

SLAB FORMWORK





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Safety | High Efficiency | Economy | Environment Friendly



► KITSEN 1st Factory(80,000m² Area)



► KITSEN 2nd Factory(100,000m² Area)



► KITSEN 3rd Factory(100,000m² Area)

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WHO WE ARE

Founded in 1995 by Mr. David Huang, KITSEN Technologies Co., Ltd. is committed to R&D and production of formwork and scaffold products and technologies. KTISEN always focuses on providing high performance products and engineering services to its value clients all over the world.

KITSEN owns 3 factories with total area of 280,000 square meters and 1200 reliable workers, including 200 engineers, 30 quality inspectors, and 60 sales to guarantee qualified production and professional service.

Annual production capacity can reach 1,000,000 square meters aluminium formwork and 1200 containers for other formwork and scaffoldings.

WHAT WE DO

KITSEN covers rich product range of wall and column formwork, slab formwork and different scaffolds to meet clients' need. Key products include:

- (1) Aluminium Formwork
- (2) Self-climbing Platform System
- (3) K100 Wall & Column Formwork System
- (4) Fastform Slab Formwork
- (5) 3D Deck
- (6) Aluminium Tower Scaffold
- (7) Mobile Folding Scaffold
- (8) Ringlock Scaffold
- (9) Shoring Prop
- (10) OEM & ODM Service

WHERE WE GO

KITSEN has founded oversea branch companies and marketing offices in Cambodia, Indonesia, Malaysia, the Philippines, and Dubai, etc. With local experienced and professional staffs, KITSEN provides reliable products and in-time construction services to local clients.

Meanwhile, KITSEN has established long-term business cooperative relationship with world's leading brands in the market. With more than 26 years development, KITSEN has successfully earned high reputation based on hundreds of successful projects in more than 80 countries around the world.

OUR VALUE

To build up win-win cooperation with client and provide client-oriented service.

OUR MISSION

To provide integrated construction solutions with intelligent and environmental formwork and scaffolding systems to help our customers build safe, fast and smart in cost-saving construction method. Herein called "1+N" Overall Solution.

CERTIFICATES









TUV Certification







FASTFORM

KITSEN Fastform Slab Formwork System is specially designed for large floor area with less beam buildings structure in different floor height.

It is a large modular deck shape formwork consisting of three main components including slab panels made of aluminium frame and 10mm thickness birch plywood, drop head, steel shoring prop, and accessories as filler beam, truss, lock pin.

With its outstanding features and advantages of simple design, lightweight, high–efficiency and high–reuse rate, Fastform System has been widely applied in different projects around the world and approved its economic benefit.



FEATURES & ADVANTAGES

Fast & Efficient

- ✓ Simple design with only three basic components: Slab panel, Drop head, Prop.
- ✓ The slab panel includes two types. One type is made of aluminium alloy 6061–T6 frame and 10mm birch plywood. The maximum panel size of 1800x1200mm weighs 31kgs. The other one is made of all aluminium, the maximum panel size of 1800x1200mm only weighs 34kgs. Both are easy to handle by one worker.

Stable & Safe

- ✓ Modular deck shape design with 6-directional locking restriction.
- ✓ All components are place-type installation which makes the joint connection of each component more fixed and stable and safe.

Fast & Efficient

√ It is light enough to erect and disassemble easily. One worker can
assemble 80~120m² per day and dismantle 120~160m² per day.

High Loading Capacity

- \checkmark Allowable concrete thickness is ≤1500mm without floor height restriction.
- ✓ Different floor height can be reached by adjusting the prop or adding extension leg to prop.

Long-term Benefit

- ✓ With early-stripping technology, it takes only 5 days 1 floors with 1 floor slab panels and 3 floor props, which largely shortens the construction period and reduces material investment and labor cost.
- ✓ The birch plywood can be reused for both side and replaced with new panel sheet.
- ✓ The aluminium material has 30% return rate.
- ✓ Smooth concrete surface after dismantling reduces cost for second time plastering.

