



FlyForms International L.L.C.

Formwork Solutions ■ Supply ■ Design & Engineering
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H20 SlabFlex System

Assembly and Application Guide

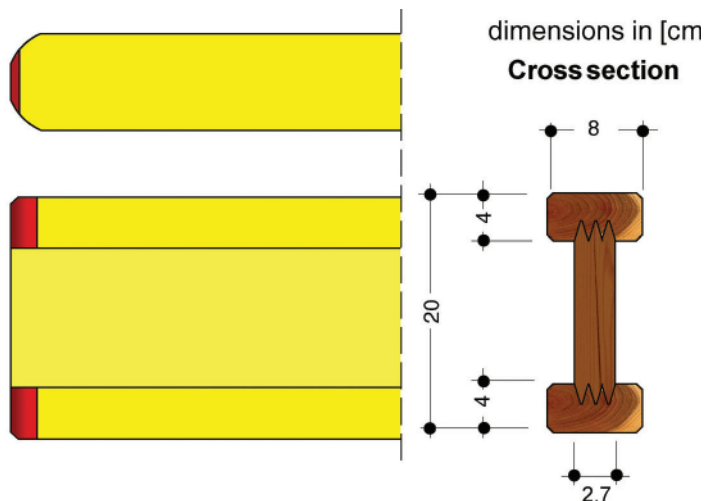
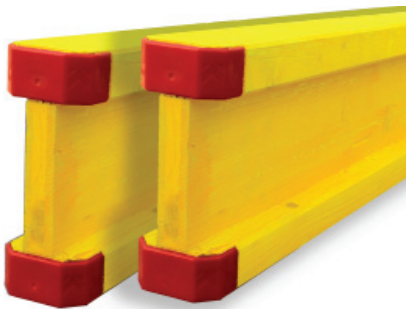
Product Information and Features

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Product Features

H20 Slabflex is the easiest and most flexible slab formwork system for all types of slabs consisting of tubular steel props, Tripod Stands, Fork Heads, H20 Timber Beams and plywood sheets. The system can be used for a clear height up to 5.90 m. due to various types of FFI Euro steel props. It is mainly used for decking areas around lift shafts and stair cases, for villa projects or used as a manual handled slab formwork system with limited crane capacity, as the system is fully crane independent



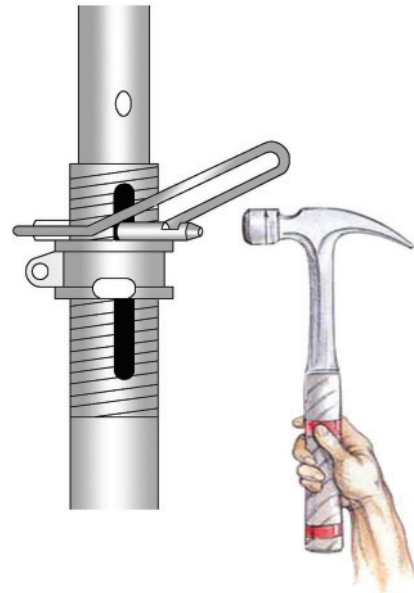
The H20 Timber Beams are in particular very practical due to its easy handling, low weight (4.80 kg/m only), and excellent statical figures. Its high-grade bonding and protected beam ends with a plastic bumper assures a very long duration of life. Furthermore, H20 Timber Beam has a general approval by the German building supervisory board.

The H20 SlabFlex System is designed and manufactured in accordance with BS EN 12182 : 2008, code of practice for Falsework

Quick Lowering:

For safety purpose and to save time, FFI Euro steel props are equipped with quick release bolts, which facilitate the threaded nut to be released easily and immediately by a simple blow of the hammer.

Additional accessories make Slabflex Formwork even faster, more efficient and more economical. For example, erection of the FFI Euro steel prop is made easier and safer by using the Tripod Stand.



Important Remarks:

The succeeding assembly and application guide has to be carefully read as it contains detailed information on the proper application and handling of the Slabflex Formwork system.

All instructions concerning technical operation and function have to be observed carefully. Please note that exceptional use of the Slabflex Formwork system requires a separate design calculation.

