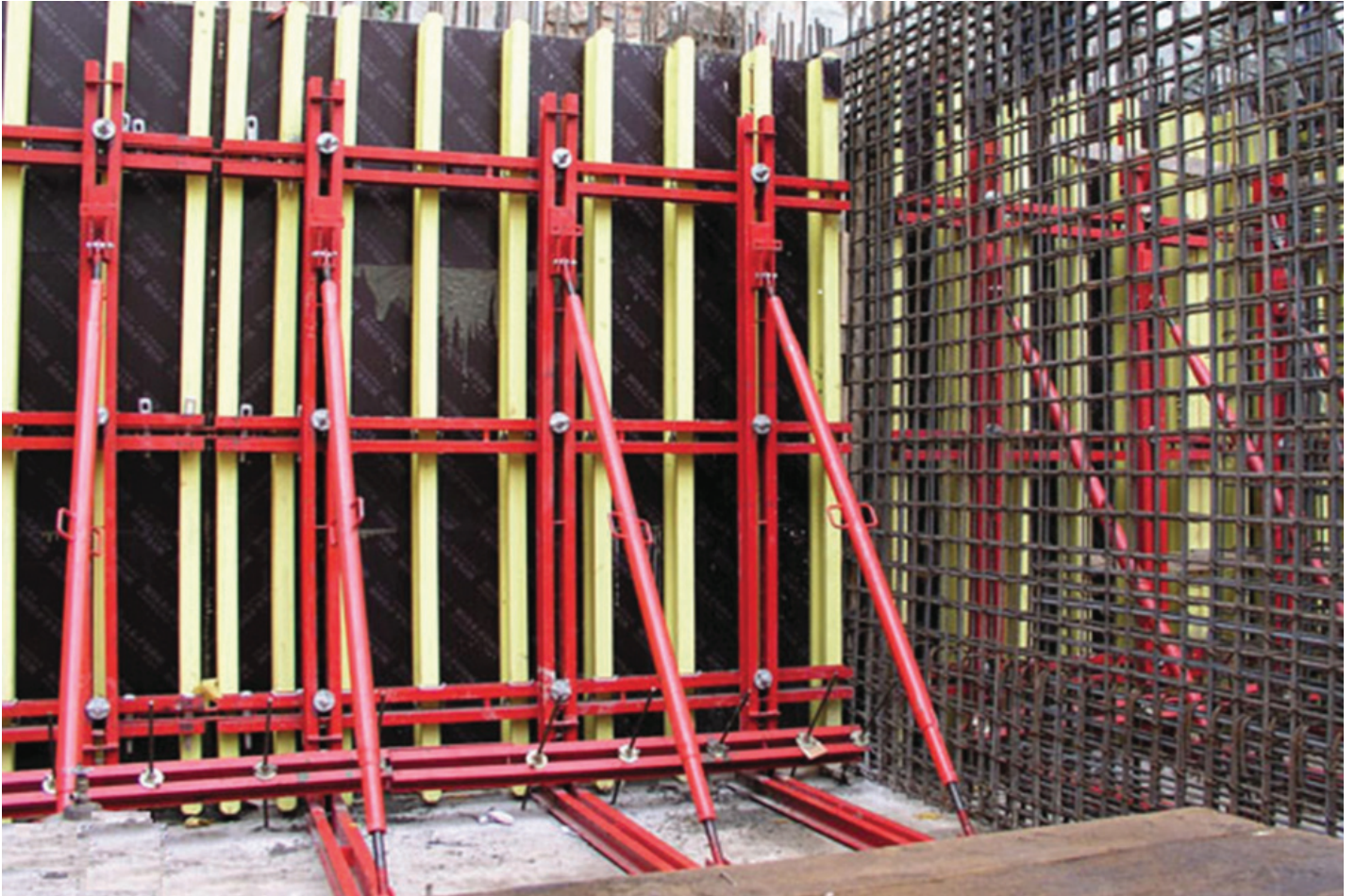




FlyForms International L.L.C.

Formwork Solutions ■ Supply ■ Design & Engineering
■ Technical Consultation ■ Training & Supervision



Single Sided Support Frame

Assembly and Application Guide

Product Information and Features

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Product Features

The Single Sided Support Frame designed to be used with wall formwork where it is not possible to tie the formwork to an opposing formwork panel. This situation occurs, for example:

- A. Stop-end formwork for foundation slabs.
- B. Slurry walls and sheet-pile walls.
- C. Forming single sided retaining walls.
- D. Casting against masonry walls.
- E. Casting against insulating layers.
- F. In Underground - railway construction projects where a subsequent concrete split-duct is cast against a bored diaphragm wall.

The Single Sided Support Frame also used in the low-heat mass concrete field:

- A. e.g. In power - station construction projects where wall thicknesses are so great that the elongation of the tie-rods that would take place means that it is no longer technically or economically viable to place through-ties.
- B. For supporting starter - block formwork used in dam-building.

The Single Sided Support Frame is an easy way to make Single sided support for Wall formwork of up to a maximum of 4.00 m. in height.

The loads resulting from the pouring of the walls are transferred by the frames into the base structure through the cast-in loop tie anchors at the front base of the formwork and through the compressive jacks at the rear of the Single Sided Support Frames. Therefore, it is essential to determine whether the structural components such as base slabs or foundations are capable to carry these loads. Moreover, the opposite side of the single sided wall formwork (either existing structural parts or shoring) must be able to carry the concrete pressure as well.

The arrangement of the loop ties and distances between the permanent anchors must be determined based on the calculated statical values and the anchors must be positioned as accurately as possible prior to pouring the floor slab.

Please note that Tie Rods which are used for anchoring the FFI Single Sided Support Frames must never be welded or heated at all.

The Single Sided Support Frame is designed and manufactured in accordance with BS EN 12182 : 2008, code of practice for Falsework

Important Remarks

The succeeding instructions for assembly and application has to be carefully read as it contains detailed information on the proper application and handling of the FFI Single Sided Support Frame. All instructions concerning technical operation and function have to be observed carefully. Please note that exceptional use of the FFI Single Sided Support Frame requires a separate design calculation.