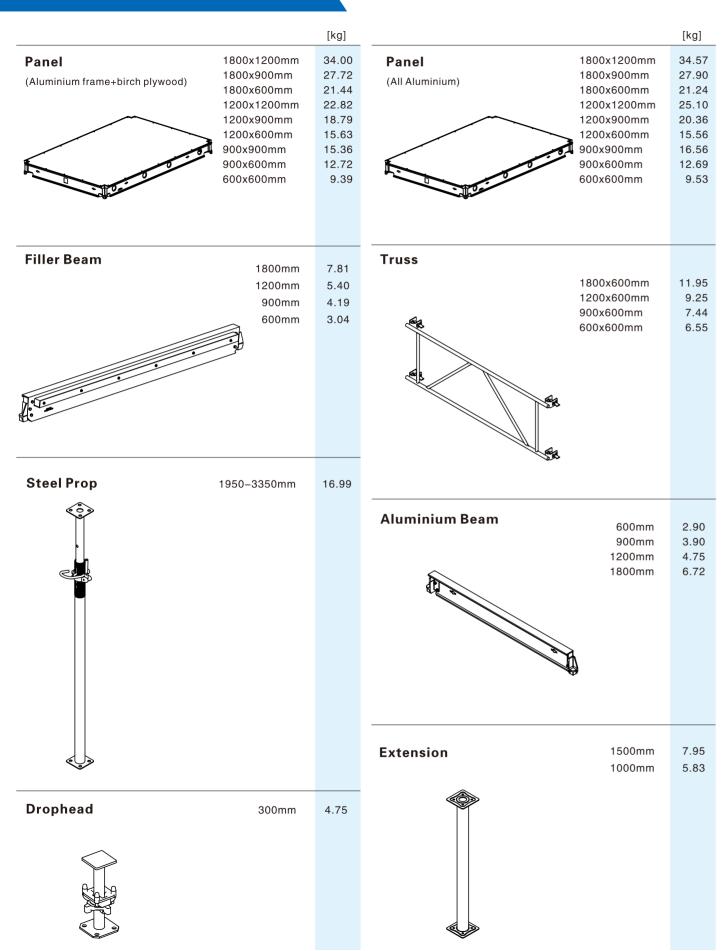
Well-organized Material Management

✓ Modular design panels and standardized components are well displayed and stored in warehouse or job site, to save space and makes job site clean and tidy.



Panel Size (mm) W x L	Allowable Concrete Thickness (mm)
1800 × 1200	300
1800 × 900	600
1800 × 600	900
1500 × 1200	300
1500 × 900	600
1500 × 600	1500
1200 × 1200	300
1200 × 900	600
1200 × 600	1500
900 × 900	600
900 × 600	1500
600 × 600	1500

FASTFORM BASIC COMPONENTS

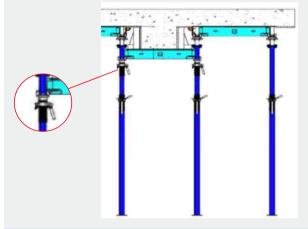


FASTFORM BASIC COMPONENTS

[kg]			[kg]
4.17	Guardrail Post	1399mm 1330mm	9.03 5.55
	U head		2.70
25.52			
	Beam Support	300mm	3.55
0.16			
	25.52	U head 25.52 Beam Support	4.17 Guardrail Post 1399mm 1330mm U head 25.52 Beam Support 300mm

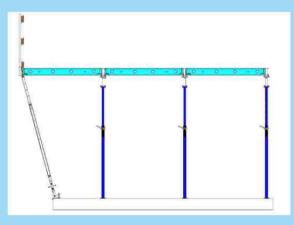
Shallow Beam Solution

When the clear height of beam is <350mm, the slab panel and beam panel use independent shoring prop separately.



Deep Beam Solution

When the clear height of beam is \geq 350mm, the slab panel and beam panel share the same shoring prop, use crown part to support the beam panel.



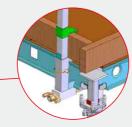
Cantilever Structure Solution

When the cantilever structure is < 900mm (half length of the maximum size panel in 1800x1200mm), cantilever brace can be used to support the panel edge.

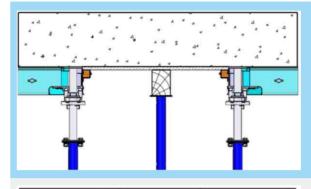


Guardrail Junction

To provide safe construction environment, KITSEN designs guardrail at the edge of formwork, which is fixed to panels.

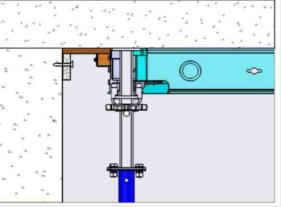


FASTFORM SECTION SOLUTION



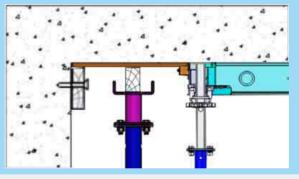
Irregular Space Solution

If the space can not set standard panels, use wood panel with shoring props.