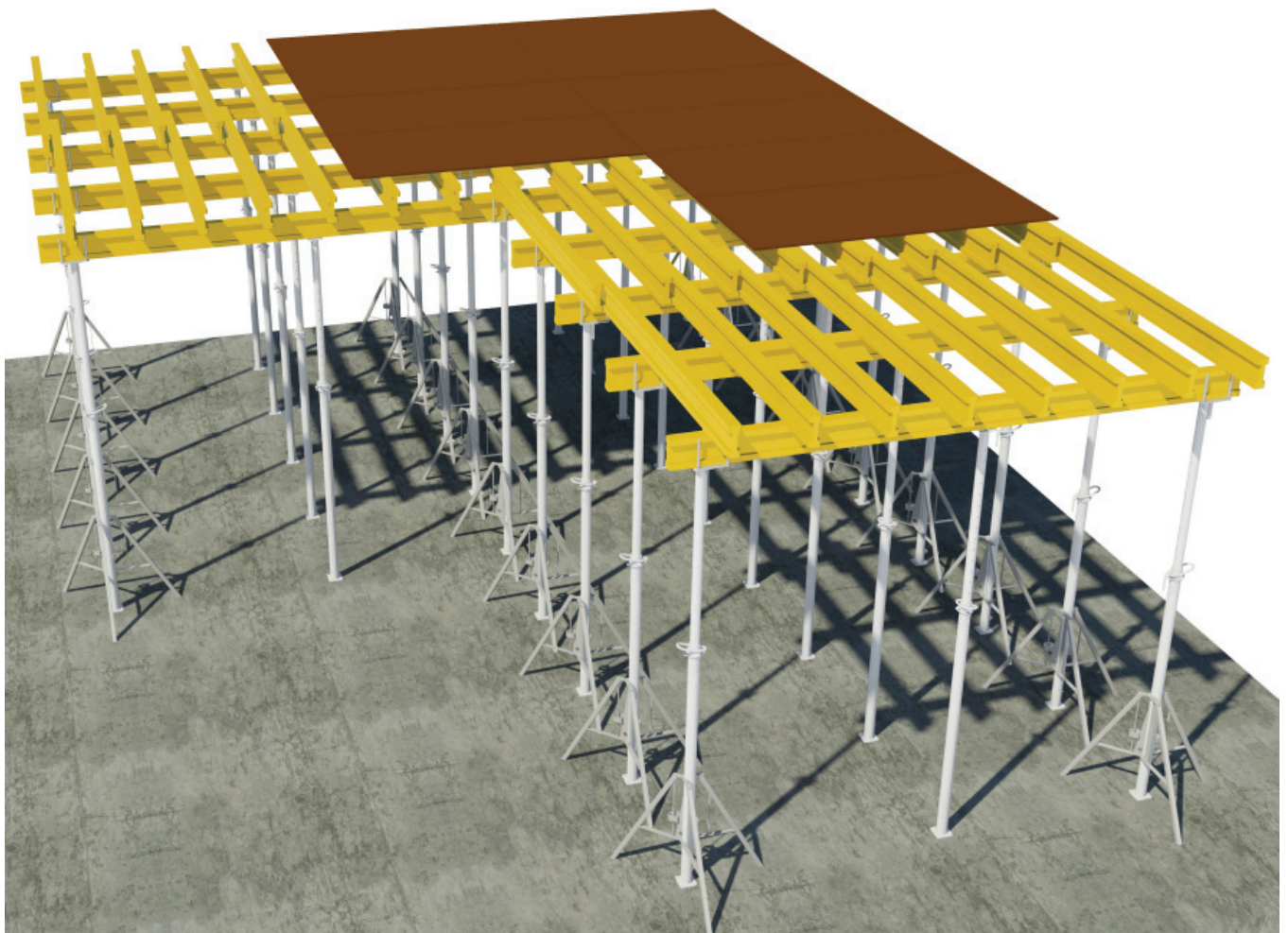
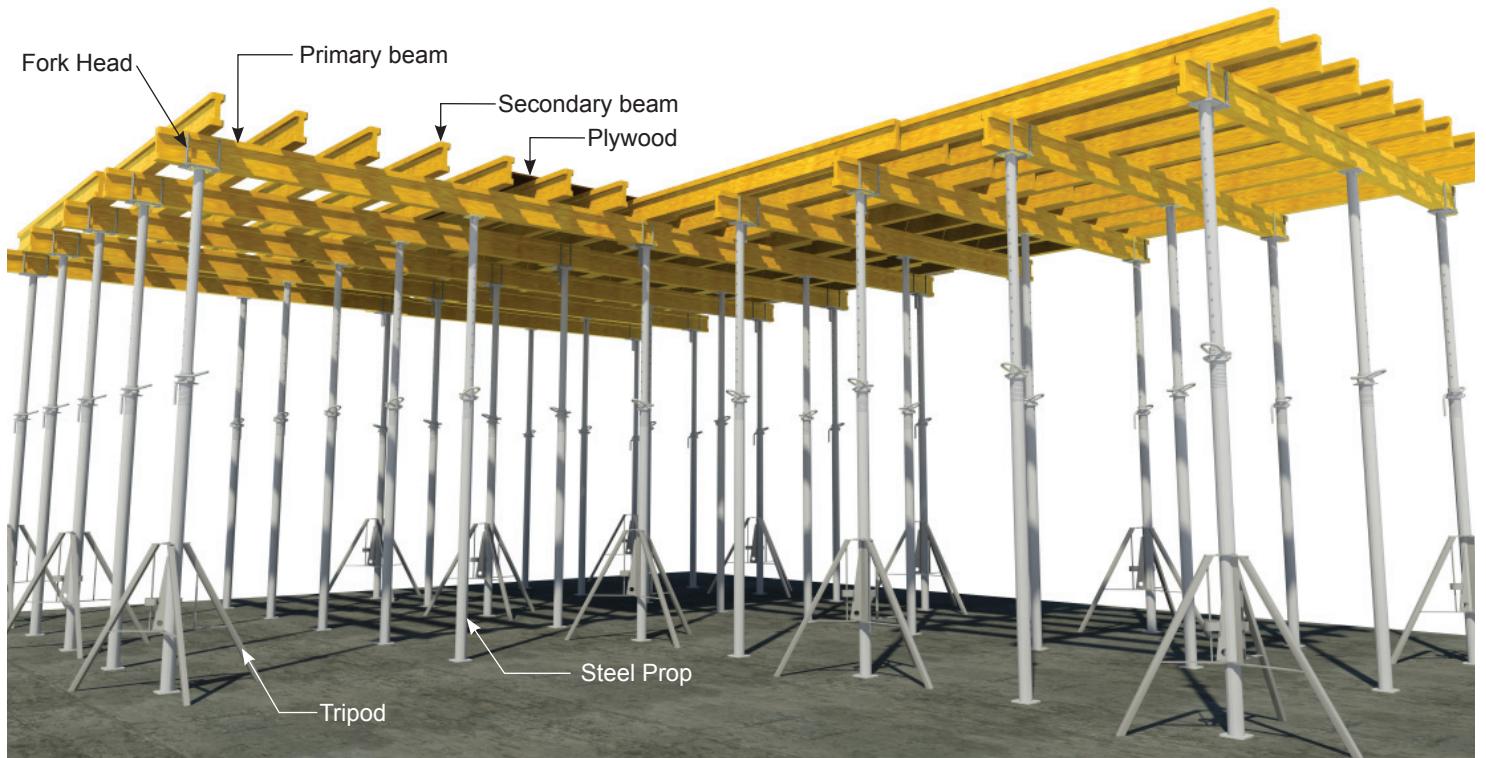
In order to ensure a technical and safe use of our product, all relevant national safety rules and regulations and safety instructions of national institutes and/or local authorities have to be observed. In general, only undamaged material and components must be used.

It is important that damaged components are sorted out and removed from the construction site. In case of repairs, only original spare parts of FFI must be used.

The use of FFI formwork systems combined with other supplier's materials may involve certain dangers and therefore require an additional inspection and quality check by our formwork specialist.

Due to technical development of our system, we would like to emphasize that FFI reserves the right to revise, change, or modify any of the product's components at any time without prior notice.

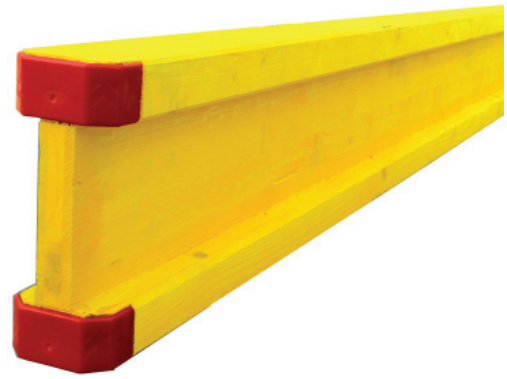
Product Overview



Components

H20 Timber Beam

	Art. No	Weight Kg/pc.
H20 Beam 190	401TB190	9.12
H20 Beam 245	401TB245	11.76
H20 Beam 265	401TB265	12.72
H20 Beam 290	401TB290	13.92
H20 Beam 330	401TB330	15.84
H20 Beam 360	401TB360	17.28
H20 Beam 390	401TB390	18.72
H20 Beam 450	401TB450	21.60
H20 Beam 490	401TB490	23.52
H20 Beam 590	401TB590	28.32



- Protective Cap - Shock resistant, protection against splintering which increases durability
- Web - 3-ply laminated solid wood panels, best performance, durability
- Chords - Superior quality selected solid wood with friction-fitted finger joints

Tested and approved permissible loads:

Max. perm. M	= 5.00 kNm
Max. perm. Q	= 11.00 kNm
E . I	= 500 kNm ² (bending moment)

Euro Steel Props

20kN Props

260 (L=1.54 - 2.60m)	201GP226	12.7
300 (L=1.72 - 3.00m)	201GP230	15.8
350 (L=1.98 - 3.50m)	201GP235	19.2
400 (L=2.24 - 4.00m)	201GP240	22.7
500 (L=3.00 - 5.00m)	201GP250	28.7
550 (L=3.05 - 5.50m)	201GP255	32.3

30kN Props


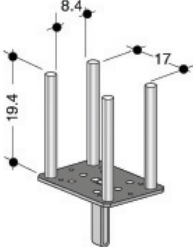
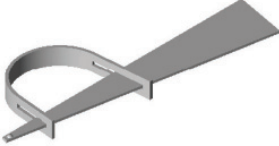
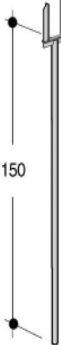
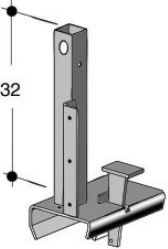

260 (L=1.54 - 2.60m)	201GP326	16.03
300 (L=1.72 - 3.00m)	201GP330	18.50
350 (L=1.98 - 3.50m)	201GP335	22.70
400 (L=2.24 - 4.00m)	201GP340	26.00



