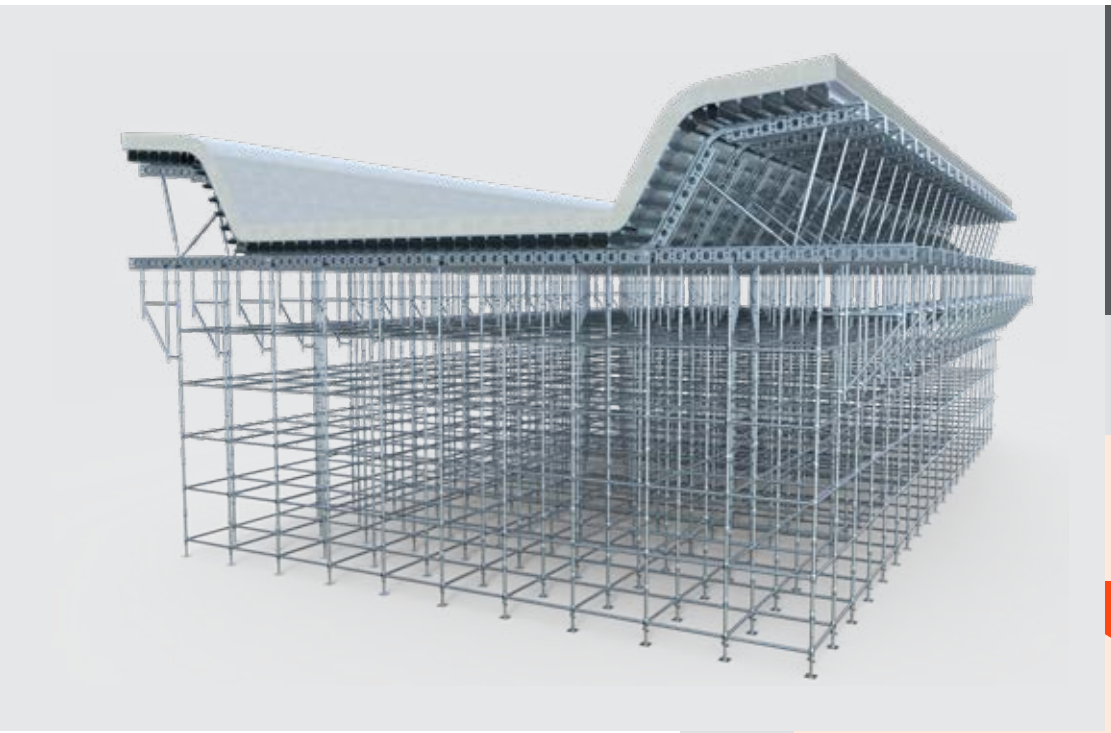
WTD Formwork Pro.

FORMWORK
SCAFFOLDING
TUBES
ROLL-FORMING
FORGING



FORMWORK SCAFFOLDING SYSTEMS

cuplock system

2024

SINCE'2000

FORMWORK
SCAFFOLDING
TUBES
ROLL-FORMING
FORGING

ABOUT US

WTD Industries is considered as one of the major manufacturers & suppliers of Scaffolding and Formwork in the Middle East, GCC countries and North Africa.

WTD is offering wide rage of services such as formwork planning- including project analysis, detailed formwork study, initial cost estimation & computer-aided formwork planning with structural calculations-design, manufacturing, engineering services, sales, rental business & technical support after sales.

All WTD products adhere to international standards and undergo rigorous laboratory testing, including tests for safe working load requirements, deformation resistance, damage resistance, tensile strength, and stress tests.

In 2000, WTD Industries began its journey as a small steel factory in Tanta, Egypt, focusing on decorative steel frames under the name Nefertiti Forge. Over the following decade, our focus shifted towards scaffolding and formwork manufacturing, driven by collaboration with esteemed partners in the construction industry.

By 2010, WTD Industries had established itself as a prominent supplier of scaffolding and formwork in the GCC countries and North Africa. Our comprehensive production facility, spanning over 30,000 square meters in the Beni Sweif Industrial area of Egypt, was home to a workforce of over 150 engineers, technicians, and laborers.

In 2014, as part of our strategic growth plans, we inaugurated the WTD Misr factory in the Hamriya Free Zone of the UAE. This expansion aimed to bolster our sales network, meet market demand, and streamline material delivery across the Gulf region.

By 2017, furthering our capabilities, we established another factory in the 10th of Ramadan in Sharqia, Egypt, dedicated to scaffolding accessories. These strategic moves align with our ongoing mission to provide comprehensive scaffolding solutions to the global market.

In 2023, The road was paved to WTD Industries to flourish in Saudi Arabia, WTD Industries established شركة وتد حلول الانشاء المحدوده WTD Construction Solution LM. Company with two giant stores in Jeddah & Riya, then successes continued.

Such a success is the result of dedication and team spirit.

WTD FORMWORK & SCAFFOLDING SYSTEMS.

Over 20 Years of Trust, WTD remains offering the most economical formwork solutions for any types of construction project.

The values of our strong specialists & workforce are reliability, Accountability ,proficiency & highest commitment.

WTD perceives our team as an asset and a trustworthy success partner.

Customers satisfaction is our utmost goal.

As we measure our achievements against the success of our customers and their satisfaction by offering the most economical Formwork & scaffolding solutions.

Digitalization & Disruptive Innovation are WTD fundamental structures for sustainable success.

WTD organizational structure & consistent enthusiasm facilitate our local presence in many markets, our representatives are capable of providing the best services with excellence &maintain strong connections with our loyal customers.