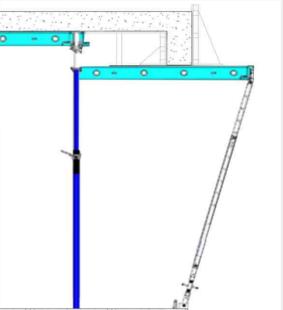
Wall Junction Solution A

When distance between panel and wall is <300mm, use wood panel to inlay the span, then connect the fastform panel and wood panel and batten with filler beam. Put the wood panel on the filler beam and fix a wood batten on the wall to support the panel.



Wall Junction Solution

When the distance between panel and wall is \geq 300mm, use wood panel to inlay the space, and set up independent shoring prop to support the wood panel.

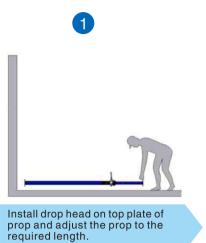


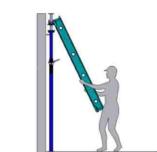
Cantilever Beam Solution

For cantilever beam, use cantilever structure solution and support the slab panel edge with cantilever brace.

FASTFORM ERECTION INSTRUCTION

Assembly Sequence



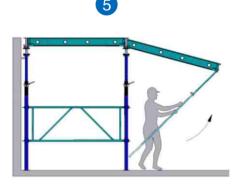


Erect the prop and hang one side of the panel to the drop head.

Swing the lower end of panel to position by tool pole.

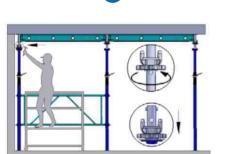






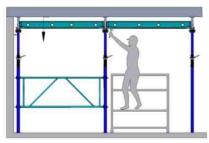
Install truss to stabilize the props. Repeat step 2,3, and 4.

Dismantling Sequence



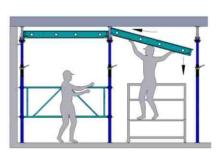
Knock and loosen the rosette to unlock the drop head.





When cement strength reaches 50%, the panel from concrete slab can be released and removed.





Take off the panel and keep the prop for support.

FASTFORM PROJECTS

▶ Project in Thailand



Combine fastform slab formwork with wall formwork for construction



Use cantilever brace to support the edge of slab panel



 $Combine \, fast form \, slab \, formwork \, with \, a luminium \, formwork \, for \, construction$



Combine fastform slab formwork with conventional formwork for construction



Well-organized site management for formwork materials



Smooth concrete surface effect after formwork dismantled

FASTFORM PROJECTS

▶ Project in the Philippines















► Project in Australia









Easy handle for installation and dismantling

▶ Project in USA



▶ Project in Mauritius







3D DECK

3D Deck is a combination system of steel material and wood material. Its main components include steel shoring props with ring lock disk, drop head, steel main beam, steel sub beam, and 12mm thickness birch plywood as slab panel which is laid on sub beam.

The steel prop has different specifications like Φ 48 / Φ 60/ Φ 72 for options to meet different building structures in different floor heights, meanwhile to meet the demand of different slab concrete pressure. It is featured with three dimensional direction adjustment on horizontal, vertical and depth direction, hence to have it called "3D". Its flexible design makes it suitable for different building structures especially for complicated structures with beams, basement and irregular structures.



FEATURES & ADVANTAGES

Flexible & Stable

- √ 3 dimensional direction adjustment on horizontal, vertical and depth direction can freely meet the demands of different building structures.
- ✓ Strong shoring prop and strong beam with special design make the whole system stable.

High Loading Capacity

✓ There is on limination on allowable concrete thickness and floor height

Fast & Efficient

- ✓ Each component is standard bar-type design which is easy for handle and delivery on job site. All components are light enough to be lifted up vertically so as to reduce the usage of tower crane.
- √ The assembling speed is 25~50m² per day per worker.

Long-term Benefit

- ✓ Drop head design helps to save material investment. With only 1 floor slab panel and beams and 2 or 3 floors shoring props, construction period can realize 5 days one floor which helps to shorten the construction period and save labor cost.
- ✓ Flexible design enables one set system to apply to different structures such as basement, podium and tower floors so as
 to save material cost.

