



## CUPLOK® SCAFFOLD SYSTEM



Harsco Infrastructure is the world's largest access, formwork and industrial maintenance service provider. Operating in 43 countries, we provide innovative, engineered solutions to the global construction, energy and processing industries.

Clients come to us for our proven expertise in:

- safe solutions for construction and maintenance
- high productivity, cost-effective applications
- simple, user-friendly site establishment packages

With over 10,000 employees worldwide, our knowledge, insight and experience are at the heart of our customer service. This is backed up by an industry-leading range of products and the resources to ensure that even the most complex project requirements are sourced and delivered on time.

Harsco Infrastructure is a division of the Harsco Corporation, one of the world's leading industrial services companies, providing technological solutions and support services to the global metals, rail, industrial and construction sectors. With operations at over 400 locations in 50 countries, Harsco has annual revenues approaching \$4 billion and employs over 20,000 people worldwide.



# Why CUPLOK®?

For over 30 years, CUPLOK® has been the world's most popular system scaffold. A fully galvanised, multi-purpose system, it has been chosen by contractors on many of the world's largest and most complex construction and maintenance projects.

## **Faster**

CUPLOK® has been proven to be significantly faster to erect than traditional scaffolding in most applications. Thousands of contractors around the world have converted to CUPLOK® because they found it faster and simpler to erect, saving them time and money. When we asked our customers how much faster they thought CUPLOK® was compared to tube and fittings they told us between 30% and 50%.

## **More adaptable:**

CUPLOK® can be used to create a huge range of structures - for construction, refurbishment or maintenance.

- Façade scaffolds
- Loading bays
- Birdcage structures
- Curved structures
- Shoring structures
- Staircases
- Mobile towers

Hop-up brackets allow the easy installation of work platforms at 0.5m increments above or below the main deck giving brickwork and other finishing trades the flexible access they need without disruptive adaptations to the main scaffold. Platforms can be created using boards, battens or modular decks.



# CUPLOK®

CUPLOK® scaffold system



## Simpler

CUPLOK® uses minimal loose fittings or wedge connectors and standard horizontals are used as ledgers, transoms and guardrails. Once the base lift is set out and levelled, the remaining structure is automatically aligned.

Specially designed components allow the easy creation of cantilevers, inside platforms and staircases, whilst guardrails are automatically aligned at the correct height.

## Lighter to store and transport

CUPLOK® tube is 20% lighter than normal tube and is palletised for easy mechanical handling and efficient storage both in the yard and on site. CUPLOK® is so robust that delays due to damaged components are almost unheard of. It is also less likely to get lost or stolen from site.

## Safer to erect

CUPLOK® has safety built-in, as it is erected to a recognised configuration in a carefully developed sequence which

facilitates adherence to the Work at Height Regulations 2005 at every stage.

The security of the CUPLOK® node point fixing is not dependent on brute strength.

## Safer to use

CUPLOK® scaffolds provide clear, uninterrupted working platforms without obstructions from diagonal bracing across the deck in the majority of cases. Accessories such as staircases and ladder safety gates ensure safety when moving between levels.

## Genuine CUPLOK®

CUPLOK®'s success has caused the product to be widely imitated with copy products claiming CUPLOK® compatibility. Only CUPLOK® comes with our exhaustive quality assurance. It has comprehensive technical support, product liability assurance and accreditation under the NASC Code of Practice. Don't take the risk, insist on genuine CUPLOK®.

## Product development

Harsco Infrastructure's product development team ensures that our access systems are always at the leading edge of their markets. We also work constantly to develop new, innovative solutions for safe, cost-effective access. Our design engineers are available to provide specialist advice and to work with customers when conditions demand a tailored design solution.

## Safety

Harsco Infrastructure's dedicated safety management and regional safety teams are involved in every aspect of Harsco Infrastructure's work - from product development to site installation. Our commitment to safety overrides all other aspects of our business.

**Important:** As with all scaffolding, CUPLOK® should only be erected by trained personnel.



#### The CUPLOK® locking procedure

The CUPLOK® locking device is formed by fixed lower cups, welded to the standards at 0.5m intervals, and sliding upper cups which drop over the blade ends of the ledgers and rotate to lock them firmly into place.

This revolutionary node point makes CUPLOK® extremely fast and simple to erect. Once a CUPLOK® structure is 'based out' and levelled, subsequent lifts are automatically erected square and horizontal.

#### Maximum heights and tying-in

The maximum height to which a CUPLOK® structure can be erected is dependent upon a range of factors. Examples of the most important are:

- The vertical distance between tied points on the verticals
- Whether foot ties are used
- The lift height
- Wind loading
- Whether it is sheeted or netted

- Whether cantilever platforms/hop-ups are used
- Leg loading
- The position of the top tie relative to the top of the scaffold

Details for typical layouts are shown in the CUPLOK® datasheets, user's manual and user guides which are available by emailing [info\\_infrastructure@harsco.com](mailto:info_infrastructure@harsco.com)

#### CUPLOK® safety and technical information

- CUPLOK® complies with BS EN 12811 and BS EN 12810
- DIN Accreditation
- Safe Working Loads on platforms will vary between 0.75kN and 3kN per square metre depending on the configuration of the scaffold
- To ensure safe erection, alteration and dismantling of scaffolding it is important that a safe method of work is followed
- European regulations require that work at height is properly planned, organised and carried out by competent persons

For scaffolding work this would include those who design, procure, supply and erect the scaffolding



# Applications

## CUPLOK® scaffold system

CUPLOK®'s versatility and wide range of accessories make it an ideal system for almost any situation - from simple domestic building projects, to the most complex access and support structures. Its ability to follow curves and complex profiles make it equally suitable for many industrial maintenance situations.

### Curved structures

CUPLOK®'s ability to allow ledgers to lock into the standards from any angle means that the system is ideally suited to curved structures. With simple variations to the normal arrangement of ledgers and transoms, both internal and external curves can be created by using a combination of rectangular and trapezium shaped bays. See page 20.

### Staircase towers

CUPLOK® staircase towers incorporate special staircase components within a conventional CUPLOK® tower to create a safe, user-friendly access solution and are quick and simple to erect. Staircase towers are rapidly becoming the most popular option for access on site. See page 12.

### Access towers

Square or rectangular access towers can be erected with standard CUPLOK® components using either jacks and base plates or bespoke CUPLOK® castor wheels to give full mobility. The working platform can be formed using either scaffold boards or battens. Safe access is created by the use of a separate ladder bay with a safety gate giving access to the work platform.