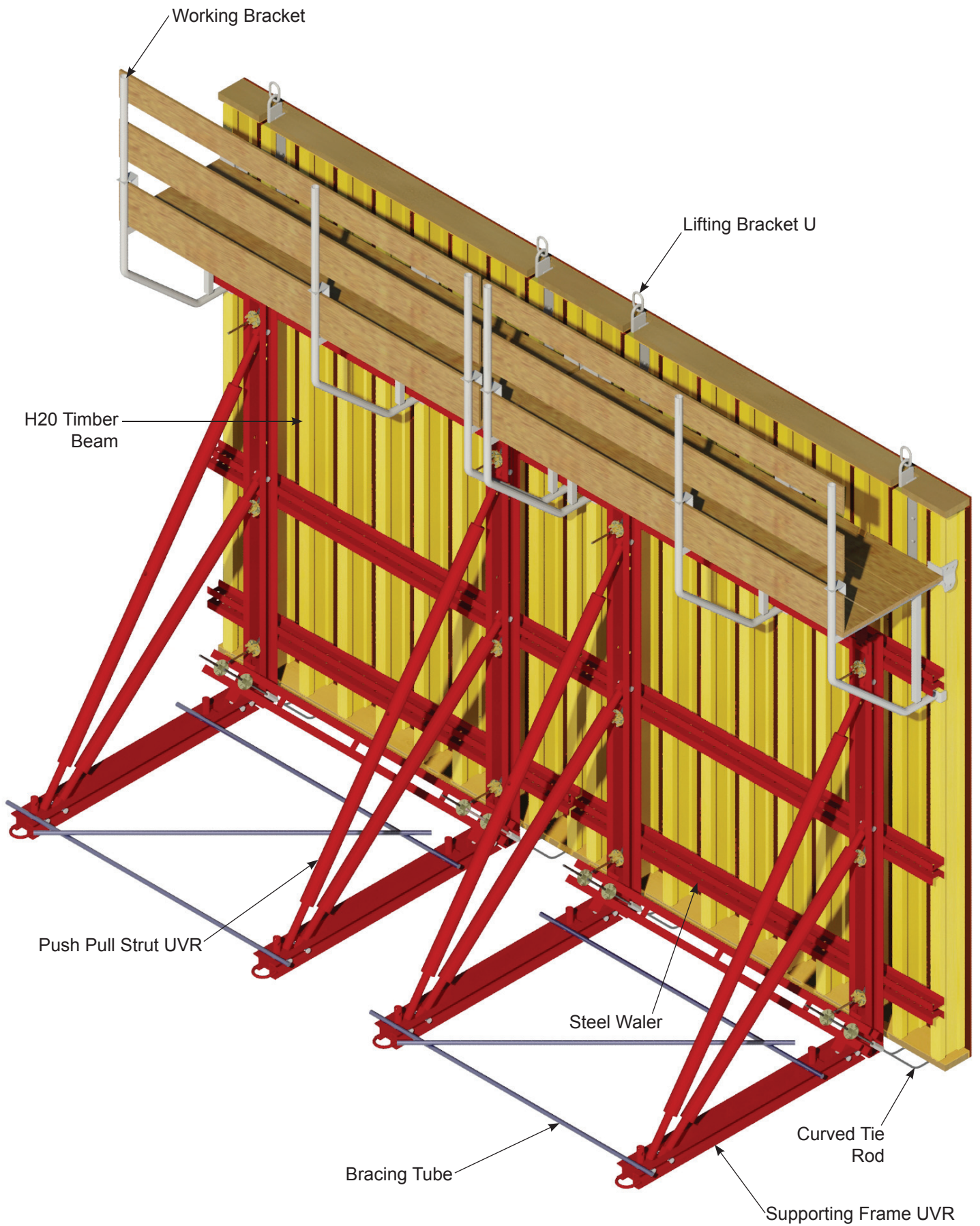
In order to ensure a technical and safe use of our product, all relevant national safety rules and regulations and safety instructions of national institutes and/or local authorities have to be observed. In general, only undamaged material and components which are in proper condition must be used

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.

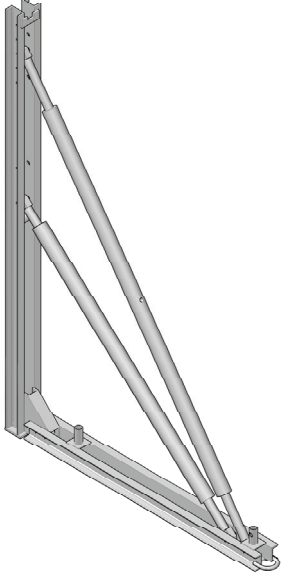
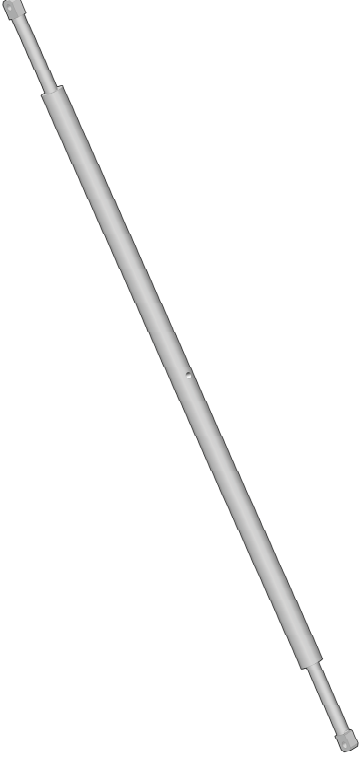
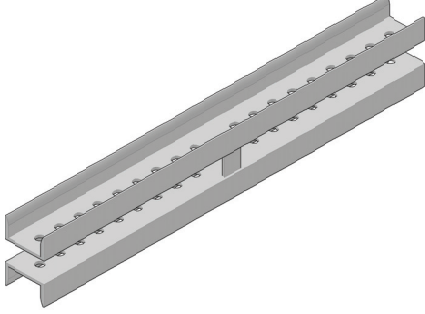
The use of FFI formwork systems combined with other supplier's materials may involve certain dangers and therefore require an additional inspection and quality check by our formwork specialist.

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.

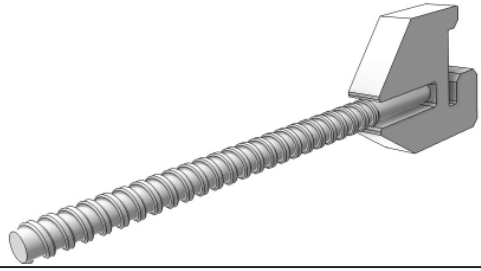
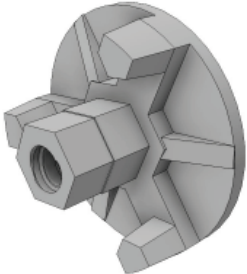

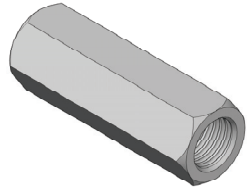
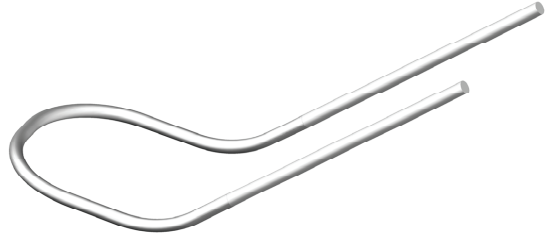
Product Overview



