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Company message

Owners Message



ADEL MOHAMMED SALEH ALZAROUNI Owner/Managing Partner

"Our goal is to create secure globally various projects construction environment, efficient construction progress, and excellent customer experience, through professional engineering, technical support and unique project management systems recent establishment of FORMO in the United Arab Emirates, we have devised new innovative techniques to create the best possible structure within the stipulated time. Due to the superior quality of our products and world-class services we have been able to exceed the expectation of all our current construction clients and other trading agencies in all aspects of marketing and sales. By working under the headship of our superior and producing innovative Formwork, today, we have established a notable position in the global market."

Managers Message



HUSAM FAYEZ FAWZI ALAGHBAR General Manager

"The challenging world of modern formwork systems is always attested by engineers who are instructing construction sites staff dealing with various tasks at the project site. The major factor that decides their fate is delivery on time, fast assembly / erection & high quality of materials that they are going to use to ensure construction operations are done on the projects time schedule. FORMO systems is very compatible system to most worldwide international similar systems manufactured for the same function and purpose and sure FORMO is very keen to provide clients with identical materials & services as engineers are expecting to find."



FORMO Industries LLC has widespread global expertise in design and supply of FORMWORK, SLIPFORM, SHORING and advanced SCAFFOLDING systems capable to provide solutions to the most sophisticated projects.

Also known as Formo Industries in United Arab Emirates established in 2004, FORMO has cooperated with various civil engineering projects and has contributed excellent formwork, scaffolding and slip form services to construction industry in various regions of the world, providing an effective manufacture and supply strategy that can cater for any construction project around the world.





Introduction



Formwork diversity of the company, includes a variety of slab, wall, and column formwork, slip form, climbing system, and props makes it possible to create a formwork design appropriate to the circumstances and specific needs of each project to be done. So that the quality, efficiency, facility, and rapidity in execution and also the most economical design to be presented.

The company has invested in research and development unit, that's why we are able to offer any advice regarding to formwork design of concrete buildings, also offer solution in execution about every project. By combining experience and innovation, guaranteed after-sales service is one of our honors.



















Consultancy

Our technical sales staff will work with you to identify project requirements, analyze formwork options, planning, design, and safety specifications. Early involvement ensures the best results.



Design Expertise

Our experienced engineering design staff will translate customers> requirements into cost effective formwork and shoring design solutions, customized to the exacting needs of the project. By combining our designers> knowledge, talent and experience of the capabilities of our equipment range, the systems we design are innovative, practical and cost effective.

On Site Assistance

Trained Site Assistance Technicians can be on hand to provide practical guidance on how best to utilize our equipment in a safe and efficient manner, as well as provide solutions for required design variations due to on site conditions.









From project planning and design services to onsite support, FORMO offers a range of added value services, designed to ensure the smooth running of the project from start to finish.

Doing business with FORMO ensures, customers will have access to an entire team of highly trained individuals whose sole objective is to ensure they achieve a successful outcome. Complementing our product range with added value service is key to delivering successful solutions for our customers







Our company>s products designed material and secure your job systems solutions. security with the lowest costs in projects.

and produced with high-quality the ability to design and deliver design has the result of assembling

Variety of products, gives us Facility in installation and system and disassembling is simply done in the shortest time.



Components of FORMO formwork system can be easily connected to each other and have sufficient strength to withstand the forces of a lot of concrete pressures. The performance of FORMO formwork after repeated use has not lost its effectiveness and assembling, disassembling, and relocating it is as comfortable as possible. Variability in productions causes the formatting and designing in structures has not any limitation. Great versatility of these systems allows you use them in concrete projects.







we use the most up to date software engineering, and offer the most practical and the most economical system designs.

for surfaces with irregular shapes, curves and non-orthogonal angles such as Jersey barrier, curbs, precast beams, precast parts of the sewage channel, breakwater, Metro rail tunnel walls are being base, column heading, and the designed and executed.