### Loading bays

The basic loading tower uses a conventional 2.5m square CUPLOK® tower with additional special components to strengthen the platform enabling it to support heavy, palletised materials which can be forklifted or craned directly to the working platform level. See page 18.

### Support structures

CUPLOK® is widely used to create falsework support structures. Its high leg load capacity and range of components give the system the capability to tackle virtually any support application. For formwork support, a wide range of grid variations can be created to suit the loading requirements and the decking system. See page 21.



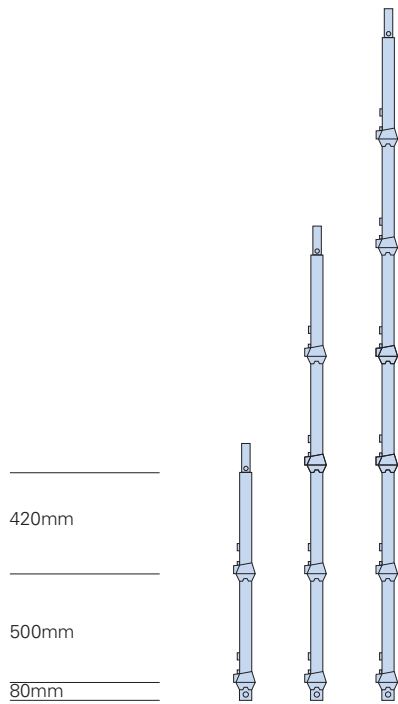
# Components

## Verticals (standards)

All CUPLOK® standards incorporate lower fixed cups at 0.5m intervals with captive rotating top cups which secure up to four components. Access standards incorporate a 150mm spigot at the top to allow the vertical connection of further standards. Provision for a locking pin or bolt is also provided.

## Verticals with spigots

Code No.	Length (m)	Overall length (m)	Weight (kg)
270100	1.0	1.150	5.8
270200	2.0	2.150	11.2
270300	3.0	3.150	16.5



## Base/head plate

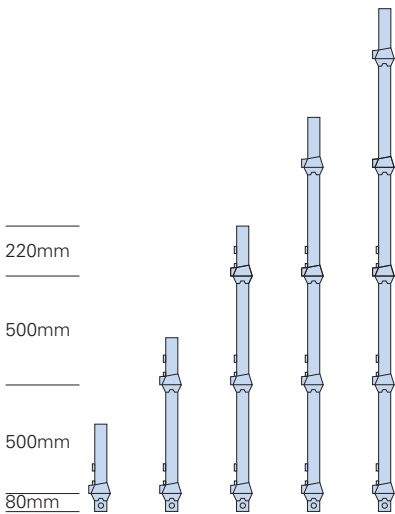
Used in conjunction with the universal jack. The spigot is drilled to allow for the insertion of a securing bolt if required.

Code No.	Height (m)	Weight (kg)
279500	0.110	2.3



## Verticals without spigots

Code No.	Length (m)	Weight (kg)
270043	0.4	2.4
270083	0.8	4.1
270133	1.3	6.6
270183	1.8	9.1
270233	2.3	11.6



## Universal jack

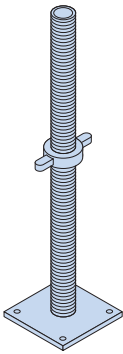
Universal jacks have an adjustment of up to 0.5m and are used to accommodate variations in ground levels and to level the structure. They are used in conjunction with base/head plates and forkheads.

Code No.	Adjustment (m)	Weight (kg)
279540	0.4	2.2
279550	0.5	4.0



## Combined jack and base plate

Code No.	Adjustment (m)	Weight (kg)
279555	0.5	3.8



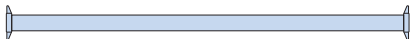
## Horizontals (ledgers and transoms)

All ledgers and transoms incorporate symmetrical forged blade ends making assembly quick and simple, and allows components to be completely interchangeable. Horizontals locate in the bottom cups of the standards and are secured by locking the top cup.

- 2.5m horizontals provide the basic bay length in a CUPLOK® access structure. This is a suitable bay size for all common access loading conditions
- 1.8m horizontals provide a make-up bay size for added flexibility
- 1.3m transoms support a five board wide platform. This transom can also be used as a ledger for extra flexibility and to create corner returns without overlapped boards
- Normal horizontals also act as guardrails

## Horizontals

Code No.	Length (m)	Weight (kg)
271060	0.6	2.7
271090	0.9	3.8
271127	1.25	4.8
271130	1.3	4.9
271180	1.8	6.9
271250	2.5	9.5
271300	3.0	11.5



# Components

## CUPLOK® scaffold system

### Intermediate transoms

These units are designed to provide intermediate support for standard scaffold boards by spanning between the inner and outer ledgers. The jaw section at each end is turned downwards to prevent dislocation. One end is provided with an integral locking device to prevent movement along the ledgers during use.

The 1.3m intermediate transoms support a standard five board platform. Two and three board intermediate transoms are used where scaffold boards require support between hop-up brackets. They span between the inside ledger of the main scaffold and the ledger linking the hop-up brackets. 1.8 and 2.5m intermediate transoms can be used in 'birdcage' structures and other specialist applications.

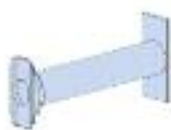
Code No.	Length (m)	Weight (kg)
272056	0.565 (2 board)	2.8
272078	0.795 (3 board)	3.7
272130	1.3	5.5
272180	1.8	7.3
272250	2.5	16.5



### Single board support

Locates in the cup joint and provides support for a single inside board at a vertical. It replaces the inside board transom at that point.

Code No.	Length (m)	Weight (kg)
279300	0.26	1.5



### Inside board transoms

Acts as an intermediate transom but extends beyond the inside ledger to provide intermediate support for one or two inside boards. Drops into place over the ledgers and is secured with a locking device to prevent movement.

Code No.	Length (m)	Weight (kg)
273101	1.62 (1 board)	9.0
273200	1.895 (2 board)	11.5



### Steel toeboard

A new steel toeboard system designed specifically for CUPLOK®. It can incorporate curves, angles and corners and provides quick, sturdy protection at platform level.

Code No.	Length (m)	Weight (kg)
274713	1.3	3.1
274718	1.8	4.3
274725	2.5	8.5



### Spigot pin

A quick-action locking device which resists tensile forces between vertical members. There are no loose nuts or bolts.