Eng. Mostafa Bastawesy
WTD President & CEO

WTD CORPORATION

EGYPT | UAE | KSA | INDIA

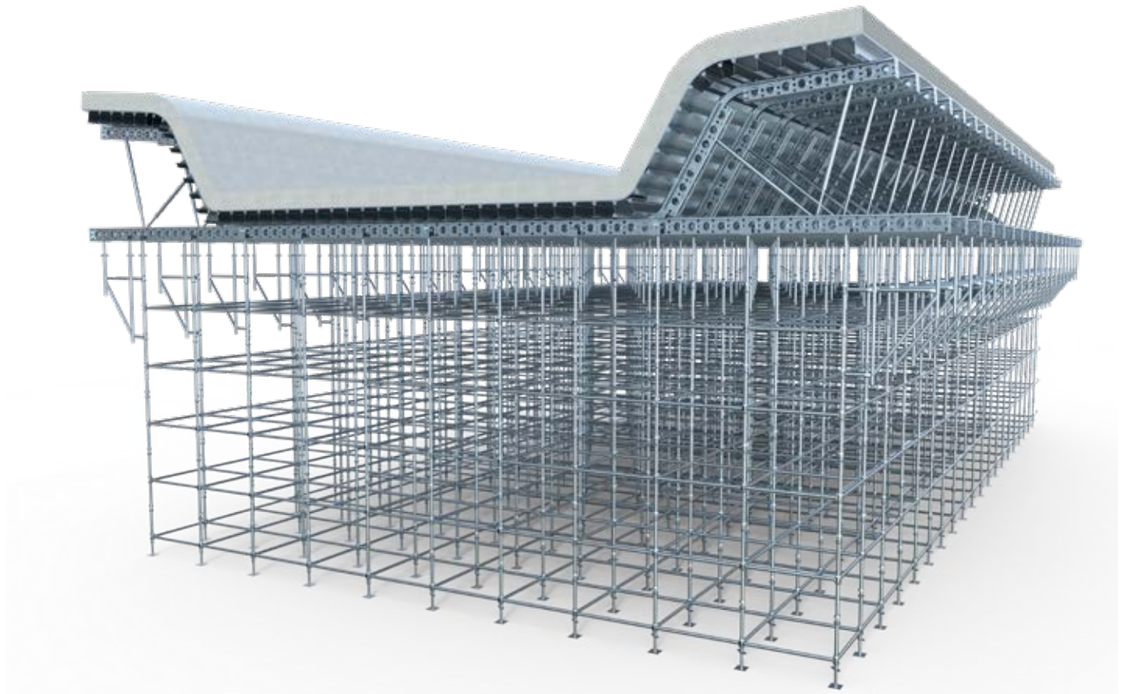
WTD Network

HEADQUARTER El Sharqia Govern, Industrial Area- A5-10th of Ramadan city, Plot No.175.

PIPE, COLD-FORMING & SCAFOLDING FACTORIES

Beni Sweif Govern, Industrial Area, Metal Sector, Bayad Al-Arab, Plot No. 26.

Cuplock System



MAIN FEATURES

The main feature of WTD Cuplock:

The main features of WTD Cuplock:

- The unique node locking method which allows up to four horizontal ledgers members to be fastened to a vertical standard in one action through two cups, lower cups welded to the standard tube at 500 mm intervals and upper cups sliding along the standard tube.
- The ledger ends are put in the lower cup, then the upper cup is lowered down and locked by a hammer.

Speed of assembly:

- Variety of applications.
- Simplicity of components and their connection.
- Galvanised components improve corrosion resistance.
- Elimination of loose wedges.
- No special tools required for assembly
- (hammer and spirit level only).
- Low maintenance.

Easy To Erect:

No wedges - just a simple locking cup at each node point on the Standards enables connection. of the ends of up to four members in one locking action The locking device is formed by two cups, a fixed lower cup which is welded to the standard at prelocated 0.5m intervals, and a sliding upper cup. The forged blade ends of ledgers and transoms are located into the lower cup, the upper cup is moved down and rotated to secure the component in place and tightened by a hammer blow to give a positive and rigid connection. There are no loose parts to get lost and no delays trying to straighten damaged wedges.

Proven design with safet accessories:

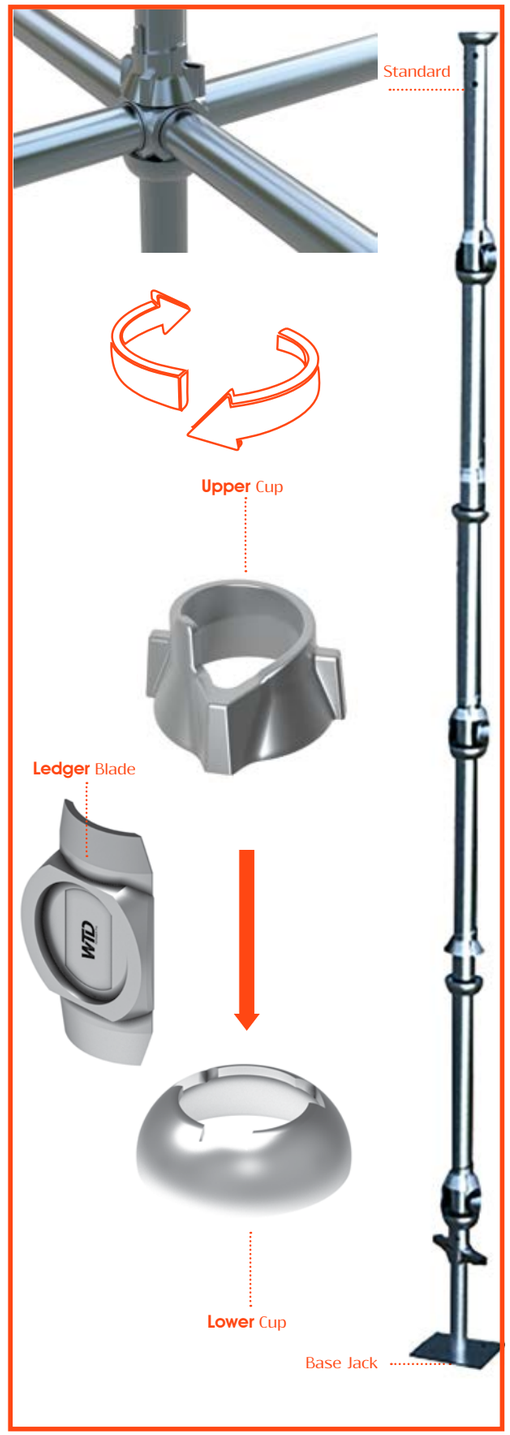
The Cuplock system has a proven performance history on an extensive number of sites, in case of using cuplock for scaffolding A comprehensive range of accessories is available for safety requirements such as guardrails, mesh panels, ladder access, stair. access and components to provide overhead protection Important the assembly procedure should be done as shown in this booklet for safety consideration for any further details contact WTD technical office.

Easy Handling and Storage:

- Ease of handling through its light weight.
- Minimal space requirements for storage.

Durability:

- WTD Cuplock system has a long working life and
- durability with low maintenance.
- Fully painted / galvanised finishing protecting
- components from corrosion and rust.



FALSEWORK ASSEMBLY

Step 1

First, check that the ground is suitable and clear to provide a stable base and clear access for erection. bricks or masonry blocks are not suitable and must not be used.

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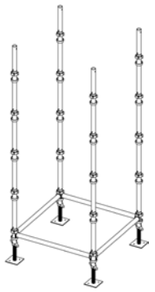
Step 2

The first four Adjustable Bases are placed in position, then two Standards are placed over two of the bases. A Ledger is then connected to the lowest bottom cup on the Standards joining the two Standards together.



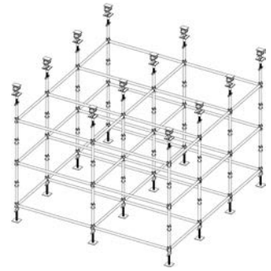
Step 2

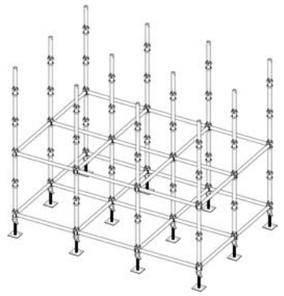
The first four Adjustable Bases are placed in position, then two Standards are placed over two of the bases. A Ledger is then connected to the lowest bottom cup on the Standards joining the two Standards together.