Components

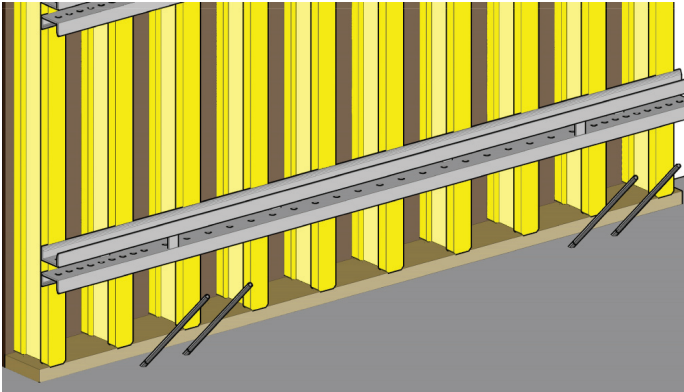
	Art. No	Weight Kg/pc.	
<p>Supporting Frame UVR With height of 3.30m.</p>	103FU350	196.10	
<p>Push Pull Strut UVR 2.00-2.85m.</p>	103PU285	34.05	
<p>Push Pull Strut UVR 2.40-3.30m.</p>	103PU330	38.45	
<p>Steel Walers</p>			 <p>Walers are connected by means of Waler Connectors which provide a tension and pressure resistant element connection. The element connections are tight and precisely aligned.</p>
Steel Waler-100/050	101SW050	10.26	
Steel Waler-100/075	101SW075	15.39	
Steel Waler-100/100	101SW100	20.55	
Steel Waler-100/125	101SW125	25.77	
Steel Waler-100/150	101SW150	31.09	
Steel Waler-100/200	101SW200	41.63	
Steel Waler-100/250	101SW250	52.04	
Steel Waler-100/300	101SW300	62.58	
Steel Waler-100/375	101SW375	78.31	
Steel Waler-100/500	101SW500	104.34	
Steel Waler-100/600	101SW600	125.42	

Components

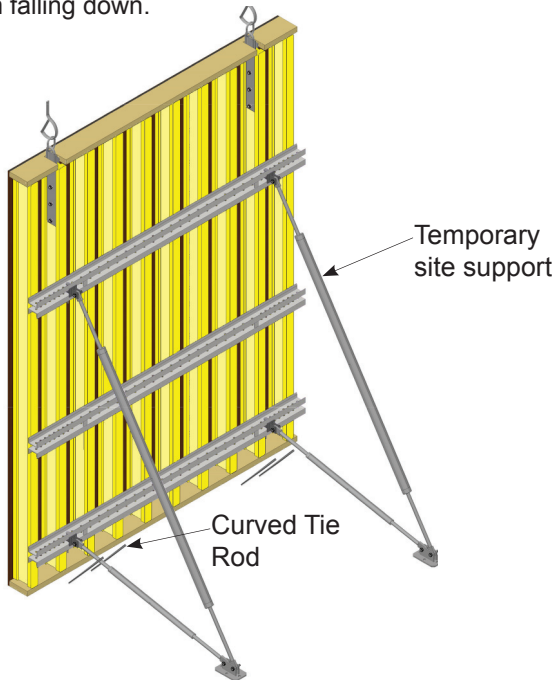
	Art. No	Weight Kg/pc.	
<p>Waler Holder Hook U</p> <p>Connects the Formwork to the Single Sided Supporting Frame.</p>	101FH014	1.62	
<p>Flange nut 3 wing 100 V</p> <p>Used for tying and connecting purposes. with a max. permissible load of 90 kN.</p>	315FN120	0.59	
<p>Tie Rod 75 15mm dia./D&W 315TR075 1.05 Tie Rod 100 15mm dia./D&W 315TR100 1.40 Tie Rod 130 15mm dia./D&W 315TR130 1.82 Tie Rod 175 15mm dia./D&W 315TR175 2.45</p> <p>Tie rod with max. permissible load of 90kN</p>			
<p>Hexagonal Coupler Galv. SW 30 L-100mm.</p> <p>Fastens the cast-in and reusable anchor elements</p>	315HC100	0.43	
<p>Curved Tie Rod V</p> <p>Is cast-in concrete and transfers the Tensile Force in to the Building Structure.</p>	315TR012	1.87	

Erection procedure

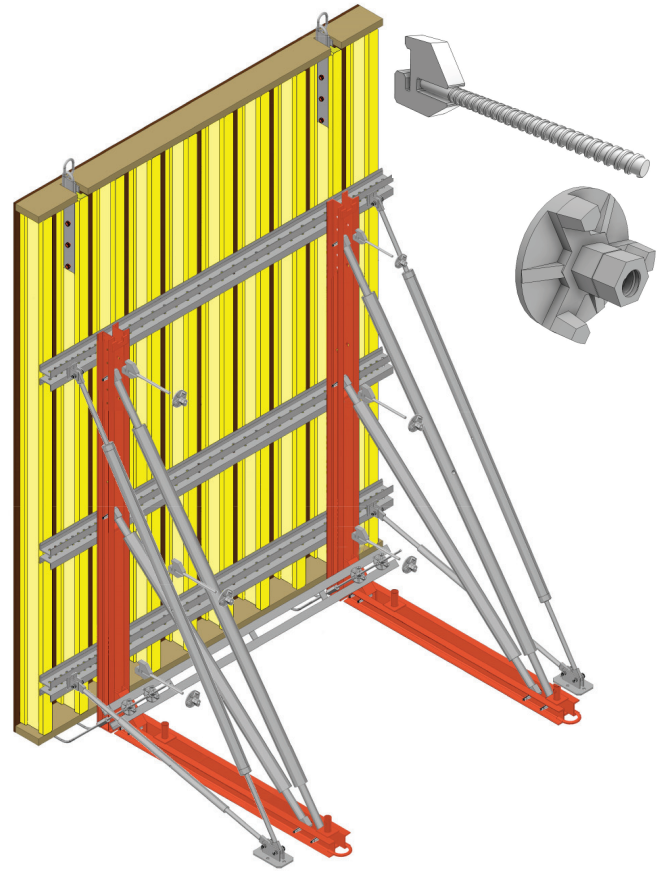
A. Fix and leave the Curved tie rod (Lost item) before casting the previous concrete slab.