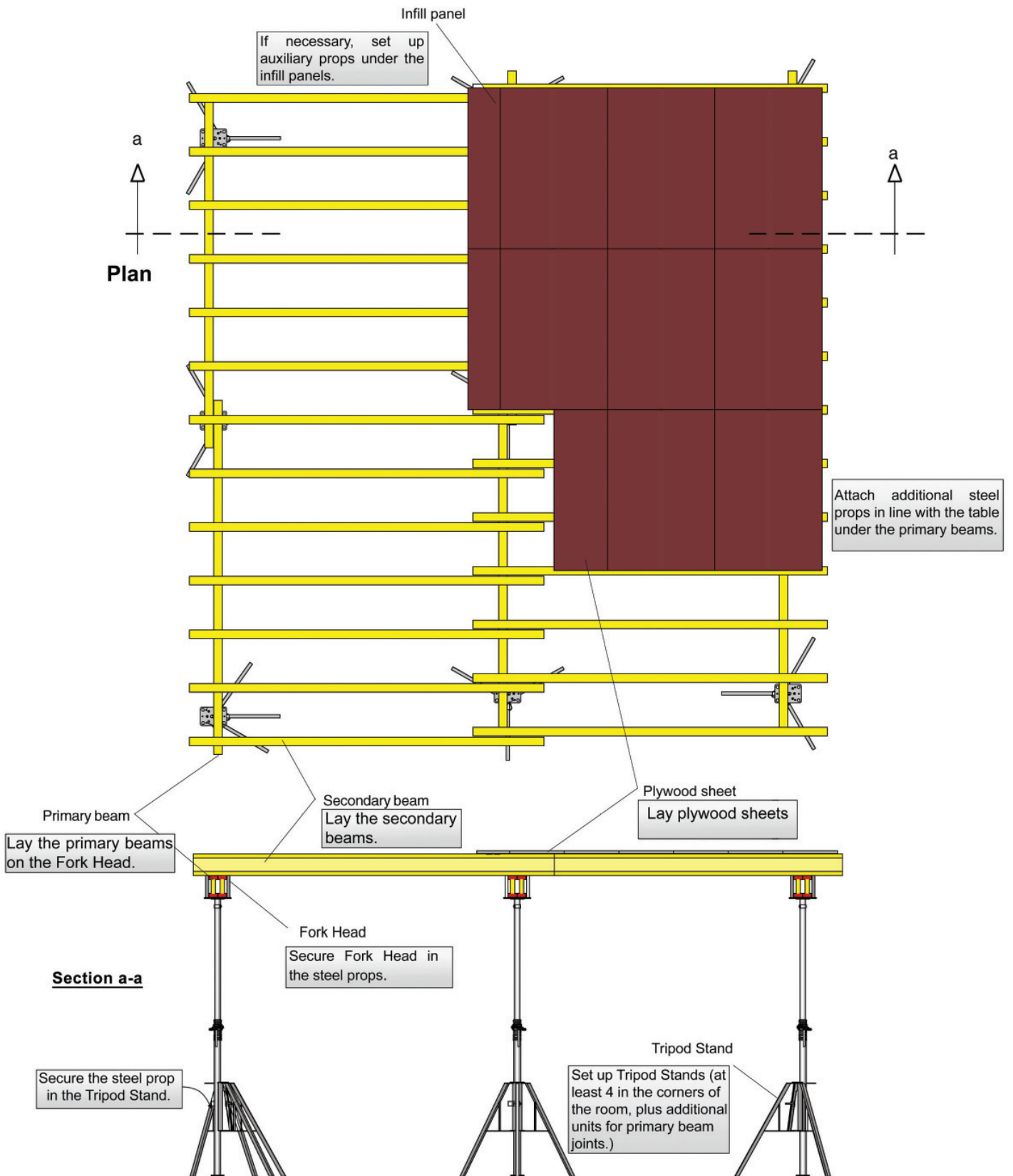
With quick -release bolts for rapid lowering by 2 mm

The inner and outer tubes, including the threads, are hot-dip galvanized steel which ensures the quality and high durability of tubular steel props from FFI

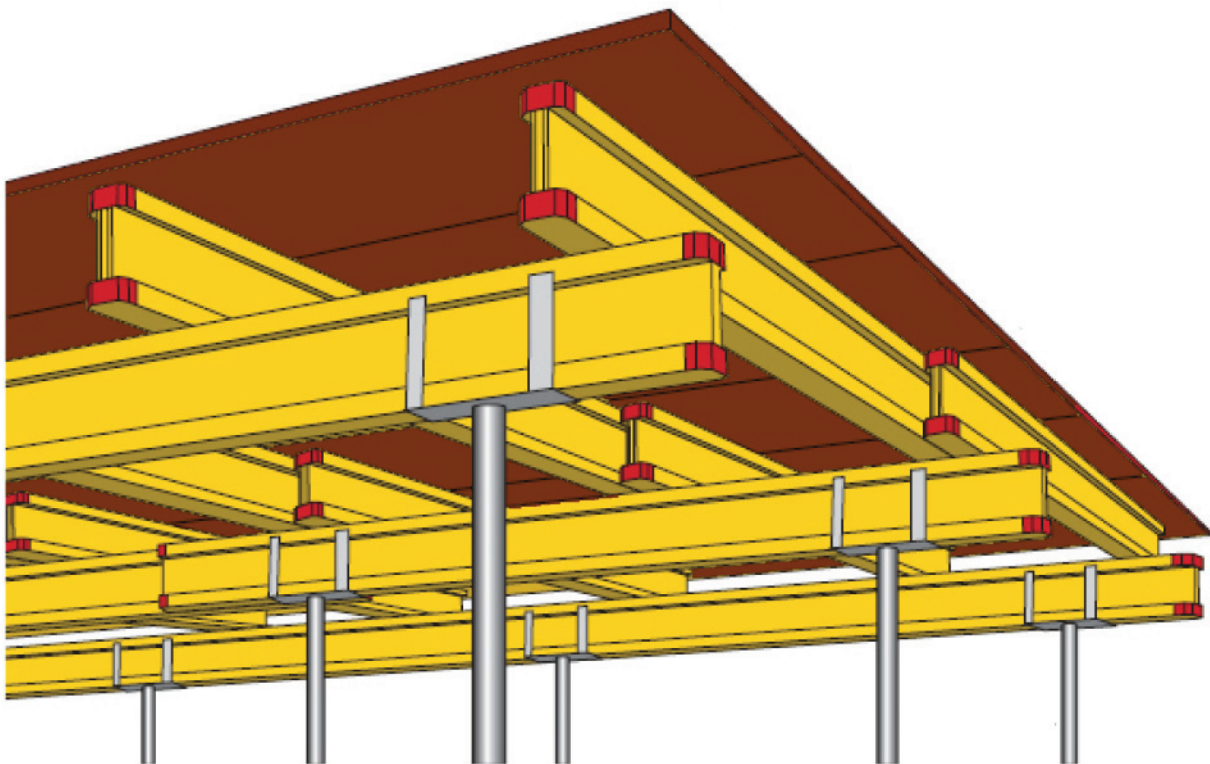
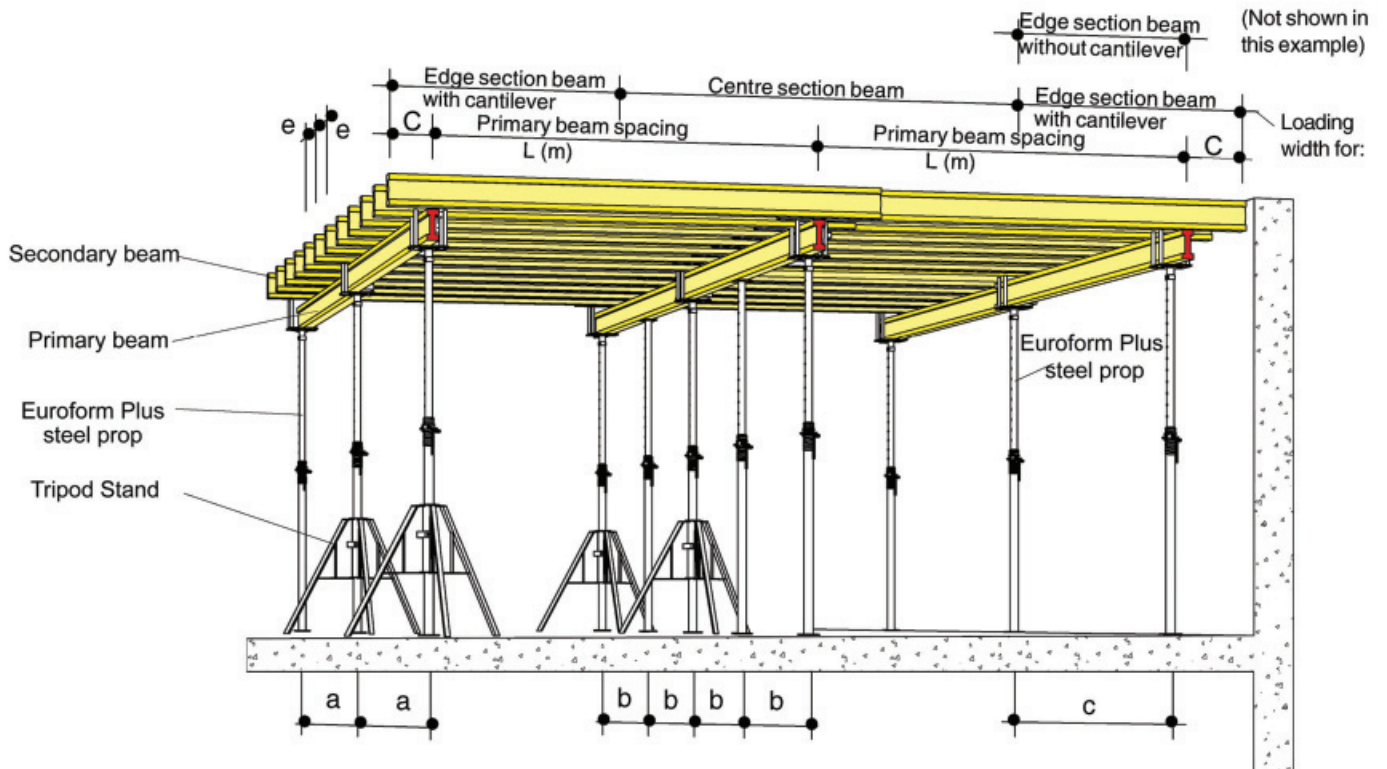
Components

