CUPLOK
USER'S MANUAL

CONTENTS

INTRODUCTION

SGB CUPLOK is the world's most widely used system scaffold. It is a fully galvanised multi-purpose steel scaffold system suitable for providing general access and supporting vertical loads. CUPLOK's key feature is its unique circular node point which allows up to 4 horizontals to be connected to a vertical in a single fastening action - making it probably the fastest and safest system available.

The comprehensive range of CUPLOK components allows it to be used with traditional scaffold boards or battens. It can be used to create a huge range of access and support structures, staircase towers, circular scaffolds, loading towers and mobile towers.

Hot-dipped galvanizing is the finest practical coating that can be applied to a scaffold system, providing a long working life and better handling. SGB CUPLOK is manufactured to strict quality standards, maintained and audited worldwide by SGB's Quality Control Department.

This manual has been designed to enable CUPLOK users to become proficient in planning and erecting conventional CUPLOK scaffolds. It provides comprehensive details of components and guidance on the design and erection of access and support structures.

For further details on safe erection and dismantling procedures, please refer to the relevant SGB User Guide. Should you require further advice regarding the design of more complex applications, please contact your local SGB Branch on:

Tel: 08705 288 388

Important

As with all scaffolding, CUPLOK should only be erected by trained personnel. SGB conducts a range of courses covering all aspects of assembly and inspection for aluminium towers, scaffold systems and powered access. SGB provides trainees with recognised qualifications and certificates in association with the relevant professional bodies.

Related literature

- CUPLOK Scaffold Systems brochure
- CUPLOK Staircase Tower brochure
- CUPLOK Scaffold System User Guide
- Scaffold Decking User Guide
- Scaffold Tube, Fittings, Steel and Aluminium Beam User Guide
- SGB Guide to Formwork and Shoring

These brochures can be obtained from:
your local SGB Branch (Tel: 08705 288 388)
via www.sgb.co.uk or by e-mailing info@sgb.co.uk

Associated SGB products

SGB supplies a comprehensive range of access and support systems as well as general site safety products, groundworks and powered access equipment including:

- Traditional tube and fittings
- Aluminium and GRP mobile access towers
- Aluminium, steel and GRP ladders and steps
- Low level mobile platforms and access systems
- Heavy duty storing systems for wall and soffit support
- Edge protection systems including EXTRAGUARD and ROOFGUARD
- Scissor lifts, mobile booms and mast-climbing platforms
- Site safety products

At the heart of the CUPLOK system is its unique node-point locking device. This enables up to four horizontals to be loosely but safely connected to the standard then locked into position with a single hammer blow. The system uses no loose clips, bolts or wedges.

The 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 horizontals and rotate to lock them firmly into place giving a positive, rigid connection.

It is this revolutionary node point which makes SGB CUPLOK faster and simpler to erect than any other system scaffold. Once a CUPLOK structure is 'based out' and levelled, subsequent lifts are automatically erected square and horizontal. The lack of loose components makes the system easy to use and exceptionally robust - its galvanised finish making it virtually immune to corrosion and damage.

Safety Information including harness requirement (SG4: 05)

- CUPLOK complies with BS EN 12811 and 12810.
- Safe Working Loads on platforms will vary between 0.75kN and 3kN per square metre depending on the configuration of the scaffold. See page 31 of this manual or contact your local branch for further information.
- To ensure safe erection, alteration and dismantling of scaffolding it is important that the procedures outlined in the NASC Guidance Note SG4:05 are followed. SG4 describes several safe methods of work, including the basic method used by scaffolders. Copies are available from the NASC.

  A further guidance booklet, SG4 05 YOU is also available from the NASC. It is aimed at the scaffolding erector and describes the 'basic' method of safe erection of scaffolding as follows: A minimum of four boards placed from below for erectors and single guardrails installed as work progresses along each lift. Double guardrails and toe boards will be required for end users.
- SG4:05 also requires that all scaffold erectors must wear a harness whilst erecting, dismantling and working on scaffolding.
- The Work at Height Regulations 2005 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.

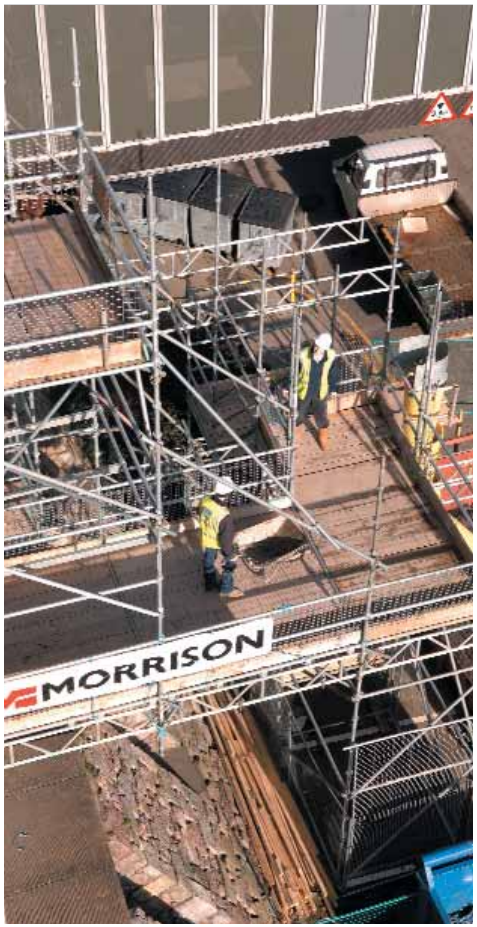
Equipment checks following fall incidents

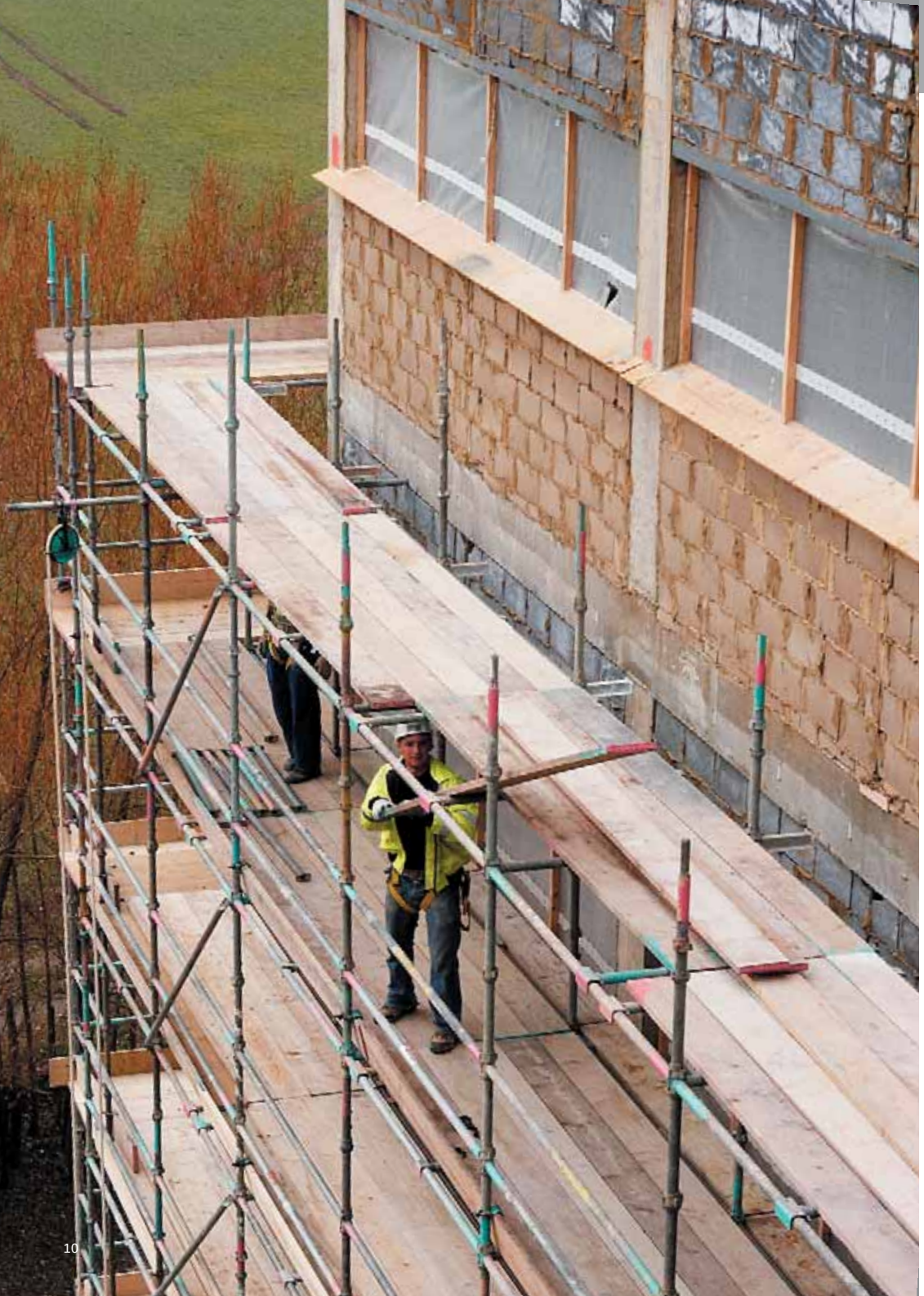
Should any SGB CUPLOK equipment be damaged in any way as the result of a fall from a scaffold involving a harness, those components must be taken out of service and inspected by a competent person.

For your own safety and that of all those working on the scaffold it is important that the following rules are obeyed:

- If the scaffold is on rough or uneven ground, ensure that it is erected on adequate timber sole plates - properly bedded and levelled.
- Make sure that the work platform contains no trip hazards or projections.
- If ladders are used for access, ensure that they stand on a firm base, and are securely fixed at or near the top. Also ensure that there is a safe handhold for getting on and off the working platform. On many occasions, staircases provide safe and convenient access for men and materials. See page 51.

- All working platforms from where a person could fall must be fitted with a double guardrail and toeboards.
- Do not overload the platform with bricks or other material. If materials are to be placed on the platform, load all heavy items as close to standards as possible and use brick-guard panels to prevent any possibility of materials falling.
  If you need to stack large quantities of materials at platform level, use a CUPLOK Loading Tower. See page 47.
- All scaffolds require adequate bracing and tying in. No ties should ever be removed without adequate supervision. If necessary alternative ties or bracing should be added first to ensure the continued safety of the scaffold.
  SGB CUPLOK has been designed from the outset to provide safety to scaffolders and users during erection, use and dismantling. No loose fittings are required, lower cups prevent the accidental dislodging of the ledgers, and guardrails are automatically positioned at the appropriate heights for the working platforms. However, the safety of the scaffold depends both on the people who erect it and that the scaffolding structure is not interfered with during use.





CORE COMPONENTS

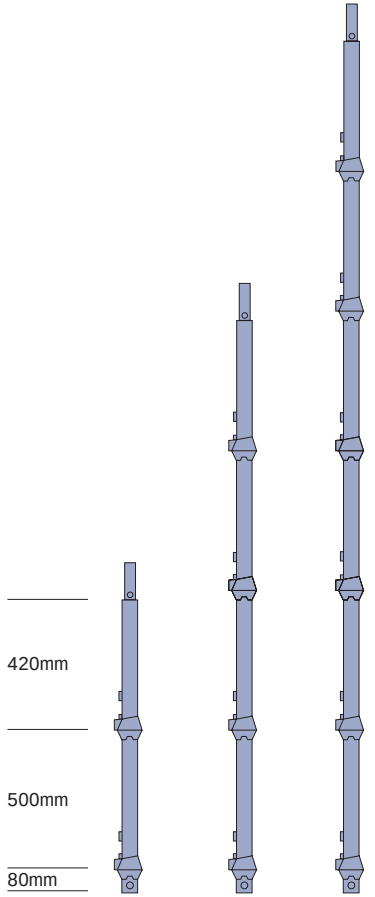
One of the key strengths of the CUPLOK system is the simplicity of the component range. Basic horizontals and verticals form the core of all structures. However, with the addition of a small number of special components, complex scaffolds can be constructed which safely address awkward access requirements.

Access Standards (Verticals)

Made from 48.3mm diameter x 3.2mm thick high grade steel tube, all standards incorporate lower fixed cups at 0.5m intervals with captive rotating top-cups securing up to 4 components. The lowest bottom cup is 80mm from the base of the standard to give the scaffold improved structural strength and reduce the need for base bracing in support structures. Access standards incorporate a 150mm spigot at the top to allow the vertical connection of further standards. Provision for a locking pin is also provided. (CUPLOK Support Standards do not have this spigot - allowing the insertion of jacks with various support components).

Standards are available in 3 sizes:

Code	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



Universal Jack

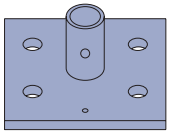
The Universal Jack has an adjustment of approximately 0.5m and is used for both access and support structures to accommodate variations in ground and soffit levels. It can be secured to the Base and Head Plate, Forkhead or Adaptor by using a standard nut and bolt if required.
For support load bearing capacity of up to 74kN (For access scaffolds see maximum heights on page 35).

Code	Height (m)	Weight (kg)
279550	0.860	3.9
279540	0.400	3.0

Base and Head Plate

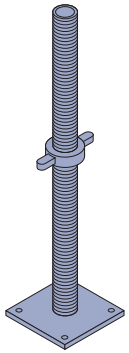
Used in conjunction with the universal jack. The spigot is drilled to allow for the insertion of a securing bolt if required.

Code	Height (mm)	Weight (kg)
279500	110	2.3



Combined Jack and Base Plate

Code	Height (m)	Weight (kg)
279555	0.870	5.3



Horizontals (Ledgers and Transoms)

All ledgers and transoms incorporate symmetrical forged blade ends making assembly quick and simple, allowing complete interchangeability of components. Horizontals locate in the bottom cups of the standards.

- 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 accommodate a five board wide platform. This transom can also be used as a horizontal for extra flexibility and to create corner returns without overlapped boards
- Normal Horizontals also act as guardrails.

Horizontals

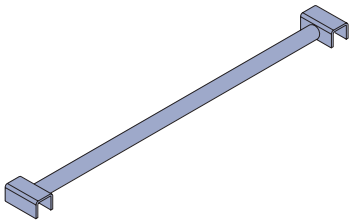
Code	Length (m)	Overall length (m)	Weight (kg)
271130	1.3	1.252	4.9
271180	1.8	1.752	6.9
271250	2.5	2.452	9.5
271300	3.0	2.952	11.5

Intermediate Transoms

Intermediate Transoms provide mid-bay support for 38mm 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 any movement along the ledgers during use.

In addition to the standard 1.3m wide unit, shorter Intermediate Transoms are available for use 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. For use with 2 board and 3 board hop-up brackets respectively.

Code	Length (m)	Overall length (m)	Weight (kg)
272130	1.3	1.366	5.5
272078	0.795	0.861	3.7
272056	0.565	0.631	2.8



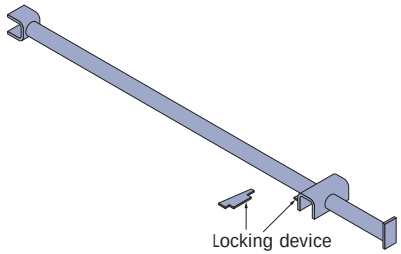
Further units are provided for use when CUPLOK is erected to form birdcage access scaffolds using 38mm scaffold boards and when CUPLOK is erected to form mobile access towers in modular sizes. Also used when temporary access is required in support structures where bay widths exceed the safe span of boards.

Code	Length (m)	Overall length (m)	Weight (kg)
272120	1.2	1.266	5.2
272180	1.8	1.866	7.3
272250	2.5	2.566 (Dia. of tube 60.3mm)	16.5

Inside Board Transom: 1 and 2 Board

Drop into place over the ledgers and are secured with a locking device to prevent movement. Act as conventional transoms but extend beyond the inside ledger to provide intermediate support to one or two inside boards.