FALSEWORK ASSEMBLY

Step 3

Add third and fourth Standards and Ledgers in similar manner.



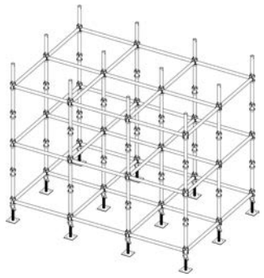


Step 3

Add third and fourth Standards and Ledgers in similar manner.

Step 4

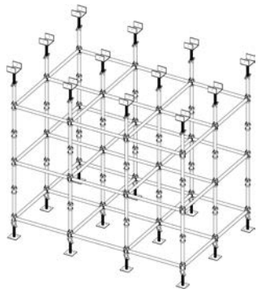
The structure is a grid layout (Multi-directional bay construction) then it is simply expanded outwards by adding new Standards and connecting them to the structure with Ledgers.



Step 4

The structure is a grid layout (Multi-directional bay construction) then it is simply expanded outwards by adding new Standards and connecting them to the structure with Ledgers.

FALSEWORK ASSEMBLY



Step 5

After adding the last Standard, the Adjustable U-Head Jacks are inserted into the top of the vertical standards.

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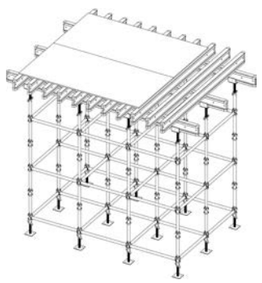

Step 6

Arrange the main and secondary beams: (Timbers - Steel - Aluminum).

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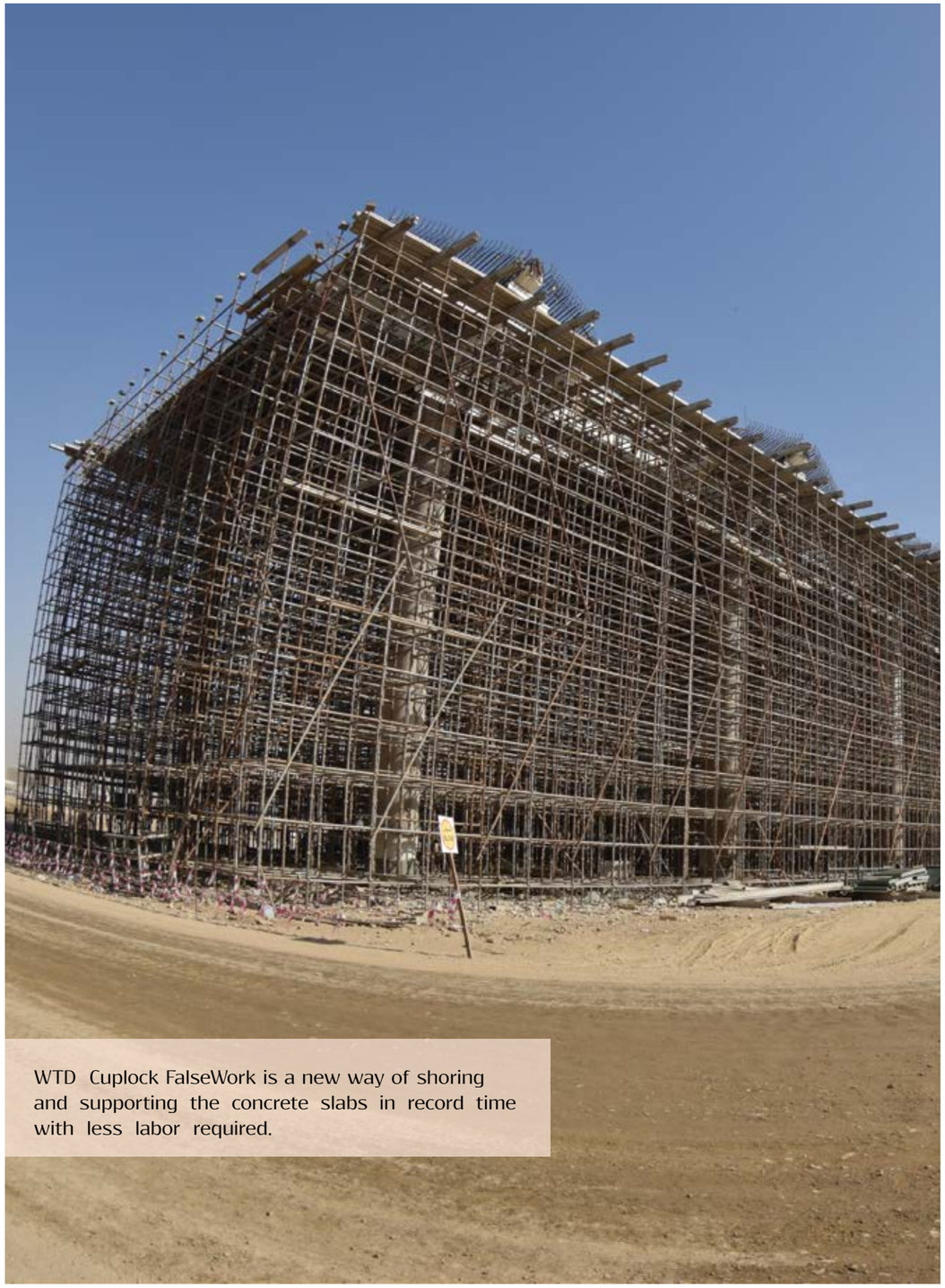
CUPLOCK APPLICATIONS

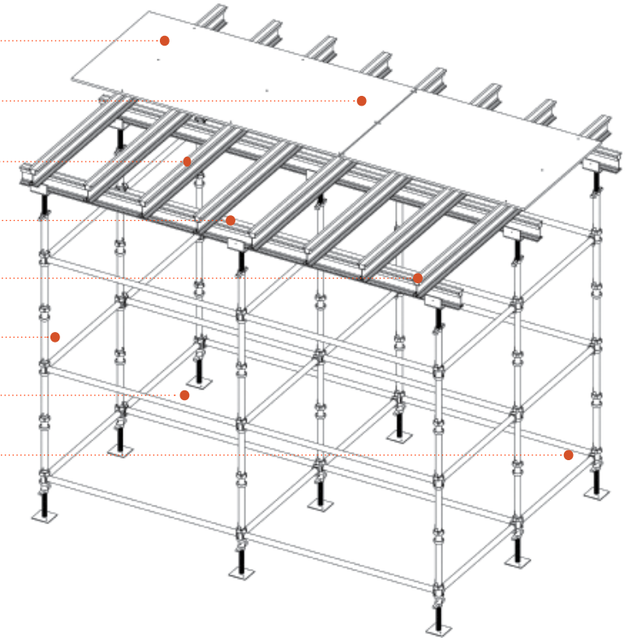


WTD Cuplock FalseWork is a new way of shoring and supporting the concrete slabs in record time with less labor required.