In the form of precast parts usually Any form of bridge requires specific Formo tunnel formwork system is design and implementation of its own. Formo bridge formwork implement systems are to different parts of the concrete bridge structure including the deck can be used.

to perform variety types of tunnel structures, including tunnels Road (road, rail, subway) and water tunnels (including water diversion tunnel, dam, water, and sewage injection Gallery). It can be designed and offered in dimensions and the different sections.

Double Sided Wall System

Double sided wall formwork system as integrated part and in different dimensions are being executed in concrete walls in a wide variety of structures. The use of the plywood and wooden beams (H20) reduces the weight of the formwork, speeds up the concreting times.

The components of this system is flexible and can be easily spread from any direction and any point.

Shuttering and de-shuttering in this system is very simple and requires no special skills and expertise which saves considerably on construction costs.







Double Sided Wall System



In Wall systems of Formo we use wooden beams (H20), metal supports and accessories, and plywood as the surface of formwork panel.



High height of walls with exposed concrete surface is easily possible to execute.



This system is designed to cover wide variety of walls in both phases assembling and shuttering, de-shuttering and dismantling.

Some of the advantages of our formwork system comparing with traditional systems:

- 1. Fast and simple installing
- 2. Financial efficiency
- 3. Lighter weight
- 4. Less man power
- 5. Less depreciation
- 6. Exposed concrete surface

H20 Timber Beam

In FORMO wall formwork system instead of using metal surface and soldier (support) segments we use high quality wooden beams (H20) plus plywood surface. Consequently the weight of the system would be much lighter and more efficient and easy to execute.

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Steel Waler

To resist the lateral pressure of fresh concrete as well as setting the surface of panels, Steel Walers are being used.





Plywood

The high quality and accurate concrete surface is easily possible with using plywood as the formwork panel surface.



In condition of proper maintenance, the plywood are long lasting, plus they can be easily repaired or replaced

Hook Strap

To join the Steel Waler to H20 beam



TSS Screw

Special screw to join the plywood sheet to H20 beam



Wedge

Wedge will be inserted and fixed by hammer in the specified holes of Steel Waler and Coupling in order to connect them together





Coupling strap to link two Walers in row

Hook Strap

To fix the Waler to H20 and make an integrated system







FORMO DW

Wall System Components





- 1- Place each waler according to the ordered spacing
- 2- Install the Cranes on each ordered H20beams then place H20beams on walers in ordered spacing and connect H20beams to walers by Hookstraps



- 3- Screw Plywoods to H20beams



4- Erect the panel and place on its ordered position







5- Firstly pre-assemble two Girder head pieces with Push pull prop and Kicker then install the Base plate to concrete raft and attach two Girder head pieces to the specified H20 next insert the Pin through base plate-Push pull prop and Push pull prop-Kicker 6- Install safety Brackets on the top of the H20beams



7- place the timbers on brackets



8- Link panels together using Couplings

Push-Pull Prop

To resist the lateral pressure and to keep the formwork panel steady during the concreting, two telescopic props are being used.



The connection of push pull prop to H20





the connection of prop base plate to the raft





Formwork Height H (m)	Figure 1						
Formwork fleight fr (m)	2.5	3.0	3.5	4.0	4.5	5.0	5.5
Push Pull Prop Type	Push	n Pull Prop	305	Push Pull	Prop 380	Push Pull	Prop 450
Allowable Prop Spacing (m)	4.88	3.48	2.27	2.07	1.44	1.45	1.1
Actual Push Pull Prop Load F ₁ (Ton)	2.5	3.0	2.2	2.2	17	1.0	16
at Max. Spacing	5.5	5.0	2.2	2.2	1.7	1.9	1.0
Actual Kicker Brace Load F ₂ (Ton)	12	0.0	0.6	0.6	0.5	0.5	0.4
at Max. Spacing	1.5	0.9	0.0	0.0	0.5	0.5	0.4
X = Distance of Base Plate (m) from	1.0	1.2	15	16	10	2.0	2.2
Rear Side of Formwork	1.0	1.2	1.5	1.0	1.9	2.0	2.2
Y = Top Connection Point (m) from	0.8	10	11	12	13	15	17
Fop of Formwork	0.0	1.0	1.1	1.2	1.5	1.5	1.7

Wind Loads: H< 8m = 0.5 kN/m² 8m<H<20m = 0.8 kN/m²



Tie Rod

To sustain the accurate thickness of wall, plus resisting the lateral concrete pressure, bolts (tie rods) are being used.