Description	Code	Overall length (m)	Weight (kg)
1-Board	273101	1.62	9.0
2-Board	273200	1.895	11.5

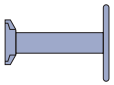


Inside Board Supports

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.

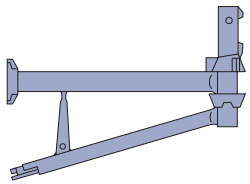
Code	Overall length (m)	Weight (kg)
279300	0.26	1.5



Hop-up Brackets

Designed to increase the overall width of the working platform to seven or eight boards by supporting two or three additional boards beyond the inner face of the scaffold. They incorporate a cup joint at the outside end to allow the fitting of an inside ledger which links the hop-up brackets and supports intermediate transoms. Also incorporates a facility to support a handrail post.

Description	Code	Overall length (m)	Weight (kg)
3-Board	274300	0.815	7.7
2-Board	274200	0.585	6.3



Return Device

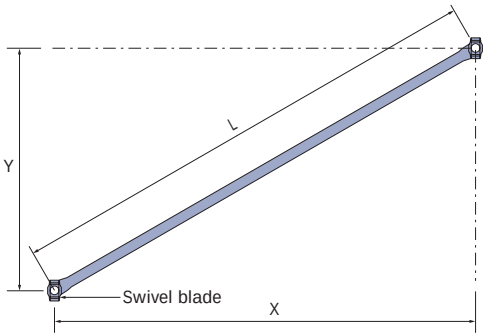
A conventional blade end connected to a hook section which locates over the ledger on the adjacent return elevation to provide a corner connection. Used in pairs.

Code	Weight (kg)
279280	1.15

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.

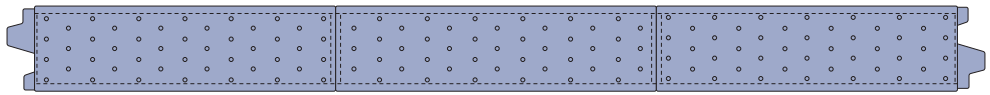
Description	Code	Weight (kg)	Overall length (m)
1.8 x 1.5m	276150	8.7	2.396
1.8 x 2.0m	276180	9.8	2.744
2.5 x 1.5m	276153	10.7	2.969
2.5 x 2.0m	276203	11.5	3.255
3.0 x 2.0m	276207	13.0	3.660



Scaffold Boards

- A variety of lengths are available
- British Standard: Support frequency every 1.5m
- MSG: Support frequency every 1.2m

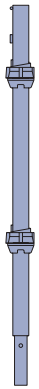
Please contact your local branch for details.



Handrail Post

For use with Hop-up Brackets, staircase towers and on support scaffolds if required. Incorporates cup joints to allow the location of ledgers to form guard rails.

Code	Overall length (m)	Weight (kg)
279244	1.150	4.8



Hook-end Batten (not available in the UK)

A durable steel deck unit with punched profile. Steel tubes underneath add extra strength.

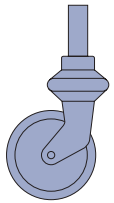
Code	Length (m)	Weight (kg)
274541	1.3	9.85
274852	1.6	12.12
274543	1.8	13.64
274544	2.5	18.59
274545	3.0	22.31

Castor Wheels

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

Safe Working Loads:
Steel castor wheel 730kg
Rubber tyred castor wheel 270kg

Description	Code	Weight (kg)	Diameter (mm)
Steel	279100	7.0	200
Rubber	279080	6.7	200



Spigot Pin

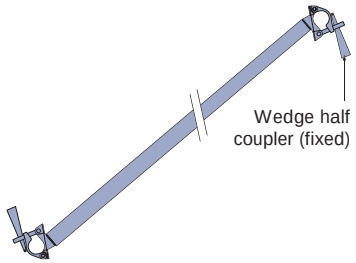
Designed to resist minor tensile forces at the joint of two standards - though not designed to form a full tension joint. Must be used where hop-up brackets are incorporated in the scaffold and on loading towers.

Code	Weight (kg)	Diameter (mm)
279340	0.09	8.0

Access Ledger Brace

Provides ledger-bracing on CUPLOK access scaffolds. When ties cannot be placed in the correct position or have been removed, or on scaffolds which extend above the building. Incorporates fixed wedge half couplers which locate on the standards.

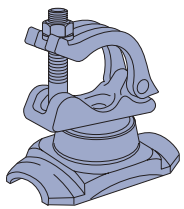
Description	Code	Weight (kg)	Overall length (m)
1.5 x 1.3m	277531	9.3	1.750
2.0 x 1.3m	277551	10.7	2.100



Brace Adaptor With Half Coupler (not available in the UK)

A half coupler with a CUPLOK blade end which allows the use of tubular scaffolding as a bracing component.

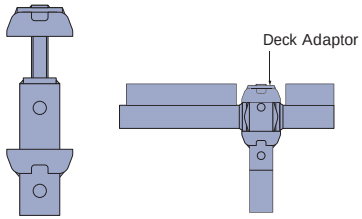
Code	Weight (kg)
279163	1.0



CUPLOK Deck Adaptor

This component allows the laying of a level, uninterrupted platform across the top of a CUPLOK structure. The Deck Adaptor fits on the top of the standard and has a low-profile upper cup which screws down to lie flush with adjacent boards.

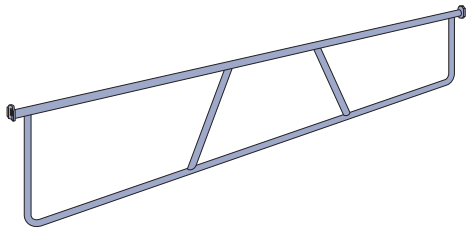
Code	Weight (kg)
271909	1.3



Double Guardrail Frame

The Double Guardrail Unit is lighter and quicker to install than two separate ledgers.

Code	Length (m)	Weight (kg)
271512	2.5	10.70
271513	3.0	12.50

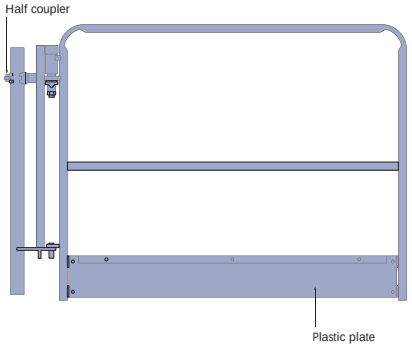


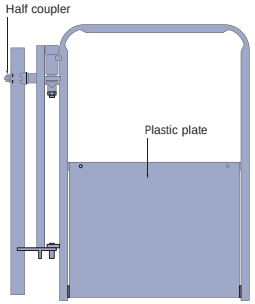
Ladder Safety Gates

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 unless pushed open. Two sizes are available. They can be used independently or in conjunction with the Swan-Necked Standard.

Code	Size (m)	Weight (kg)
279448	0.8	14
279449	1.4	24 (sale only)

When checked the gate rests behind the CUPLOK standard ensuring total safety.

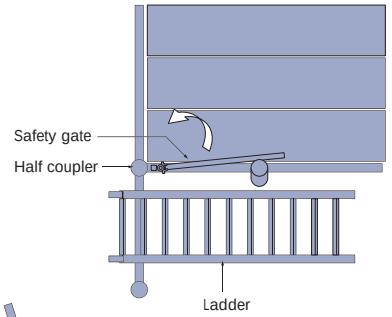


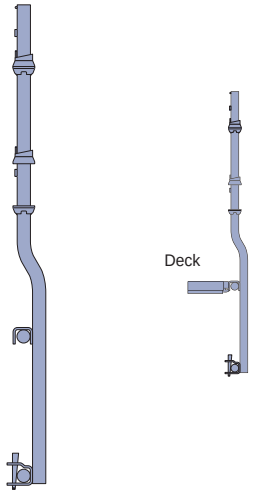


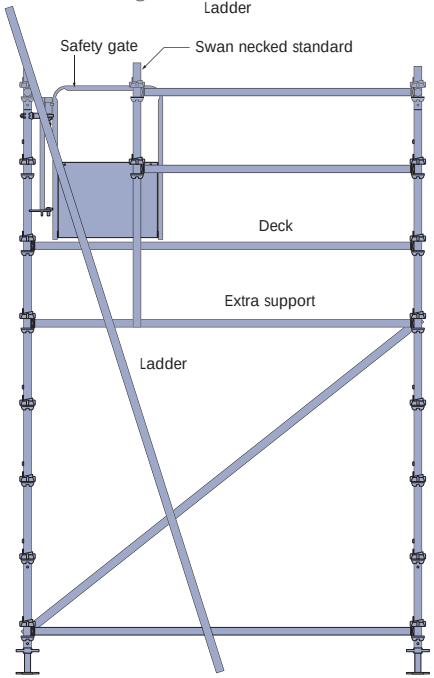
Swan-necked Standard

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

Code:	Length (m)	Weight (kg)
270172	1.72	7.2







OMEGA COMPONENTS FOR BATTEN PLATFORMS

The Omega Batten system incorporates all the main CUPLOK components but replaces the tubular transom with a special Omega unit into which special boards or battens slot to provide a secure, flush work platform.
No intermediate transoms are required as stronger battens are used in place of scaffold boards.

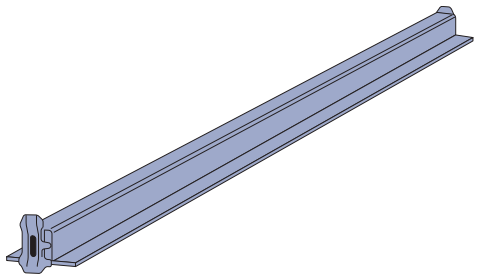
Battens are either 63mm thick (timber) or 57mm (steel).

Omega Transom

Provides a firm location for the Omega Battens. The specially designed Omega 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.

Both the 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.

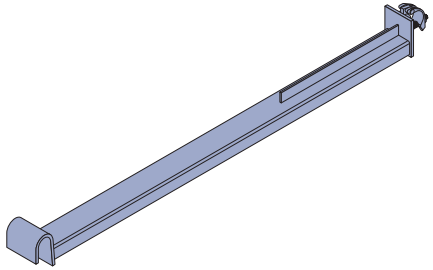
Size (m)	Code	Overall length (m)	Weight (kg)
0.8	275080	0.752	3.9
1.3	275130	1.252	6.6
1.8	275180	1.752	10.0
2.5	275254	2.452	24.8



Ladder Access Transom

A square-section transom with an Omega profile across part of its width to support short battens behind a ladder opening. It has a claw at one end and a half coupler at the other to ensure secure positioning along the ledgers. Must only be used in conjunction with Omega transoms.

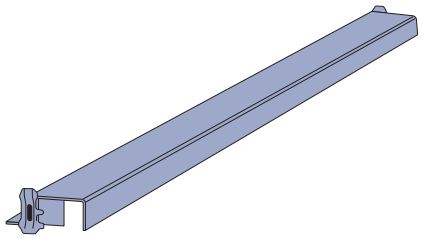
Code	Overall length (m)	Weight (kg)
271940	1.3	9.3



Return Transom

A transom with a steel hook profile which locates over the ledger of the adjacent return scaffold, linking the two sections together. The other side of the transom incorporates a conventional Omega section to receive timber or steel battens.

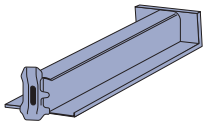
Code	Length (m)	Weight (kg)
275550	1.3	8.6



Omega Single Board Support

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

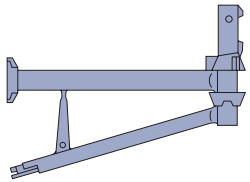
Code	Overall length (m)	Weight (kg)
275510	0.267	2.3



Omega Hop-up Bracket

Designed to increase the overall width of the working platform to seven or eight Battens 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 which links the hop-up brackets to prevent movement. It also incorporates an opening to support a handrail post.

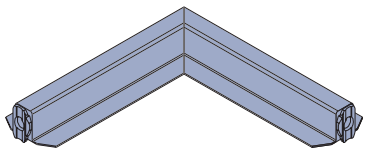
Description	Code	Overall length (m)	Weight (kg)
3-Board	275530	0.815	7.6
2-Board	275520	0.585	6.6



Omega Two and Three Board Corner Units

Provides an external corner support 2 or 3 battens wide. For use between hop-up brackets. Infill with timber, cut to fit.

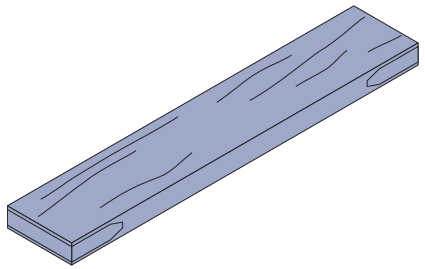
Description	Code	Length (m)	Weight (kg)
2-Board	279120		6.6
3-Board	275533		9.3



Timber Battens

63mm thick and of 225mm nominal width. Weights shown are approximate at 20% moisture content.

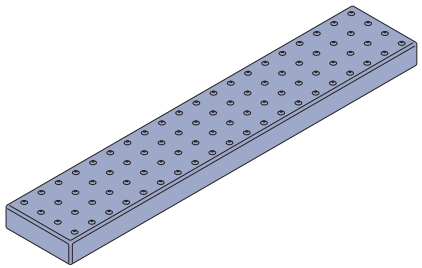
Description	Code	Weight (kg)	Overall length (m)
1.3m	274613	9.5	1.250
1.8m	274617	13.0	1.750
2.5m	274625	18.0	2.450



Steel Battens

CUPLOK Galvanised Steel Battens are 57mm thick and 238mm wide. They incorporate a non-skid perforated surface for slip resistance in poor weather.