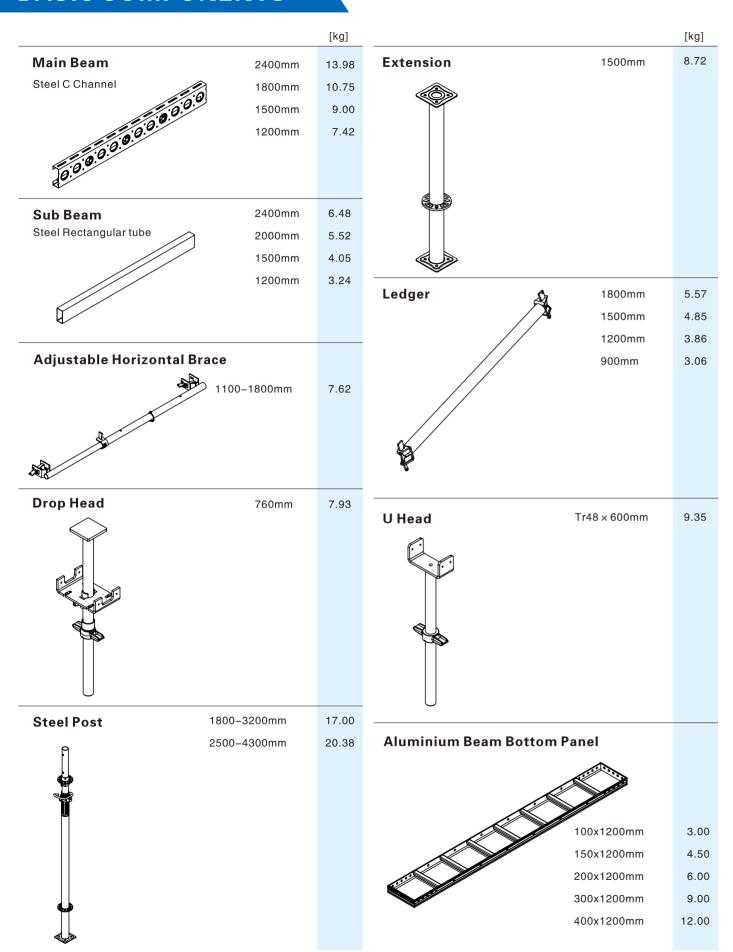
Well-organized Material Management

- ✓ Allowable large span between shoring props provides wall-through space for workers on job site.
- ✓ All components are modular, standardized size which are well–organized and packed on site or keep in warehouse so as to make the working environment clean and safe.

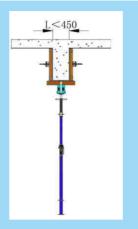
Loading Capacity	Panel Size (mm) W × L	Allowable Concrete Thickness (mm)
	1800 × 1800	150
	1800 × 1500	200
	1500 × 1500	300
	1500 × 1200	400
	1200 × 1200	500
	1200 × 900	600
W W	900 × 900	900
*	600 × 600	1200

lacksquare

3D DECK BASIC COMPONENTS

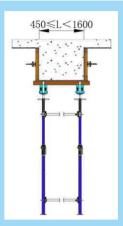


3D DECK SECTION SOLUTION



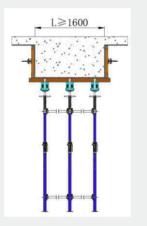
Beam Bottom Solution A

When the width of beam is L < 450mm, use single shoring prop.



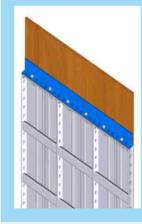
Beam Bottom Solution B

When the width of beam is 450 ≤ L < 1600mm, use double shoring props and ledgers in different length according to different span between props.

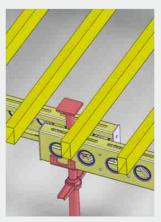


Beam Bottom Solution C

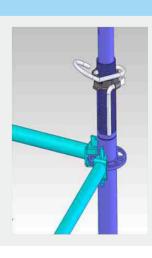
When the width of beam is $L \ge 1600$ mm, use multi shoring props and ledgers in different length according to different span between props.



Exterior walls use aluminium formwork, the interior walls are connected with the wood formwork for joining height. For the building of different storey height, the wood panel size can be changed flexibly according to the height changes when the aluminium panel sizes are fixed, which greatly reduces the cost on aluminium.



Inlay main beam into drop head crown and lay sub beam on main beam



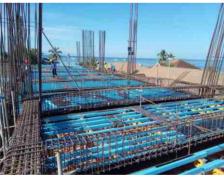
Insert and lock the ledger head with wedge into ringlock disk on steel prop

3D DECK PROJECTS

▶ Project in the Philippines









Project Information: Hotel building with 8-storeys. Ground floor is 5.8m in height, Standard height of tower floor is 3.2m. Total area is 9123.4m². Shoring span is 1.8m, concrete thickness is 150mm.

▶ Project in Bangladesh









Project Information: The Super Critical Coal Fired Power Project is a large governmental infrasucture project in Bangladesh. The slab thickess is 2.4m and column height is 19.1m. The total construction height is 21.5m with total area 1138 square meters. KITSEN 3D Slab Formwork System and K100 Wall & Column Formwork System are applied for this project.