Tie rods are inserted (covered by plastic bolt pipes) through both panel sides and fixed by Wingnut plates and Wingnuts.



After concreting the plastic bolt pipe will be buried and Tie rods will be ejected easily.



Corners Implementation

To execute internal and external corners, we use L shape panels. The benefits of these panels are to sustain exposed surface and to resist leaking cement juice at the corners.

Special Corner

Special corners with specified angles can be designed and easily executed.



Internal Corner

90' corner Walers used in internal corners



External Corner





Fillers

At the time of de-shuttering to ease the splitting two sides of panels from each other and concrete surface, Fillers are being used (in different width)



To de-shutter: first fillers will be removed, next the panels





Fillers are available in various dimensions.

In closed concrete sections to facilitate disassembling fillers are very effective.

Stopend Formwork

To stop end the double sided walls we use Tie yoke or Bulkhead Tie which both of the systems are being fixed by Wingnuts.

Setting up the stop end panels can be operated in two ways:







2. Using Bulkhead tie







Panel Extension

To extend the height of panels up to 8m, two H20 s will be linked by Extension strap from both sides





Platform Bracket

In case of wall formworking, for supplying an appropriate space to do the job plus manpower security, the safety platform is used. The safety factors are considered as even in the circumstance of the high altitude with wind speed and the maximum horizontal forces on the panel surface, the sustainability of platform is assured.



The platform bracket in size of 110*80 cm will be connected to the top external side of panel with special pin and nut.the maximum load tolerance is 150kg/m2.







Crane Lifting

For shifting the panels, two or more steel clasps easily will be attached to the H20 beams with pins. (Through the drill holes on the top of H20s)



For relocating each panel of wall formwork you can use of two hooks that are easy to install.





Drilled holes on the top of the H20 beam surfaces are for crane connecting with pins.

In special circumstances such as preventing from soil drifting, Retaining walls are designed as one sided walls.

These panels are supported with truss structured frames names Brace Frame to resist the whole forces coming from concrete and soil.



Anchor System

To connect the Brace Frames to the raft and the panels, double anchors are being used.





In single sided wall system due to lack of bolts and push pull props, for stability and leveling the formworks we use of truss support structure that can be easily connected to the system. All parts of truss support structure (Brace Frame) can be quickly connected to single sided wall system thus you can relocate panels without disconnecting the Brace Frame.



Double anchors are buried in the raft concrete (until specified length) at the bottom of wall panels.



Anchors are assembling at an angle 45 degree to buried the concrete pressure.

Executing one sided walls with maximum 8m height and exposed concrete surface quality is easily possible using Brace Frames.













- 1- Place each waler according to the ordered spacing then Place H20beams on walers in ordered spacing.
- 2- Screw Plywoods to H20beams



3- Place Brace frame on its own position



4- Use the Spindle screws to erect the panel perfectly vertical

FORMO CS

Column System

Using the column system formwork of Formo will give you the chance to execute several different types of reinforced concrete columns with rectangular, circular, etc shapes and sections with different diameter and height as well as specific sections with the applicable column. These templates can be designed for one size and then moved it down for parts and for a variety of smaller sections as well as the direction of the displacement is used.