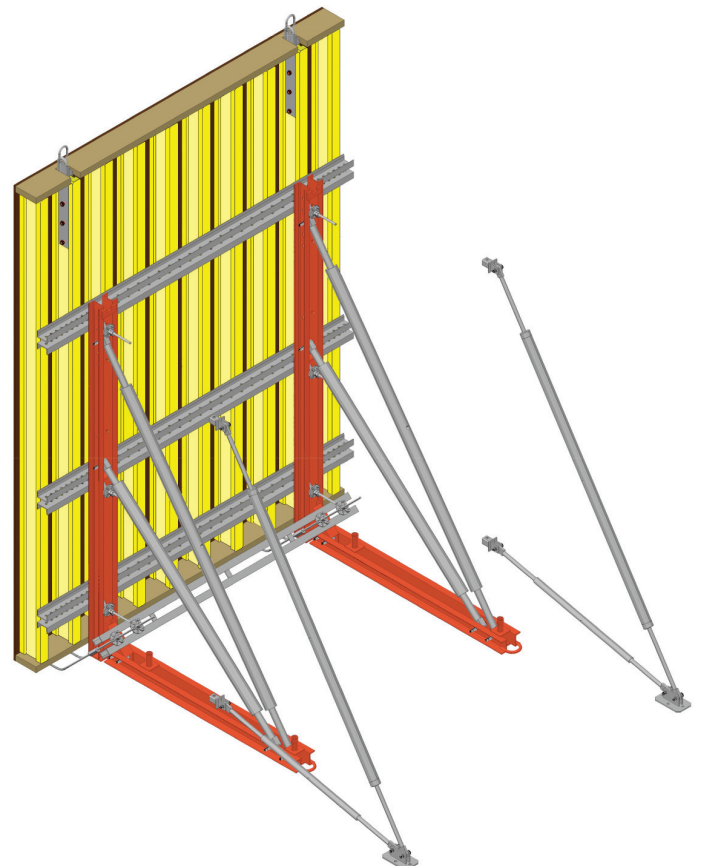
B. Take the pre-assembled formwork panel, stand it upright in place then use any site support for stabilize the panel from falling down.



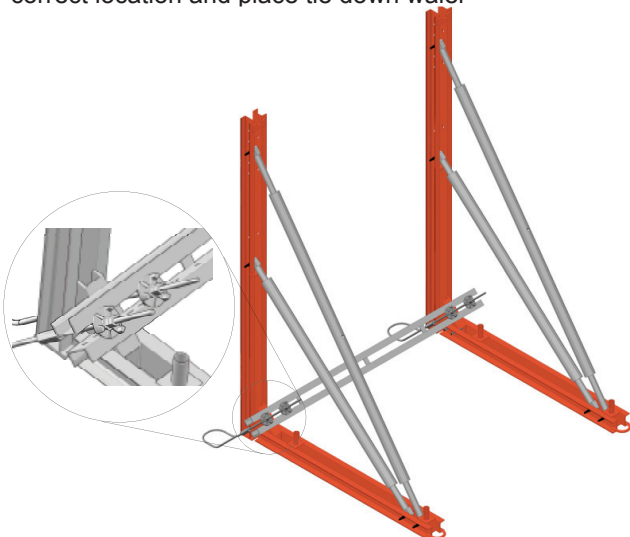
D. Connect the Support Frame to the upright formwork panel using the Waler Holder Hook U.



E. Remove the Temporary site support

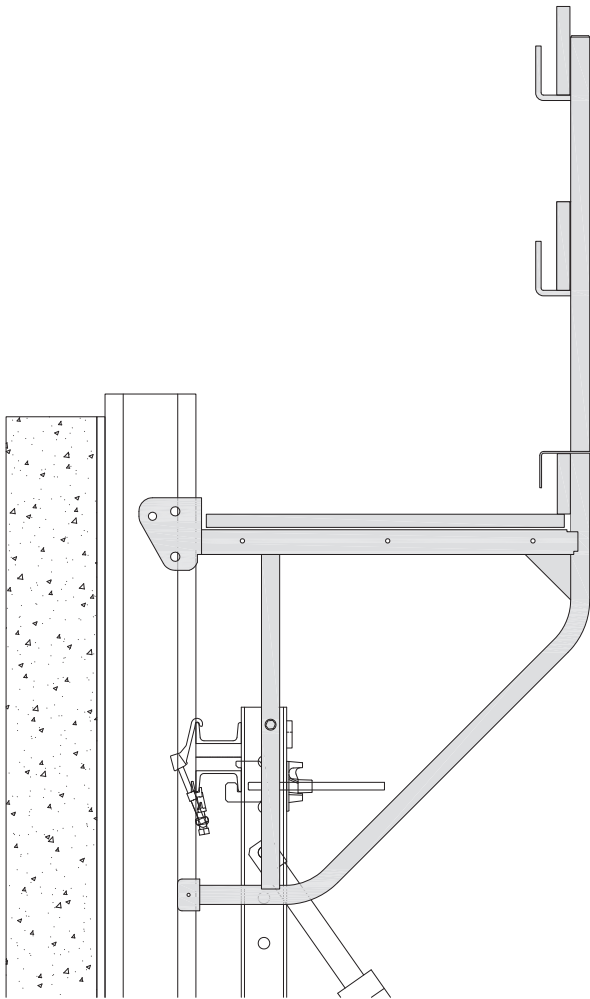


C. Assemble the Support Frame the right distance apart. Place supporting frame against formwork shutter at correct location and place tie down waler