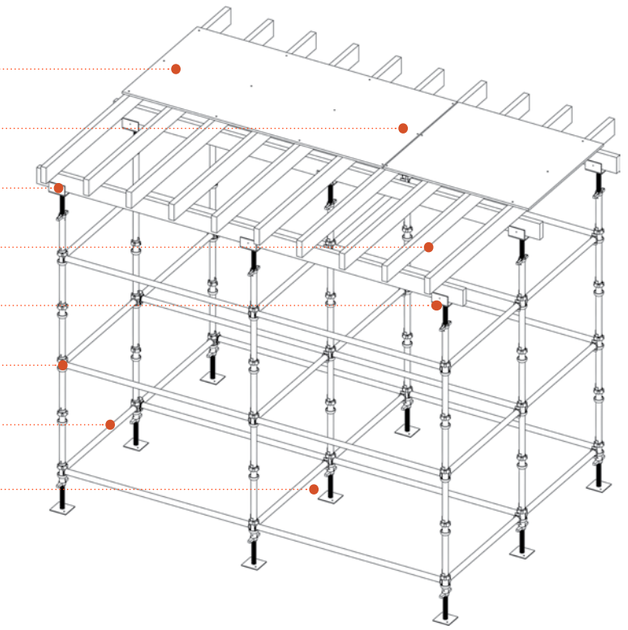
CUPLOCK APPLICATIONS

Primary Aluminum Beam, Secondary Aluminum Beams | Primary H20 Beams, Secondary Timber Beams

- Plywood (Sheeting)
- Nail
- Secondary Aluminum Beam S150
- Primary Aluminum Beam S150
- Adjustable U-head jack
- Vertical standard
- ledger
- Adjustable base jack



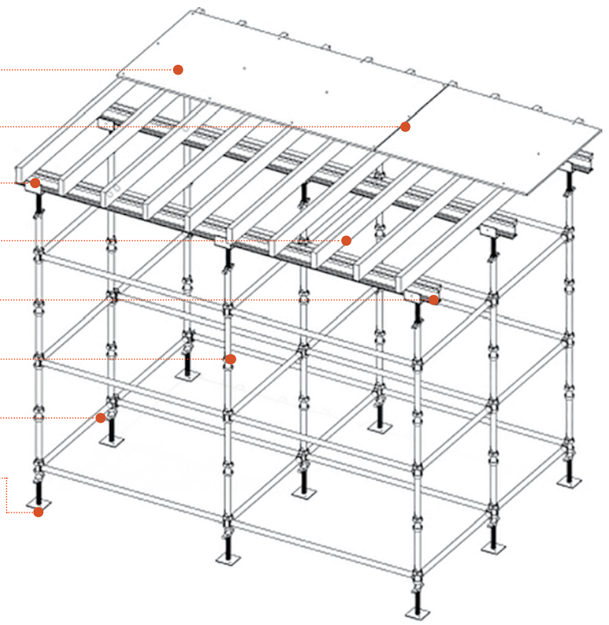
- Plywood (Sheeting)
- Nail
- Adjustable U-head jack
- Secondary timber beam
- Primary H20 beam
- Vertical standard
- ledger
- Adjustable base jack



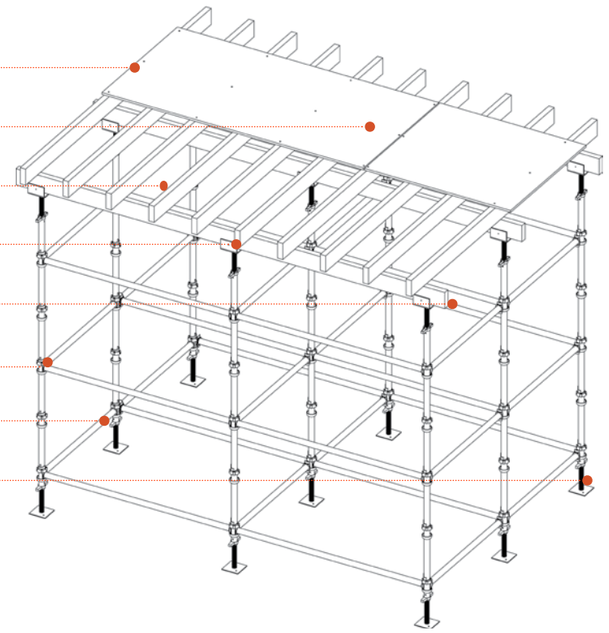
CUPLOCK APPLICATIONS

Primary Aluminum Tember, Secondary Timber Wood | Primary Timber Beam, Timber Beam

- Plywood (Sheeting)
- Nail
- Adjustable U-head Jack
- Secondary Timber
- Primary Aluminum
- Standard
- ledger
- Adjustable base jack



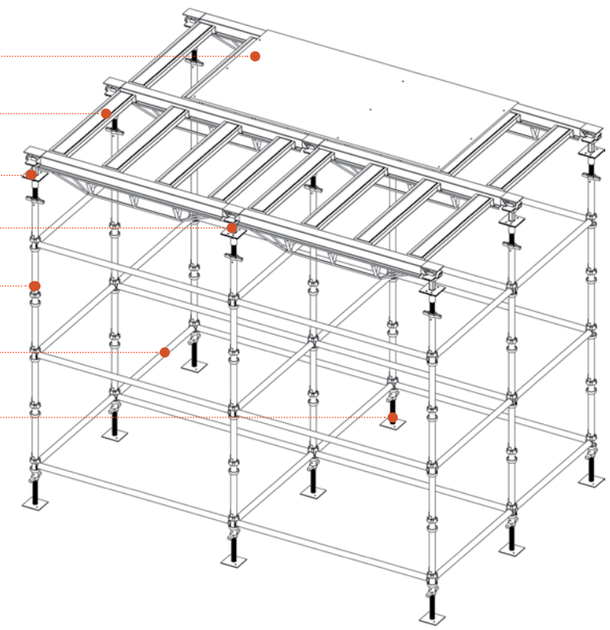
- Plywood (Sheeting)
- Nail
- Secondary Timber beam
- Adjustable U-Head Jack
- Primary Timber beam
- tStandard
- ledger
- Adjustable base jack