Description	Code	Weight (kg)	Overall length (m)
1.3m	274512	8.4	1.250
1.8m	274517	13.0	1.750
2.5m	274525	17.5	2.450

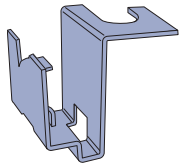


Toeboard Clips

Timber

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

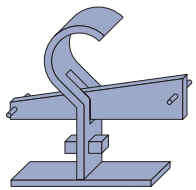
Code	Weight (kg)	Size (mm)
279200	1.0	150 x 120 x 171



Steel

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

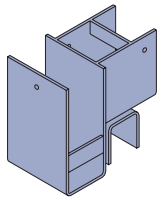
Code	Weight (kg)
279180	1.0



End Toeboard Clip

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

Code	Weight (kg)
275585	1.5



TYPICAL TUBULAR CUPLOK ACCESS LAYOUTS

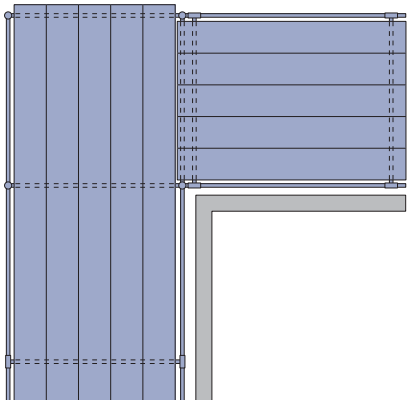
This section illustrates the methods in which CUPLOK can be used to create returns and inside board platforms. In most cases, these will overcome the problems of corners and projections which could prevent the scaffold being erected close to the building

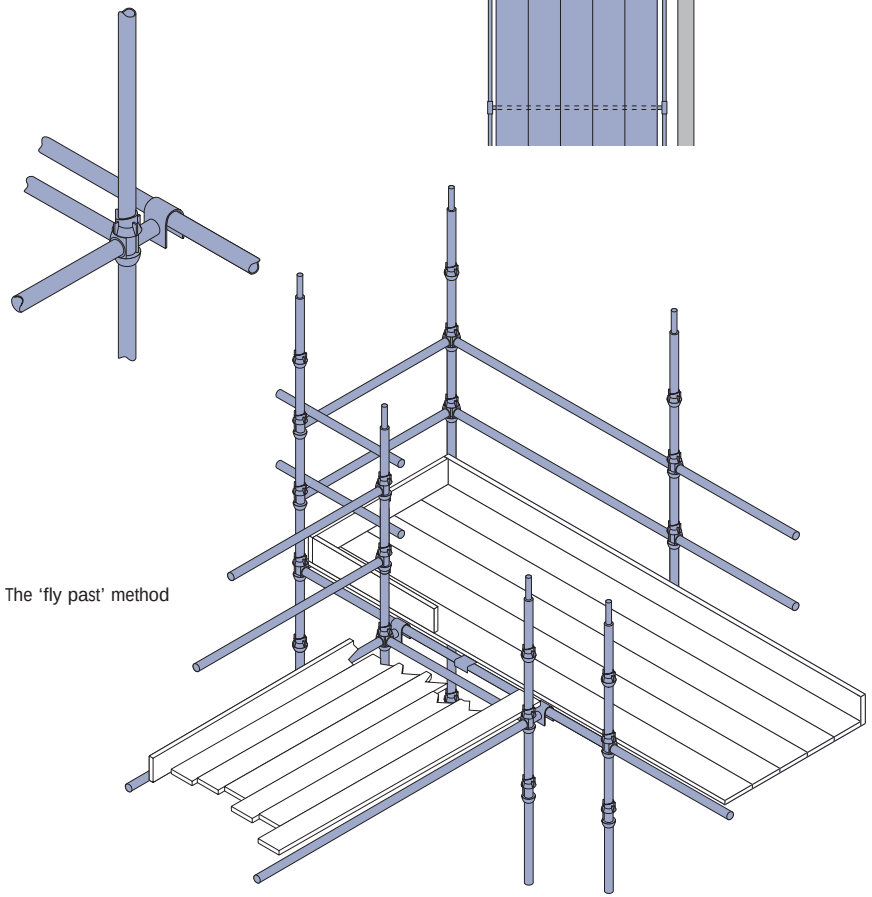
Corner Return using the Return Device

Corners can be made using the Return Device to link the two scaffold runs. It hooks over the ledger of the adjacent return elevation allowing a 'fly past' which eliminates the need for non-standard bays.

Corner Return using a 1.3m square bay

The scaffold can incorporate a 1.3m square bay to form the corner. Note the positioning of the 1.3m Intermediate Transom to allow two runs of scaffold boards to butt together at right angles without overlapping.



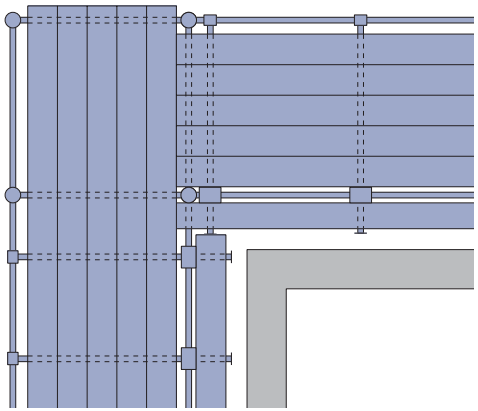


The 'fly past' method

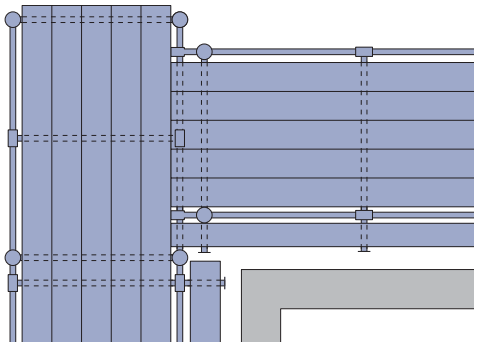
Inside Platforms: One Board

External Corners

Single Inside Board Platforms on CUPLOK Tubular Scaffolds are constructed using the Single Board Support in conjunction with the Inside Board Transom. Either the 1.3m square bay or the standard method using the Return Device can be used. Note the positioning of the inside board transom to allow boards to butt together without overlapping.



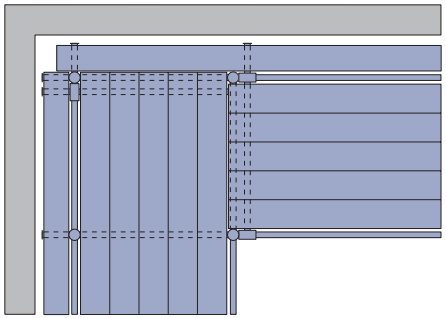
1.3m square bay



Using Return Devices

Internal Corners

The addition of an extra single board support at the corner standard ensures maximum safety when the 2 inside scaffold boards butt together at 90°. An Inside Board Transom must also be used adjacent to the corner standard, as shown.

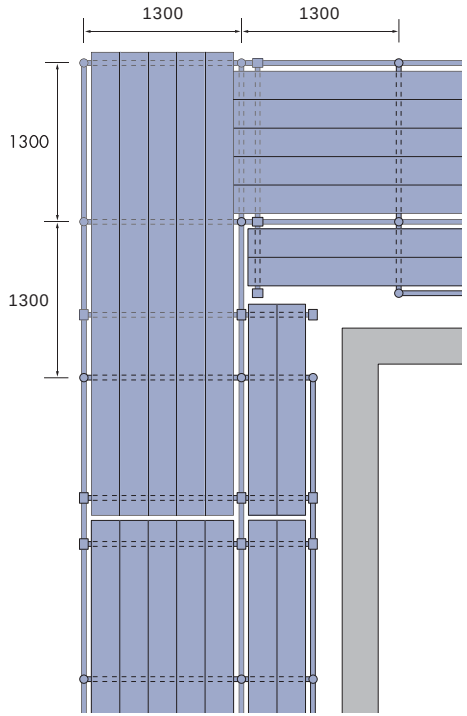


Note

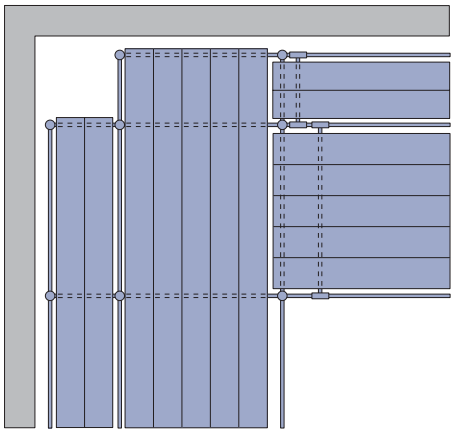
Where required, the small gap between the main and inside platforms can be covered using suitable plywood strips fixed into position.

Inside Platforms: Two and Three Board

Two and three board Inside Platforms are constructed using the appropriate sized Hop-up Brackets. These are linked together with Ledgers to allow the location of the 2 or 3 Board Intermediate Transom which supports the scaffold boards at the required centres. On internal corners, end guardrails above the Hop-up Brackets can be formed using small butts of tube and Double Couplers.



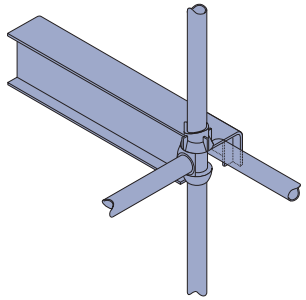
External Corners



Internal Corners

Corner returns

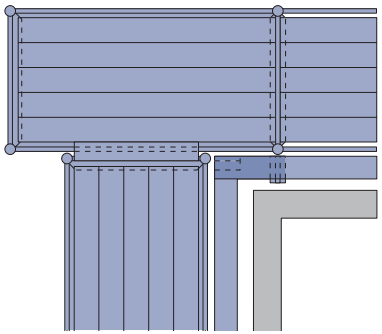
Corner returns using the Omega Batten System can be formed either by using the Omega Return Transom - which locates over the ledger of the adjacent return elevation, or by using a 1.3m square bay in the corner which is constructed using 1.3m Omega Transoms on three sides.



Inside Platforms: 1 Board

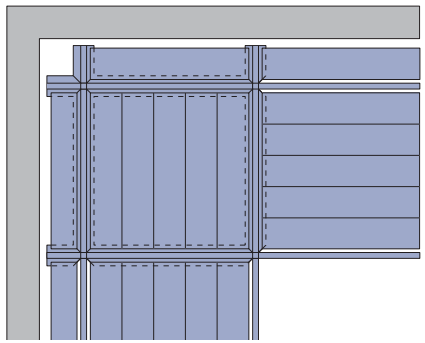
External Corners

Inside board platforms are constructed using the Omega Single Board Support. When constructing the scaffold with the 1.3m square corner bay, note the extra Omega Transom used to accept the inside batten from the return elevation, and the use of the return transom to eliminate the gap when using timber or steel battens. A loose batten is required to cover the remaining gap in the inside board run.



Internal Corners

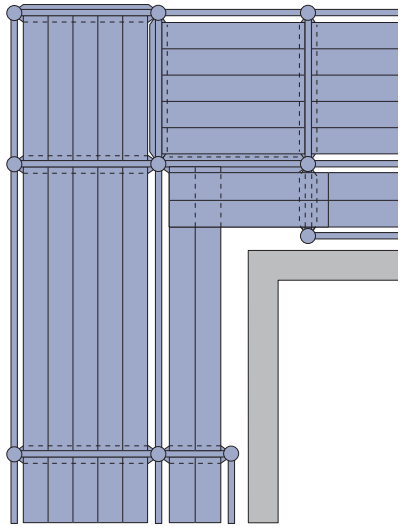
Note the use of the Omega Transoms on all 4 sides of the corner bay.



Inside Platforms: 2 and 3 Board

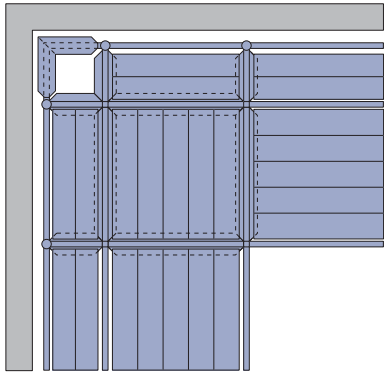
External Corners

Both elevations of scaffolding incorporate a 1.3m square bay at the end which share two common standards. Note the use of the extra Omega Transom in one elevation to receive the inside battens from the return elevation. Two loose battens are required to cover the remaining gap in the inside board run.



Internal Corners

The 1.3m square corner bay is constructed with Omega Transoms on all 4 sides. The Omega Corner Piece (2 or 3 board) is used with cut down timber battens.



Using harnesses with the SGB CUPLOK Omega Batten System

The Omega system varies from traditional boarded structures by allowing the decking to span directly from one transom to the next without needing intermediate support. Omega scaffold structures therefore do not always employ tubular ledgers at platform level. Tubular guardrails are installed in the usual manner.

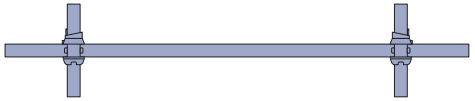
In this application we would recommend the installation of both ledgers at platform level in order to provide the attachment point for a lanyard as described above. If this procedure is followed, then the guidance above can be applied - unless attachment to the transom is not practicable due to its shape.

SAFE WORKING LOADS FOR TUBULAR COMPONENTS

This section gives information on safe working loads, tying arrangements and maximum heights for scaffolds. These values have been thoroughly tested and researched and should always be followed. If you are in any doubt about the design of a CUPLOK structure, contact your SGB Branch.

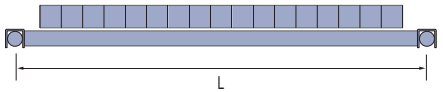
Safe Working Loads for CUPLOK Tubular Components

Component (m)	UDL Load (kN)	Central Point Load (kN)	Third points (2 off) (kN)
1.3 Transom	8.0	4.5	7.5
1.8 ledger	6.37	3.2	4.76
2.5 ledger	6.37	3.2	4.76



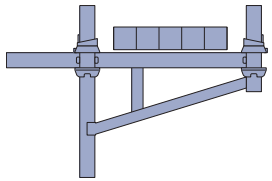
Intermediate Transoms

Length L (mm)	Safe Uniformly Distributed Load (kN)
565	8.5
795	7.1
1200	5.1
1300	4.4
1800	3.6
2500	5.0



Hop-up Brackets (2 and 3 Board)

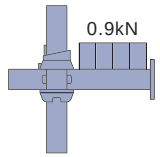
Bracket	Suitable for deck loading of
2 Board	1.5kN/m²
3 Board	0.75kN/m²



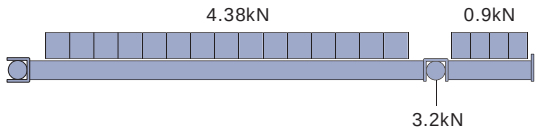
1 Board Inside Board Transom and 1 Board Support

Safe Working Loads uniformly distributed 0.9kN.

These components permit a deck loading of 3.0kN/m² when bays are 2.5m long.



1 Board Support



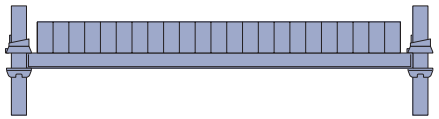
1 Board Inside Transom

Safe Working Loads for CUPLOK Omega Components

1.3m Omega Transom

SWL uniformly distributed = 10.38kN

Equivalent to a deck loading of 3.0kN/m² on a 2.5m bay.



1.8m Omega Transom

SWL uniformly distributed = 7.5kN

2.5m Omega Transom

(heavy duty type)

SWL uniformly distributed = 11.75kN (1.5kN/m²)

2.5m Omega Transom

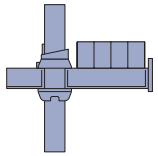
(light duty type) - *obsolete component*

SWL uniformly distributed = 5.40kN (0.75kN/m²)

.

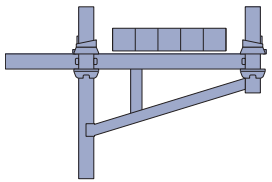
Omega One Board Support

W = 2.0kN - suitable for deck loading of 3.0kN/m² on a 2.5m bay.



Omega Hop-Up Brackets (2 and 3 Board)

Bracket	Suitable for Deck Loading of
2 Board	1.5kN/m²
3 Board	0.75kN/m²

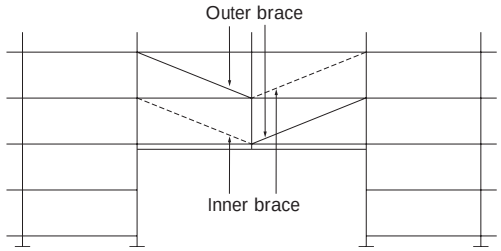


Vehicle openings

To create a two-bay wide opening in a CUPLOK structure for vehicle or other access the following procedure may be adopted.

- Build the scaffold in the normal manner
- Plan-brace the structure above the desired opening level and place face bracing on the inner and outer face as shown below
- Remove the structure below the spanning level

The remainder of the structure can then be erected as shown using standard diagonal bracing.



For larger openings, Bridging Ledgers or SGB COVERSPAN 400 beams should be used to provide a spanning member from which to build the upper section of the scaffold.

Bracing and Tying In

All scaffolds require diagonal face bracing to prevent the structure distorting or swaying.