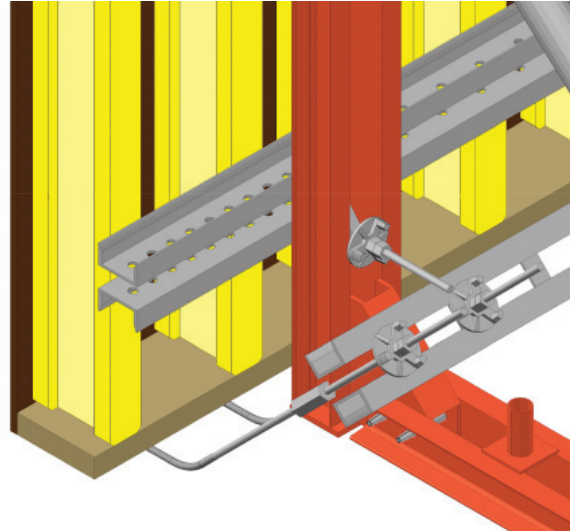


Erection procedure

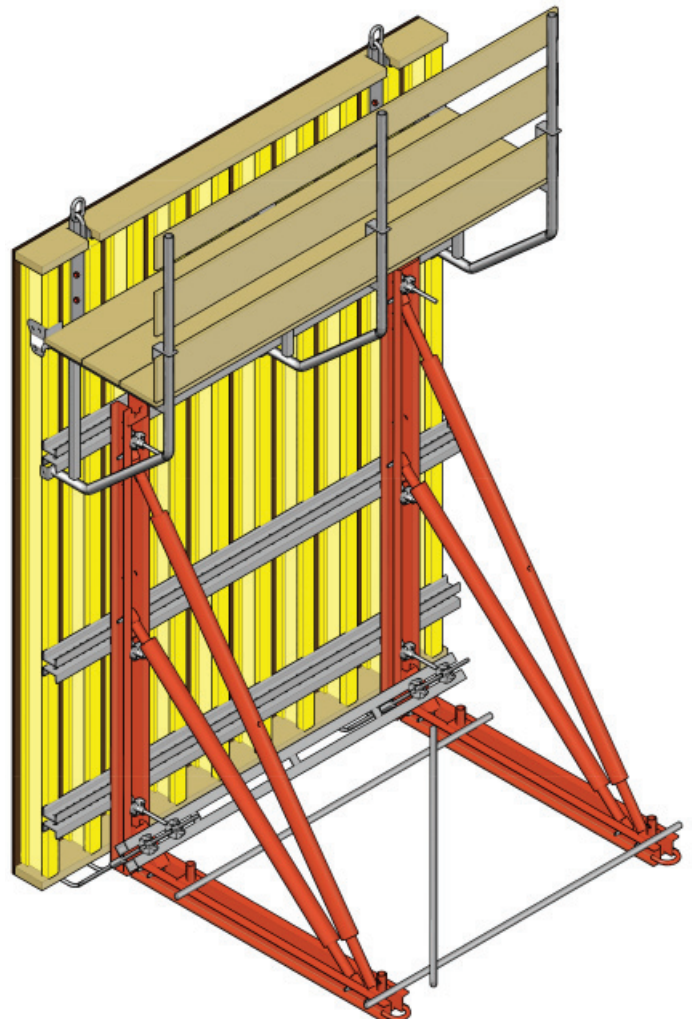
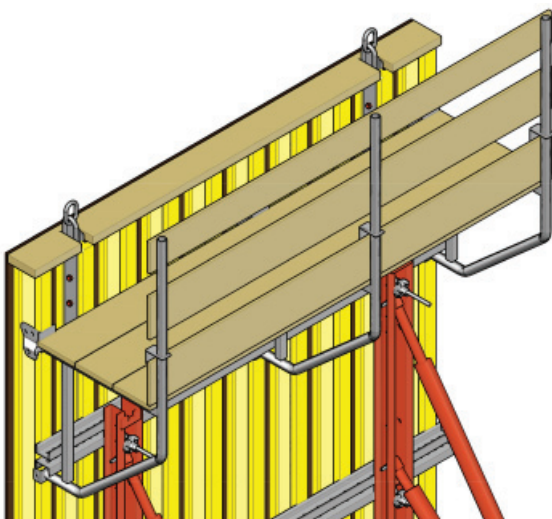
F. Install the working platform



G. Curved tie rod is extended using 100 mm Hexagonal coupler and 75mm tie rod extension. These components can be re-used.
Tight the support frame to the lost anchors.



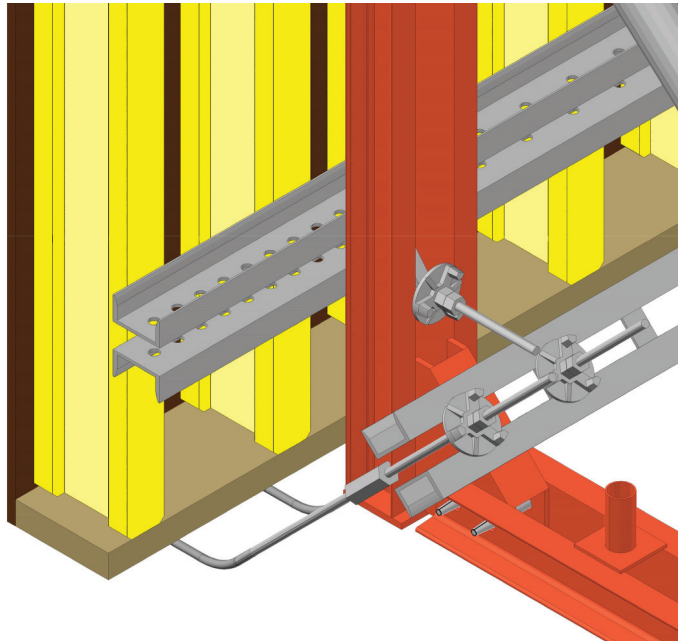
H. Brace support Frames together using scaffold tubes and couplers in case of lifting the entire unit by cranes



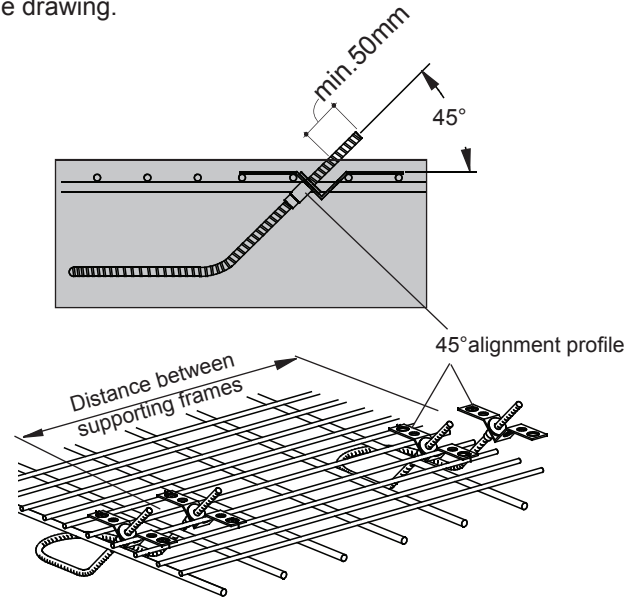
Anchoring Details

The Single Sided Support Frame is anchored by the Tying Bar which transfers the tensile loads into the cast-in Curved Tie using two Tie Rods. The Tying Bar position on the Single Sided Support Frame may vary.

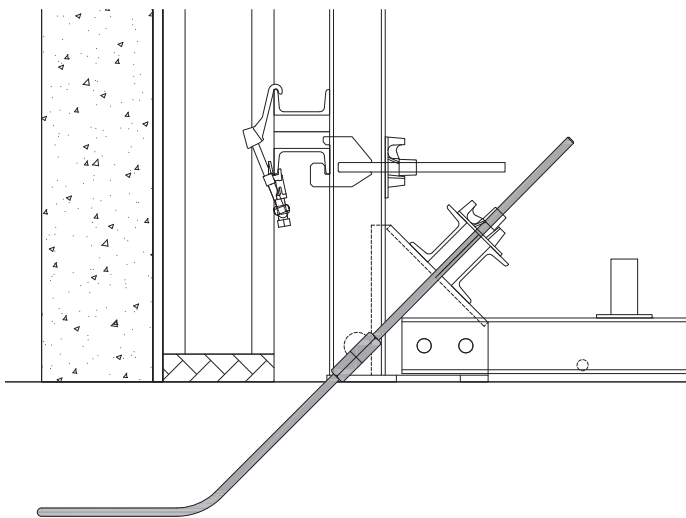
The cast-in Curved Tie is selected according to the statical calculation and expected corresponding tensile loads.