3D DECK PROJECTS

▶ Project in Yangjiang, China







12m High Shoring Support

Project Information: Commercial & residential building with 12–storeys, including one ground floor in 5.9m height, first floor in 4.5m, and tower floor height is 3.6m, total area is 8879.27m².

▶ Project in Lechang, China

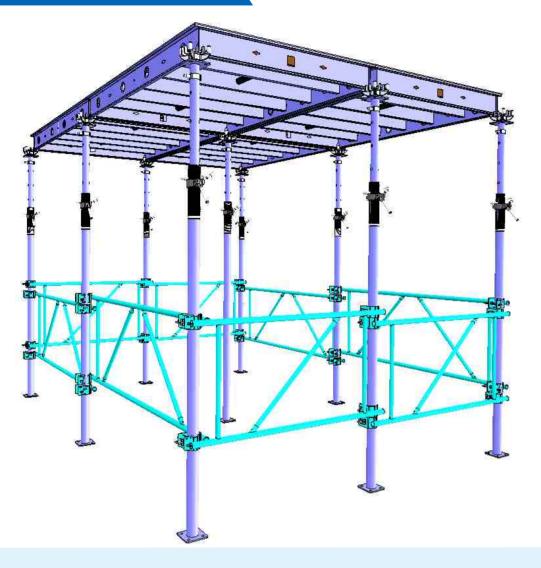






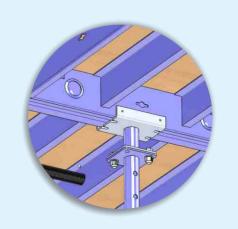
Project Information: 9 residential buildings with 33 storeys each, including basement height H=3.7m and ground floor height H=3m. Total area is 22394 m².

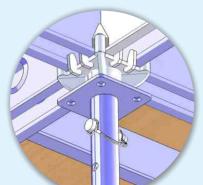
TOPFORM

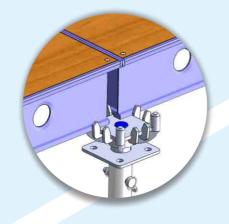


TOPFORM

Topform is new light weight formwork specially designed for a pure concept—— SIMPLICITY. It is composed with only 3 main basic components as slab panel which is made of aluminium frame and 10mm thickness birch plywood, steel prop and truss. Its unique deck shape modular structure enables easy assembly and dismantling, easy transportation, storage and maintenance.







FEATURES & ADVANTAGES

Simple & Easy

- $\checkmark\,$ Only three main components: slab panel, steel prop and truss.
- ✓ No loose components, easy to install and dismantle.
- ✓ Adjustable panel design meets the requirement for different size of the slab area.

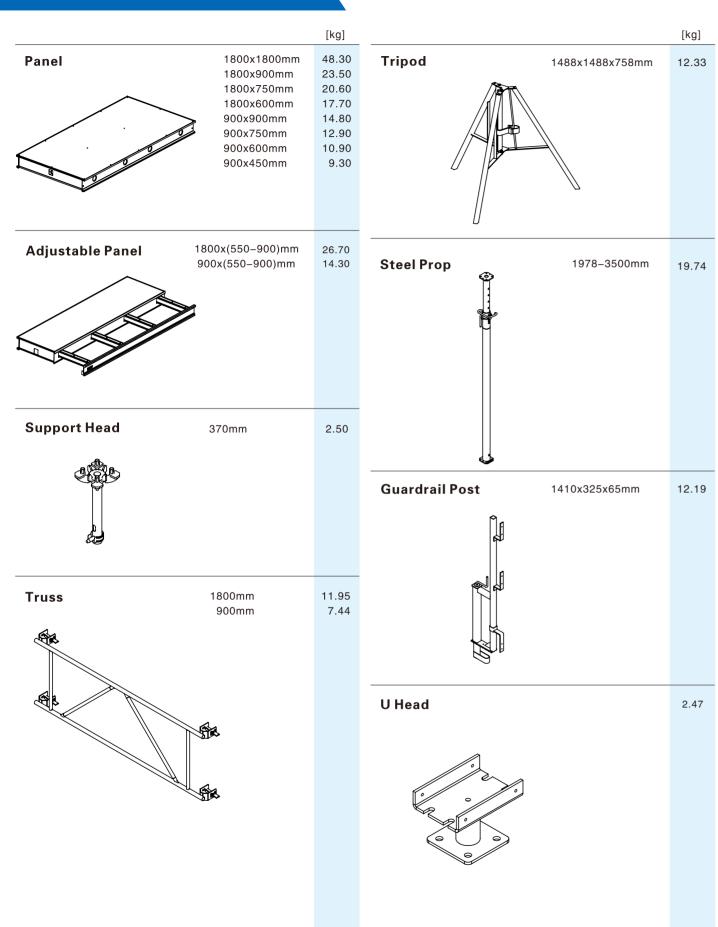
Fast & Efficient

- ✓ Easy installation way with only 3 steps, erect prop, hook panel on prop crown, straighten prop. Light weight, the biggest size 1.8x1.8m panel is 48.3kgs which can be easily handled by two people.
- ✓ Large forming area as the largest panel size is 1.8x1.8m with 3.24m² forming area.