Code No.	Diameter (mm)	Weight (kg)
279340	8.0	0.09



### Hop-up brackets

Designed to increase the overall width of the working platform by supporting two or three additional boards beyond the inner face of the scaffold. It incorporates a cup joint at the outer end to allow the fitting of an inside ledger and a socket to support a handrail post.

Code No.	Description	Length (m)	Weight (kg)
274200	2 board	0.565	6.3
274300	3 board	0.795	7.7



### Return device

A conventional blade end connected to a hook section which locates over the ledger on the adjacent return scaffold to provide a connection. Used in pairs.

Code No.	Weight (kg)
279280	1.15





**Scaffold boards**

A variety of lengths are available for support at either 1.2m or 1.5m as required.

Please contact  
info\_infrastructure@harsco.com



**Castor wheel**

For use when CUPLOK® is erected as a mobile tower. The shank of the castor fits into the base of the CUPLOK® standard and is secured with a hexagonal head bolt.

Code No.	Description	Diameter (mm)	Weight (kg)
279080	Rubber	200	6.7
279100	Steel	200	7.0



**Handrail post**

For use with hop-up brackets, 4 leg staircase towers and on support scaffolds when required. Incorporates cup joints to allow the location of ledgers to form guardrails.

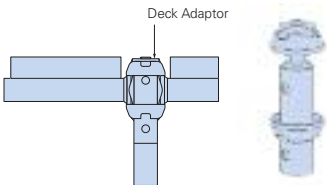
Code No.	Overall length (m)	Weight (kg)
279244	1.150	4.9



**CUPLOK® deck adaptor**

This component allows the laying of a level, uninterrupted platform across the top of a CUPLOK® birdcage structure. The deck adaptor fits on the top of an access vertical and has a low-profile upper cup which screws down to lie flush with adjacent boards.

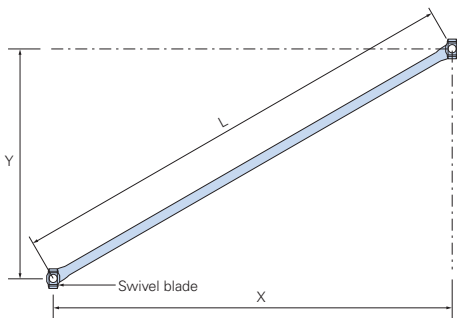
Code No.	Weight (kg)
271909	1.3



**Swivel face brace**

Provides face bracing on a CUPLOK® access scaffold. Each brace has swivelling blade ends to allow for easy location within the node joint. As only one blade end can be located in each joint, parallel bracing is employed rather than the 'dog-leg' or 'zig-zag' method.

Code No.	Description x y	Length (m)	Weight (kg)
276150	1.8 x 1.5m	2.343	8.7
276180	1.8 x 2.0m	2.691	9.8
276153	2.5 x 1.5m	2.916	10.7
276203	2.5 x 2.0m	3.202	11.5
276207	3.0 x 2.0m	3.606	13.0



**Hook decks**

Harsco Infrastructure supply a wide range of hook decks in 2.5m, 1.8m and 1.3m lengths to suit different market applications. For further information email info\_infrastructure@harsco.com

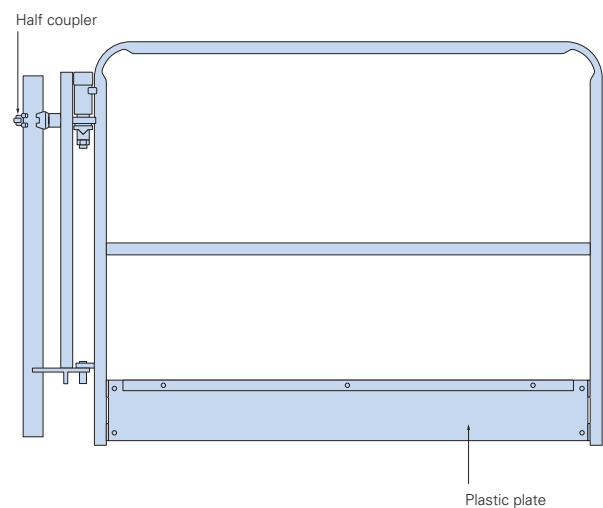
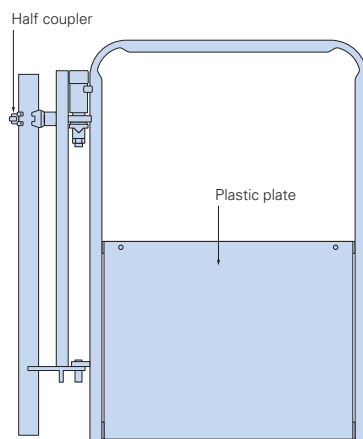
# Components

## CUPLOK® scaffold system

### Ladder safety gates

The CUPLOK® safety gate allows safe ladder access to and from the working platform. The sprung gate mechanism ensures that the access opening remains fully closed when the scaffold is in use. Two sizes are available.