	Art. No	Weight Kg/pc.	
<p>Universal Galvanized Tripod</p> <p>Using the Tripod Stand, the stability of high and self-supporting slab tables can be improved during erection and positioning, the Tripod Stand's Height is 83cm.</p>	201UT037	10.70	
<p>Fork Head</p> <p>The Fork Head serves to keep the Primary beam in position and protects the H20 Timber Beam from falling down. It can hold 1 to 2 beams and is secured to the Euro steel prop with a T-bolt.</p>	201CH030	3.0	
<p>Bracing clamp</p> <p>Provides stiffening by means of shutter boards to any tubular steel prop. (For max. board thickness of 3 x 12 cm)</p>	201BC160	1.60	
<p>Assembly Fork</p> <p>Simplifies erection and dismantling of H20 shuttering beams.</p>	201AF150	3.50	
<p>H20 Base Shoe SQ</p> <p>It is fixed on the H20 Timber beam by Wedge and serves as the holding device for FFI Safety Railing Post SQ and end Shuttering.</p>	201BS035	3.50	
<p>Safety Post</p> <p>Inserted in the H20 base shoe and serves as guard rail to prevent falls.</p>	201SP120	3.0	

Schematic Diagram



Demonstration of Slabflex

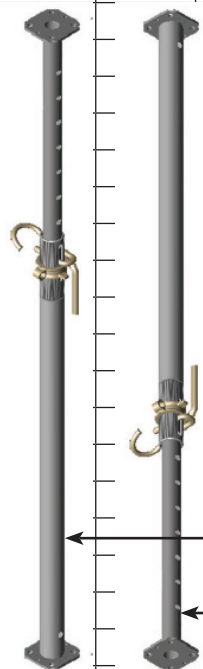


Euro Steel Prop 20kN

Permissible loads for steel props 20-260, 20-300, 20-350, 20-400, 20-500 and 20-550 permissible prop loads always 20kN maximum

Table A

FFI - Euro steel props												
permissible prop loads [kn] for use in system-bounded arrangement for slab												
Designation $L_{min} - L_{max}$ position of inner tube (IT) L [m]	20 - 260 1.54m - 2.6m		20 - 300 1.72m - 3.00m		20 - 350 1.98m - 3.50m		20 - 400 2.24m - 4.00m		20 - 500 3.00m - 5.00m		20 - 550 3.05m - 5.50m	
	Outer Tube Bottom	Inner Tube Bottom	Outer Tube Bottom	Inner Tube Bottom	Outer Tube Bottom	Inner Tube Bottom	Outer Tube Bottom	Inner Tube Bottom	Outer Tube Bottom	Inner Tube Bottom	Outer Tube Bottom	Inner Tube Bottom
1.50												
1.60	27.00	27.00										
1.70	25.80	27.00										
1.80	24.30	27.00	38.00	38.00								
1.90	23.30	27.00	38.00	38.00								
2.00	22.30	27.00	35.00	38.00	27.00	27.00						
2.10	22.00	27.00	32.00	38.00	27.00	27.00						
2.20	21.60	27.00	30.50	38.00	27.00	27.00						
2.30	21.00	27.00	29.00	38.00	27.00	27.00	30.00	30.00				
2.40	20.50	26.00	28.00	38.00	27.00	27.00	30.00	30.00				
2.50	20.30	24.00	27.00	38.00	27.00	27.00	30.00	30.00				
2.60	20.00	24.00	26.00	35.00	27.00	27.00	30.00	30.00				
2.70			25.00	32.00	27.00	27.00	30.00	30.00				
2.80			23.50	29.00	27.00	27.00	30.00	30.00				
2.90			22.00	27.00	27.00	27.00	30.00	30.00				
3.00			20.00	24.00	27.00	27.00	30.00	30.00				
3.10					27.00	27.00	30.00	30.00	38.00	38.00	38.00	38.00
3.20					27.00	27.00	30.00	30.00	38.00	38.00	38.00	38.00
3.30					26.50	27.00	30.00	30.00	38.00	38.00	38.00	38.00
3.40					25.00	27.00	29.35	30.00	38.00	38.00	38.00	38.00
3.50					20.00	27.00	29.10	30.00	38.00	38.00	37.50	38.00
3.60							27.05	30.00	37.50	38.00	37.50	38.00
3.70							26.00	30.00	37.50	38.00	37.50	38.00
3.80							24.50	30.00	37.50	38.00	37.50	38.00
3.90							23.50	28.00	37.50	38.00	37.50	38.00
4.00							22.00	26.00	37.50	38.00	37.50	38.00
4.10							20.00	24.00	37.00	38.00	37.00	38.00
4.20									37.00	38.00	36.50	38.00
4.30									35.50	38.00	36.00	38.00
4.40									34.00	38.00	34.00	38.00
4.50									32.50	38.00	32.50	38.00
4.60									31.00	38.00	31.82	38.00
4.70									29.50	35.50	29.50	36.00
4.80									27.00	33.50	27.00	34.00
4.90									26.00	31.00	25.50	31.50
5.00									20.00	29.50	25.00	30.00
5.10											24.50	28.00
5.20											23.50	27.00
5.30											22.70	26.00
5.40											21.50	24.00
5.50											20.00	23.00