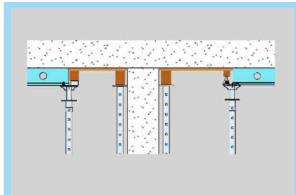


Loading Capacity	Panel Size (mm)	Allowable Concrete Thickness (mm)
	1800 × 1800	300
	1800 × 900	400
T	1800×750	500
	1800 × 600	500
	1800 × 450	500
	1800 × 300	500
	900 × 900	400
	900 × 750	750
n	900 × 600	1600
	900 × 450	1800

TOPFORM BASIC COMPONENTS

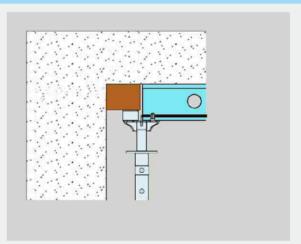


TOPFORM SECTION SOLUTION



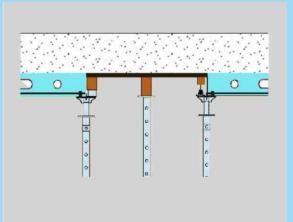
Wall Junction Solution A

When distance between panel and wall is ≥300mm, use wood panel to inlay the space and timber to connect the panel and wood panel, then use independent shoring prop to support the wood panel.



Wall Junction Solution B

When distance between panel to wall is <300mm, timber can be used to inlay the space directly. The wood batten and panel share the same shoring prop.



Irregular Space Solution

If the distance between panels can not fit a standard panel, timber can be used to inlay the space when it is less than 300mm, and the independent shoring props will be used for supporting when the space is more than 300mm.

K20 TIMBER SYSTEM



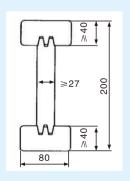
K20 TIMBER SYSTEM

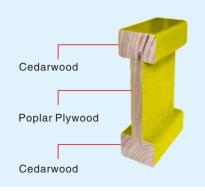
K20 timber system is an H wood beam heavy duty slab formwork fixed with steel aligners which can be also used vertically as wall formwork.

It is widely applied to bridge projects, nuclear power station project, tunnel project, super large shear wall project, etc.

FEATURES & ADVANTAGES

- ✓ Heavy duty formwork with high loading capacity.
- ✓ H beam panel can be flexibly used as horizontal slab formwork or vertical wall formwork to meet different project structure need.
- ✓ High stiffness, good concrete forming quality.
- ✓ Improve construction efficiency.
- ✓ Great recyclable, mechanized operation, cost saving.







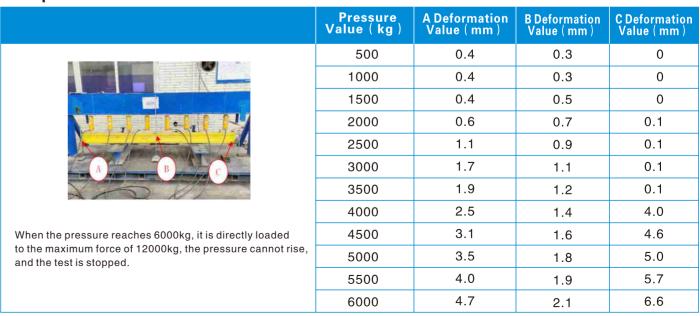
Resisting Shear Test

	Pressure Value(kg)	Deformation Value (mm)
	500	1.2
	1000	2.1
March .	1500	2.6
	2000	3.4
T A A	2500	4.3
	3000	5.2
	3500	6.6
	4000	8.6
When the pressure reaches 5345kg, the pressure cannot rise, the middle and ends of timber beam	4500	14.1
burst and deform.	5000	21.5

Bending Test

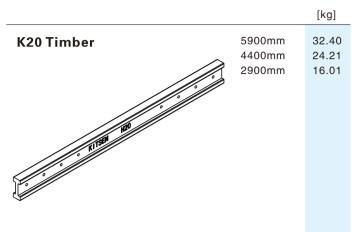
benuing rest				
	Pressure Value(kg)	Deformation Value (mm)		
When the pressure reaches 4872kg, the pressure	500	2.4		
	1000	4.0		
	1500	6.2		
	2000	7.9		
	2500	13.0		
	3000	17.5		
	3500	22.3		
	4000	28.6		
cannot rise, the middle of timber beam is deformed.	4500	35.3		