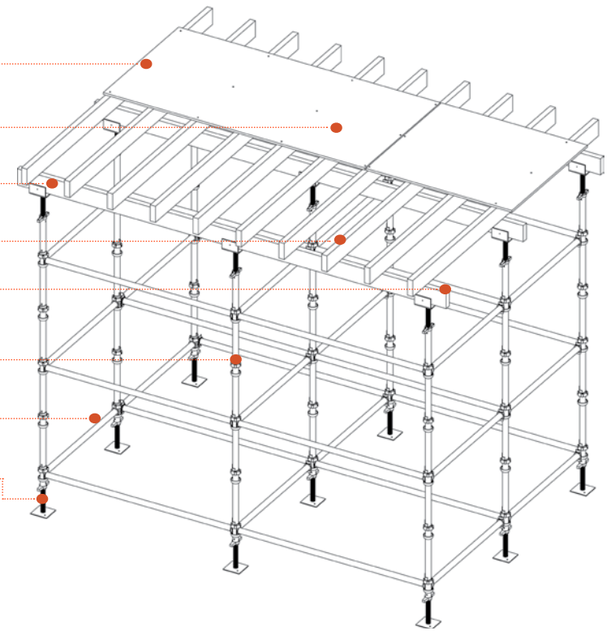
CUPLOCK APPLICATIONS

Early Striking | Scaffolding using ceateliver

- Plywood (Sheeting)
- Infill Beam
- Adjustable U-Head Jack
- Primary Decking Beam
- Standard
- ledger
- Adjustable base jack

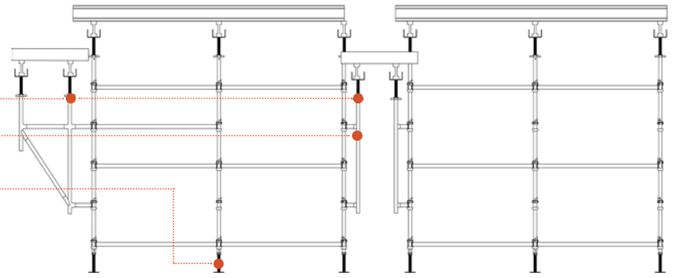


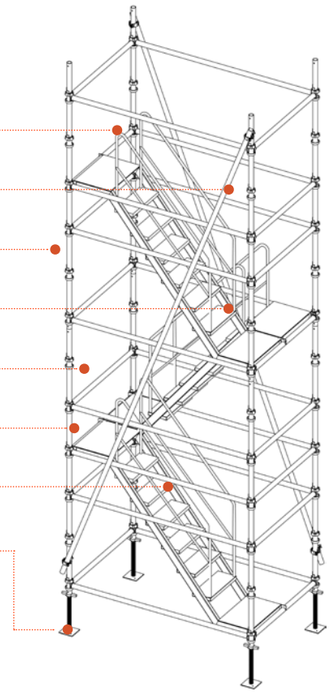
- Ply Wood (Sheeting)
- Nail
- Adjustable U-head Jack
- Secondary Timber
- Primary Aluminum
- Standard
- ledger
- Adjustable base jack



CUPLOCK APPLICATIONS

Ceateliver, Beam Bracket, Double Ceateliver | Stair Case





Cuplock System

COMPONENTS & ARTICAL LIST

Artical No.		Description		Weight	
00000	00000	3000mm	1000mm	13.60kg	4.30kg
00000	00000	2500mm	500mm	11.45kg	2.57kg
00000	-	2000mm	-	9.15kg	-
00000	-	1500mm	-	6.85kg	-

WTD Standards

Standards are introduced in five basic sizes (1000mm, 1500mm,2000mm, 2500mm, and 3000mm)lengths.
Standards are manufactured from 48.3mm O.D. Tube with 3mm and 3.2mm thickness.
The lower cups are welded to standard at 500 mm intervals.

Artical No.		Description		Weight	
00000	00000	2500mm	1200mm	8.30kg	4.25kg
00000	00000	1800mm	1000mm	6.35kg	3.65kg
00000	00000	1600mm	900mm	5.40kg	3.30kg
00000	00000	1300mm	600mm	4.30kg	2.20kg

WTD Ledger

Ledgers are used as the main horizontal connecting members for Wtd Cuplock system.
They are introduced in large varieties to meet the requirements.
WTD Cuplock Ledgers are manufactured from 48.3mm O.D. Tube with 3mm and 3.2mm thickness.

Artical No.		Description		Weight	
00000	00000	2500mm	1300mm	9.50kg	6.20kg
00000	00000	2100mm	1250mm	7.30kg	4.80kg
00000	-	1800mm	-	6.90kg	-
00000	-	1600mm	-	6.20kg	-

WTD Transom

Intermediate Transoms are introduced in 7 sizes to fit design and site requirements.
Intermediate Transoms are manufactured from 48.3mm O.D. Tube with 3mm thickness.
They provide intermediate support to scaffold boards.

COMPONENTS & ARTICAL LIST

Artical No.	Description	Weight
00000	Hollow 670mm	2.00kg
00000	Solid 600mm	5.25kg
-	-	-
-	-	-

WTD Universal Jack

Universal Jacks are made of a screw jack and steel handle.
Universal Jacks are available in two types(Hollow and solid).
Universal Jacks are inserted into the top of the WTD Cuplock standards, providing a method of adjustment of cuplock structure by the socket base.

Artical No.	Description	Weight
00000	Hollow 670mm 150×150mm	3.54kg
00000	Solid 670mm 150×150mm	6.00kg
-	-	-
-	-	-

WTD Adjustable Base Jack

Adjustable base jacks are made of steel plate, screw jack and steel handle.
adjustable base jacks available in two types (Hollow and solid).
adjustable base jacks provide method of adjustment for WTD Cuplock structure.

Artical No.	Description	Weight
00000	Hollow 670mm 150×150mm	5.05kg
00000	Solid 670mm 150×150mm	7. 00kg
-	-	-
-	-	-

WTD Adjustable U Jack

Adjustable U-Head jack are made of a “U” shaped steel plate, screw jack and steel handle.
adjustable U-Head jack are available in two types (Hollow and solid).
adjustable U-Head jack are providing support for primary beams (traditional timber, steel, H20 beam and aluminum beam).

COMPONENTS & ARTICAL LIST

Artical No.	Description	Weight
00000	Drop Head	4.50kg
-	-	-
-	-	-
-	-	-

WTD Drop Head

Drop Head is supported on WTD Cuplock Standard by Adjustable Jacks, to provides support for Decking beams. Drop Head provides striking technique for WTD Cuplock structure.

Artical No.	Description	Weight
00000	Beam Bracket	6.45kg
-	-	-
-	-	-
-	-	-

WTD Beam Bracket

Beam Bracket have two blade ends connected to standard.
To provide vertical support for internal beams of slab and transfer the applied load to WTD Cuplock Standard.