Section of column system



Column System



1- Place each waler according to the ordered spacing Place H20 beams on walers in ordered spacing



2- Screw Plywoods to H20beams



3- Erect the panel and place on its specified position then joint two \mbox{L} shape panels



4- Firstly pre-assemble two Girder head pieces with Push pull prop and Kicker

Formo DW, SSW & CS

Wall & Column Components

		Item No.	Weight kg	
H20 Timber Beam		KH20H145 KH20H215 KH20H245 KH20H265 KH20H290 KH20H330 KH20H360 KH20H390 KH20H450 KH20H490 KH20H590	6.82 10.11 11.52 12.46 13.63 15.51 16.92 18.33 21.15 23.03 27.73	L= 1.45m L= 2.15m L= 2.45m L= 2.65m L= 2.90m L= 3.30m L= 3.60m L= 3.90m L= 4.50m L= 4.90m L= 5.90m
Waler	10000000000000000000000000000000000000	KWL01H075 KWL01H095 KWL01H100 KWL01H120 KWL01H122 KWL01H145 KWL01H165 KWL01H170 KWL01H195 KWL01H220 KWL01H245 KWL01H245 KWL01H265 KWL01H270 KWL01H295	$\begin{array}{c} 15.10\\ 19.13\\ 20.15\\ 24.20\\ 24.55\\ 31.00\\ 35.00\\ 36.20\\ 41.50\\ 47.40\\ 52.80\\ 56.35\\ 57.40\\ 62.00\\ \end{array}$	L= 0.75m L= 0.95m L= 1.00m L= 1.20m L= 1.45m L= 1.45m L= 1.65m L= 1.70m L= 1.95m L= 2.22m L= 2.45m L= 2.65m L= 2.70m L= 2.95m
Coupling	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	KWL02H075 KWL02H095 KWL02H145	6.87 8.70 13.10	L= 0.75m L= 0.95m L= 1.45m
Corner Coupling		KWL765L685A90 KWL665L385A90	13.70 10.00	
Articulated Coupling		KWL600L360 KWL920L920 KWL600L500 KWL600L600	9.60 18.40 11.00 12.00	



Formo DW, SSW & CS Wall & Column Components

		Item No.	Weight kg	
Tie Yoke		KWL03P000	2.30	
Bulkhead Tie		KWL04L670 KWL04L370	3.17 1.75	
				i.
Hook Strap Hook Strap (Main) Hook Strap (Hooks) Hook Strap (M8*60) Hook Strap (M8)		KWL05P000 KWL05P001 KWL05P002 KAC1SM8(60)S KAC1NM8S	0.55 0.32 0.19	
Wedge KZ		KWL06P000	0.77	
Filler Plate		KWL07P000	1.10	
Wedge K		KWL08P000	0.34	
Girder Headpiece WING NUT 12 Pin Ø15.5 L=70mm Clip pin Ø3.6		KWL09P000 KAC1NW12 KAC1PD15.5(70)I KAC1CD3.6S	4.60 0.11 	
Girder Headpiece -1	C C C C C C C C C C C C C C C C C C C	KWL14P000	1.66	

Formo DW, SSW & CS

Wall & Column Components

		Item No.	Weight kg
Extension H20 M20*80 M20	0	KWL10P000 KAC0SM20(80)S KAC0NM20S	19.60
	0		
Crane M20*80 M20		KWL11P000 KAC0SM20(80)S KAC0NM20S	7.80
Bracket M16*130 M16		KWL12P000 KAC0SM16(130)S KAC0NM16S	13.60
	E E E		
Waler Corner		KWL700H375A140 KWL1400H1700A90 KWL1070H790A90 KWL1100H1900A90 KWL1270H900A90 KWL1570H900A90 KWL1570H900A90 KWL1810H900A90 KWL132H912A90 KWL1132H912A90 KWL1300H1000A90 KWL1300H1000A90 KWL1300H1050A128 KWL1300H1050A128 KWL1290H1130A90 KWL1262H1132A90	30.59 61.71 54.66 58.78 63.77 72.60 49.64 93.17 60.00 61.72 67.60 72.60 73.50 64.10 69.10 71.20 70.40
		KWL1512H1132A90	77.70