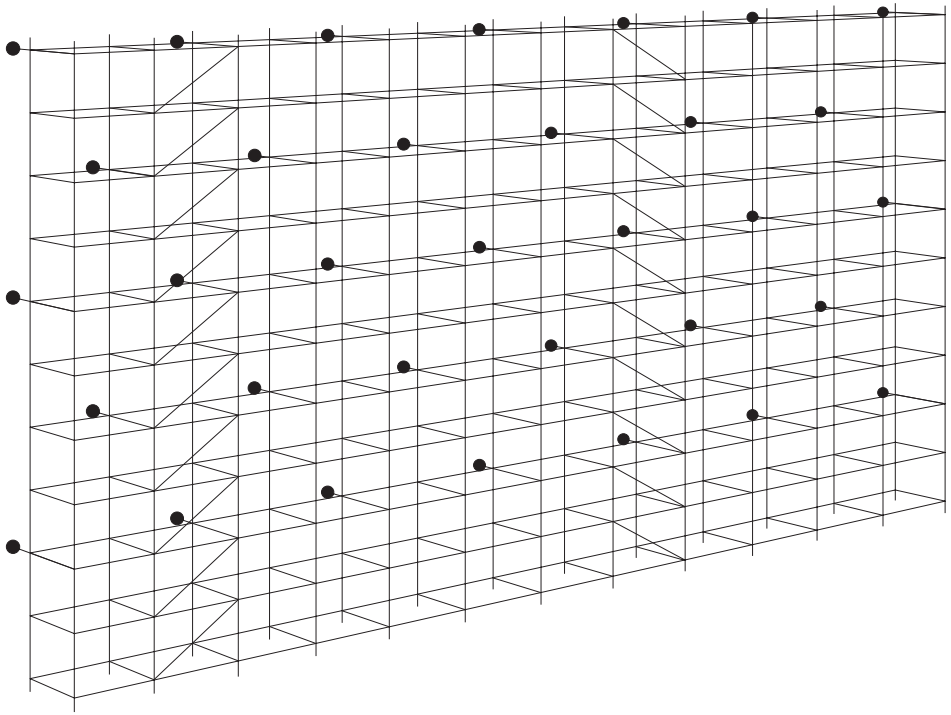
Face Bracing is required in all CUPLOK access structures in one bay per 20m run (i.e. every eighth bay) for the full height of the scaffold.

For a scaffold more than 10m (4 bays) long, a minimum of two bays should be face-braced. Bracing the end bays should be avoided if possible.

Ledger and Plan Bracing

CUPLOK Access structures do not generally require ledger or plan bracing. Exceptions occur where:

- Ties cannot be placed in the correct position
- Where ties have to be removed
- If scaffold structures extend above the building



The maximum height to which a CUPLOK Access Scaffold may be erected is dependent upon a number of factors, the most important of which are:

1. The vertical distance between tied points on a standard.
2. Whether or not foot ties are used - see bracing rules below.
3. The lift height.
4. Wind loading.
5. Whether or not cantilever platforms are used.
6. Number of boarded lifts*.

*Note - where lifts are not boarded it has been assumed the the boards, toe-boards and the Hop-up brackets (where applicable) have been removed but the intermediate transoms have been left in place. In order to comply with safety regulations one continuous ledger **must** be left to form a single guard-rail along the front of the scaffold and across the ends.

The parameters detailed in this manual are based on calculations and the result of extensive testing. These calculations do not apply to sheeted or netted CUPLOK structures, for which the rules relating to bracing, tying-in and load carrying capacity differ.

Bracing and Tying rules

1. To use the data in the following load tables the following rules apply:

Foot Ties

- For 2m lift heights plan bracing is required at a frequency of one bay in eight. Plan bracing should be placed in the face-braced bays. See figure F on page 41. However, for platform heights up to 14m, fully boarded, plan bracing can be omitted.
- For 1.5m lift heights no plan bracing is required.

No Foot Ties

- For 2m lift heights plan bracing is required as well as ledger bracing on all standards in the first lift. See figure G on page 41.
- For 1.5m lift heights no additional bracing is required.

2. Face bracing must be used at a frequency of one bay in every eight. A minimum of two bays must be braced for scaffolds greater than four bays in length.

3. For both 1.5m and 2.0m lift scaffolds, one working lift up to 2 lifts above the last tied level is permitted, but these 2 lifts **must** be ledger braced.

4. For 2m lift heights, whatever tie pattern is used i.e. 8m, 6m or 4m, the standards at both ends of the tied level must be tied to the supporting structure (refer to the pattern diagrams on pages 40 to 41).

5. **Ties must be attached to both inside and outside standards (or ledgers) using Class B Right Angled Couplers. Where it is not possible to do this 'V-Ties' must be used at a frequency of one in five bays for every level of ties.**
See Figure F on page 41.

For further information, please contact your local SGB Branch.

Platform loadings - working lifts

For scaffolds with more than 1 boarded lift, the following loading has been considered for both 2m lift and 1.5 lift structures:
1 working platform @ 3kN/m² and
1 working platform @ 1.5kN/m².
For 1.5m Lift (bricklayer's) scaffolds only, data is given for 1 working platform at 3kN/m².

Where hop-up brackets are used the loading for **both** the main platform and the hop-up bracket is as follows:

1 Board 3kN/m²
2 Board 1.5kN/m²
3 Board 0.75kN/m²

The use of Hop-Up Brackets

The following rules must be applied when either standard board or Omega batten Hop-up Brackets are present:
1. If used as a separate working platform between lifts, then a 3 board Hop-Up Bracket **must** be used.
2. Only one loaded Hop-Up Bracket is permitted between levels at any time.
3. Spigot pins **must** be used at all joints in the standards down to the last tied level below the Hop-Up Bracket.

Wind loading

For 2m Lift (access scaffolds) three maximum wind pressures have been considered:

Case I - 685N/m²
Case II - 475N/m²
Case III - 355N/m²

For 1.5m Lift (bricklayer's scaffolds) lift heights are given for the maximum wind of 685N/m² and no wind loading.

For less onerous cases it may be possible to omit ledger bracing and/or increase the permissible height of the scaffold. For specific cases, please contact your local SGB Branch.

Maximum heights

2m Lifts - 4m Tie Pattern (with plan bracing)

Number of Boarded Lifts*	Number of lifts **loaded**	Live load applied (kN/m²)	Hop-up Brackets	Maximum number of lifts Foot Tie			No Foot tie		
				Case I - 685N	Case II - 475N	Case III - 355N	Case I - 685N	Case II - 475N	Case III - 355N
2	1.5	3.00	None	43	43	43	36	36	36
Fully Boarded	1.5	3.00	None	18	18	18	15	15	15
2	1.5	3.00	1 Board	36	36	36	34	34	34
Fully Boarded	1.5	3.00	1 Board	15	15	15	14	14	14
2	1.5	1.50	2 Board	41	41	41	41	41	41
Fully Boarded	1.5	1.50	2 Board	18	18	18	18	18	18
2	1.5	0.75	3 Board	43	43	45	48	48	48
Fully Boarded	1.5	0.75	3 Board	18	18	19	20	20	20

2m Lifts - 6m Tie Pattern (with plan bracing)

Number of Boarded Lifts*	Number of lifts **loaded**	Live load applied (kN/m²)	Hop-up Brackets	Maximum number of lifts Foot Tie			No Foot tie		
				Case I - 685N	Case II - 475N	Case III - 355N	Case I - 685N	Case II - 475N	Case III - 355N
2	1.5	3.00	None	25	25	25	25	25	25
Fully Boarded	1.5	3.00	None	11	11	11	11	11	11
2	1.5	3.00	1 Board	23	23	23	21	21	21
Fully Boarded	1.5	3.00	1 Board	10	10	10	9	9	9
2	1.5	1.50	2 Board	26	26	26	24	26	26
Fully Boarded	1.5	1.50	2 Board	11	13	13	10	11	11
2	1.5	0.75	3 Board	28	28	28	26	30	30
Fully Boarded	1.5	0.75	3 Board	12	14	14	11	13	13

*Unboarded lifts with single guardrail

MAXIMUM HEIGHTS - CUPLOK ACCESS

2m Lifts - 8m Tie Pattern

Number of Boarded Lifts	Number of lifts loaded	Live load applied (kN/m²)	Hop-up Brackets	Maximum number of lifts Foot Tie			No Foot tie		
				Case I - 685N	Case II - 475N	Case III - 355N	Case I - 685N	Case II - 475N	Case III - 355N
2	1.5	3.00	None	21	25	25	7	16	16
Fully boarded	1.5	3.00	None	9	11	11	4	8	8
2	1.5	3.00	1 Board	18	23	23	-	12	10
Fully boarded	1.5	3.00	1 Board	8	10	10	-	6	6
2	1.5	1.50	2 Board	22	28	28	8	15	17
Fully boarded	1.5	1.50	2 Board	9	12	12	4	7	8
2	1.5	0.75	3 Board	23	32	32	-	-	19
Fully boarded	1.5	0.75	3 Board	10	13	13	-	-	9

1.5m Lifts - 4.5m Tie Pattern

Number of Working lifts +	Number of lifts boarded	Maximum number of lifts allowed Foot tied		No foot tie	
		with wind	without wind	with wind	without wind
1	-	20	20	20	20
1	1	20	20	20	20
1	2	20	20	20	20
2	-	20	20	20	20
2	1	20	20	20	20
2	2	20	20	18	18

1.5m Lifts - 6m Tie Pattern

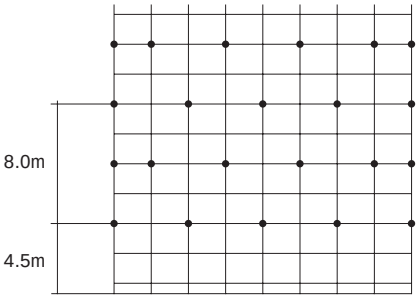
Number of Working lifts +	Number of lifts boarded	Maximum number of lifts allowed Foot tied		No foot tie	
		with wind	without wind	with wind	without wind
1	-	20	20	20	20
1	1	20	20	20	20
1	2	20	20	20	20
2	-	19	20	14	20
2	1	16	20	11	17
2	2	13	20	8	14

For 1.5m lifts the maximum height where hop-up brackets are present is 20 lifts (30m) for both 4.5m and 6.0m tie patterns.

Typical Tie Patterns

A. 2m Lifts - 8m Tie Pattern

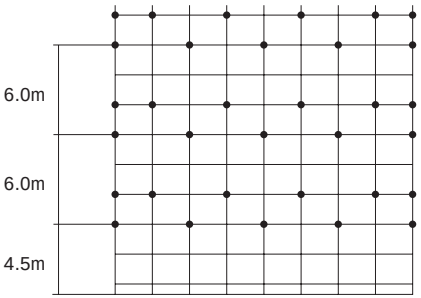
Horizontal spacing - every standard
Vertical spacing - maximum 8.0m



If ties cannot be positioned in the correct place or have to be moved, then bracing has to be used between adjacent ties. If this is done using plan bracing, the maximum horizontal distance between ties is 7.5m. If done using Ledger bracing the maximum vertical distance between ties is 12m.

B. 2m Lifts - 6m Tie Pattern

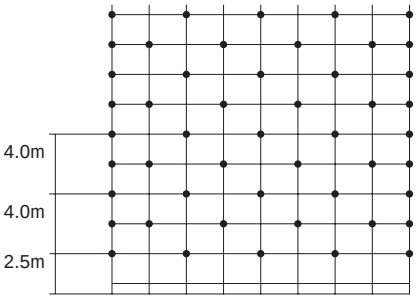
Horizontal spacing - every standard
Vertical spacing - maximum 6.0m



See note for tie pattern A but
Horizontal 7.5m Vertical 10.0m

C. 2.0m Lifts - 4m Tie Pattern

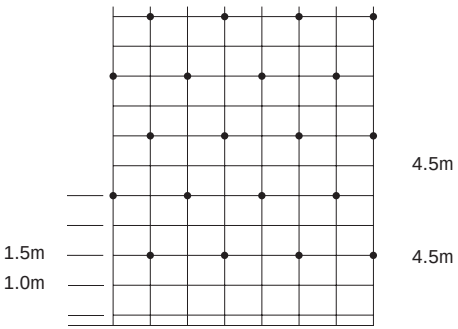
Horizontal spacing - every standard
Vertical spacing - maximum 4.0m



See note for tie pattern A but
Horizontal 7.5m Vertical 8.0m

D. 1.5m Lifts - 4.5m Tie Pattern

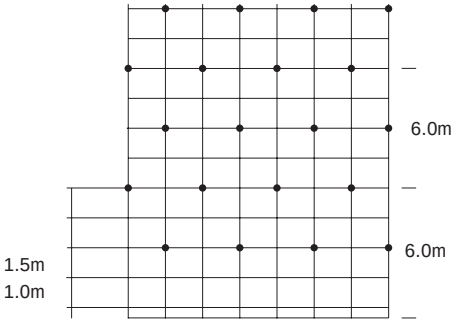
Horizontal spacing - every standard
Vertical spacing - maximum 4.5m



See note for tie pattern A but
Horizontal 7.5m Vertical 9.0m

E. 1.5m Lifts - 6m Tie Pattern

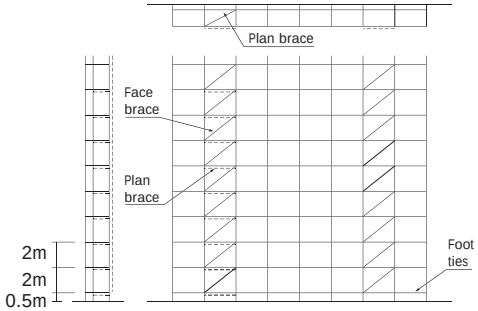
Horizontal spacing - every standard
Vertical spacing - maximum 6.0m



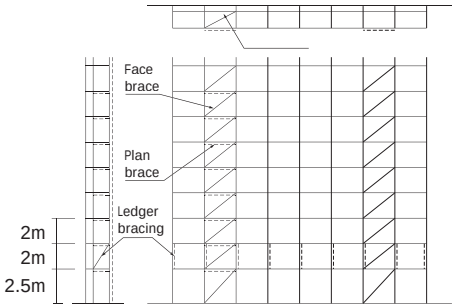
See note for tie pattern A but
Horizontal 7.5m Vertical 9.0m

Bracing arrangements

F. Structures with foot ties - 2.0m lifts with plan and ledger bracing



G. Structures without foot ties - 2.0m lifts with plan and ledger bracing



Plan bracing should be assumed. To remove plan bracing, please refer to your local branch for safety information.

CIRCULAR ACCESS

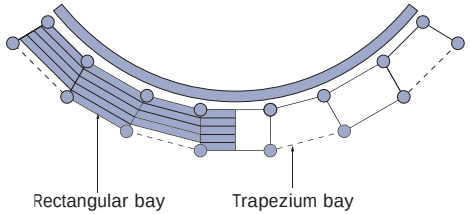
CUPLOK's ability to allow ledgers to lock into the standards from any angle means that the system is ideally suited to curved and circular structures. With simple variations to the normal arrangement of ledgers and transoms, both internal and external curves can be created.

Make-up of a curved scaffold

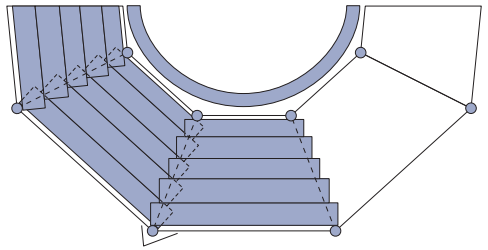
Curved structures are made up by using a combination of rectangular and trapezium shaped bays - depending on the radius of curve required. Trapezium-shaped bays incorporate inside and outside ledgers of different length. Intermediate transoms cannot be used in trapezium sections, therefore these bays should always be constructed using short ledgers to remove the need for additional board support. If larger trapezium bays are inevitable, thicker boards should be used.