Artical No.	Description	Weight
00000	Hollow 670mm 150×150mm	5.05kg
00000	Solid 670mm 150×150mm	7. 00kg
-	-	-
-	-	-

WTD Cantilever Frame

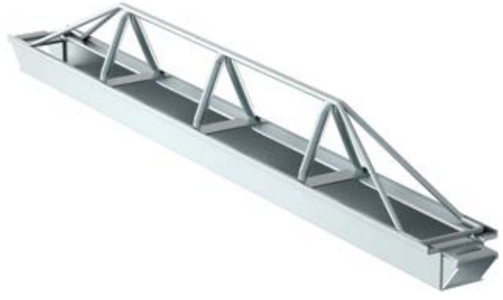
Cantilever used To provide vertical support for edge beams of slab and transfer the applied load to WTD Cuplock Standard.

COMPONENTS & ARTICAL LIST

Artical No.	Description	Weight
00000	390mm	10.95kg
00000	600mm	11.50kg
-	-	-
-	-	-

Double Cantiliver Frame

Double Cantilever have two blade ends connected to standard to ensure the fixed connection with WTD Cuplock vertical strandard.



Artical No.	Description	Weight
00000	1800mm	29kg
00000	1800mm	21kg
00000	1200mm	14kg
-	-	-

WTD Decking Beam

Decking Beams including 100mm wide top flange which provide support for Infill beams.
They span between Dropheads and run in one direction only.
Decking Beams available in three sizes 1200mm, 1800mm and 2500mm.

Artical No.	Description	Weight
00000	1800mm	8.75kg
00000	1600mm	7.90kg
00000	1250mm	5.95kg
00000	1000mm	4.95kg

WTD Infill Beam

Infill Beams span between WTD Decking Beams to provide skeletal support for plywood.
Infill Beams available in four sizes 1000mm, 1250mm, 1600mm and 1800mm.

COMPONENTS & ARTICAL LIST

Artical No.		Description		Weight	
00000	00000	1800mm	5000mm	3.20kg	16.30kg
00000	00000	2000mm	6000mm	6.52kg	19.56kg
00000	-	3000mm	-	9.87kg	-
00000	-	4000mm	-	3.04kg	-

WTD Alumlnum Beam-(M.D)

Aluminum Beams combine the benefits of strength, lightness and ease handling with consistency, versatility and exceptional durability.
Aluminum Beams manufactured from high grade alloy (ALLOY 6082), Available in two standard sections.

Artical No.	Description	Weight
00000	H20 Beam	6.45kg
-	-	-
-	-	-
-	-	-

WTD H20 Beam

The H20 Formwrok Timber Beam is a solid beam used for concrete formwork construction.
They are used as primary and secondary beams for WTD Cuplock FalseWork applications.
The height of beam is 200mm and available in different standard lengths.

Artical No.	Description	Weight
00000	Plate Size 150×150mm	1.22kg
-	-	-
-	-	-
-	-	-

WTD Socket Base

Socket Base is used in combination with WTD Adjustable Universal Jack and is drilled to permit the insertion of a securing bolt if required.

COMPONENTS & ARTICAL LIST

Artical No.	Description	Weight
00000	Plate Size 150×150mm	1.22kg
-	-	-
-	-	-
-	-	-

WTD Base Plate

Base Plate provides a flat support for WTD Cuplock structure.
It uses as simple support for WTD Cuplock structure in case of no need adjusting level.

Artical No.	Description	Weight
00000	One Hole	0.73kg
00000	Two Hole	0.70kg
00000	BOLT Ø 8 L 80	0.20kg
-	-	-

WTD Square Spigot

Square Spigot Used to join one WTD Cuplock Standard to another vertically.
Bolt is placed transversely through the spigot and Cuplock Standard to prevent the spigot from pulling out of standard.

Artical No.	Description	Weight
00000	Round Spigot	0.42kg
00000	BOLT Ø 8 L 80	0.20kg
-	-	-
-	-	-

WTD Round Spigot

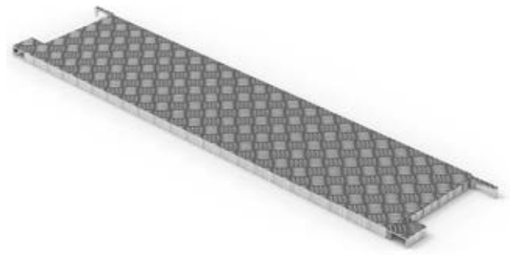
Round Spigot Used to join one WTD Cuplock Standard to another vertically.
Bolt is placed transversely through the Spigot and Cuplock Standard in case of lifting the WTD Cuplock structure.
In case of no lifting for WTD Cuplock structure , There is no need to use bolts.

COMPONENTS & ARTICAL LIST

Artical No.	Description	Weight
00000	forged double coupler	-
00000	forged Swivel coupler	-
00000	Pressed double coupler	-
00000	Pressed double coupler	-

WTD Couplers

Couplers Are used to connect the scaffolding tube to the standards.
Double coupler is used to connect 90 degre connection.
Swivel Coupler is used to connect all tybes of connections.



Artical No.	Description	Weight
00000	1250mm	14.70kg
00000	1800mm	23.20kg
00000	2500mm	27.50kg
00000	2700mm	29.70kg

WTD Steel Plank

Steel Plank is platform for scaffolding, used to carry labors and material.
steel plank is made of steel sheets.
steel plank engths are available in 3 lengths suitable for WTD Cuplock Ledger.

Artical No.	Description	Weight
00000	Stair Case	70.00kg
-	-	-
-	-	-
-	-	-

WTD Stair Case

Cuplock Stair Case tower is mainly built up of standard WTD Cuplock components to improve site access and more effective movement of persons and rapid erection due to a small number of components.

COMPONENTS & ARTICAL LIST

Artical No.	Description	Weight
00000	Type 1	5.35kg
00000	Type 1	8.20kg
-	-	-
-	-	-

WTD Castrol Wheel

Castor Wheel Use when Cuplock is erected as a Mobile Tower. The shank of the wheel fits into the base of the Cuplok standard. Secured with a hexagonal head bolt.
Safe working load on steel castor wheel 730kg
Safe working load on rubber tyred castor wheel 270kg.

Artical No.	Description	Weight
00000	Plate Size 150×150mm	1.22kg
-	-	-
-	-	-
-	-	-

WTD Cuplock Brace

Cuplock Brace Diagonal Braces are made from 48.3mm dia tube with a swivel blade at each end. Their function is to provide transverse and longitudinal bracing to scaffold structures.
The brace is available in various lengths to suit the combination of bay widths and heights.

Artical No.	Description	Weight
00000	Plate Size 150×150mm	1.22kg
-	-	-
-	-	-
-	-	-

WTD Spigot Pin

Spigot Pin Designed to resist minor tensile forces at the joint of two standards, although it is not designed to form a full tension joint.
Must be used where hop-up brackets are incorporated in the scaffold, on loading towers and when Cuplok units are being crane handled.