Formo DW, SSW & CS Wall & Column Components

		Item No.	Weight kg	
Waler Corner		KWL13H104 KWL13H114 KWL13H120	34.60 33.00 32.50	L= 1.04m L= 1.14m L= 1.20m
	A state of the sta			
Tie Rod	annanannannannan	KAC1TS15(100) KAC1TS15(150) KAC1TS15(250) KAC1TS15(500) KAC1TS15(750) KAC1TS15(1000) KAC1TS15(1250) KAC1TS15(1250) KAC1TS15(1750) KAC1TS15(2000) KAC1TS15(2500) KAC1TS15(2500) KAC1TS15(2750) KAC1TS15(3000)	0.16 0.23 0.39 0.78 1.16 1.55 1.94 2.33 2.71 3.10 3.49 3.88 4.26 4.65	L=10cm L=15cm L=25cm L=50cm L=75cm L=100cm L=125cm L=175cm L=200cm L=225cm L=250cm L=275cm L=300cm
Brace Frame A Brace Frame B Brace Frame C Brace Frame C-1 Brace Frame D		KSF11H119P000 KSF01H320P000 KSF09H320P000 KSF10H198P000 KSF12H198P000	410.00 64.00 293.20 279.00 326.00	
Spindle 600 Spindle 900 Spindle 1200 TR48		KSF01H320P001 KSF01H320P002 KSF01H306P003 KAC1NTR48B	7.17 8.18 10.21 1.15	

Formo DW, SSW & CS

Wall & Column Components

Item No.	Weight kg	
KSF02P000 KSF04P000 KSF07P000	1.05 1.30 2.20	
KSF03P000	2.33	
KPRP2450H3050 KPRP3000H3800 KPRP3000H3800(1) KPRP3000H3800(2)	17.80 26.70 29.50 29.70	
KPRK1000L1550 KPRK1500L2050	8.30 10.2	
KPR07P000 KAC1PD16(70)I KAC1CD3.6S	1.50 0.105	
	KSF02P000 KSF04P000 KSF07P000 KSF07P000 KSF03P000 KPRP3000H3800(1) KPRP3000H3800(2) KPRP3000H3800(2) KPRP3000H3800(2) KPRP3000H3800(2)	KSF02P000 1.05 KSF04P000 1.30 KSF07P000 2.20 KSF03P000 2.33 KSF03P000 2.33 KPRP2450H3050 17.80 KPRP3000H3800(1) 29.50 KPRP3000H3800(2) 29.70 KPRP3000H3800(2) 29.70 KPRK1000L1550 8.30 KPRK1500L2050 10.2 KPR07P000 1.50 KAC1PD16(70)I 1.50 KAC11CD3.6S


Formo DW, SSW & CS Wall & Column Components

		Item No.	Weight kg	
Hex Coupler		KAC1HS15(50)S	0.16	
Threaded Plate		KAC1THS15C	0.80	
	a o o			
Wingnut	<u>_</u>	KAC1NW15	0.40	
Double Anchor Tie Yoke	\sim	KAC1PD60(330)	4.30	
	J.			
Tension Release Plate	â	KSF05P000 KAC0SM30(60)S	9.65	
1130.00			0.000	
Wingnut Plate	<i>A</i>	KAC1NWP15	0.80	
Anchor Waler		KSF06H055	10	

Crane Assisted Climbing Wall FW

Usually climbing wall systems used for large-sized panels that can be connected to anchor. CB Climbing Formwork is normally used for supporting large-sized, anchored wall formwork. The climbing unit consists of formwork, working platform, brackets with formwork carriage and strongbacks as well as finishing platform. It can be moved very quickly by crane. Formo CB guarantees easy handling, high outputs and is fully adaptable to most wall configurations.

Concreting Position

Retracted position



The high load capacity of the bracket allows large spans even in high load applications. This results in large and time saving climbing units.



Crane Assisted Climbing Wall FW



FORMO CACWF

Climbing System

Wind forces increase with height, so Formo climbing system designed for this pressure and ensured security.