A curved CUPLOK structure can be constructed in two ways:

A Using a combination of rectangular and trapezium shaped bays



B Using only trapezium shaped bays



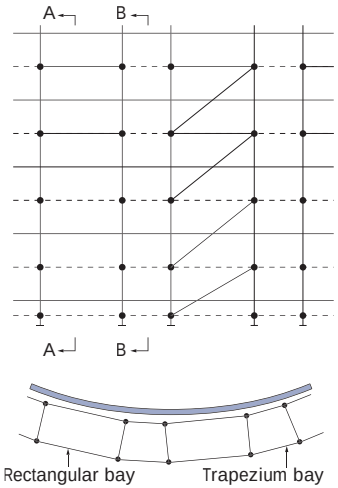
All trapezium bays

Layout of ledgers and transoms

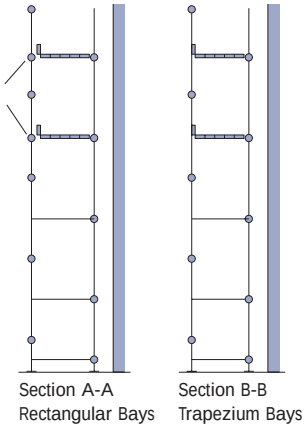
As no two ledgers or transoms can be fitted into the same cup at less than 90° to each other, on curved structures the inside ledgers, outside ledgers and transoms cannot all be situated at the same level.

On external scaffolds it is quite simple to locate the outside run of ledgers above the deck level to form the handrails (see diagram). On internal scaffolds, the most convenient method is to move the inner ledgers down by 0.5m in alternate bays (see diagram on page 44).

CUPLOK Circular Scaffolds outside the structure

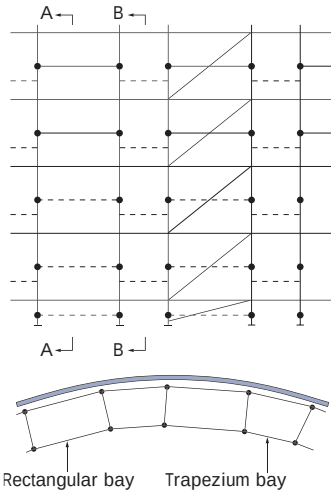


These ledgers are only required on rectangular bays at a working platform level to provide support from an intermediate transom where 38mm boards are used.

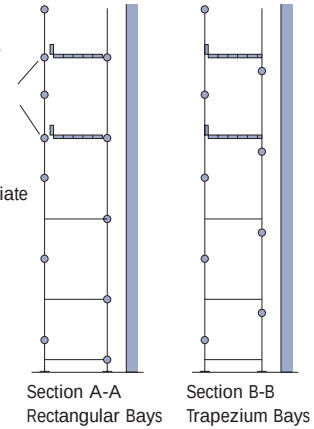


Note: The elevation shows a Type 'A' structure. Type 'B' structures have all Trapezium Bays and Section 'B-B' applies throughout.

CUPLOK Circular Scaffolds inside the structure



These ledgers are only required on rectangular bays at a working platform level to provide support from an intermediate transom where 38mm boards are used.



Note: The elevation shows a Type 'A' structure. Type 'B' structures have all Trapezium Bays and Section 'B-B' applies throughout.

Decking on Circular Structures

The work platform can be created using scaffold boards or battens. If battens are used in the trapezium bays they must be accurately cut to fit without any movement. 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 should be nailed across the ends of the overlapping boards to prevent a trip hazard.

Tying in

When tying in circular CUPLOK structures, care should be taken to note the following points:

- Ties should be within 300mm of a node point, either on the ledgers or the standards.
- Ties should connect to both the inside and the outside ledgers (or standards). If ties are only connected to an inside ledger or standard, then plan braces should be put in at every tied level in the same bays as the face bracing.
- If ties have to be removed for any reason, plan bracing or ledger bracing should be inserted at that point.

Scaffolds should not extend more than 2 lifts above the ground or above the last tied level, unless the scaffold is under construction when 3 lifts are allowed.

If the working platform of a bricklayer's scaffold is 2 lifts above the last tie, ledger bracing should be used in the 2 lifts below the platform. This may be removed when further ties have been positioned.

Face bracing

Face bracing is required over the full height for one bay in every four.

Special cases

Every effort should be made to comply with the rules for ties. However, when it is not possible to secure the tie to the structure, the following rules must be obeyed. Refer all special cases to your local SGB Branch.

- Firmly butt tie tubes to the structure using an adjustable base in the end of the tube to spread the load.
- Plan brace every tied level around the complete ring of the scaffold, making sure to put the plan braces in one complete lift at a time.

LOADING PLATFORMS

The CUPLOK loading tower is a specially strengthened platform designed to take heavy, palletised materials which can be fork-lifted or craned directly to the working platform level.

The standard loading tower is a 2.5 x 2.5m square module, and can be erected either as a free standing unit or built in to any part of the main scaffold structure up to 6m high. For use with scaffolds higher than 6m, the loading tower must be tied into the scaffold. It is built from standard CUPLOK access equipment with two additional components:

Board Bearer

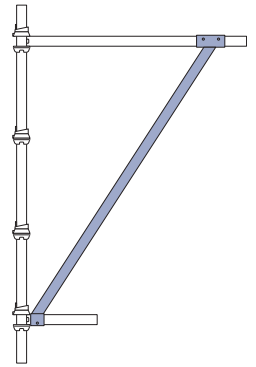
Eight of these 2.5m long special horizontals are used beneath the boards to transmit the working load to the ledgers.

Code	Weight (kg)	Length (m)
279040	17.3	2.572

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	Weight (kg)	Length (m)
279260	8.23	1.860



Bracing

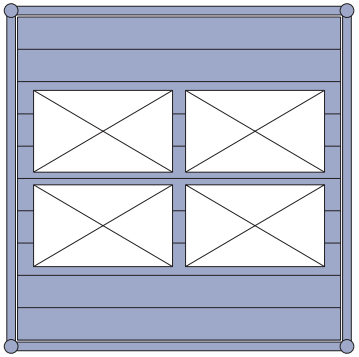
The tower should be braced on every lift on all four sides of the tower.

Decking

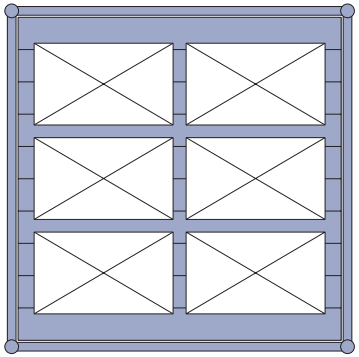
Standard scaffold boards should be used for the loading tower decking, cut to lengths of 2.43m. These rest across the eight board bearers. Toeboards can then be located as appropriate. These should also be cut to length to avoid overhangs from the platform. Each deck consists of 10 No. 2.43m boards.

Loading

The loading tower has been designed to take a load of up to 49.5kN (4.95 tonnes).
Pallets may be placed as shown below.



Four No. 10kN (1 Tonne) pallets



Six No. 8.25kN (0.825 Tonne) pallets

Lift Make-up

The working platform height dictates the design of the tower structure. Lift increments of 1.0, 1.5 or 2m can be employed. The top lift must be 1.5m to accommodate the Knee Brace.

The table below shows the lift make-up for a range of platform heights.

CUPLOK schedule of components & make-up of loading towers

	Nominal platform height (using minimum Base Jack Extension)										
Components	3.2m	3.7m	4.2m	4.7m	5.2m	5.7m	6.2m	6.7m	7.2m	7.5m	Code no:
2m verticals	4	4	-	-	8	8	4	4	-	-	270200
3m verticals	4	4	8	8	4	4	8	8	12	12	270300
2.5m x 2m face brace	-	4	-	-	4	8	-	4	8	12	276205
2.5m horizontals	18	18	22	22	22	22	26	26	26	26	271250
Knee braces	4	4	4	4	4	4	4	4	4	4	279260
Adjustable base	4	4	4	4	4	4	4	4	4	4	279555
Board bearers	8	8	8	8	8	8	8	8	8	8	279040
Spigot pins	4	4	4	4	4	4	4	4	4	4	279340
Toe board clip	4	4	4	4	4	4	4	4	4	4	279200
2.434 scaffold boards	10	10	10	10	10	10	10	10	10	10	
2.5m x 2.5m plan brace	2	2	2	2	2	2	2	2	2	2	

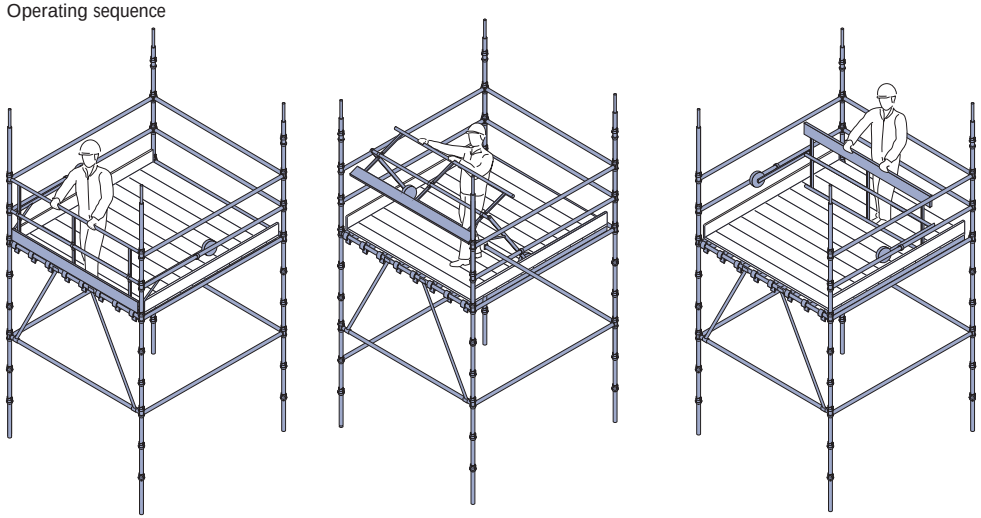
Loading Tower Gate

In order to provide protection for scaffold users during the loading of materials onto the loading tower, the CUPLOK Loading Tower gate should be used.

This system uses an up-and-over mechanism to provide a continuous guardrail before, during and after loading, ensuring that the operator is protected at all times.

Code	Component	Weight (kg)
279447	Loading Gate	60
142340	Gate arms (2 required)	18 each

Operating sequence



STAIRCASE TOWERS

CUPLOK staircase towers provide a safe, user-friendly solution and are quick and simple to erect. Additionally, by speeding the circulation of staff, staircase towers generate significant time savings for everyone on site.

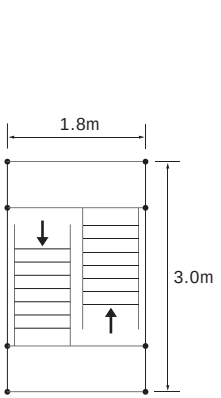
There are four basic staircase options in the CUPLOK range; from simple, compact units to high capacity, full public access models. All use the basic CUPLOK system to provide the main structure - with a small number of additional staircase components, including a choice of steel and aluminium stair units.

The CUPLOK staircase tower offers a stable, rigid structure designed with a key emphasis on user safety.

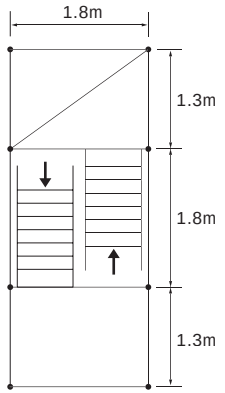
- Broad landing platforms with steel or timber battens
- Full hand railing to stairs and landings with double guardrails
- Stairways are rigid and provide firm, non-slip treads to ensure maximum security for users
- The removal of potentially hazardous deck openings normally created by ladder access

Staircase sizes

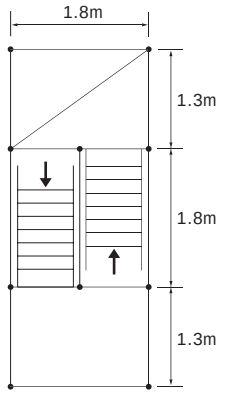
CUPLOK staircase towers are based on three plan layouts, using 4, 8 or 10 leg tower structures. Staircase flights are available in steel, aluminium and modular form - (separate stringer and tread units), for maximum flexibility. Each staircase type comes in 1.5m or 2m lifts. Different lift sizes may be combined in the same tower to suit platform levels.



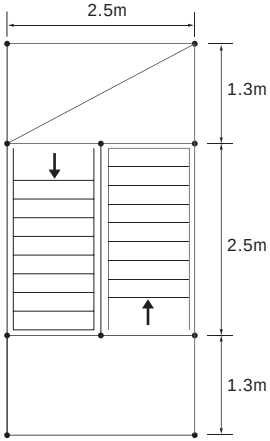
4 Leg Staircase Tower



8 Leg Staircase Tower



10 Leg Staircase Tower

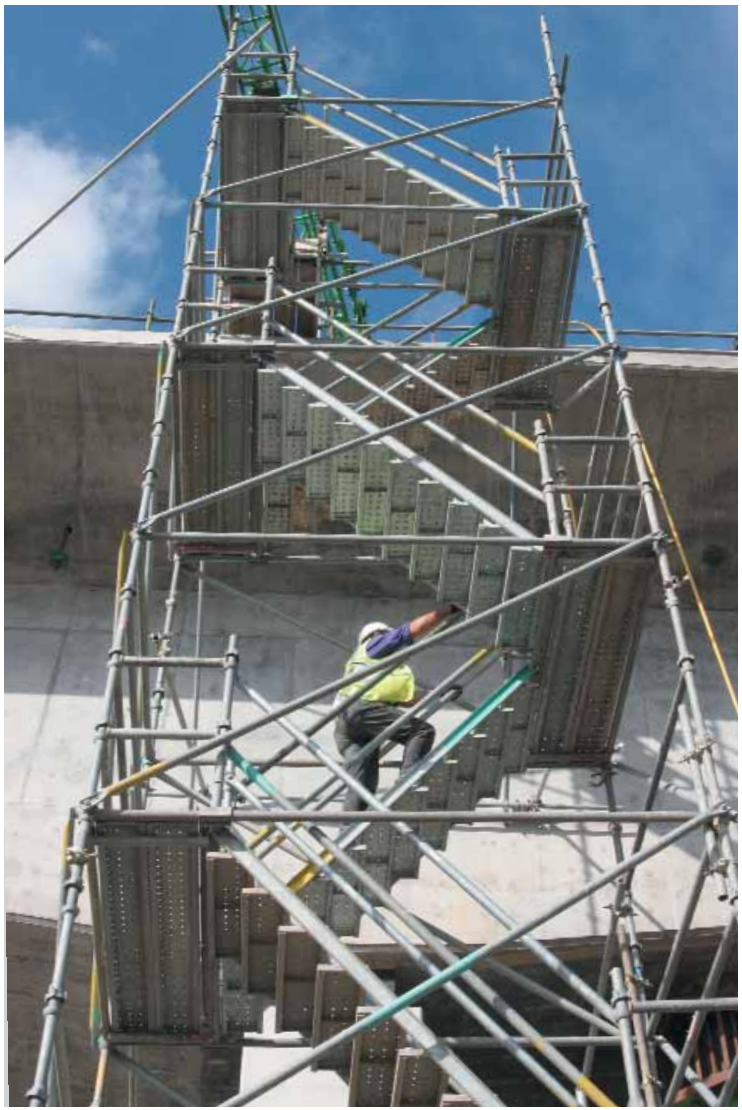


10 Leg Public Access and Heavy Duty Site Applications

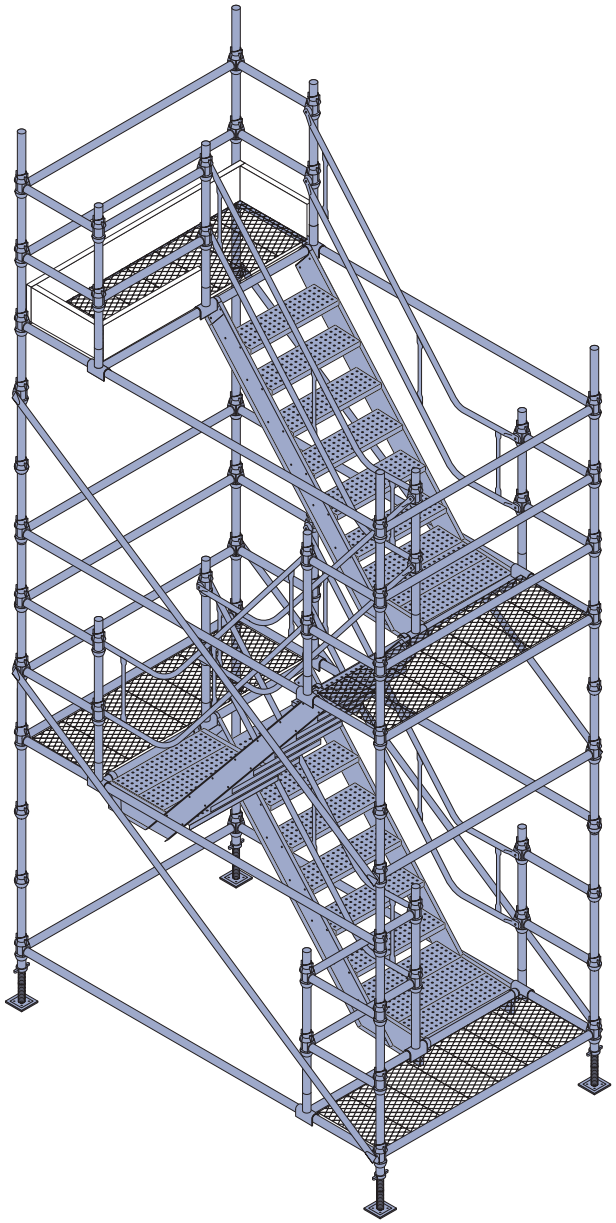
4-Leg Staircase Tower

Plan area: 1.8m x 3m

The 4 leg stair 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. It can be built in lift heights of 1.5 or 2m using either aluminium or steel stair units.