TECHNICAL DATA

• Standard

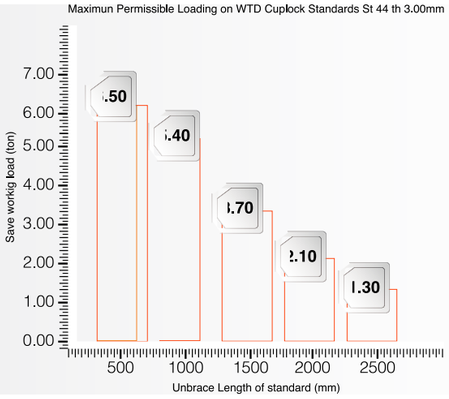
Safe working Load :

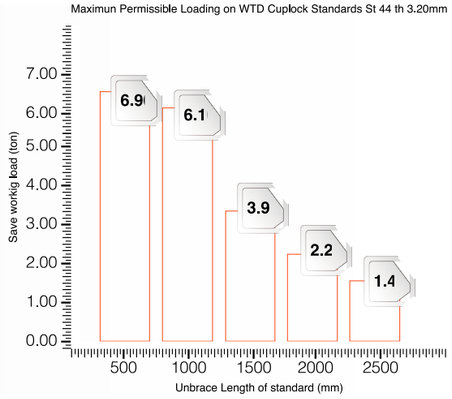
Standard are manufactured from 48.3mm O.D. steel tube with different houising sets (according to features of each standard joints) at certain inverals, Standards are made available in open ended version, or with welded spigot standard tubes of mild steel confirm to BS 1139, supplied painted or galvanized finish.

- Maximum permissible loading on adjustable jack depends
- on jack extension (A) the following graphs shown the max Maximum permissible load on the adjustable jack solid and the adjustable jack hollow according to (ECP 205-2001).
- These graphs give Maximum permissible Load for the adjustable jack which are erected plumb and loaded concentrically by main beam.

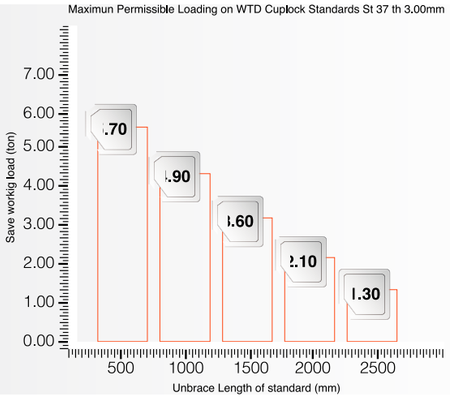
Sizes: 0.50, 1.00, 1.50, 2.00, 2.50, 3.00

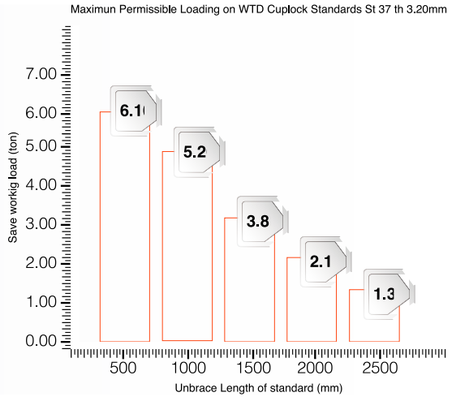
The distance (B) at least 3/1 (A)
B ≥ 3/1 A





The figure below illustate the safe working load on tubular jacks. The data incorporates factors of seafty on failure of 2.0.



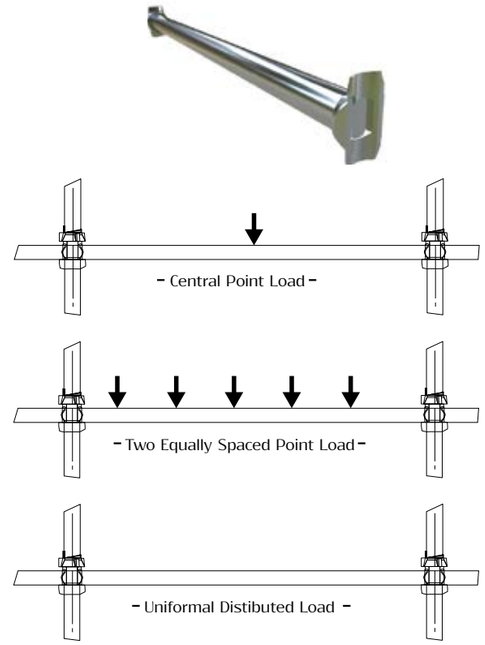


TECHNICAL DATA

• Ledger

Safe working Load :

The following table and figures show the safe working load on WTD Cuplock Ledger.



Ledger Size (m)	Central Point	U.D.I (kN/m)
Ledger 2.5	1.71	2.70
Ledger 1.8	3.40	5.36
Ledger 1.6	3.52	5.55
Ledger 1.30	3.65	5.76
Ledger 1.2	3.70	5.84
Ledger 1.00	4.00	5.31
Ledger 0.9	4.80	7.58
Ledger 0.60	5.16	8.15

Note: The above S.W.L incoporate safety factor of 5.16

TECHNICAL DATA

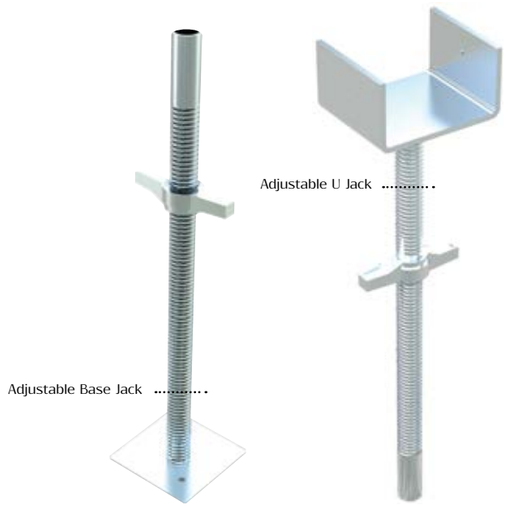
Adjustable Jacks

Safe working Load :

The 57kn capacity galvanized jack has adjustement range

of over 45cm. it is manufactured from 38mm outside diameters steel tubes with a rolledlcut thread. The jack can be used either at top or the bottom of the vertical Standard, So the reasonable portion of the jack will always remain inside the vertical for saftey.

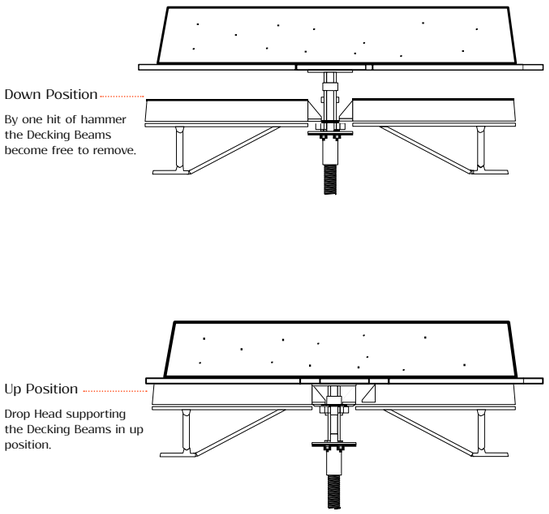
- These graphs give Maximum permissible Load for internal Standards which are erected plumb, loaded concentrically and effectively braced in the major directions.
- For external Standards reduce Working Load Limits by 15%.