The exact position of the cast-in Curved Tie which remains in the concrete must be determined based on the principle as shown in the drawing.



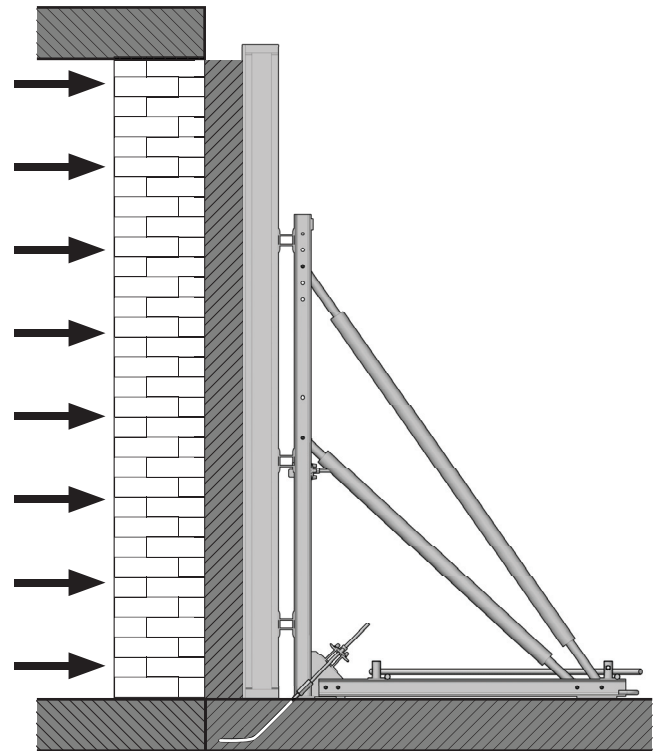
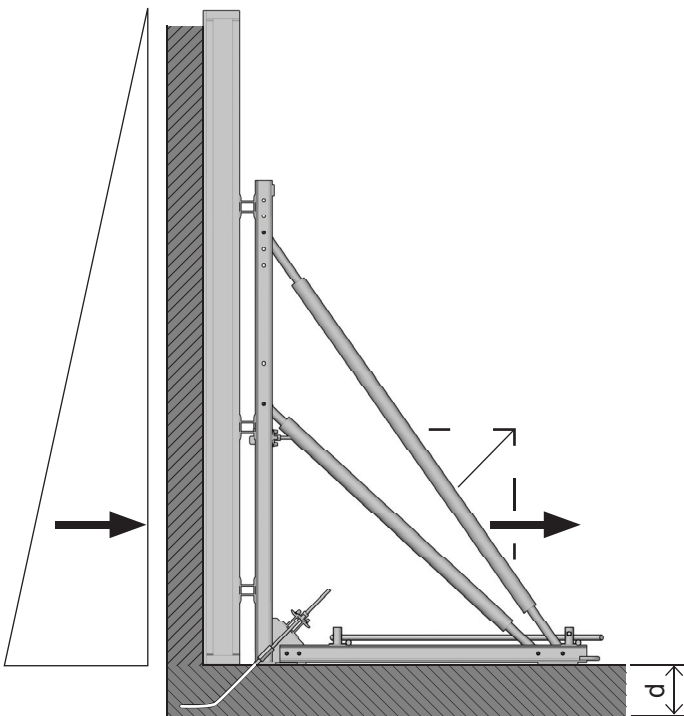
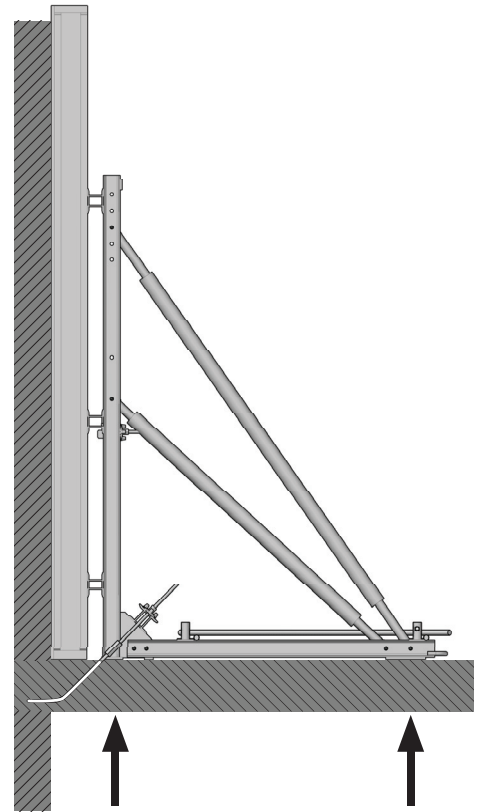
To prevent the selected anchor components from moving, it should be properly fixed to the reinforcing mesh. Arrange them based on length which is the spacing between the Single Sided Support Frame and the projection angle.



Forces Transferring Precautions.

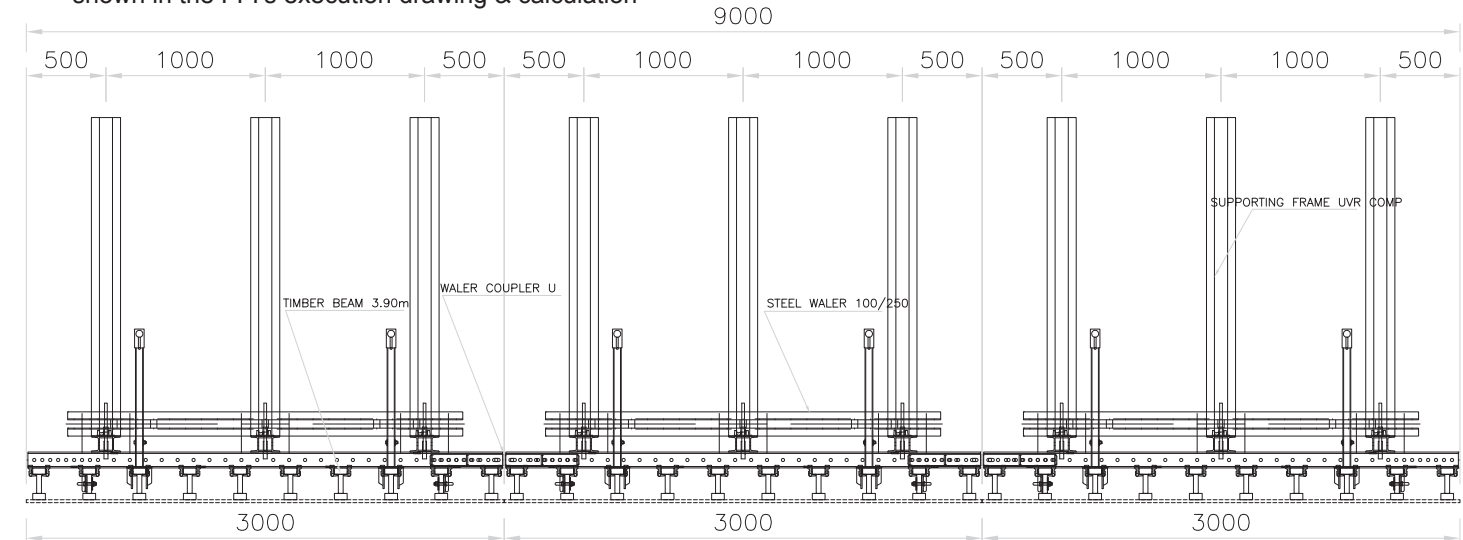
The high anchoring and bearing-forces which occur when Supporting frames are used necessitate a number of additional safety precautions.

