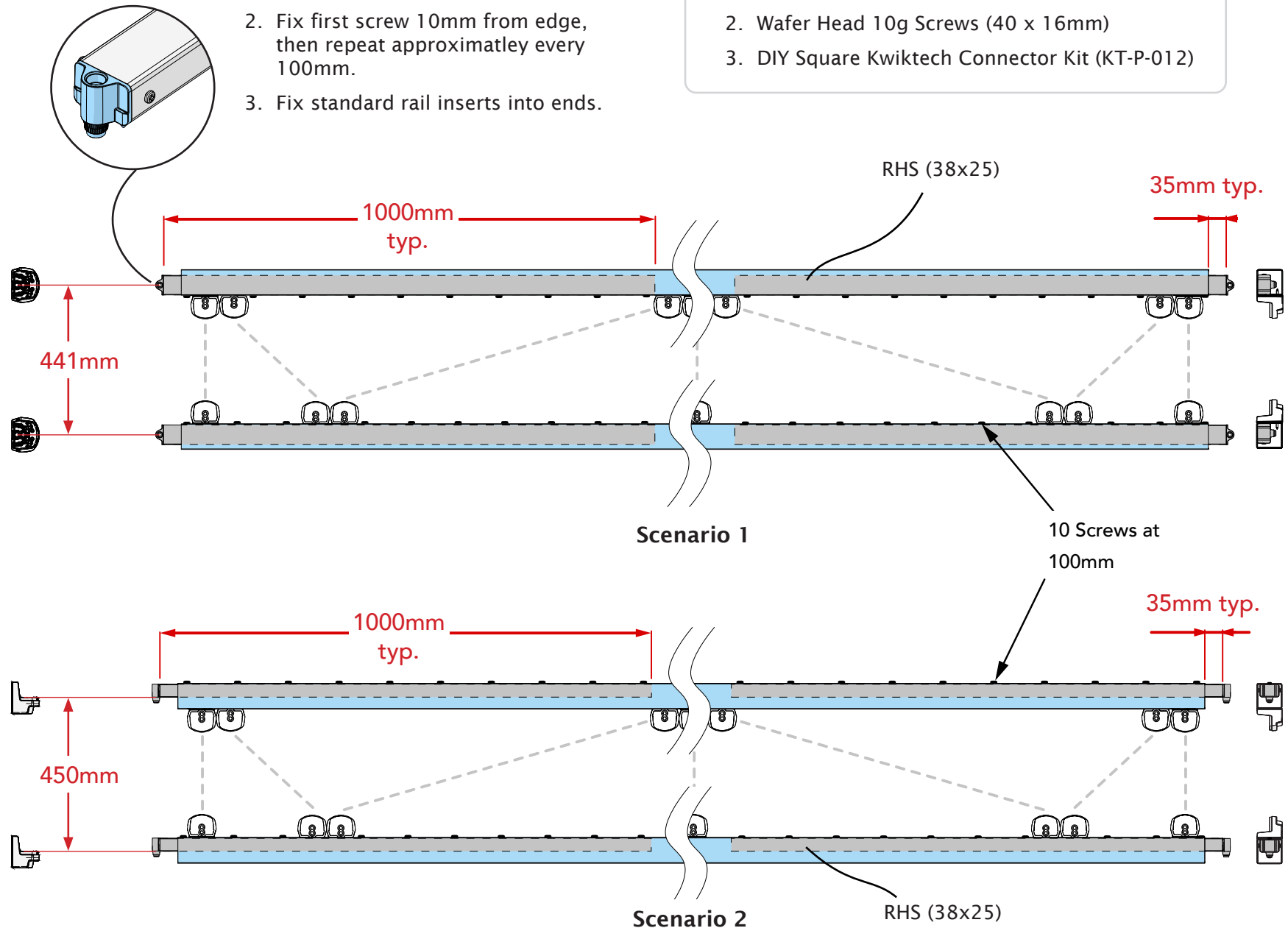
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Install Sequence

1. Insert RHS (38x25)
2. Fix first screw 10mm from edge, then repeat approximately every 100mm.
3. Fix standard rail inserts into ends.