4 Leg Staircase Tower shown using 1.5m staircase units



CUPLOK 4 LEG STAIRCASE (1.8M WIDE) QUANTITY LIST

Product code	Description	Unit weight (kg)	1.5m	2.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m	7.5m	8.0m	9.0m	10m	11m	12m	13m	14m	15m	16m	17m	18m
	Standard CUPLOK																							
270200	Vertical 2m CW SPIGOT-CUPLOK	11.16		2	4	2	2	2	4	4	4	2		2	4	2	2	4	2	2	4	2	2	4
270300	Vertical 3m CW SPIGOT-CUPLOK	16.46	4	4	4	6	6	8	8	8	8	10	12	12	12	14	16	16	18	20	20	22	24	24
271060	Horizontal 0.6m CUPLOK	2.41	8	8	12	12	16	16	16	16	20	20	20	20	24	24	28	28	32	32	36	36	40	40
271090	Horizontal 0.9m CUPLOK	3.73	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
271180	Horizontal 1.8m CUPLOK	6.89	8	8	12	12	16	16	16	16	20	20	20	20	24	24	28	28	32	32	36	36	40	40
271300	Horizontal 3m CUPLOK	11.48	4	4	6	6	8	8	8	8	10	10	10	10	12	12	14	14	16	16	18	18	20	20
276150	Face Brace 1.5 x 1.8m CUPLOK	8.70	2		2		6	4	2		6	4	2		4		4		4		4		4	
276180	Face Brace 1.8 x 2m CUPLOK	10.97		6	6	12		6	12	18	6	12	18	24	18	30	24	36	30	42	36	48	42	54
276207	Face Brace 2 x 3m CUPLOK	14.55	2	2	4	4	6	6	6	6	8	8	8	8	10	10	12	12	14	14	16	16	18	18
110490	CUPLOK spigot pin galv	0.09		2	4	4	4	6	8	8	8	8	8	10	12	12	14	16	16	18	20	20	22	24
279500	Base and head plate CUPLOK	2.22	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
279550	Jack 0.86 for 0.5m CUPLOK	3.86	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	2.0m Staircase Units																							
279420	Staircase 2 x 0.8m CUPLOK*	73.12		1	1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
279419	Staircase 2 x 0.8m CUPLOK Bolted Aluminium (optional)**	30.00		1	1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
	1.5m Staircase Units																							
279400	Staircase 1.5m CUPLOK**	54.88	1		1		3	2	1		3	2	1		2		2		2		2		2	
279418	Staircase 1.5m CUPLOK Bolted Aluminium (optional)*	28.00	1		1		3	2	1		3	2	1		2		2		2		2		2	
	1.5m Staircase Handrails																							
279404	Handrail Left hand (optional)*	14.20	1		1		3	2	1		3	2	1		2		2		2		2		2	
279403	Handrail Right hand (optional)*	14.20	1		1		3	2	1		3	2	1		2		2		2		2		2	
	4 leg Staircase Components																							
274517	Steel batten 1.8m CUPLOK**	12.96	4	4	6	6	8	8	8	8	10	10	10	10	12	12	14	14	16	16	18	18	20	20
279244	Handrail post and spigot CUPLOK	4.76	6	6	9	9	12	12	12	12	15	15	15	15	18	18	21	21	24	24	27	27	30	30
279393	Staircase batten bearer CUPLOK**	3.02	4	4	6	6	8	8	8	8	10	10	10	10	12	12	14	14	16	16	18	18	20	20
279394	Staircase transom CUPLOK**	14.61	2	2	3	3	4	4	4	4	5	5	5	5	6	6	7	7	8	8	9	9	10	10
279417	Mesh landing platform*	31.00	2	2	3	3	4	4	4	4	5	5	5	5	6	6	7	7	8	8	9	9	10	10
	Other components																							
002102	Scaffold - superboard 0.6m (2ft)	3.50	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
002103	Scaffold - superboard 0.9m (3ft)	5.00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
002107	Scaffold - superboard 2.1m (7ft)	11.00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
004100	DH putlog coupler	0.96	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
008400	Guardboard clips 38mm ZCCP	0.23	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Total structural weight (kg)			474	563	808	885	974	1074	1163	1230	1319	1396	1474	1563	1741	1885	2074	2230	2396	2562	2741	2884	3073	3229
Total structure weight (kg) (mesh landing unit)			414	504	719	796	855	955	1044	1111	1170	1247	1324	1414	1562	1706	1865	2021	2157	2324	2472	2616	2775	2931
Total structure weight (kg) (bolted aluminium staircase)			476	555	801	869	979	1004	1149	1206	1251	1383	1451	1530	1720	1844	2044	2181	2358	2505	2695	2819	3019	3156
Total structure weight (kg) (bolted aluminium staircase and mesh landing unit)			416	495	712	780	860	885	1029	1086	1101	1234	1302	1381	1541	1665	1835	1972	2120	2267	2426	2551	2721	2858

Note Check data sheets for loading and tie information.
* Optional items are included in weight calculation.
** If using optional items remove the standard equivalent.

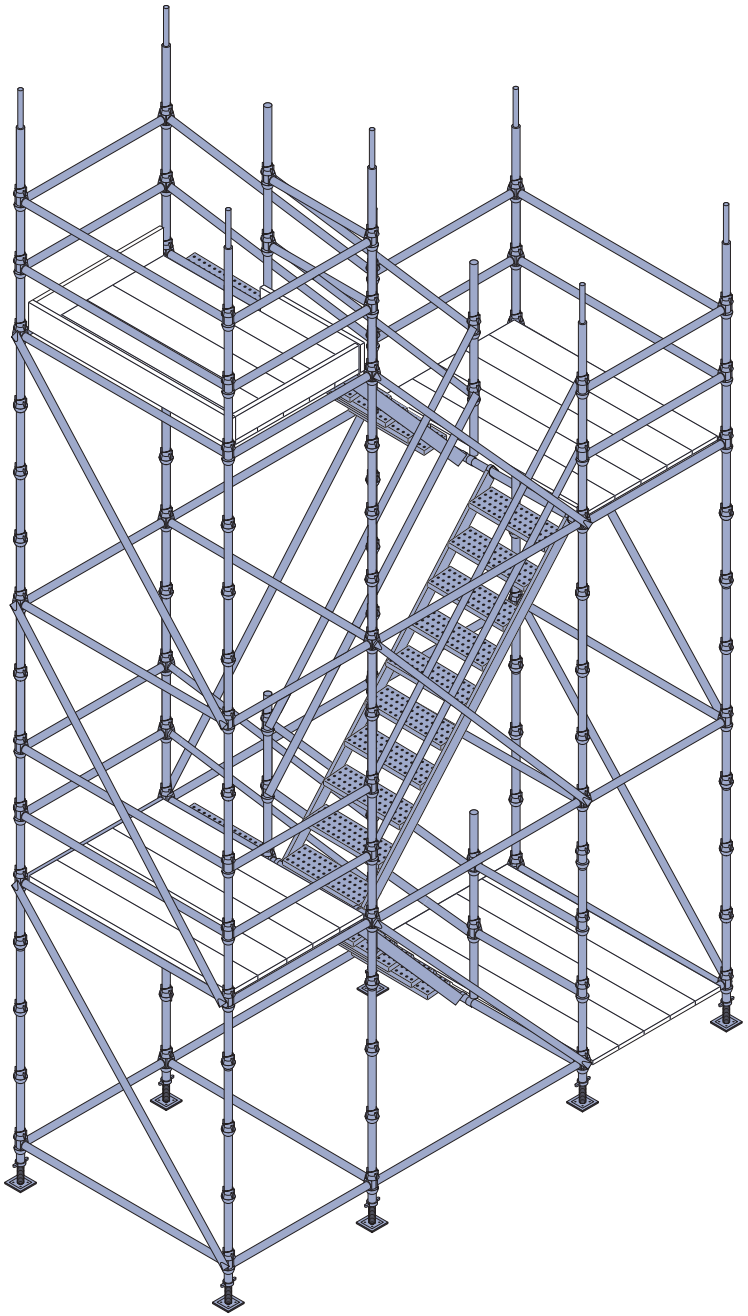
8 Leg Staircase Tower

Plan area: 1.8m x 4.4m

This larger configuration can be built to a height of 38m, subject to ties and loadings. Landing platforms are 1.3m wide and the staircase is 0.8m wide. It can be built in lift heights of 1.5 or 2m and using either aluminium or steel stair units.

The plan module is 4.4m long overall, incorporating a centre bay of 1.8m and two 1.3m landing modules at either end. Omega transoms are used in conjunction with timber or steel battens to form the landing platforms. The width of the tower is 1.8m. Exit from the tower at upper levels is made from the top landing platform by removing the appropriate guardrail.

8 Leg Staircase Tower shown using 2.0m staircase units



CUPLOK 8 LEG STAIRCASE (1.8M WIDE) QUANTITY LIST

Product code	Description	Unit weight (kg)	1.5m	2.0m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m	7.5m	8.0m	9.0m	10m	11m	12m	13m	14m	15m	16m	17m	18m
	Standard CUPLOK																								
270200	Vertical 2m CW SPIGOT-CUPLOK	11.16		4	8	8	4	4	4	8	8	8	4		4	8	4	4	8	4	4	8	4	4	8
270300	Vertical 3m CW SPIGOT-CUPLOK	16.46	8	8	8	8	12	12	16	16	16	16	20	24	24	24	28	32	32	36	40	40	44	48	48
271090	Horizontal 0.9m CUPLOK	3.73	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
271130	Horizontal 1.3m CUPLOK	4.82	8	8	12	12	12	16	16	16	16	20	20	20	20	24	24	28	28	32	32	36	36	40	40
271180	Horizontal 1.8m CUPLOK	6.89	16	16	24	24	24	32	32	32	32	40	40	40	40	48	48	56	56	64	64	72	72	80	80
276150	Face Brace 1.5 x 1.8m CUPLOK	8.70	4		8	4		12	8	4		12	8	4		8		8		8		8		8	
276180	Face Brace 1.8 x 2m CUPLOK	10.97		8		8	16		8	16	24	8	16	24	32	24	40	32	48	40	56	48	64	56	72
279500	Base and head plate CUPLOK	2.22	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
279550	Jack 0.86 for 0.5m CUPLOK	3.86	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
279380	Staircase guardpost CUPLOK	7.20	2	2	3	3	3	4	4	4	4	5	5	5	5	6	6	7	7	8	8	9	9	10	10
110490	CUPLOK spigot pin galv	0.09		4	8	8	8	8	12	16	16	16	16	16	20	24	24	28	32	32	36	40	40	44	48
	CUPLOK Omega																								
274517	Steel batten 1.8m CUPLOK	12.96	10	10	15	15	15	20	20	20	20	25	25	25	25	30	30	35	35	40	40	45	45	50	50
275130	Omega transom 1.3m CUPLOK	6.63	8	8	12	12	12	16	16	16	16	20	20	20	20	24	24	28	28	32	32	36	36	40	40
	2.0 Staircase Units																								
279420	Staircase 2 x 0.8m CUPLOK**	73.12		1		1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
279419	Staircase 2 x 0.8m CUPLOK bolted aluminium (optional)*	30.00		1		1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
	1.5 Staircase Units																								
279400	Staircase 1.5m CUPLOK**	54.88	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
279418	Staircase 1.5m CUPLOK bolted aluminium (optional)*	28.00	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
	1.5 Staircase Handrails																								
279404	Handrail left hand (optional)*	14.20	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
279403	Handrail right hand (optional)*	14.20	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
	Other components																								
002103	Scaffold superboard 0.9m (3ft)	5.00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
002105	Scaffold superboard 1.5m (5ft)	8.00	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
002107	Scaffold superboard 2.1m (7ft)	11.00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
004100	DH putlog coupler	0.96	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
008400	Guardboard clips 38mm ZCCP	0.23	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Total structural weight (kg) (standard components excluding 1.5m handrails)			665	782	1018	1089	1182	1302	1439	1555	1627	1747	1839	1932	2048	2284	2448	2705	2893	3105	3314	3550	3714	3972	4159
Total structure weight (kg) (bolted staircase components)			667	738	1021	1048	1095	1306	1399	1471	1497	1708	1756	1804	1875	2158	2232	2536	2634	2893	3012	3295	3369	3673	3771

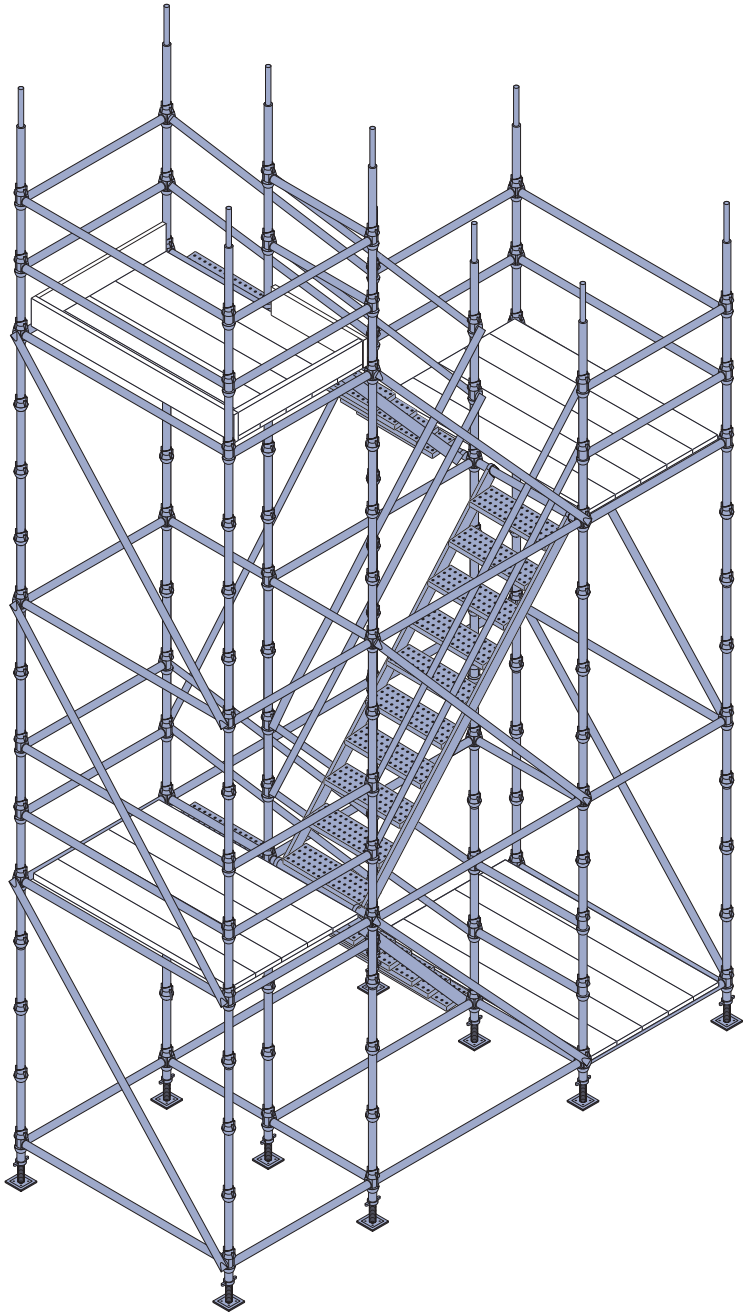
Note Check data sheets for loading and tie information.
* Optional items are included in weight calculation.
** If using optional items remove the standard equivalent.