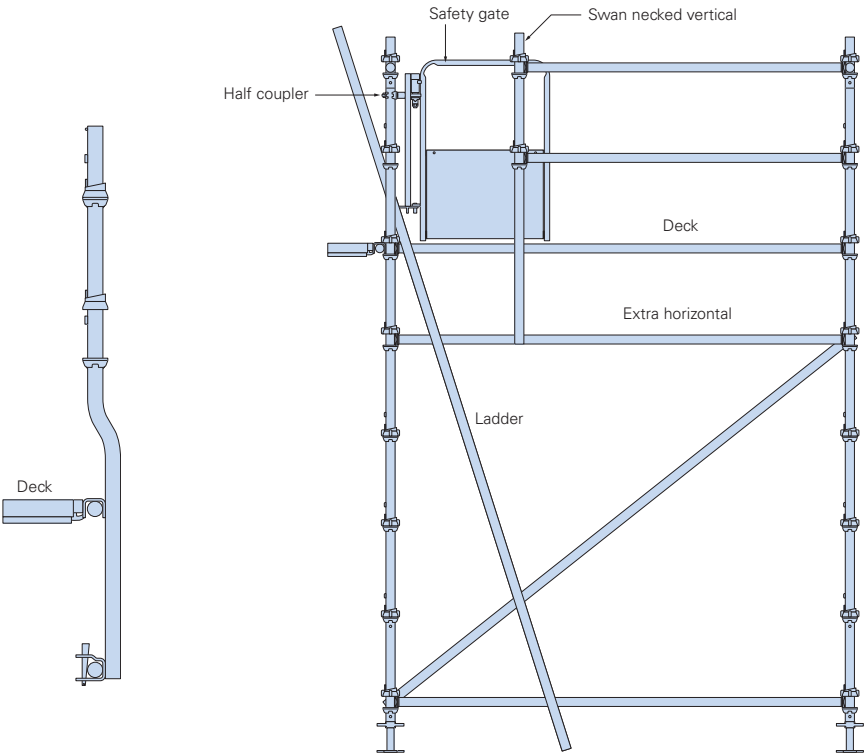
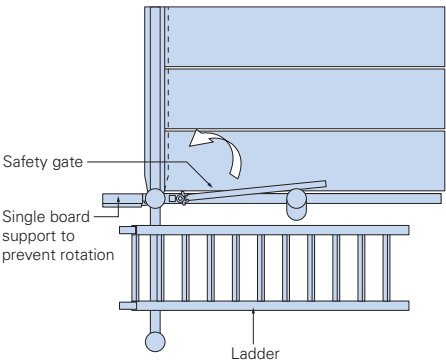
Code No.	Size (m)	Weight (kg)
279448	0.8	14
279449	1.4	24



**Swan necked vertical**

Locates on the horizontal members to provide an opening in the guardrails of a standard CUPLOK® bay to allow ladder access to the working platform.

Code No.	Length (m)	Weight (kg)
270172	1.72	7.2



**Larger spans**

To create openings or support spans greater than the normal bay width, a variety of Harsco Infrastructure aluminium beams may be used to support the upper section of the scaffold structure.





# Omega components

CUPLOK® scaffold system

## Batten platforms

The Omega batten system incorporates all the main CUPLOK® components but replaces the tubular transom with the profiled Omega transom into which steel or timber battens slot to provide a secure, flush work platform. No intermediate transoms are required. Battens are either timber or steel units.

## Omega transom

The standard 1.3m Omega transom provides a firm location for a five board wide Omega batten scaffold. The specially designed section provides a very strong supporting platform and prevents the battens from moving. Forged blade ends locate into the cup joint of the vertical in the normal way. A 0.8m unit is available for use where a narrow width scaffold is required.

2.5 and 1.8m Omega transoms can be used when CUPLOK® is erected to form a birdcage access scaffold using timber or steel battens, or on mobile access towers in modular sizes.

Code No.	Size (m)	Overall length (m)	Weight (kg)
275080	0.8	0.752	3.9
275130	1.3	1.252	6.6
275180	1.8	1.752	10.0
275254	2.5	2.452	24.8
(Heavy duty type)			



## Return transom

A transom with a hook profile which locates over the ledger of the adjacent return scaffold, linking the two sections together.

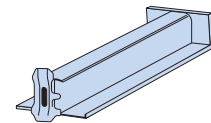
Code No.	Length (m)	Weight (kg)
275550	1.3	8.6



## Omega single board support

Locates at the cup joint and provides support for a single inside batten.

Code No.	Overall length (m)	Weight (kg)
275510	0.267	2.3



## Omega hop-up bracket

Designed to increase the overall width of the working platform by supporting two or three additional battens beyond the inner face of the scaffold. It incorporates a cup joint at the far end to allow the fitting of an inside ledger and a socket to support a handrail post.

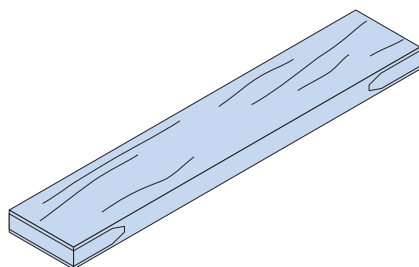
Code No.	Description	Overall length (m)	Weight (kg)
275520	2-Board	0.585	6.6
275530	3-Board	0.815	7.6



### Timber battens

All CUPLOK® timber battens are 63mm thick and of 225mm nominal width. Weights shown are approximate at 27% moisture content.

Code No.	Description	Overall length (m)	Weight (kg)
274613	1.3m	12.50	12.5
274617	1.8m	17.50	17.5
274625	2.5m	24.50	24.5

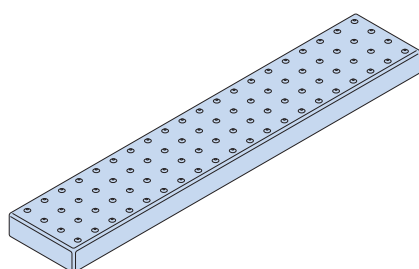


### Steel battens

CUPLOK® galvanised steel battens have overall depth of 57mm and are 238mm wide.

They incorporate a perforated surface for slip resistance.

Code No.	Description	Overall length (m)	Weight (kg)
274512	1.3m	1.25	9.1
274517	1.8m	1.75	13.0
274525	2.5m	2.45	17.5

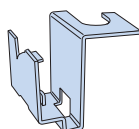


### Toeboard clips

#### Timber

For use with timber battens only. Locates around the standards and sits on the 'top-hat' section of the Omega transom.

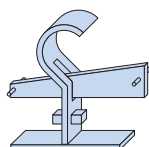
Code No.	Weight (kg)
279200	1.0



#### Steel

For use with steel battens only. Locates around the standards and locks the toeboard securely into position.

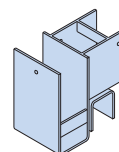
Code No.	Weight (kg)
279180	0.74



#### End toeboard clip

Locates on the Omega transom. For use with timber or steel battens.

Code No.	Weight (kg)
275585	1.5



# Staircase towers

CUPLOK® scaffold system

CUPLOK® staircase towers incorporate purpose designed stairway units and offer a safer, quicker, more efficient route between levels on site. They are quick and easy to erect and generate significant time savings for everyone on site.

There are four basic staircase options in the CUPLOK® range. All use the standard CUPLOK® system to provide the main structure - with a small number of additional staircase components, including a choice of steel and aluminium stairway units.

- Broad landing platforms with steel or timber battens
- Full guard-railing to stairs and landings with double guardrails
- Stairways are rigid and provide, firm non-slip treads ensuring maximum security for users
- Removes potentially hazardous deck openings normally created by ladder

## Staircase sizes

CUPLOK® staircase towers are based on three plan layouts, using four, eight or ten leg tower structures. Staircase flights are available in steel or aluminium.