Additional Materials:

1. 38x25x1.2 or 1.6mm RHS (4 x 1000mm)
2. Wafer Head 10g Screws (40 x 16mm)
3. DIY Square Kwiktech Connector Kit (KT-P-012)



Universal Connector Locations

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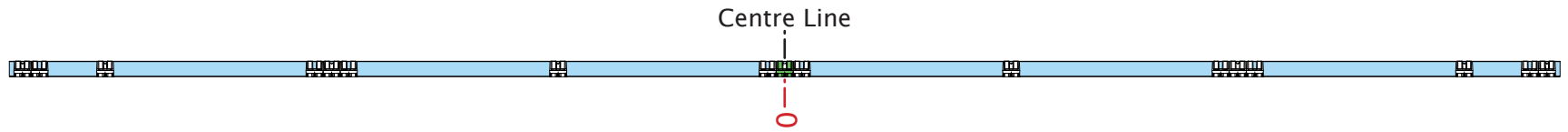
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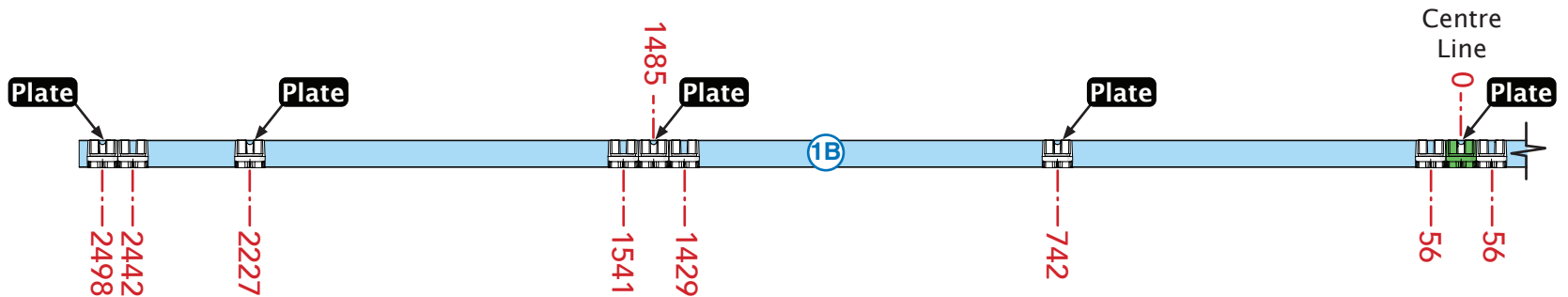
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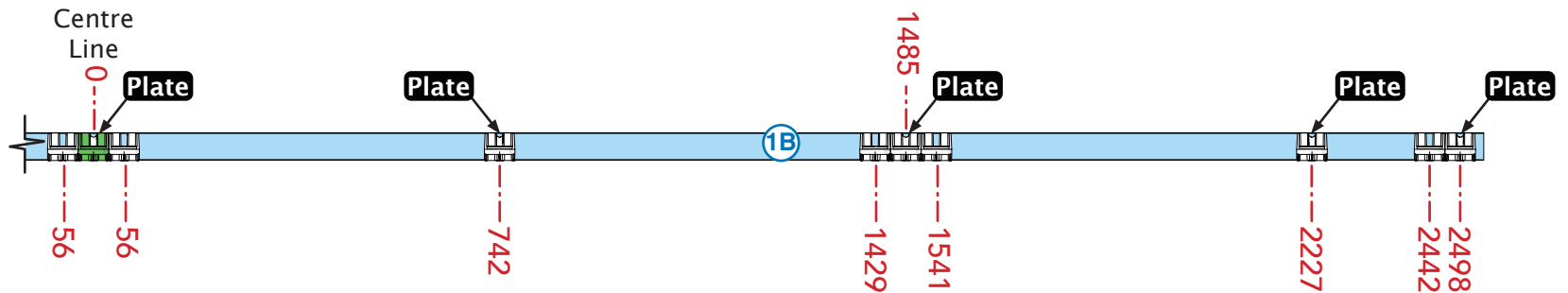
WAIT! Refer to page 5 if you require End Inserts



Reference Image of the full 50x50 member.
0 dimension in the middle of it.
0 point in both images below is the same connector.