- A. For tensile anchorages, choose the FFI form-tie system that is most suitable for the tensile forces occurring. Only use approved anchoring components.
- B. Reinforce all structural components sufficiently.
- C. The forces can only be transferred safely into the anchorage foundation where the concrete slab is sufficiently thick.
- D. Check the stability of each of the structural components, and if necessary the entire structure.
- E. Erection on floor slabs: Use adequately dimensioned Supports to transfer the loads to the floors below, and ultimately to the foundations, to the extent necessary to enable all floor slabs to withstand the load imposed on them by the Supporting frame.
- F. If necessary, do a calculation regarding “punching-through”.
- G. Check the capacity of the “opposing side” (walls, rock) and secure with separate shoring if necessary.

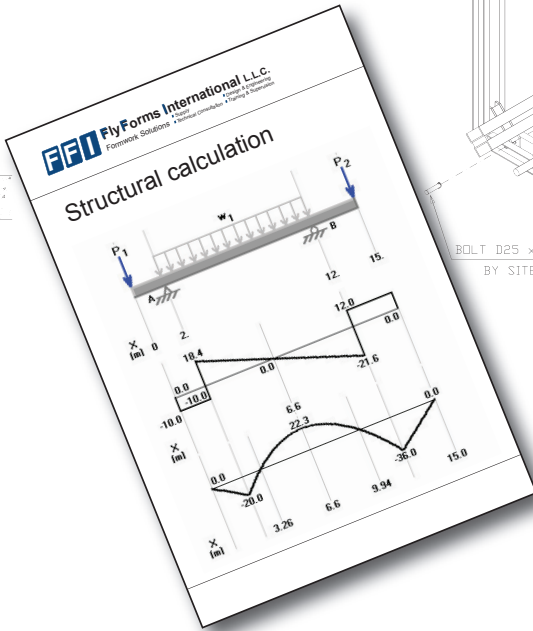
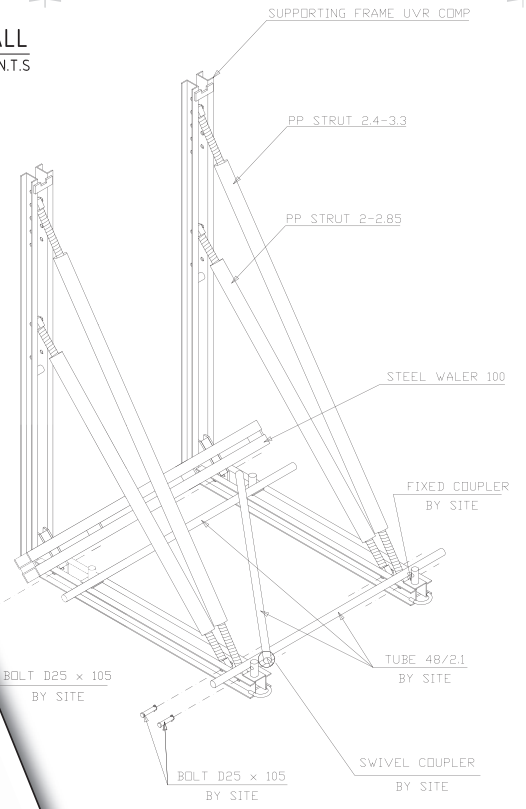
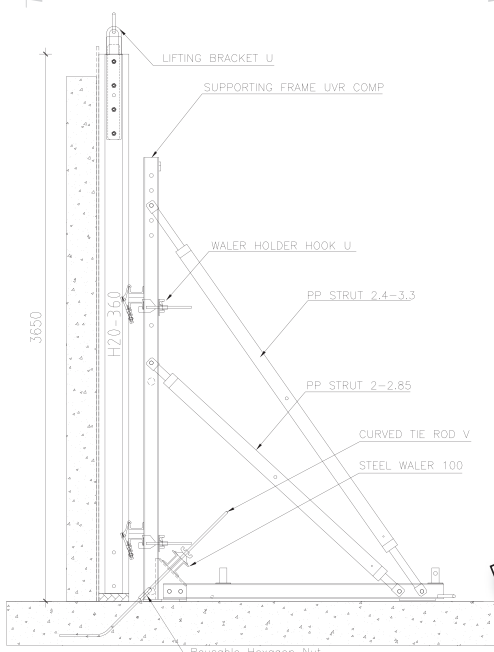