10 Leg Staircase Tower

Plan area: 1.8m x 4.4m

Suitable for heights up to 53m and heavier loading requirements, this staircase is similar in layout to the 8 legged tower, but incorporates two additional central standards at the inside ends of the staircase flights. Landing platforms are 1.3m wide, the staircase is 0.8m wide. It can be built in lift heights of 1.5 or 2m and using either aluminium or steel stair units.

10 Leg Staircase Tower shown using 2.0m staircase units



CUPLOK 10 LEG STAIRCASE (1.8M WIDE) QUANTITY LIST

Product code	Description	Unit weight (kg)	1.5m	2.0m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m	7.5m	8.0m	9.0m	10m	11m	12m	13m	14m	15m	16m	17m	18m
	Standard CUPLOK																								
270200	Vertical 2m CW SPIGOT-CUPLOK	11.16		5	10	10	5	5	5	10	10	10	5	30	5	10	5	5	10	5	5	10	5	5	10
270300	Vertical 3m CW SPIGOT-CUPLOK	16.46	10	10	10	10	15	15	20	20	20	20	25	24	30	30	35	40	40	45	50	50	55	60	60
271090	Horizontal 0.9m CUPLOK	3.73	12	12	16	16	16	20	20	20	20	24	24	20	24	28	28	32	32	36	36	40	40	44	44
271130	Horizontal 1.3m CUPLOK	4.82	8	8	12	12	12	16	16	16	16	20	20	35	20	24	24	28	28	32	32	36	36	40	40
271180	Horizontal 1.8m CUPLOK	6.89	14	14	21	21	21	28	28	28	28	35	35	10	35	42	42	49	49	56	56	63	63	70	70
279500	Base and head plate CUPLOK	2.22	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
279550	Jack 0.86 for 0.5m CUPLOK	3.86	10	10	10	10	10	10	10	10	10	10	10	4	10	10	10	10	10	10	10	10	10	10	10
276150	Face brace 1.5 x 1.8m CUPLOK	8.70	4		8	4		12	8	4		12	8	24		8		8		8		8		8	
276180	Face brace 1.8 x 2m CUPLOK	10.97		8		8	16		8	16	24	8	16	20	32	24	40	32	48	40	56	48	64	56	72
110490	CUPLOK spigot pin galv	0.09		5	10	10	10	10	15	20	20	20	20		25	30	30	35	40	40	45	50	50	55	60
	CUPLOK Omega																								
274517	Steel batten 1.8m CUPLOK	12.96	10	10	15	15	15	20	20	20	20	25	25	25	25	30	30	35	35	40	40	45	45	50	50
275130	Omega transom 1.3m CUPLOK	6.63	8	8	12	12	12	16	16	16	16	20	20	20	20	24	24	28	28	32	32	36	36	40	40
	2.0 Staircase Units																								
279420	Staircase 2 x 0.8m CUPLOK steel**	73.12		1		1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
279419	Staircase 2 x 0.8m CUPLOK bolted aluminium (optional)*	30.00		1		1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
279400	Staircase 1.5m CUPLOK** steel	54.88	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
279418	Staircase 1.5m CUPLOK bolted aluminium (optional)*	28.00	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
	1.5 Staircase Handrails																								
279404	Handrail left hand (optional)*	14.20	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
279403	Handrail right hand (optional)*	14.20	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
	Other components																								
002103	Scaffold superboard 0.9m (3ft)	5.00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
002105	Scaffold superboard 1.5m (5ft)	8.00	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
002107	Scaffold superboard 2.1m (7ft)	11.00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
004100	DH putlog coupler	0.96	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
008400	Guardboard clips 38mm ZCCP	0.23	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Total structural weight (kg) (standard components excluding 1.5m handrails)			712	840	1088	1159	1257	1378	1532	1659	1731	1852	1949	2047	2174	2423	2592	2867	3065	3284	3509	3758	3927	4202	4400
Total structure weight (kg) (bolted staircase components)			714	796	1091	1118	1171	1383	1492	1575	1601	1813	1866	1919	2002	2297	2376	2697	2807	3072	3207	3502	3582	3903	4012

Note Check data sheets for loading and tie information.
* Optional items (shaded) are included in weight calculation.
** If using optional items remove the standard equivalent.

CUPLOK 10 LEG STAIRCASE (2.5M WIDE) QUANTITY LIST

Product code	Description	Unit weight (kg)	1.5m	2.0m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m	7.5m	8.0m	9.0m	10m	11m	12m	13m	14m	15m	16m	17m	18m
	Standard CUPLOK																								
270200	Vertical 2m CW SPIGOT-CUPLOK	11.16		5	10	10	5	5	5	10	10	10	5		5	10	5	5	10	5	5	10	5	5	10
270300	Vertical 3m CW SPIGOT-CUPLOK	16.46	10	10	10	10	15	15	20	20	20	20	25	30	30	30	35	40	40	45	50	50	55	60	60
271127	Horizontal 1.25m CUPLOK	4.76	12	12	16	16	16	20	20	20	20	24	24	24	24	28	28	32	32	36	36	40	40	44	44
271130	Horizontal 1.3m CUPLOK	4.86	8	8	12	12	12	16	16	16	16	20	20	20	20	24	24	28	28	32	32	36	36	40	40
271250	Horizontal 2.5m CUPLOK	9.48	14	14	21	21	21	28	28	28	28	35	35	35	35	42	42	49	49	56	56	63	63	70	70
279500	Base and head plate CUPLOK	2.22	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
279550	Jack 0.86 for 0.5m CUPLOK	3.86	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
276153	Face brace 1.5 x 2.5m CUPLOK	10.70	4		8	4		12	8	4		12	8	4		8		8		8		8		8	
276203	Face brace 2 x 2.5m CUPLOK	12.90		8		8	16		8	16	24	8	16	24	32	24	40	32	48	40	56	48	64	56	72
110490	CUPLOK spigot pin galv	0.09		5	10	10	10	10	15	20	20	20	20	20	25	30	30	35	40	40	45	50	50	55	60
	CUPLOK Omega																								
274525	Steel batten 2.5m CUPLOK	17.46	10	10	15	15	15	20	20	20	20	25	25	25	25	30	30	35	35	40	40	45	45	50	50
275130	Omega transom 1.3m CUPLOK	6.63	8	8	12	12	12	16	16	16	16	20	20	20	20	24	24	28	28	32	32	36	36	40	40
	2.0 Staircase Units																								
279370	Staircase 2.0m Pubaac Alum**	75.29		1		1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
279398	Steel staircase																								
	2.0m x 2.5m x 1.06m	125.08		1		1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
279791	Mod stair left hand stile assembly																								
	2.0m x 2.5m (optional)*	31.87		1		1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
279790	Mod stair right hand stile assembly																								
	2.0m x 2.5m (optional)*	31.87		1		1	2		1	2	3	1	2	3	4	3	5	4	6	5	7	6	8	7	9
279795	Mod treads steel 1.04m (optional)*	6.00		10		10	20		10	20	30	10	20	30	40	30	50	40	60	50	70	60	80	70	90
	1.5 Staircase Units																								
279369	Staircase unit 1.5m Pubacc Alum**	67.13	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
279797	Mod stair left hand stile																								
	assembly 1.5m x 2.5m (optional)*	29.30	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
279796	Mod stair right hand stile																								
	assembly 1.5m x 2.5m (optional)*	29.30	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
279795	Mod treads steel 1.04m (optional)*	6.00	10		20	10		30	20	10		30	20	10		20		20		20		20		20	
	1.5 Staircase Handrails																								
278807	Handrail - left hand (optional)*	17.40	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
279806	Handrail - right hand (optional)*	17.40	1		2	1		3	2	1		3	2	1		2		2		2		2		2	
	Other components																								
002105	Scaffold superboard 1.5m (5ft)	8.00	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
002110	Scaffold superboard 3.1m (10ft)	11.00	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
004100	DH putlog coupler	0.96	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
008400	Guardboard clips 38mm ZCCP	0.23	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Total Structure Weight (kg) (Standard Components)			829	954	1270	1339	1434	1625	1777	1902	1970	2162	2257	2352	2477	2793	2956	3299	3493	3779	3999	4315	4479	4822	5015
Total Structure Weight (kg) (Modular Staircase Components)			916	1003	1443	1474	1531	1884	1998	2085	2115	2469	2526	2583	2670	3111	3199	3666	3783	4194	4338	4779	4867	5333	5451
Total Structure Weight (kg)																									
(Steel 2.0m x 2.5m x 1.06m Staircase)			829	1004	1270	1389	1534	1625	1827	2001	2120	2211	2356	2501	2676	2942	3205	3498	3791	4028	4348	4614	4877	5170	5463

Note Check data sheets for loading and tie information.
* Optional items are included in weight calculation.
** If using optional items remove the standard equivalent.

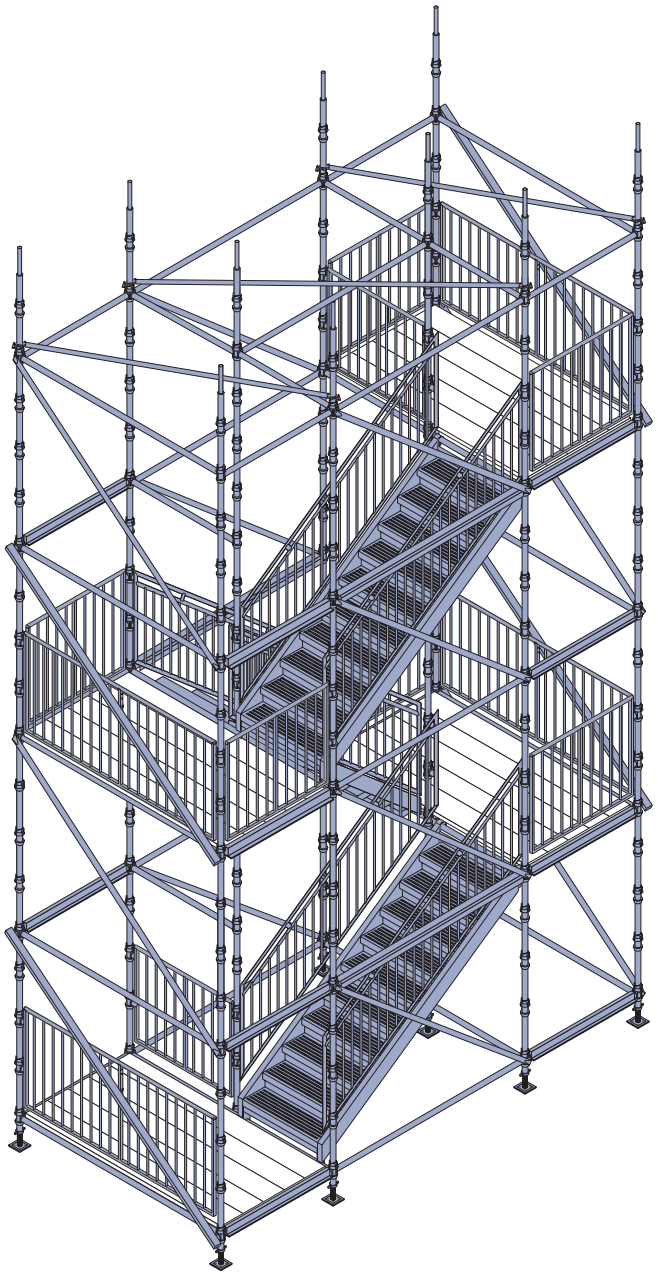
CUPLOK Public Access Staircase

The CUPLOK Public Access Staircase is designed to meet the more demanding standards required for use by the public. Based on the 10 leg staircase tower plan, it uses 1m wide aluminium staircase units for high capacity and ease of assembly, and can be built in lifts of 1.5 or 2m. Loading can be up to 5kN per m^2.