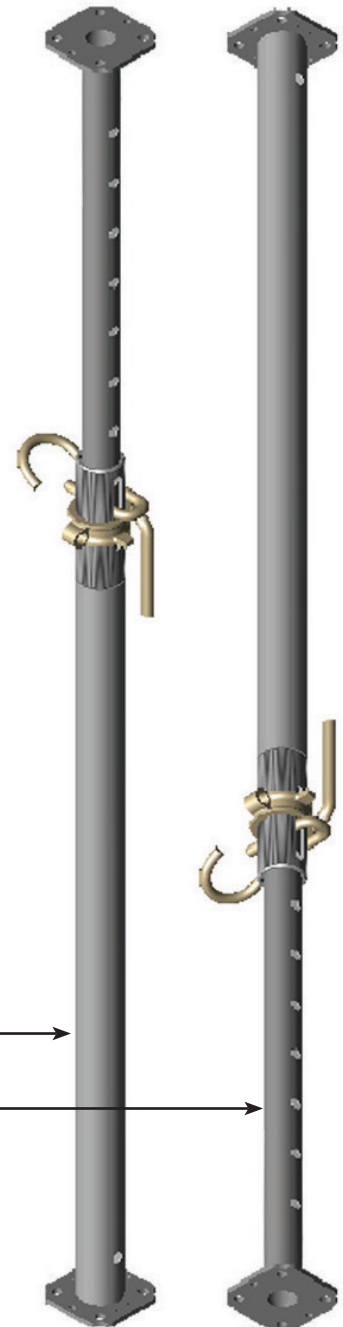
Outer Tube Bottom

Inner Tube Bottom

Permissible loads for steel props
30-260, 30-300, 30-350 and 30-400
 permissible prop loads always 30kN maximum

Table B

FFI - Euro steel props									
permissible prop loads [kn] for use in system-bounded arrangement for slab									
Designation $L_{min} - L_{max}$ position of inner tube (IT) L [m]	30 - 260 1.54m - 2.60m		30 - 300 1.72m - 3.00m		30 - 350 1.98m - 3.50m		30 - 400 2.24m - 4.00m		
	Outer Tube Bottom	Inner Tube Bottom	Outer Tube Bottom	Inner Tube Bottom	Outer Tube Bottom	Inner Tube Bottom	Outer Tube Bottom	Inner Tube Bottom	
1.50									
1.60	32.00	33.00							
1.70	32.00	33.00							
1.80	32.00	33.00	36.00	36.00					
1.90	32.00	32.00	36.00	36.00					
2.00	32.00	32.00	36.00	36.00	48.00	48.00			
2.10	32.00	32.00	36.00	36.00	48.00	48.00			
2.20	32.00	32.00	36.00	36.00	48.00	48.00			
2.30	31.50	32.00	36.00	36.00	48.00	48.00	36.00	36.00	
2.40	31.00	32.00	35.50	36.00	48.00	48.00	36.00	36.00	
2.50	31.00	32.00	35.00	36.00	46.50	48.00	36.00	36.00	
2.60	30.00	32.00	34.50	36.00	45.50	48.00	36.00	36.00	
2.70			34.00	36.00	44.00	48.00	36.00	36.00	
2.80			33.00	36.00	42.50	46.50	36.00	36.00	
2.90			32.00	36.00	41.50	46.00	36.00	36.00	
3.00			30.00	36.00	40.50	44.00	36.00	36.00	
3.10					39.00	43.00	36.00	36.00	
3.20					37.00	40.50	36.00	36.00	
3.30					34.50	35.50	36.00	36.00	
3.40					32.50	35.05	36.00	36.00	
3.50					30.00	32.00	36.00	36.00	
3.60							36.00	36.00	
3.70							36.00	36.00	
3.80							36.00	36.00	
3.90							33.00	36.00	
4.00							30.00	36.00	
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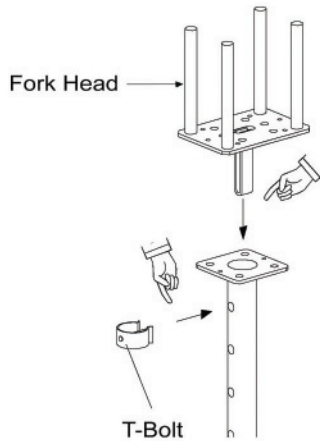


Erection Procedure

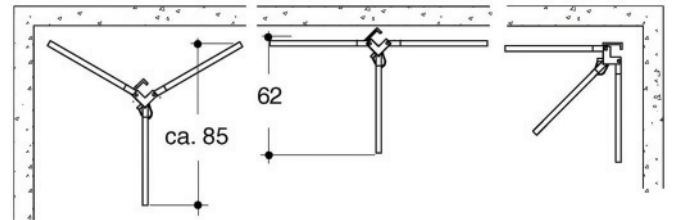
Steel Prop with Fork Head

The Fork Heads must be fixed to the tubular steel props by means of a T-Bolt.

The Fork Head has a 2-way design. This means that in one position, one timber beam, and in another position, two timber beams can be placed in the head (assuming an 8 cm standard beam width).



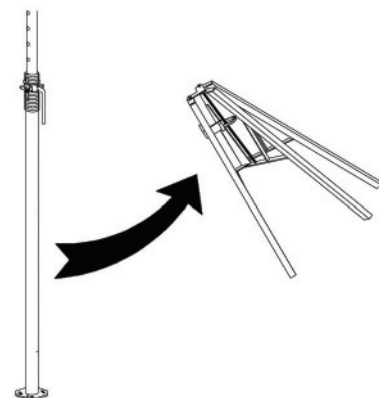
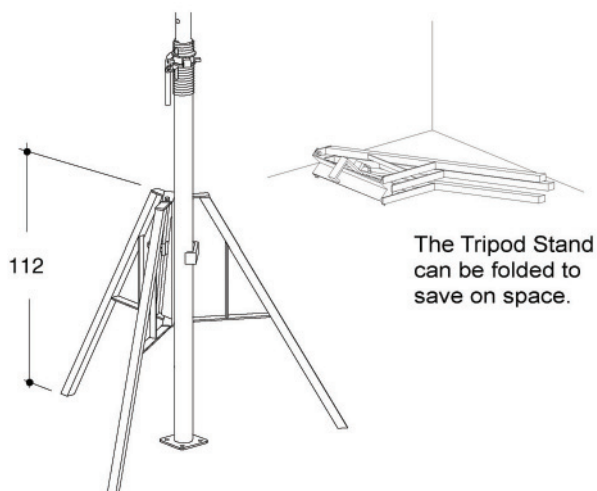
The supporting legs of the Tripod Stand allow a flexible and optimal arrangement even in the corners of the structure.



Steel Prop with Tripod Stand

The Tripod Stand simplifies the erection of the tubular steel props. The steel prop is simply set in the open stand and secured through the clamping loop by a gentle blow of the hammer. The Tripod Stand can be used with various types of steel props.

After the slab formwork has been completely erected on the construction site, the Tripod Stand can then be removed and placed in the next erection site. It only serves as a support and erection aid in assembling the slab formwork system, they must remain in place at the end of each primary beam until the system tied into the existing vertical structural elements "such as column and wall" and the lateral bracing has been installed when necessary.



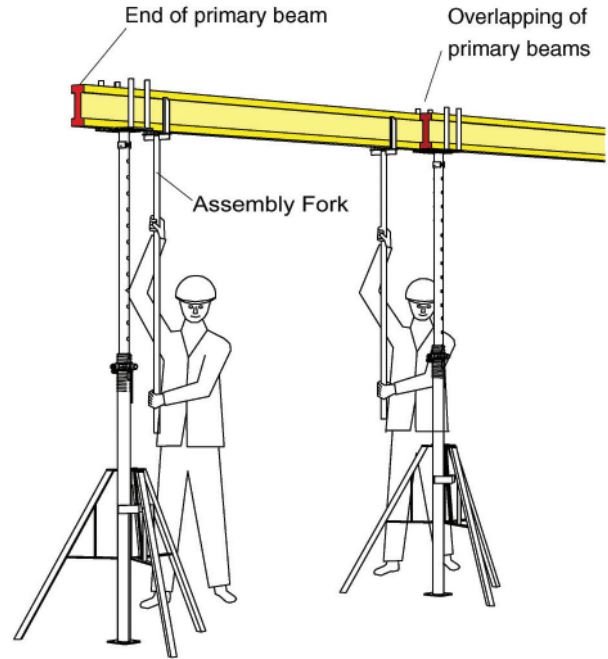
Erection Procedure

Erecting the Primary Beams

The erection of the Slabflex Formwork begins by setting up the primary beams.