Early Striking Technique

WTD Cuplock Early Striking application allows to remove formwork after 3 to 4 days of pouring a slab, but WTD Cuplock supporting structure (WTD Cuplock Standard) willt still remains until the concret is strong enough to support its own weight over its full span. Concrete generally takes 28 days to attain its full strength. Most codes and standards will only permit

the complete support to be removed after about 10 to 14 days, according to environment temperature and cube strength tests. Traditional Falsework techniques need 10 to 14 days of pouring cycle but WTD Cuplock Early Striking provide facility to reduce the cycle time.

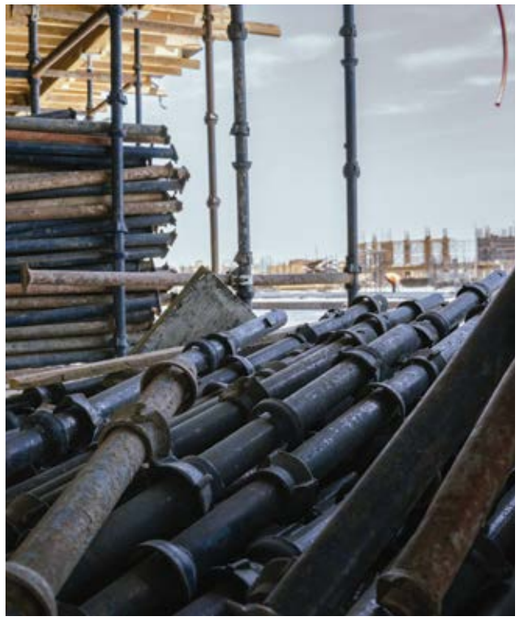


TECHNICAL DATA

• Grid loads:

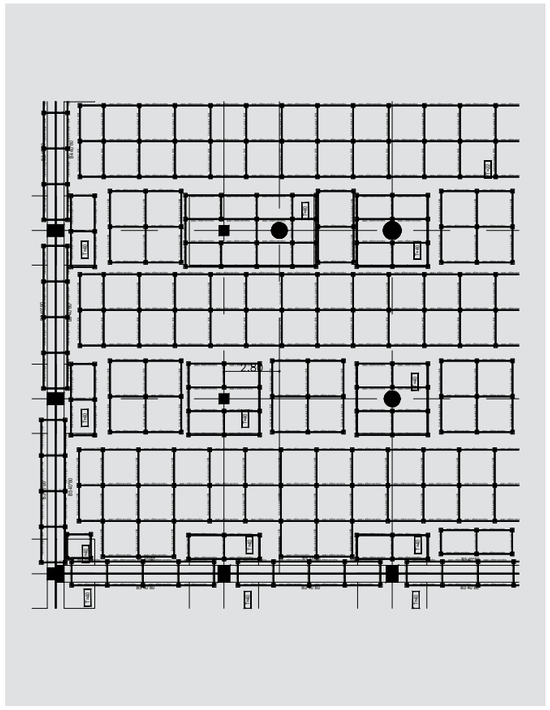
Main Decking Size (m)	Scondary Decking (m)	Area (m2)	Max. Slab Thickness (cm)	
			Solid Slab	Hollow Slab
2.5	1.8	4.50	27.5	34.4
2.5	1.6	4.00	32.0	40.0
2.5	1.3	3.25	41.2	51.5
1.8	1.8	3.24	41.4	51.7
2.5	1.2	3.00	45.3	56.7
1.8	1.6	2.88	47.5	59.4
2.5	1.1	2.75	50.2	62.7
2.5	1.0	2.50	56.0	70.0
1.8	1.3	2.34	60.4	75.5
2.5	0.9	2.25	63.1	78.9
1.8	1.2	2.16	66.1	82.6
1.2	1.8	2.16	66.1	82.6
2.5	0.8	2.00	72.0	90.0
1.8	1.1	1.98	72.8	91.0
1.2	1.6	1.92	75.3	94.2
1.8	1.0	1.80	80.9	101.1
1.8	0.9	1.62	90.8	113.4
1.2	1.3	1.55	94.6	118.2
2.5	1.6	1.50	98.7	123.3
1.8	1.8	1.44	103.1	128.9
1.2	1.2	1.44	103.1	128.9
1.2	1.1	1.32	113.2	141.5
1.2	1.0	1.20	125.3	156.7
1.8	0.6	1.08	140.1	175.2
1.2	0.9	1.08	140.1	175.2
1.2	0.8	0.95	158.7	198.3
1.2	0.6	0.72	214.2	267.8

Concrete Unit Weight (solid) = 2500 kg/m3 **Concrete** Unit Weight (Hollow) = 2000 kg/m3 **Live Load** = 200 kg/m2

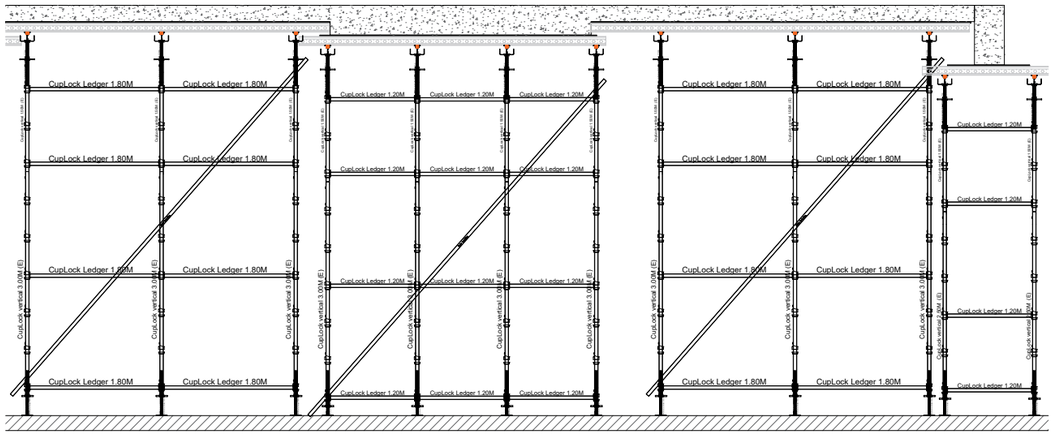


CUPLOCK APPLICATIONS

Technical drawing for part of slab and drop panel using Cuplock system for shoring and WTD Smart Beam for decking



Technical section drawing for slab and drop panel using Cuplock system for shoring and WTD Smart Beam for decking



Cuplock System

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