Each staircase type comes in 1.5m or 2m lifts for maximum flexibility. Different lift sizes may be combined in the same tower to suit work platform levels.

A CUPLOK® public access stair is also available. See CUPLOK® staircase brochure or CUPLOK® user's manual for details.





#### 4 leg staircase tower

Plan area: 1.8m x 3m

Landing platforms: 0.6m x 1.8m

Stair width: 0.8m

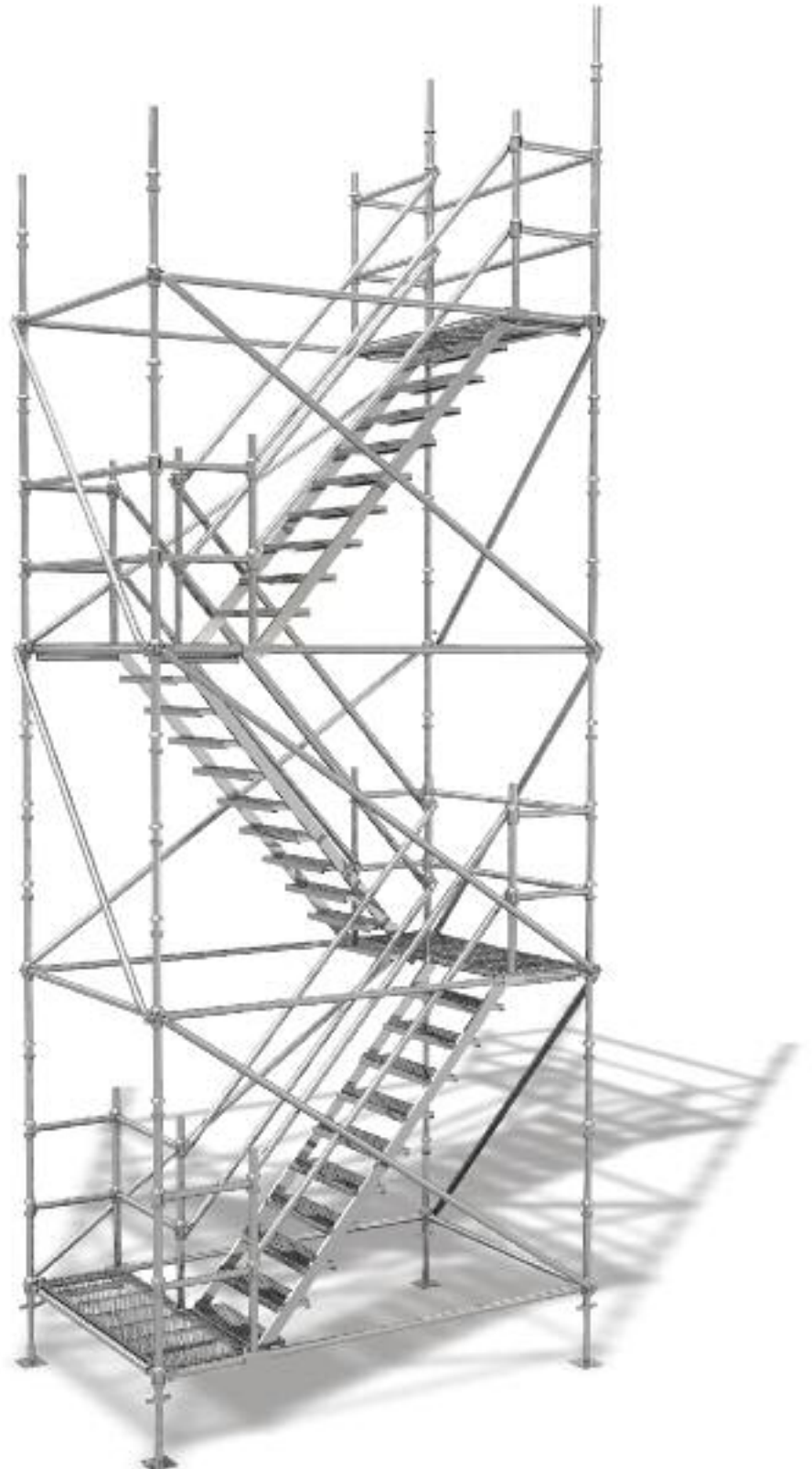
Lift height: 1.5m or 2m

Stair units: steel or aluminium

Max height: 40m\*

\*Greater heights may be achieved but require specific design.

The 4 leg staircase tower is the most compact staircase option. It employs the fewest components and can therefore be erected faster and in more confined spaces, giving a convenient and economical access solution. A new purpose-designed steel mesh landing platform provides a superior option to the staircase transom unit, board bearers and scaffold boards.



# Staircase towers

CUPLOK® scaffold system

## 8 leg staircase tower

Plan area: 1.8m x 4.4m

Landing platforms: 1.3m x 1.8m

Stair width: 0.8m

Lift height: 1.5m or 2m

Stair units: steel or aluminium

Max height: 38m\*

\*Greater heights may be achieved but require specific design.

This larger configuration can be built to a height of 38m (subject to ties and loadings).

The plan module is 4.4m long overall, incorporating a centre bay of 1.8m and two 1.3m landing modules at either end. These allow the use of 1.3m Omega transoms in conjunction with timber or steel battens to form the landing platforms.

The wider landing platforms give this staircase greater capacity.