Formo CB tension proof wall formwork systems is designed to achieve extremely flat concrete surfaces and clean construction joints.



This is because the timbers normally used, which are often too weak or too short, are replaced with these brackets, which can support H20 as main platform beams. A double layer of H20 allows maxi-mum platform widths of 12,00 m.







Climbing System



Climbing System Assembly

1. Concrete first section of wall.

Fit leading anchor in accordance with instructions.

2. When the concrete has attained the strength required, fit working anchor and mount preassembled scaffold unit. Erect formwork and concrete second section.

3. Retract formwork and fit working anchor for next section.









Climbing System Assembly

4. Lift the complete unit up to next section with the crane.

5. Fix reinforcement and clean formwork. The finishing platform is mounted and the tension anchor connected at this stage required.

6. Move formwork forward and concrete.

Continue as in Step 3.







Climbing System

Static system and load combinations	Load combination A – working	R
The charts are for detailed	Wind load:	
determination of the bearing reactions whilst taking into account	q = 0.25 kN/m² v = 80 km/h	
realistic load combinations.	– The formwork is retracted (75 cm),	
For all load combinations	or is in the concreting position.	
(A – Working and B – storm), the safe transfer of the bearing forces	 Working on all platforms is permitted. 	
into the building structure has to be verified.	 Storage of materials on the working platform is permitted. 	
With higher wind loads, the	Load combination B – storm	
must be reduced accordingly and	Wind load:	
the bearing forces determined through a static calculation.	q = 1.0 kN/m2 v = 132 km/h	
Width of influence b	q = 1.3 kN/m2 v = 179 km/h	1180
Application height hG	q = 1.5 kN/m2 v = 198 km/h	a la
Formwork height hS	 Formwork in concreting position 	
Formwork weight max 60 kg/m ²	 Working not permitted 	
Wind flow pressure q	 Material can be left on the working platform. 	
	p.47 above the top chart	

Wind forces with height>s chart for both open and urban areas and associated with different wind speeds

Wind from the rear

Platform		Dead load of Permissible the platform live load*		Decisive load combinations [kg/m ²] for calculating the bearing reactions				
				[kg/iii-]	Working A	Storm B1	Storm B2	Storm B3
Concreting platform		30	150	75	-	-	-	
Intermediate platform (if required)		30	150	-	-	-	-	
	Working platform	Wall side	50	300	300	-	-	-
	j procession	Guardrail side		200	200	133	133	-
Finishing platform		50	75	37.5	-	-	-	
	Wind direction				from the front	from the front	from the rear	from the rear



Climbing System



Max Load



Max Load

Load factor for the temporary structures with fewer using period than 2 years

















	Item No.	Weight kg	
Advancing Bolt	KCB26M240	0.30	1
Anchor Positioning Plate	KCB26M240	0.20	
le O o			
Hex.Bolt 120	KAC1SM24(120)S	0.54	
Hex.Boit 70	KAC15M24(70)5	0.55	
Screw-On Coupling AK	KCB27M240	0.85	
Swivel coupling DK	KCB28M240	1.22	
Handrail Connector	KCB29M240	0.90	

FORMO TS

Table Form System



Table form slab system of FORMO is the most popular and economical system comparing with other slab formwork systems.

The advantages:

- 1. Economical system
- 2. High speed erection and disassembling
- 3. The wide range of primary and secondary beams can shape easily

4. Standard size of plywood sheets can be used





Table Form System



Fillers

At the time of de-shuttering to ease the splitting two sides of tables from each other and concrete surface, Fillers are being used (in different width)

First fillers will be released, next the tables



Slab formwork tables can be used repeatedly in the same level or during the whole structure executing.

Below the picture of table

The tables> first assembly is possible in most places and you can easily move them horizontally and vertically



Prop Head

Prop heads are inserted through the top of props to hold the H20 beams.









Plywood

plywood is supplied in a variety of sheet sizes, thicknesses and grades accommodating any site application.