Compression Test

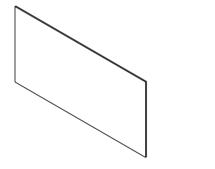


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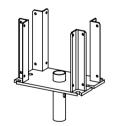
K20 TIMBER SYSTEM BASIC COMPONENTS

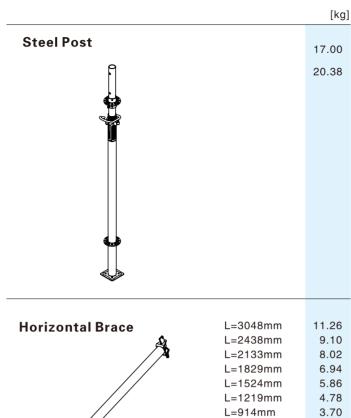


Birch Plywood Panel 18mm 10.80



Fork Head 3.60





L=610mm

2.63

ALUMINIUM BEAMS SYSTEM

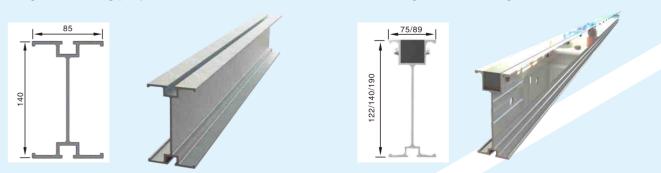


ALUMINIUM BEAMS SYSTEM

Aluminium beams system is a slab formwork system combined with aluminium beams, plywood panels and steel ringlock shoring props.

FEATURES & ADVANTAGES

- ✓ Large modular formwork design shortens the construction period, and saves labor cost.
- ✓ Great recyclable material helps to save long-term material investment cost.
- ✓ Good concrete forming quality with flat surface so as to reduce the second time plastering.
- ✓ Standardized components make it easy for installation and dismantling.
- ✓ Ringlock shoring prop meets the demands for different floor height and building structures.



ALUMINIUM BEAMS SYSTEM

Resisting Shear Test



When the pressure reaches 9500kgs, the beam is deformed by 3.8mm. Stop the test and unloading pressure, the aluminium beam has no obvious deformation.

Bending Test

	Pressure Value(kg)	Deformation Value (mm)
	500	2.1
	1000	3.1
	2000	4.8
	2500	6.6
A STATE OF S	3000	8.7
	4000	12.4
	4500	14.2
70001	6000	18.8
	6500	20.9

When the pressure reaches 6500kgs and deformation value is 20.9mm, stop the test. The middle part of aluminium beam is deformed.

Compression Test

	Pressure Value (kg)	A Deformation Value (mm)	B Deformation Value(mm)	C Deformation Value(mm)
A B C	3000	2.0	0.8	2.0
	6000	4.3	1.0	4.4
	9000	6.3	1.0	6.5
	12000	8.3	0.9	8.6
	15000	10.5	0.8	10.7
	After PressureRelief	0.4	0.4	1.0

When the pressure reaches 15000kgs, stop the test, the aluminium beam does not break, the maximum deformation value at C is 10.7mm.

ALUMINIUM BEAMS SYSTEM BASIC COMPONENTS

		[kg]			[kg]
	2450mm 4000mm 6000mm	11.90 19.58 21.10	Standard Post	L=3000mm L=2500mm L=2000mm L=1500mm L=1000mm L=500mm L=300mm	14.43 12.15 9.87 7.60 5.33 3.05 1.82
Birch Plywood Panel	18mm	10.80	Horizontal Brace	L=3048mm L=2438mm L=2133mm L=1829mm L=1524mm L=1219mm L=914mm L=610mm	5.56 4.76 4.36 3.97 3.57 3.18 2.77 2.38
U Head		3.80	Diagonal Brace	3048 × 2000mm 3438 × 2000mm 2133 × 2000mm 1829 × 2000mm 1524 × 2000mm 1219 × 2000mm 914 × 2000mm	5.22 4.75 4.54 4.34 4.16 4.01 3.89
			Clamp		0.20
Screw Jack	600mm	3.18			