### 10 leg staircase tower

Plan area: 1.8m x 4.4m

Landing platforms: 1.3m x 1.8m

Stair width: 0.8m

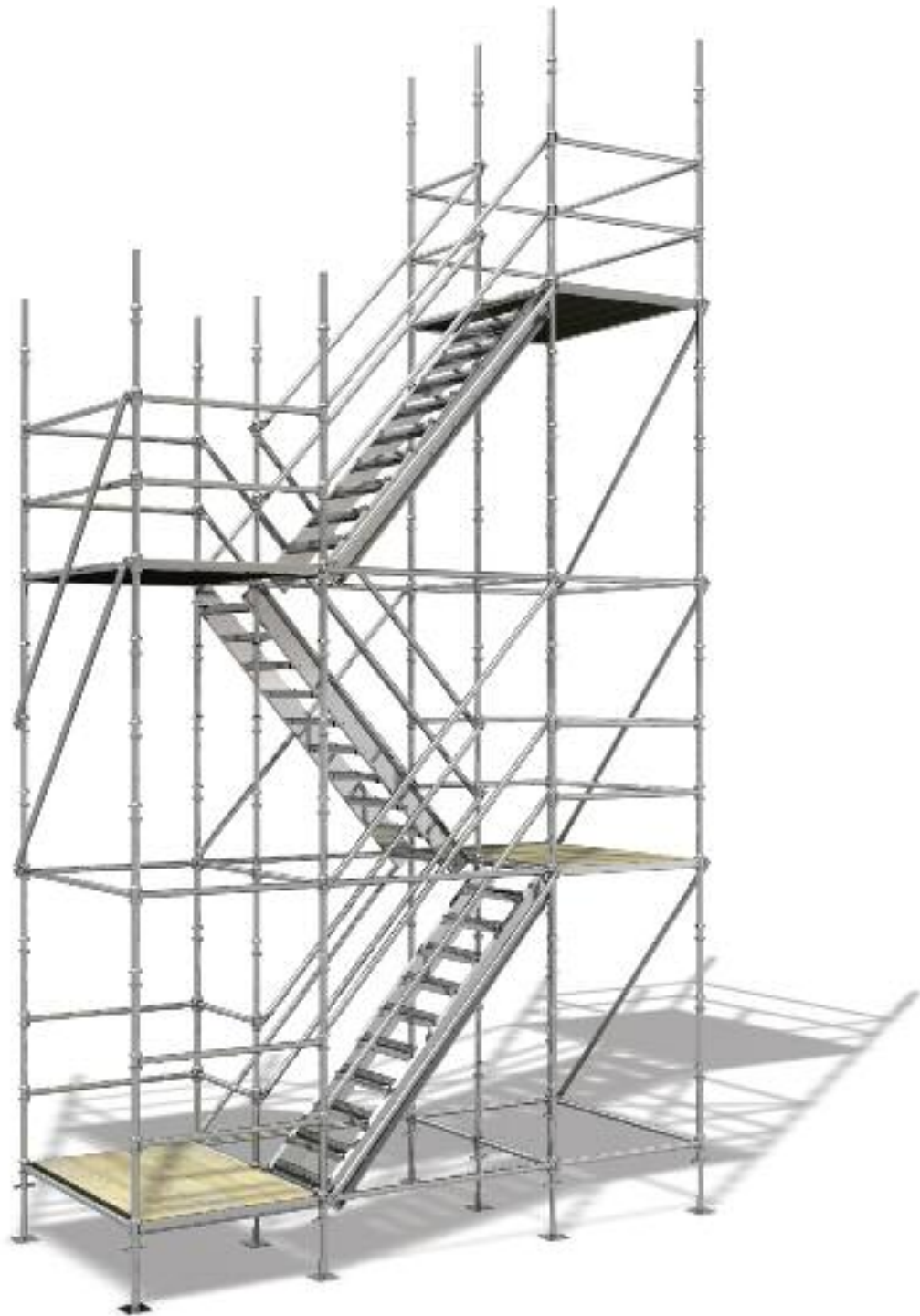
Lift height: 1.5m or 2m

Stair units: steel or aluminium

Max height: 53m\*

\*Greater heights may be achieved but require specific design.

This staircase is similar in layout to the 8 leg tower, but incorporates two additional central standards at the inside ends of the staircase flights. This gives the structure greater strength and rigidity allowing heavier loading and construction to a maximum height of 53m.





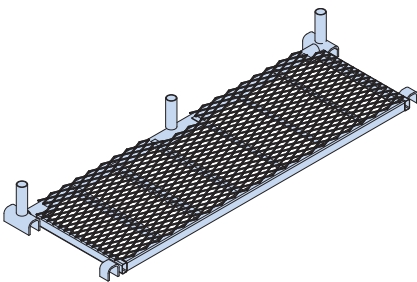
# Staircase components

CUPLOK® scaffold system

## Mesh landing unit

A composite steel landing unit with mesh decking for use on the 4 leg staircase. Incorporates hooks to locate over side ledgers and sockets to receive handrail posts.

Code No.	Length (m)	Weight (kg)
279417	1.8	32.0



## Staircase units

### Steel staircase units

Available in two sizes, each staircase incorporates steel stiles for maximum rigidity and steel treads giving a firm, slip-resistant step. The 1.5m unit incorporates a plywood landing at the base of the flight.

Steel staircase: 1.8m bay x 1.5m lift

Steel staircase: 1.8m bay x 2m lift

Code No.	Height (m)	Weight (kg)
279400	1.5	55.0
279420	2.0	73.1



### Aluminium staircase units

Staircase flights to the same dimensions as the steel stairs, but approximately half the weight for ease of handling. The 1.5m unit incorporates an aluminium landing at the base of the flight.

Aluminium staircase: 1.8m bay x 1.5m lift

Aluminium staircase: 1.8m bay x 2m lift

Code No.	Height (m)	Weight (kg)
279418	1.5	28.0
279419	2.0	30.0



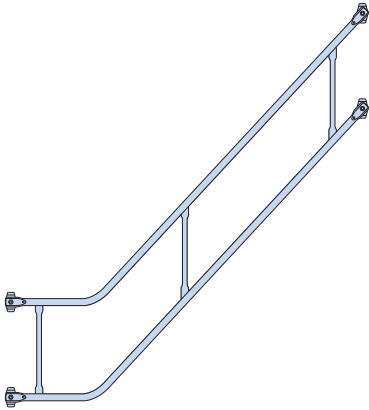
All Harsco Infrastructure CUPLOK® staircases comply with BS EN 12811.1:2003 Class B.

**Staircase handrail units**

A special double-handrail unit for use with 1.5m lift staircase units. Supplied in right hand and left hand versions.

2m lift staircases use standard CUPLOK® 2m x 1.8m diagonal braces as handrails.

Code No.		Size	Weight (kg)
279404	Left hand	1.8 x 1.5m	14.2
279403	Right hand	1.8 x 1.5m	14.2

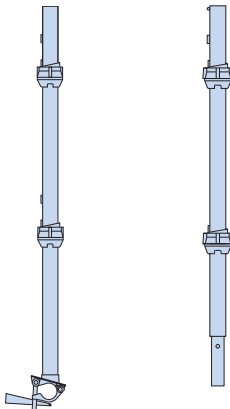


**Staircase guardpost/handrail post**

Type 1: fitted at the top and bottom of each flight to provide support for inner stair guardrails. Incorporates a half coupler fitting at the base to secure it to the ledgers and two cup joints to receive the swivel blades on the handrails. Used on 8 leg towers only.