H20 Timber Beam

The H20 used as the wooden support of horizontal beams to reinforce the tables



By using of wooden beams with steel props, access to a very high loadbearing capacity to operate the thick ceilings is provided



H20 and plywood connection section detail

FORMO TS

Table Form System Assembly





the shop drawing's spacing

1- Place each double H20 (Main beams) according to 2- Screw secondary H20 beams on main H20 beams





3- Screw the plywood sheet to the specified H20 4- Erect the props and place on its ordered position beams



Table Form System Assembly





5- Joint the Forkhead on the top of each Props of 6- Position the table on the Props slab table and insert the Pin





7-tables are assembled then located in its ordered position by crane



8- By taking the tables together the roof surface is prepared for meshing and concreting

Stopend Formwork

SE which is connected to the sides of beam plywood with simple nailing distributes and resists the concrete pressure.





Stopend is connected easily to plywood and wooden beams

stopend buried the side pressure of

concreting in slap formwork



The distance between the stopend is calculated based on the thickness of the roof and the concrete>s side pressure





Handrail Post

During the slab formworking,to provide enough space to work of the edges of the slab plus man power safety ,Handrail posts are being used.



With the installation of Handrail post and Handrail holder at the end of the slab table, physical security and mental comfort for staff in height is provided.

Handrail Holder

handrail post and handrail holder details





installation of Handrail Holder with pin

0

0

PR Frame

For slab tables to endurance the load of concrete, man power and machines on the slab, a horizontal truss structured frame named PR will be used to link the table's props as an integrated structure.



1.3500mm height: 1 row

2.5500 mm height: 2rows









Table Form System Transportation

Table Trolley

The slab tables will assemble once and used repeatedly during the project (different levels).After deshuttering (releasing the tables) the tables will be transferred to a specified area by Table Trolley and shifted to the next level by tower crane.a

Table Trolley Extention

The height can be extended up to 5 m by this component.





Trolley can easily be moved by man power along the horizontal and vertical



Table Form System Shifting Devices

Table Lifting Fork

Table lifting fork is used for shifting and transferring the tables by tower crane.

Lifting fork is designed in 5 meters length and 1 ton capacity.







Table Form System Shifting Devices



1- After roof operating and concrete hardens, the prop heads are released and tables are separated from the concrete surface.



2- Tables are moved to the edge of the roof and then the lifting fork is connected to them for replacing



3- Table are brought off from opening and be moved by tower crane in vertical direction



4-tables are moved to the next floor by Lifting Fork and seated in the intended place

Flex System

This system is versatile with high capacity to be designed for any geometrical plan and variable floor height.



Advantages:

1. Quick erection of the formwork

2. Few numbers of items because of using same section for main and cross beams

3. Easy to handle and erect

4. Safety and economy with high – quality, durable system components





Flex System

In case of de-shuttering first the props should be loosen up to 20cm, then all the elements such as plywood, H20 can be removed easily when lowered gently by special alum fork.



Tripod

Tripods are to secure the props selfstanding stability only when erecting the system whereas it is not required while concrete operation.



Flex System Assembly





1- prop head is connected to prop then prop are secured with Tripod

2- Position props on a flat, clean and sufficiently load-bearing surface.



3- put two pieces of H20 in the longitudinal direction row on props



4- Secondary props for keeping the wooden beams are placed at determined intervals



Flex System Assembly



5- Pieces of H20 are putted in the longitudinal direction row on props



 $\ensuremath{\mathsf{6-}}$ then secondary wooden beams are connected to main $\ensuremath{\mathsf{H20}}$



7- put the plywood on secondary wooden beams



8- surface of roof is prepared for meshing and concreting by this system

Beam Side Bracket/Slab end Support

The beam tables are similar to slab tables that can be used for different size of beams. The tables can be transferred by Trolley and shifted by tower crane.

You can easily adjust the beam>s height by props

By using the beam system for concrete beams, the time of formworking is incredibly reduced.





Beam section detail



Beam/Slab Bracket System

You can easily adjust the beam>s height by prop



By using the beam system for concrete beams, the time of formworking is incredibly reduced.