Prior to placing the steel props in position, the props are set at roughly the required support height on the ground. The Fork Heads are fixed on the steel props which are then stood up in place and stabilized using tripod stands. After this, the H20 Timber Beams are placed in the Fork Heads of the steel prop. This is made easier and faster by means of the Assembly Fork. Fork head should be used under the primary beam ends and in the case of joint beams, under the joints as well.

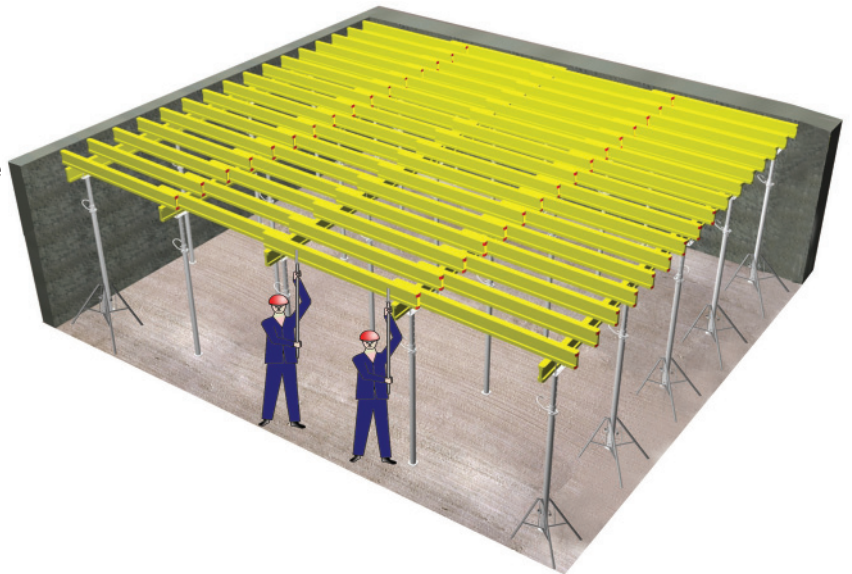
The remaining steel props should then be put in place according to the corresponding design and static requirements.



Placing the Secondary Beams

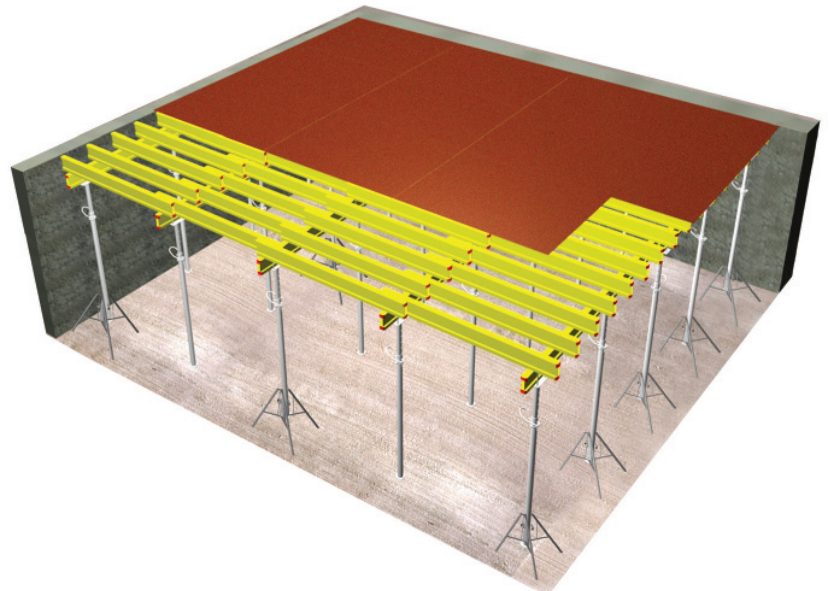
The distance between the secondary beams must be calculated in line with the statical requirements and according to the loading .

One beam must be placed under each joint of the plywood sheet.



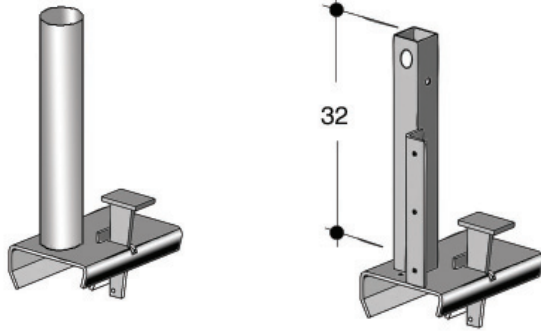
Fixing the Plywood Sheet

The plywood sheets are fixed on top of the secondary beams and tacked in place. The rigid shuttering structure must be braced against existing structural parts such as columns, shear walls and core walls.



H20 Base Shoe & Timber Beam Attachment-C and Safety Post

The H20 Base Shoe SQ or Timber Beam Attachment - C, with its simple and effective wedge connection, can be fixed at any place on the H20 Timber Beam. It is equipped with a socket for the Safety Post. The H20 Base Shoe SQ and Timber Beam Attachment - C can also be used as a supporting bracket for shuttering the stopend of a slab or an integrated beam.



Timber Beam Attachment - C

H20 Base Shoe SQ

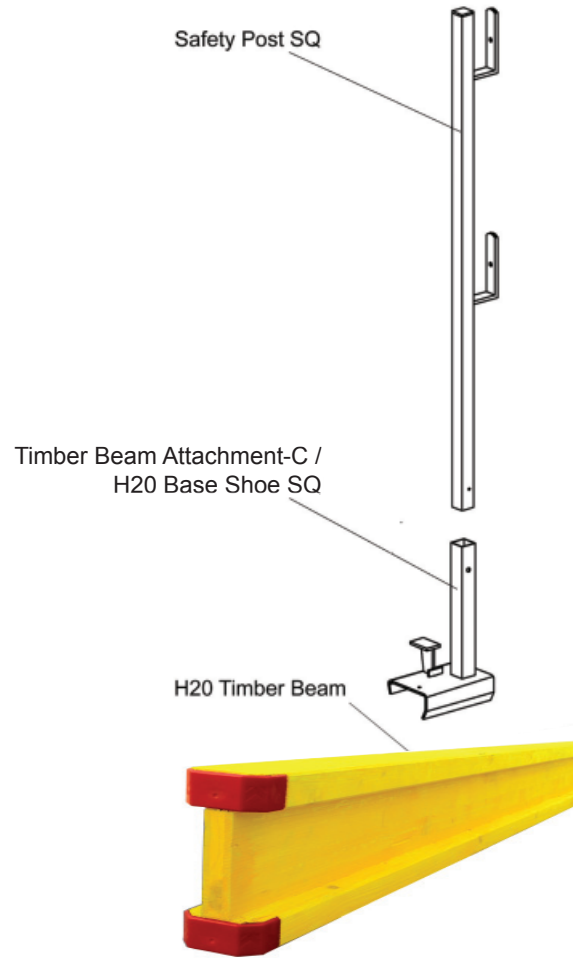
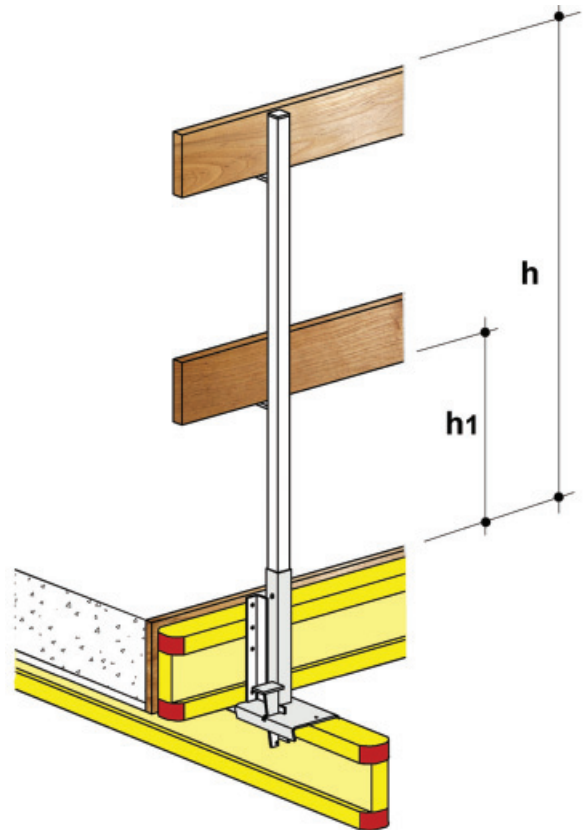