Cross Brace

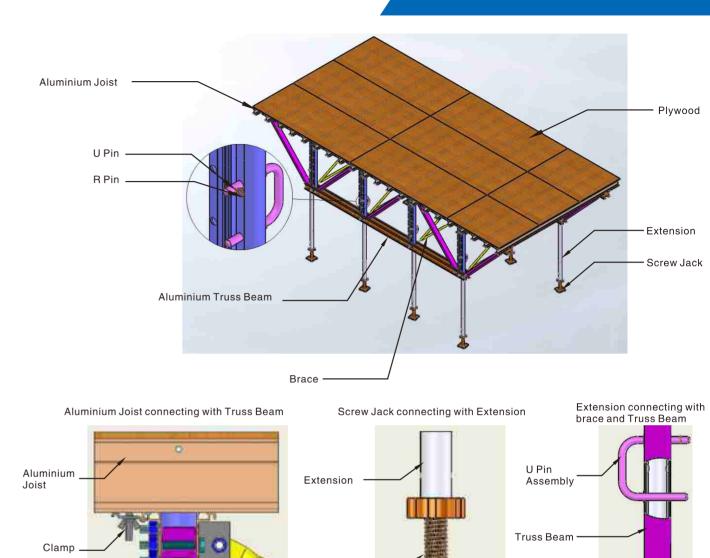


ALU FLYDECK

Alu Flydeck is a huge modular formwork suitable for large scale area slab structures, especially for slab construction with less beam. The system is made of aluminium alloy 6061–T6 material for formwork frame and 10mm thickness birch plywood as slab panel to lighten the whole self–weight so as to be lifted up by tower crane easily.

FEATURES & ADVANTAGES

- ✓ Large modular design shortens the time for assembly and dismantling, improves construction speed so as to save labor cost.
- ✓ Aluminium material is durable and has high recycling rate.
- ✓ Good concrete forming effect with smooth surface helps to save cost for second time plastering.



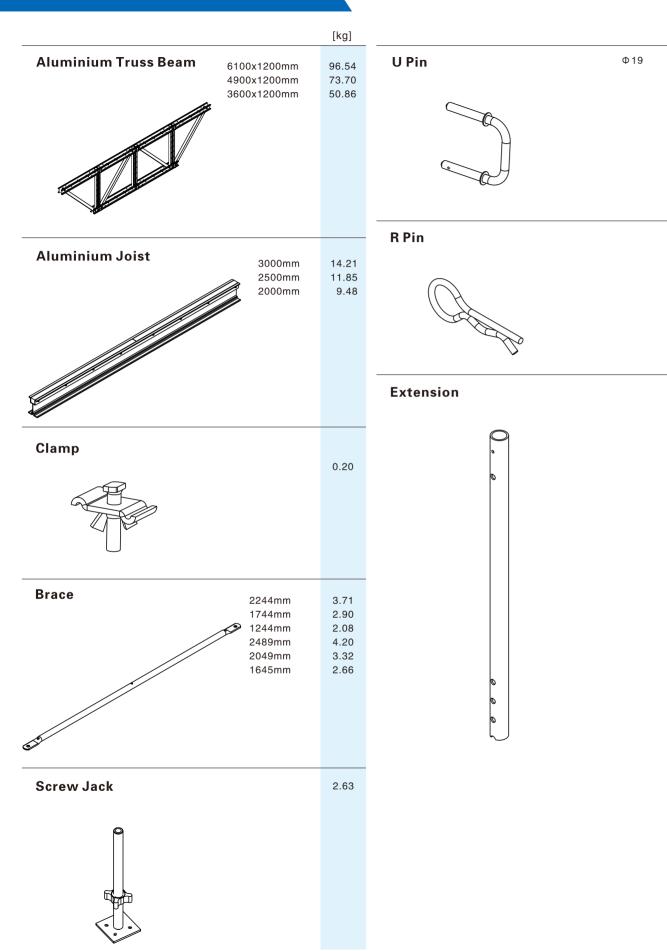


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Aluminium

Truss Beam

ALU FLYDECK BASIC COMPONENTS



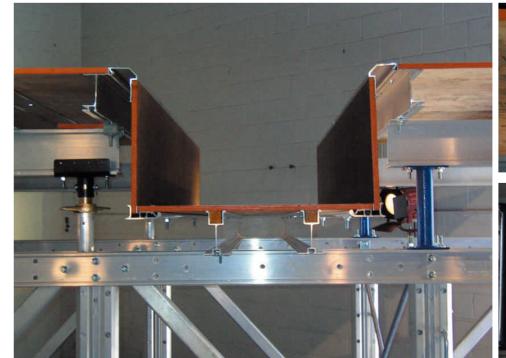
ALU FLYDECK PROJECTS















[kg]

1.04

0.01

2.98

4.51

EXHIBITION AND PROJECT