Code No.	Weight (kg)	Overall length (m)
279244 Type 1	7.2	1.23
279380 Type 2	4.9	1.15

Type 2: standard CUPLOK® handrail post: used on the 4 leg staircase where it locates within the sockets on the mesh landing unit.



Guardpost  
Type 1

Handrail post  
Type 2

Further details on the construction of staircase towers can be found in the CUPLOK® user’s manual or by emailing [info\\_infrastructure@harsco.com](mailto:info_infrastructure@harsco.com)



# Loading bays

CUPLOK® scaffold system

CUPLOK® loading bays incorporate a specially strengthened platform designed to support heavy palletised materials. It features a new up and over, ‘flexi arm’ gate which keeps the operator a safe distance from the platform edge. As the gate is raised, a safety barrier is automatically lowered in front of the operator maintaining constant edge protection.

Wider bays can be constructed by substituting the mesh panel for scaffold tubes, a separate toeboard and mesh brickguards to maintain a completely secure edge barrier.

### Flexi arm

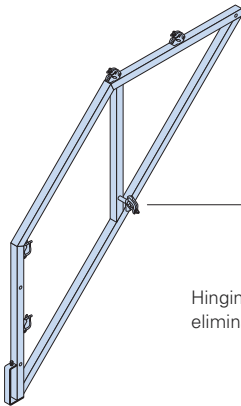
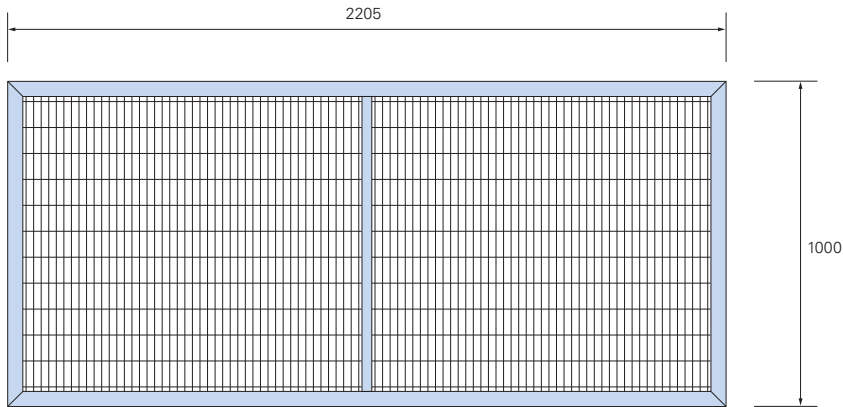
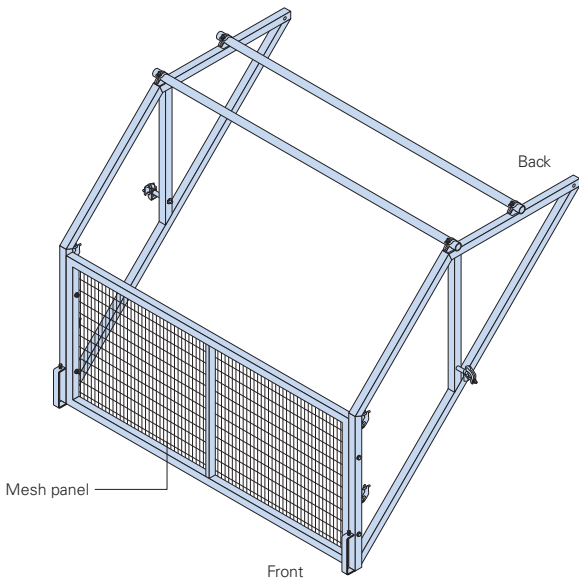
Links the panel to the CUPLOK® structure, allowing it to be swung into the overhead position whilst automatically lowering the temporary protection barrier.

Code No.	Length (mm)	Height (mm)	Weight (kg)
019005	1751	1781	19.1

### HD aluminium ledger

Supports the board bearers at deck level eliminating the need for knee bracing when supporting light loads.

Code No.	Length (mm)	Weight (kg)
271137	1300	8.5
271254	2500	14.5



Note\*  
Hinging coupler can be removed to eliminate handing

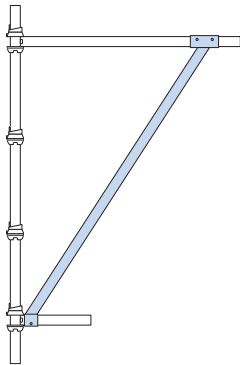
Hinging coupler can be reversed to eliminate left and right-hand versions.



**Knee brace**

Used in pairs to provide extra support to the ledger on which the board bearers rest. Incorporates a half coupler fitting which locates on the ledger 1.5m below the platform and a double half coupler fitting to bolt onto the ledger at platform level.

Code No.	Length (mm)	Weight (kg)
279260	1.860	8.23



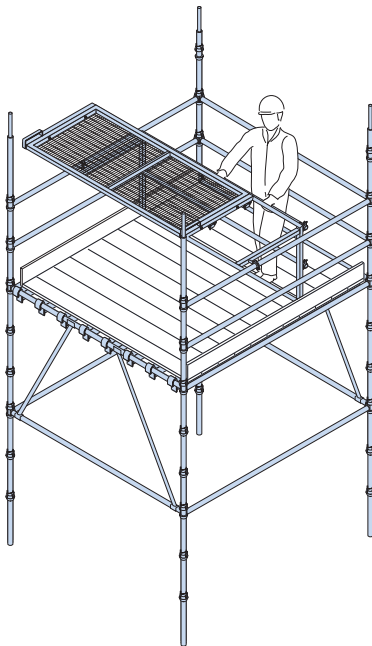
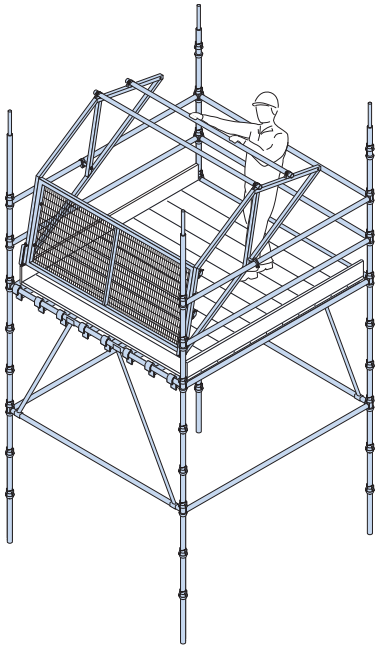
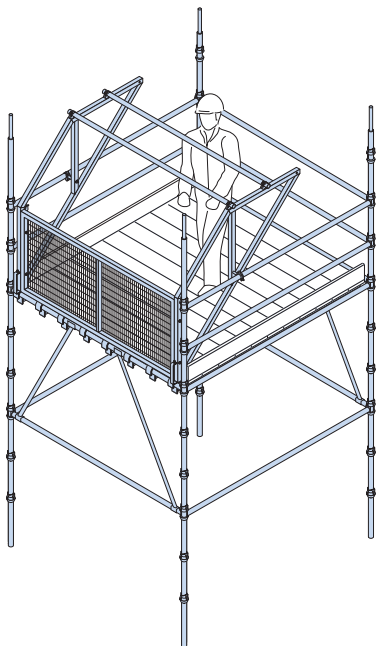
**Guardrails**