Illustration 1 and 2 below shows shuttering of the stopend of a slab which also serves as a safety guard and two possible Safety Post positions in the guard rail.

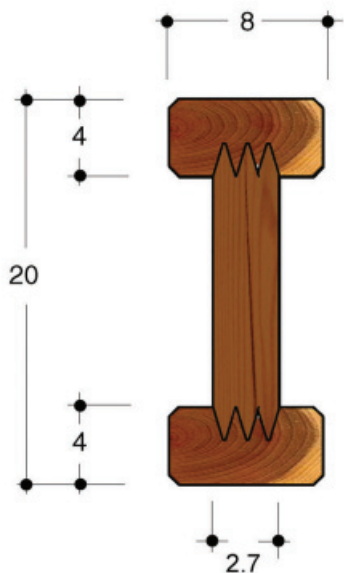


Defined Calculation Factor

1. Statical figures for H20 Timber Beam

perm. M	=	5.00 kNm
perm. Q	=	11.00kN
E I	=	500 kNm ²

2. Dimension (cm)



3. Technical Specifications

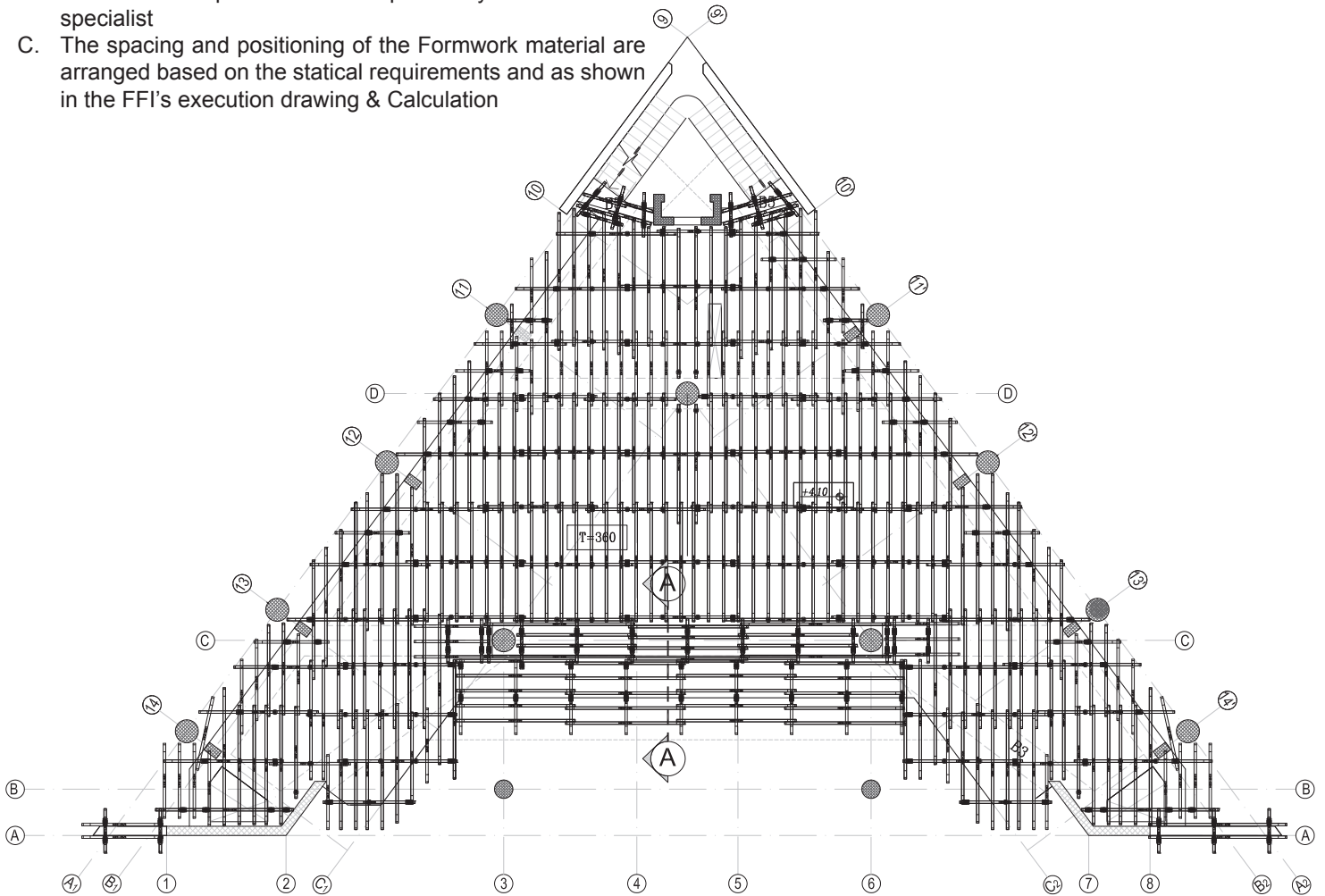
Dimensions

Height	200 mm	+/-2 mm
Flange width	80 mm	+/-1.5%
Flange depth	40 mm	+/- 1.5%
Web thickness	26.8 mm	+/- 0.5 mm