Top 50x50
Left Side



Top 50x50
Right Side

Approximate time required: 1 Hour

Universal Connector Locations

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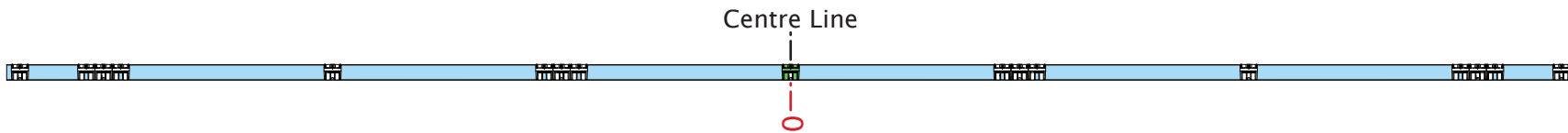
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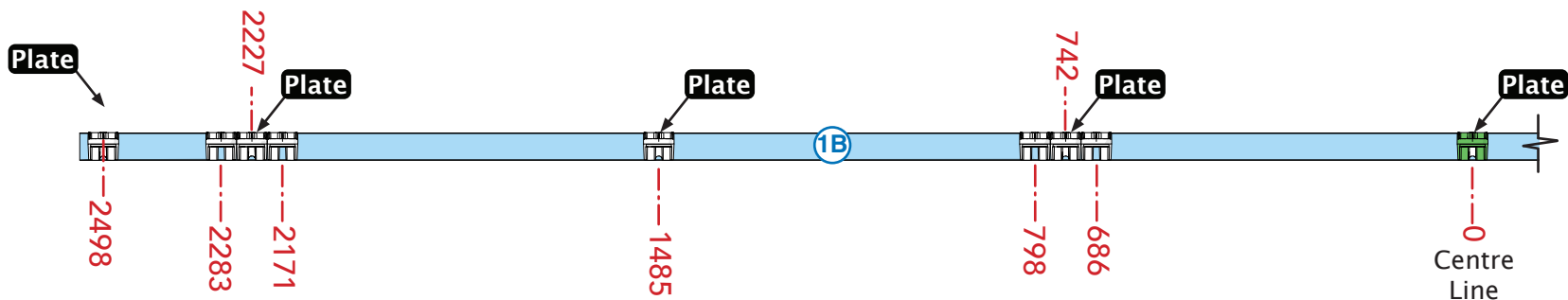
All dimensions are in millimeters (mm)



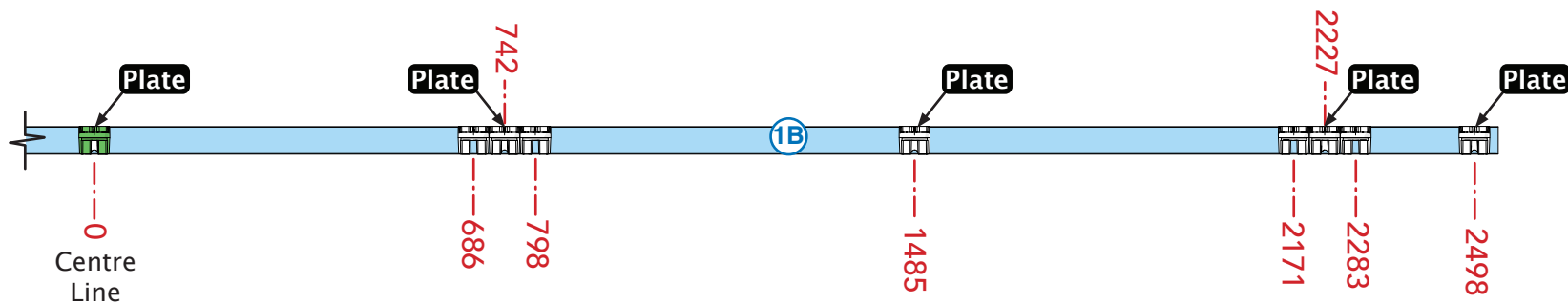
WAIT! Refer to page 5 if you require End Inserts



Reference Image of the full 50x50 member.
0 dimension in the middle of it.
0 point in both images below is the same connector.