FORMO Floor Props

Telescopic props are popular and economical elements used for temporary supports.



These props are produced in two sizes with heights from 2.5m up to 6 m.

Formo props are able to bear 3.5 tons load according to valid laboratory confirmation



Props Load Table

Extension	Prop 20-350	Prop 20-500	Prop 30-350	Prop 30-500
Longth (m)	L=2.00 - 3.50 m			
Length (III)	(KN)	(KN)	(KN)	(KN)
2.00	35.0		45.0	
2.10	35.0		45.0	
2.20	35.0		45.0	
2.30	35.0		45.0	
2.40	35.0		45.0	
2.50	35.0		45.0	
2.60	34.9		45.0	
2.70	32.3		45.0	
2.80	30.1	35.0	45.0	45.0
2.90	28.0	35.0	45.0	45.0
3.00	26.2	35.0	45.0	45.0
3.10	24.5	35.0	42.3	45.0
3.20	23.0	35.0	39.7	45.0
3.30	21.7	35.0	37.3	45.0
3.40	20.4	35.0	35.2	45.0
3.50	20.0	35.0	33.2	45.0
3.60		35.0		45.0
3.70		35.0		45.0
3.80		33.9		45.0
3.90		32.1		45.0
4.00		30.6		44.2
4.10		29.1		42.1
4.20		27.7		40.1
4.30		26.5		38.3
4.40		25.3		36.5
4.50		24.2		34.9
4.60		23.1		33.4
4.70		22.2		32.0
4.80		21.2		31.4
4.90		20.4		30.7
5.00		20.0		30.1

FORMO SFS

FORMO Shoring Framed System





Frame form system slab tables can be used in different slab systems with wide area square meters and high-rise structures. In this type of system plywood sheets are assembled on scaffolding system. By increasing or decreasing the height, horizontal and lateral forces, scaffolding format can be different for different loads and bearing set. Using this system due to high installation speed, simplicity, and stylistic connections, easy handling, the weight of the components will very much raise the quality of construction plus, the exposed concrete surfaces due to the use of the plywood will provide an integrated smooth surface.


Frame Form Shifting Devices



At the beginning Scaffolds are assembled for concrete structure without reassembling until the end of the project.

After slab>s concreting, Scaffolds are moved by trolley to the edge of roof and then replaced by tower crane.



Lifting Fork

By using Lifting fork you can easily replace the scaffolds in short time to the other floors.

FORMO SFS

Frame Form System Assembly





- 1- Base plates are placed on the determined spaces 2- FF Frames are inserted on Base Plates



3- Vertical FF Braces are connected to FF Frames



4- Horizental FF braces are connected to FF Frames



Frame Form System Assembly



5- Connectors are inserted in FF Frames to extended the height



6- By connecting the FF Frames, vertical FF Braces, and horizontal FF Braces you can reach to determined height



7- Propheads are inserted to props



8- H20 are inserted in propheads

















FORMO SFS Frame Form System Components





Afarinesh Official, Commercial Complex Project Retaining wall and shear wall Height: 3.30 m

Contractor: Rahsazan & Sakhtemane HENZA Co.







Pasargad Fereshte Hotel Project Retaining wall Height: 3.00 m

Contractor: Istafer Co.





Golestan Official Complex Project Slab, beam, column, retaining wall and shear wall Height: 5.00 m

Contractor: Omran Maroon Co.







Tasisat Daryaei Mehr Official, Commercial Project Slab,column, retaining wall and shear wall Height: 3.50 m

Contractor: Hermes Co.





Pasargad Residential, Official, Commercial Complex Project Slab, column, shear wall Height: 3.60m

Contractor: ASP Co.







I Tower Project Slab, beam, column, retaining wall and shear wall Height: 5.00 m

Contractor: Durat Al Sahel Co.





Enqelab Square Metro Station Project Special slab, retaining wall and shear wall Height: 6.00 m

Contractor: Shams Omran Co.