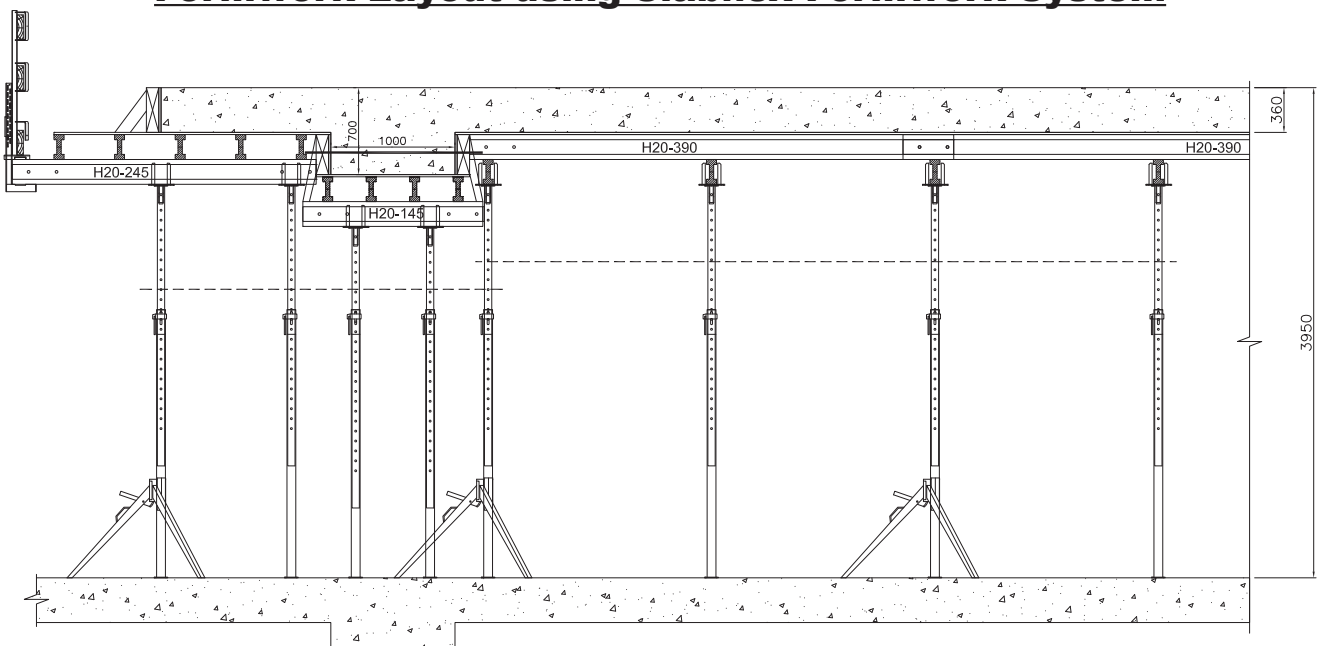
Weight

Weight	4.8 kg/m
	approx. 12% wood moisture

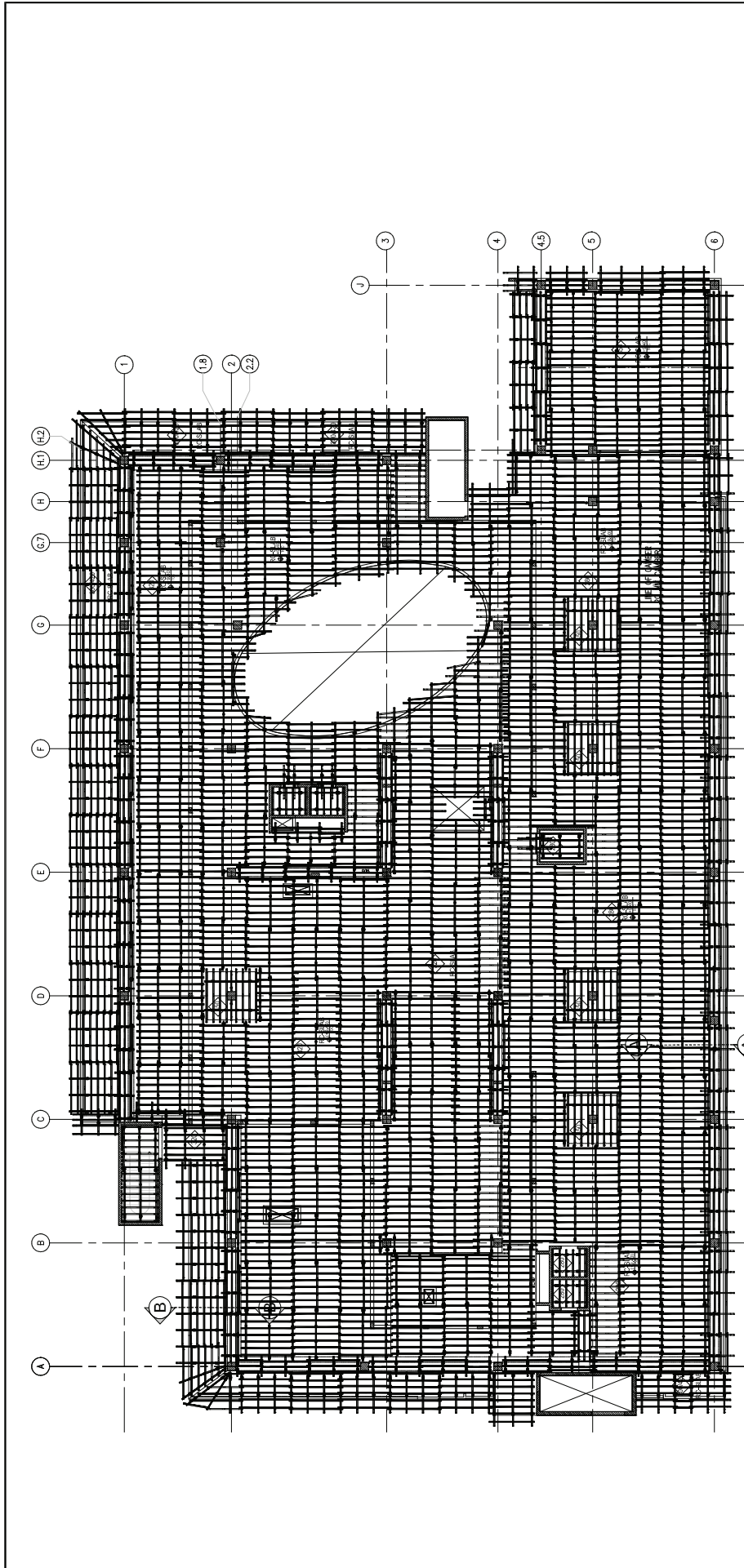
- A. All the Shop drawing, Technical data & the Statical calculation will be Submitted by FFI in accordance with the structural drawing project requirement
- B. The site erection should be done as per FFI's shop drawing and shall be supervised and inspected by FFI's formwork specialist
- C. The spacing and positioning of the Formwork material are arranged based on the statical requirements and as shown in the FFI's execution drawing & Calculation



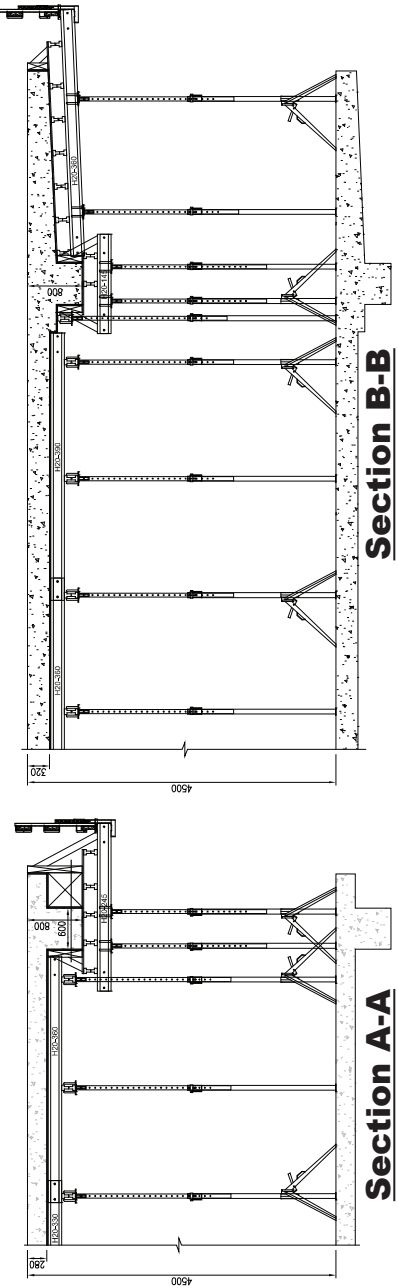
Formwork Layout using Slabflex Formwork System



Section A-A



Formwork Layout of First Floor Slab Using Slabflex System



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PROJECT: _____
 DRAWING TITLE: ROOF PLAN
 DRAWING NO.: FORMWORK LAYOUT USING SLABFLEX FORMWORK SYSTEM
 SHEET NO.: _____
 PROJECT NO.: _____
 DATE: _____



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