Bottom 50x50
Left Side



Bottom 50x50
Right Side

Approximate time required: 1 Hour

Assembly Sequence

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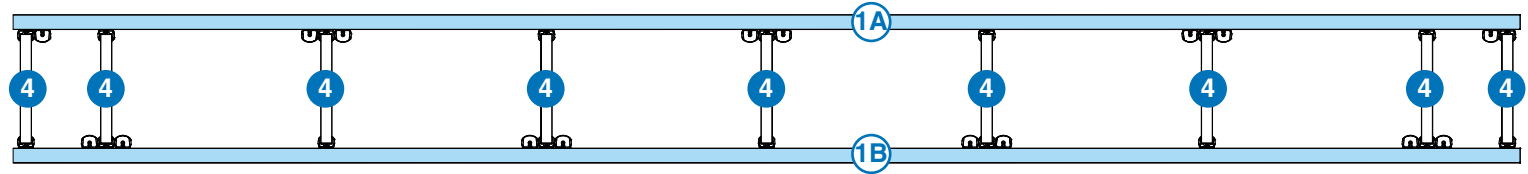
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Construct on the ground. Flat.
(Images show steel upright for clarity)

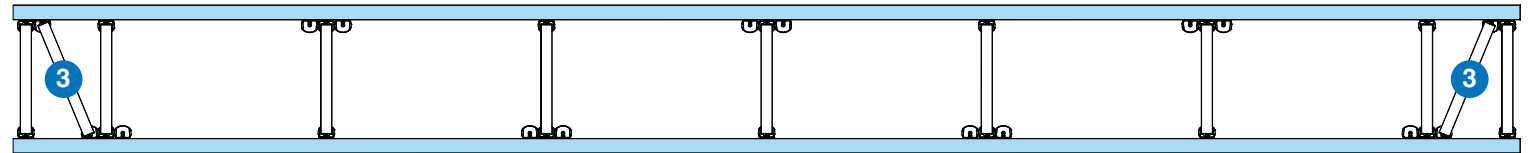
Step 1

Attach the 11 items below



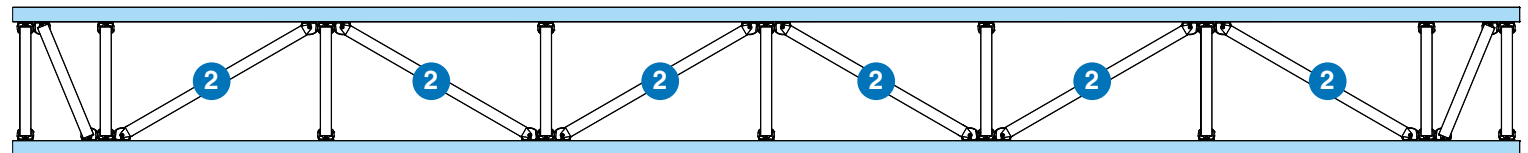
Step 2

Attach the 2 rail items below



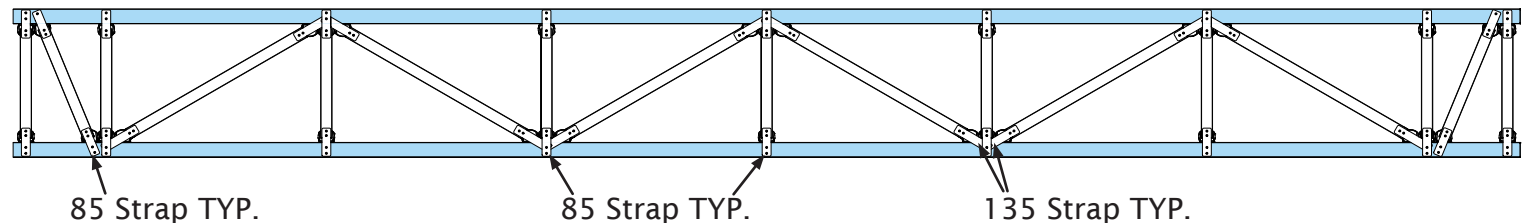
Step 3

Attach the 6 rail items below



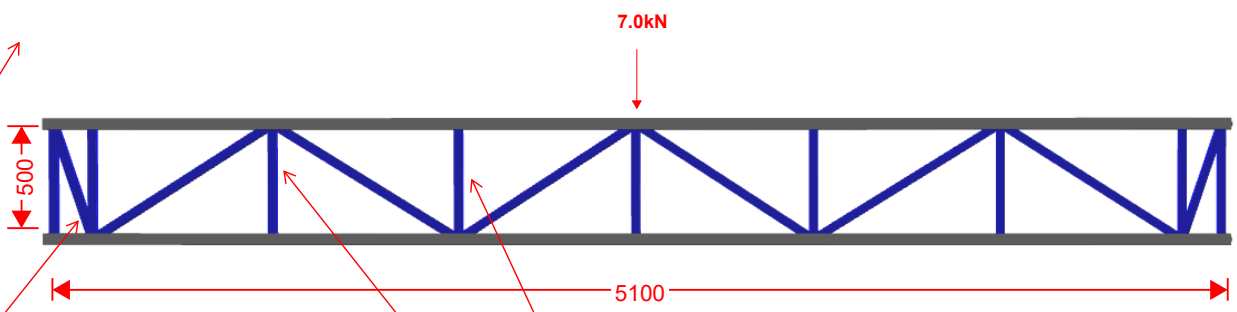
Step 4

Attach the straps below



Approximate time
required: 1.5 Hours

SCALE 1:200 AT A1 SHEET | 1:200 AT A3 SHEET | 1:400 AT A1 SHEET | 1:400 AT A3 SHEET | 1:800 AT A1 SHEET | 1:800 AT A3 SHEET | 1:1600 AT A1 SHEET | 1:1600 AT A3 SHEET



50x1.6 SHS

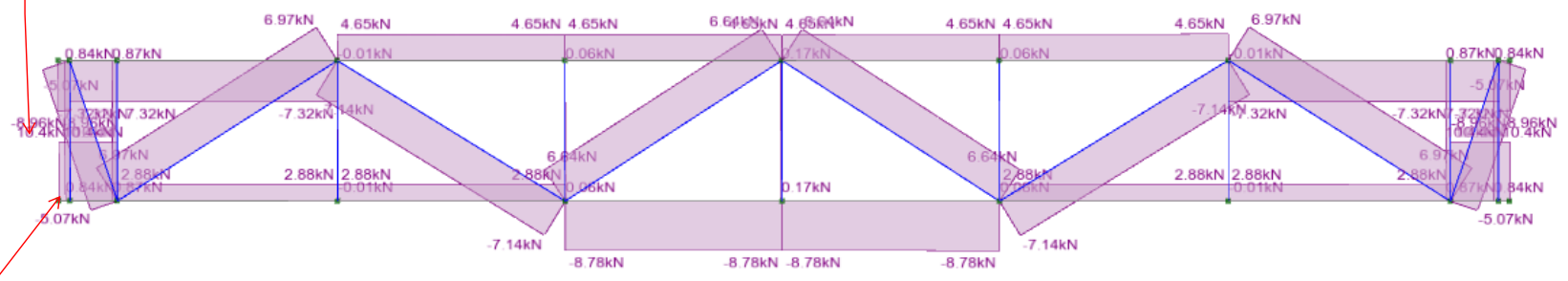
38x25x1.6 RHS

ASSUMED LOADING:
MAXIMUM POINT LOAD (DEAD LOAD) = 7.0kN
SAFETY FACTOR = 1.35

5.1m SPAN TRUSS

8.96kN TENSION

10.42kN COMPRESSION



5.1m SPAN TRUSS

Test Specifications