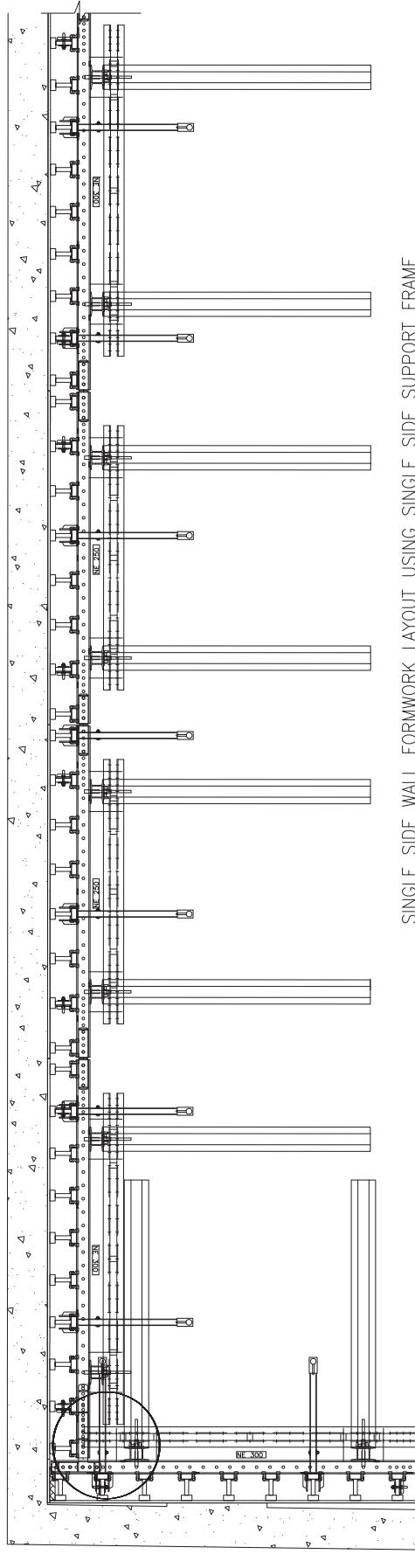
Engineering, Design & Drawings

- 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

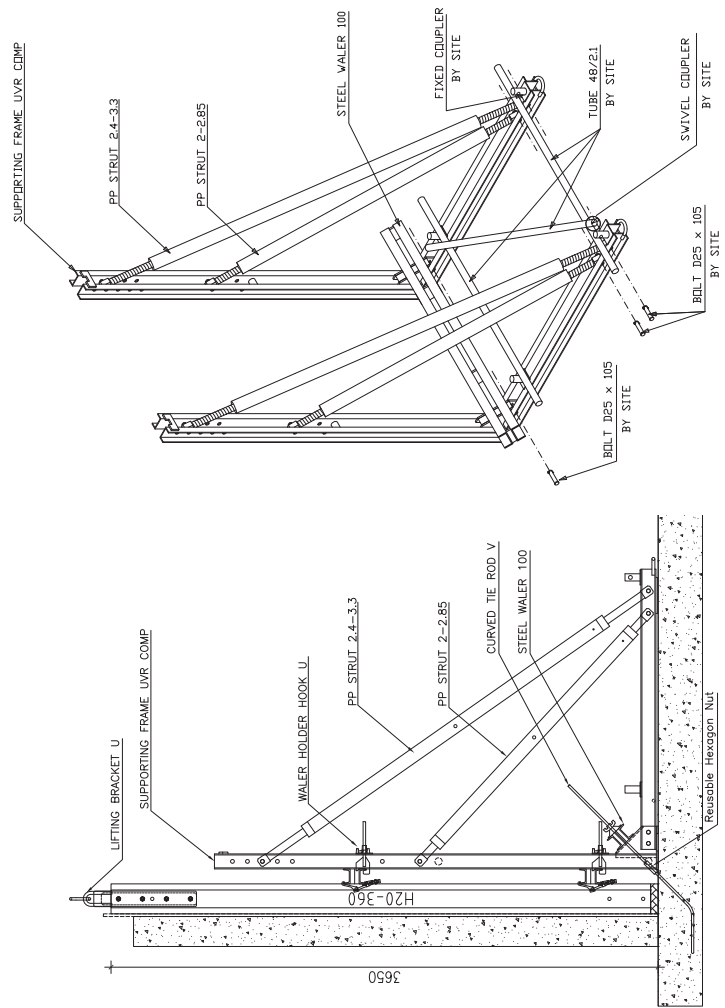


FORMWORK LAYOUT FOR RETAINING WALL
USING ENKOFORM & SUPPORTING FRAME UVR SYSTEM SCALE-N.T.S





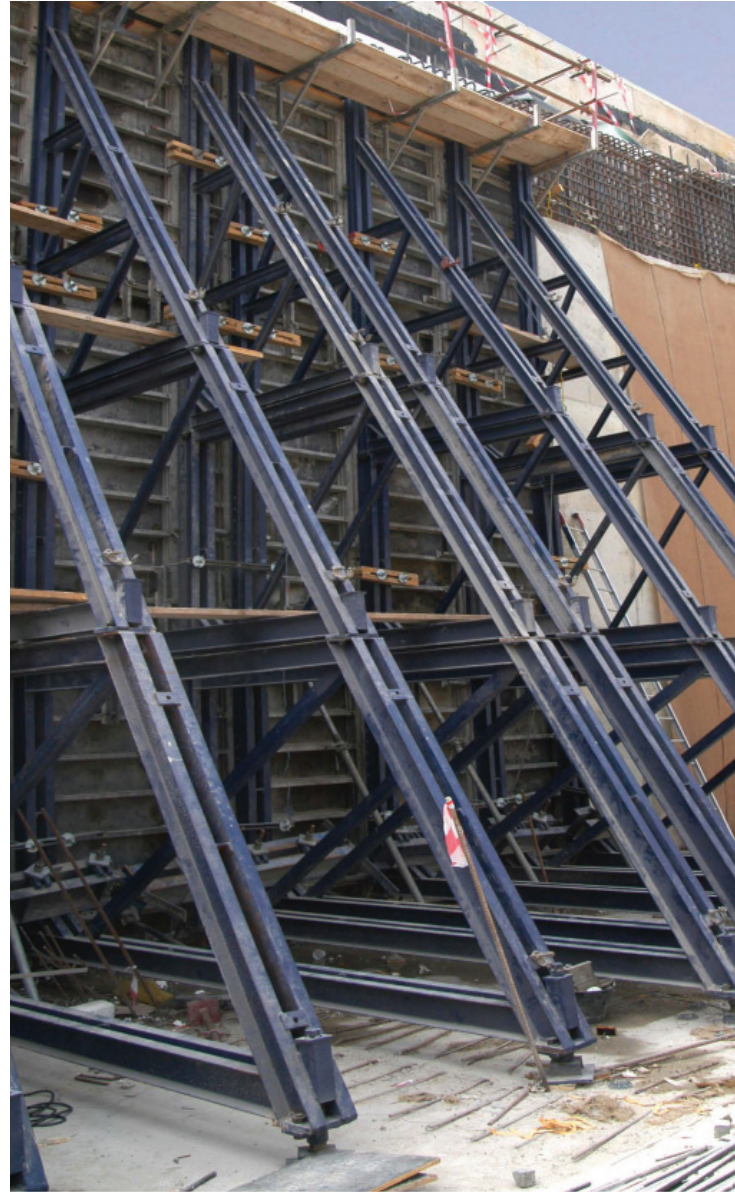
SINGLE SIDE WALL FORMWORK LAYOUT USING SINGLE SIDE SUPPORT FRAME



Typical Section

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Project No.:	BASEMENT 2
Client:	SINGLE SIDE WALL FORMWORK LAYOUT USING SINGLE SIDE SUPPORT FRAME
Project Name:	
Date:	



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