Conventional scaffold tubes span between the flexi arms to create the inner safety barrier and operating bar. They can also be used to create a front barrier as an alternative to the mesh panel allowing loading bays of different widths to be created.

**Board bearer**

Bearers are installed beneath the deck to provide support to the deck and loaded materials. The number of units will be dependent upon the required capacity of the platform.

Code No.	Length (mm)	Weight (kg)
279040	2572	17.3



# Curved and circular structures

## CUPLOK® scaffold system

### Circular structures

CUPLOK®'s ability to allow ledgers to lock into the standards from any angle means that the system is ideally suited to curved and circular structures - without the requirement for special components.

With simple variations to the normal arrangement of ledgers and transoms, both internal and external curves can be created by using a combination of rectangular and trapezium shaped bays. (Trapezium shaped bays incorporate inside and outside ledgers of different length).

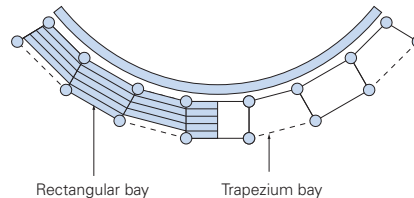
Further details on the construction of circular structures can be found in the CUPLOK® user's manual or by emailing [info\\_infrastructure@harsco.com](mailto:info_infrastructure@harsco.com)

### Layout of ledgers and transoms

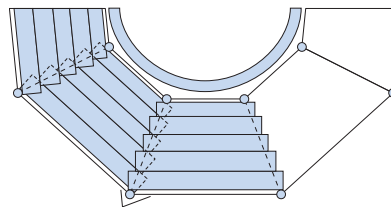
As two ledgers or transoms can be fitted into the same cup at less than 90 degrees to each other on curved structures, inside and outside ledgers and transoms cannot all be fitted at the same level. This requires certain amendments to normal CUPLOK® layouts:

- On scaffolds forming an outside curve, locate the outside ledgers above the deck level to form the handrails
- On scaffolds forming an inside curve, move the inner ledgers down by 0.5m in alternate bays
- Construct trapezium shaped bays using the shortest possible ledgers as intermediate transoms cannot be used
- If larger trapezium bays are inevitable, thicker boards should be used

A: Using a combination of rectangular and trapezium shaped bays:



B: Using only trapezium shaped bays:



### Decking on circular structures

The work platform can be created using scaffold boards or specially cut battens. To create a continuous working deck using scaffold boards, some overlapping is inevitable. To avoid creating safety hazards, please observe the following procedures:

- All boards should be laid in line with the run of the scaffold
- If rectangular bays with intermediate transoms are used the boards over these bays must form the lower of the two layers
- The overlapping boards of the upper layer should, ideally, be cut to give a neat edge and fillet pieces nailed across the ends to prevent a trip hazard

Further details on the construction of circular structures can be found in the CUPLOK® user's manual.

### Related literature

For further details on safe erection and dismantling procedures please refer to the relevant Harsco Infrastructure user guide or the CUPLOK® user's manual. Other relevant publications include:

- CUPLOK® user manual
- CUPLOK® scaffold system user guide
- CUPLOK® staircase brochure
- Scaffold decking user guide
- Scaffold tube, fittings, steel and aluminium beam user guide
- Harsco Infrastructure guide to formwork and shoring
- Safety harnesses for use with CUPLOK®

These brochures and guides can be obtained by emailing [info\\_infrastructure@harsco.com](mailto:info_infrastructure@harsco.com)

Further advice regarding the design of more complex applications is available - please email [info\\_infrastructure@harsco.com](mailto:info_infrastructure@harsco.com)

# Support structures

## CUPLOK for support structures

CUPLOK® is an ideal system for falsework support structures due to its adaptability, high leg load and wide range of accessories.

The CUPLOK® system includes a wide range of specialist support components for use with Harsco Infrastructure and other formwork systems. For further details contact Harsco Infrastructure by emailing [info\\_infrastructure@harsco.com](mailto:info_infrastructure@harsco.com)

## Benefits

The key advantages of CUPLOK® over traditional scaffolding for support structures are:

- High leg load: up to 74kN
- Unique node point: four connections in one action
- Quick erection and systemised bracing
- Lighter than traditional scaffolding

## Associated components

### DU-AL™ aluminium beam

Complementing CUPLOK® in the creation of formwork support structures is Harsco Infrastructure DU-AL™ aluminium beam system. Its high strength allows larger grids to be achieved and its low weight makes it easy to handle and quick to erect. The DU-AL™ aluminium beam system includes three beam profiles. In each case they are supported in forkheads mounted on the CUPLOK® verticals and fastened in place with a quick-fixing clamp.

### EXTRAGUARD™ edge protection

Mesh barrier panels which clamp onto the DU-AL™ aluminium beam to provide edge protection to the formwork deck. Galvanised and powder coated in high visibility yellow, the panels also incorporate an integral toeboard.

All information in this brochure is correct at the time of going to press. Harsco Infrastructure reserves the right to change products details or withdraw products at any time. Harsco Corporation Trademarks – Companies within the Harsco Group are the proprietors of, amongst others, the following trading names and trade marks: Harsco, Harsco Infrastructure, SGB, Huennebeck and Patent.





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