AS/NZS 1170.0-2002



CONNECTION TYPE	ID #	COMPRESSION NEWTONS	TENSION NEWTONS	TENSION WITH STRAP NEWTONS*
Universal Connector + Rail Insert - 0°	1	3000	2000	5600
Universal Connector + Displacement Plate + Rail Insert - 0°	2	11500	2000	5600 - Ref ID #1
Universal Connector Rotated 90° + Rail Insert - 0°	3	8500	2000 - Ref ID #1	Not Applicable
Universal Connector + Rail Insert - 11.25°	4	11000	2000 - Ref ID #1	5600 - Ref ID #1
Universal Connector + Rail Insert - 22.5°	5	12000	2000	5600
Universal Connector + Rail Insert - 45°	6	3800	2500	6000
Universal Connector + 60° Rail Insert - 60°	7	3800	3000	6000
Universal Connector + Rail Insert Load Test 1m span - 0°	8	10000	Not Applicable	Not Applicable
Post Connector + Rail Insert (4 Screws) - 0°	9	8500 - Ref ID #3	3500	Not Applicable
Post Connector + Rail Insert (4 Screws) - 22.5°	10	8000	3500	Not Applicable
Post Connector + Rail Insert (4 Screws) - 45°	11	3800	3500	Not Applicable
Star Picket Stopper	12	3500	Not Applicable	Not Applicable

* 1 Screw at each end of Galvanized 0.8mm x 30mm wide Strapping - 10gx16 Self Drilling Small Head Flat Top (Screw 6)