The CUPLOK Public Access Staircase is designed to comply with the following standards:

- BS 5395 Part 1 2000, Stairs, ladders and Walkways
- Building Regulations, Documents A and K
- BS 6180, Code of Practice for Barriers in and About Buildings
- BS 6399-1, Loadings on Buildings
- BS EN 12811-1: 2003: Part 1 Scaffolds, Performance requirements and general design

Public Access Staircase



CUPLOK 10 Leg Public Access Staircase Quantity List

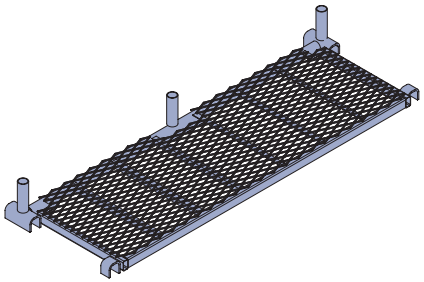
Product code	Description	Unit weight (kg)	1.5m	2.0m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m	7.5m	8.0m	9.0m	10m	11m	12m
	Standard CUPLOK																		
270200	Vertical 2m CW SPIGOT-CUPLOK	11.16	10	10	10			10	10	10	10			10	10	10		10	10
270300	Vertical 3m CW SPIGOT-CUPLOK	16.46	10	10	10	20	20	20	20	20	20	30	30	30	30	30	40	40	40
271127	Horizontal 1.25m CUPLOK	4.76	12	12	16	16	16	20	20	20	20	24	24	24	24	28	28	32	32
271250	Horizontal 2.5m CUPLOK	9.48	13	13	16	16	16	19	19	19	19	22	22	22	22	25	25	28	28
276153	Face brace 1.5 x 2.5m CUPLOK	10.70	6		9	6		12	9	6		12	9	6		9		9	
276203	Face brace 2 x 2.5m CUPLOK	12.90		6		3	9		3	6	12	3	6	9	15	9	18	12	21
279500	Basehead Plate CUPLOK	2.22	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
279550	Jack 0.86 for 0.5m CUPLOK	3.86	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
110490	CUPLOK spigot pin galv	0.09	10	10	10	10	10	20	20	20	20	20	20	30	30	30	30	40	40
	CUPLOK Omega																		
274525	Steel batten 2.5m CUPLOK	17.23	10	10	15	15	15	20	20	20	20	25	25	25	25	30	30	35	35
275130	Omega transom 1.3m CUPLOK	6.63	12	12	16	16	16	20	20	20	20	24	24	24	24	28	28	32	32
	Public Access Special Components																		
279372	Guardrail unit 1.25m public access alum	24.26	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
279373	Landing G Rail support Pubacc CUPLOK	15.00	2	2	3	3	3	4	4	4	4	5	5	5	5	6	6	7	7
279374	Guardrail unit 1.3m Pubacc alum	22.54	4	4	6	6	6	8	8	8	8	10	10	10	10	12	12	14	14
279375	RHS ledger 2.5m Pubacc CUPLOK	13.04	2	2	4	4	4	6	6	6	6	8	8	8	8	10	10	12	12
279376	Guardrail unit 2.5m Pubacc alum	39.67	2	2	3	3	3	4	4	4	4	5	5	5	5	6	6	7	7
	2.0m Lift Public Access Components																		
279377	S Case Hrail Pubacc Al 2.0m RH	20.40		1		1	2		1	2	3	1	2	3	4	3	5	4	6
279378	S Case Hrail Pubacc Al 2.0m LH	20.40		1		1	2		1	2	3	1	2	3	4	3	5	4	6
279370	Staircase unit 2.0m Pubacc alum	75.29		1		1	2		1	2	3	1	2	3	4	3	5	4	6
	1.5m Lift Public Access Components																		
279366	S Case Hrail Pubacc Al 1.5m RH	20.77	1		2	1		3	2	1		3	2	1		2		2	
279367	S Case Hrail Pubacc 1.5m LH	20.77	1		2	1		3	2	1		3	2	1		2		2	
279369	Staircase unit 1.5m Pubacc Alum	67.13	1		2	1		3	2	1		3	2	1		2		2	
	Overhead Tying Tubes																		
001210	Galvanised tube 3.1m (10ft)	14.20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
001212	Galvanised tube 3.7m (12ft)	17.04	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
006200	Pressed swivel coupler	1.02	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Total structural weight (kg)			1217	1238	1644	1711	1731	2236	2250	2264	2285	2730	2744	2870	2891	3297	3385	3903	3938
Optional Public Access Staircase Components																			
182mm Rise Step Bracket		3.45																	
Single Sided Omega Transom		6.12																	
Steel Batten Support (Blade and Hook)		6.00																	
Steel Batten Support (Hook and Hook)		5.40																	

Note Check data sheets for loading and tie information.
These quantities assume the base of all staircases is fully guarded.
Either 1.3m or 2.5m Landing guardrails should be omitted depending on requirements.

Mesh Landing Platform

A complete landing platform for use on 4-leg staircase towers. Slots over horizontals and provides support for the staircase unit and guardrail posts.

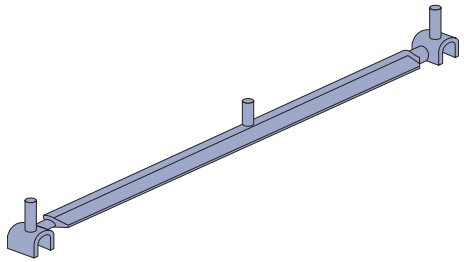
Code	Length(m)	Weight (kg)
279417	1.8	32.0



Staircase Transom Unit

An alternative system used to support the end of the staircase and guard post on 4 leg staircase towers when scaffold boards are used.

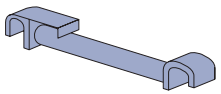
Code	Length (m)	Weight (kg)
279394	1.9	14.6



Batten Bearer

To support 1.8m steel or timber battens as a landing platform on 4 leg staircase towers.

Code	Length (m)	Weight (kg)
279393	0.7	3.1



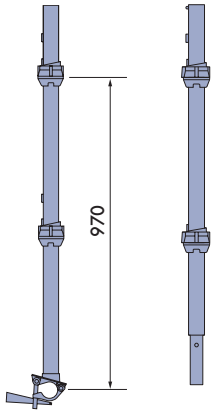
Staircase Guardposts

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 - as there are no inside standards to provide support for the guardrails.

Code	Weight (kg)	Length (m)
279380	7.2	1.23

Type 2: Standard CUPLOK Handrail Post: used on the 4 leg staircase where it locates in the sockets on the Staircase Transom Unit.

Code	Weight (kg)	Overall length (m)
279244	4.8	1.15



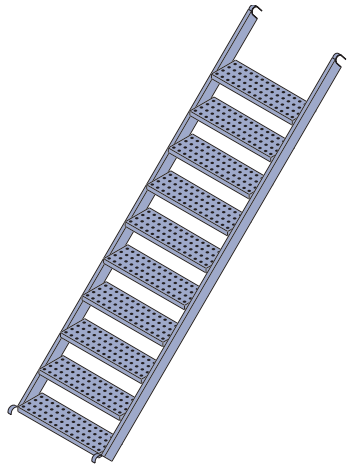
Guardpost Handrail Post

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 small plywood landing at the base of the flight.

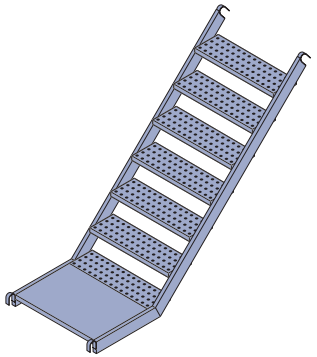
Steel Staircase: 1.8m Bay x 2m lift

Code	Height (m)	Weight (kg)
279420	2.0	73.0



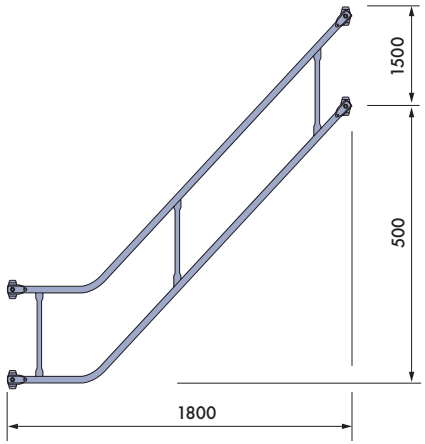
Steel Staircase: 1.8m Bay x 1.5m lift

Code	Height (m)	Weight (kg)
279400	1.5	55.0



Steel Staircase handrail: 1.8m Bay x 2m lift

Code		Weight (kg)
279404	Left hand	14.2
279403	Right hand	14.2

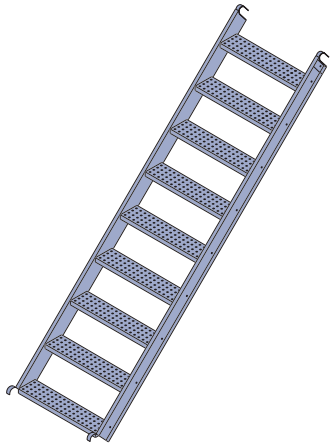


Aluminium Staircase Units

Staircase flights to the same dimensions as the steel stairs, but approximately half the weight for ease of handling.

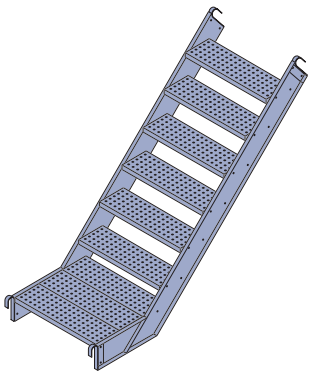
Aluminium Staircase: 1.8m Bay x 2m lift

Code	Height (m)	Weight (kg)
279419	2.0	30



Aluminium Staircase: 1.8m Bay x 1.5m lift

Code	Height (m)	Weight (kg)
279418	1.5	28

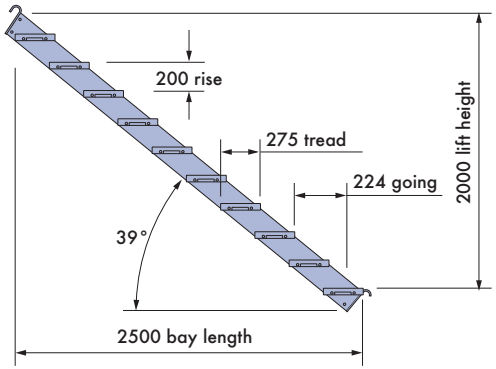


Modular Staircase Components

Separate stile and tread units which are assembled on site. Individual elements are lighter and less cumbersome making handling and erection easier.

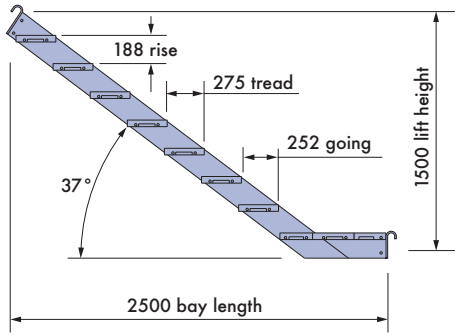
Modular Staircase Stile Assembly: 2.5m Bay x 2.0m Lift

Code		Weight (kg)
279791	Left hand	32.0
279790	Right hand	32.0



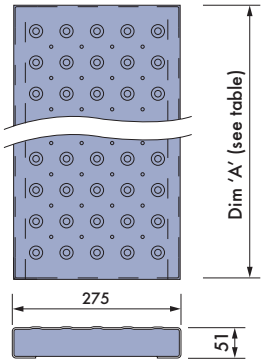
Modular Staircase Stile Assembly: 2.5m Bay x 1.5m Lift

Code		Weight (kg)
279797	Left hand	30.0
279795	Right hand	30.0



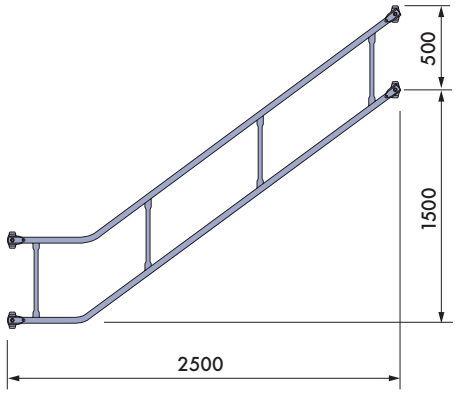
Modular Staircase Treads

Code	Bay width (mm)	Dim A (mm)	Weight (kg)
279794	900	690	4



Modular Staircase Handrail: 2.5m Bay x 1.5m Lift

Code		Weight (kg)
279807	Left hand	17.4
279806	Right hand	17.4

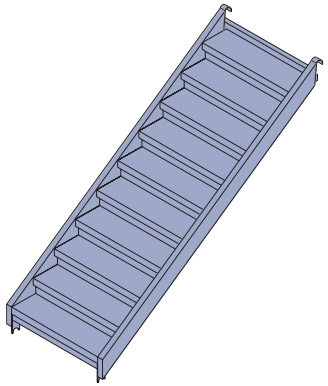


For the 2.5m wide x 2.0m lift staircase bay, standard swivel face braces are used as handrails.

CUPLOK Public Access Staircase Components

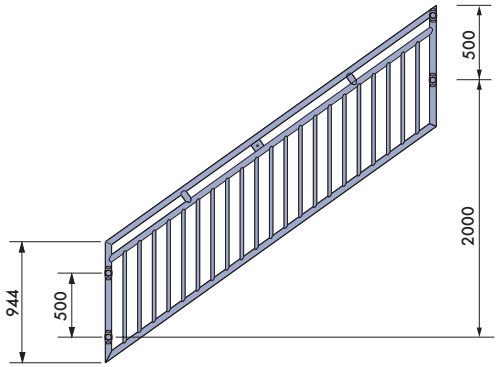
Public Access Aluminium Staircase: 2.5m Bay x 2m lift

Code	Weight (kg)
279370	75.3



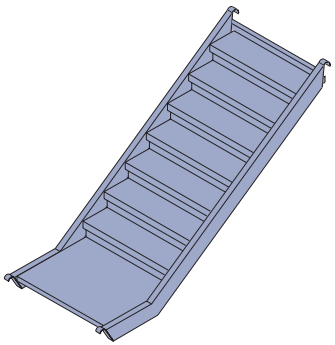
Handrail: 2.5m bay x 2.0m Lift

Code		Weight (kg)
279378	Left hand	20.4
279377	Right hand	20.4



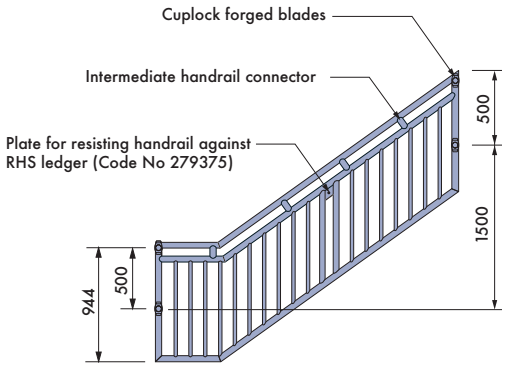
Aluminium Staircase: 2.5m Bay x 1.5m lift

Code	Weight (kg)
279369	67.0



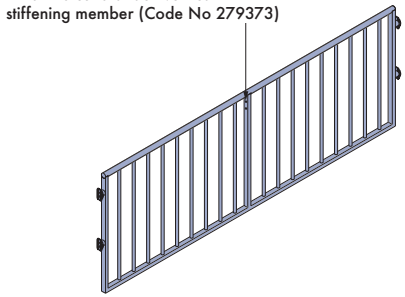
Handrail: 2.5m bay x 1.5m Lift

Code		Weight (kg)
279367	Left hand	20.77
279366	Right hand	20.77



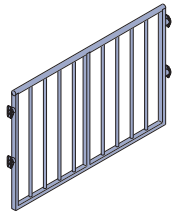
2.5m Landing Guardrail

Code	Weight (kg)
279376	39.67



1.25m Landing Guardrail

Code	Weight (kg)
279372	24.26

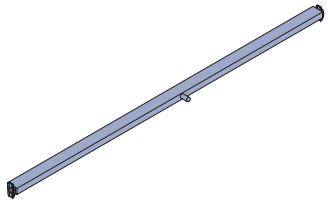


1.3m Landing Guardrail

Code	Weight (kg)
279374	22.54

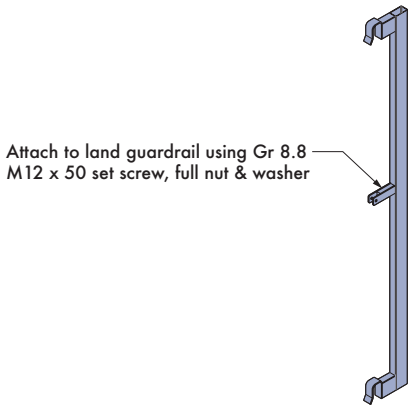
RHS Ledger with Handrail Fixing Pont

Code	Weight (kg)
279375	13.04



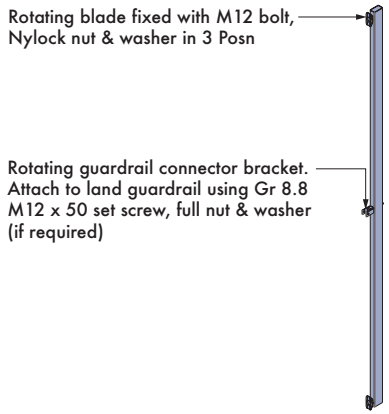
2.5m Landing Guardrail Reinforcing Member (Mk 1) to Landing Guardrail Support (Mk 1)

Code	Weight (kg)
279373	15.0



2.5m Landing Guardrail Reinforcing Member (Mk 2) to Landing Guardrail Support (Mk 2)

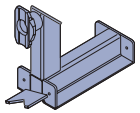
Code	Weight (kg)
279373	19.0



Step Bracket – 182mm rise

Used at the base of the tower to support a single platform tread where the height of the base of the platform exceeds a comfortable step height.

Code	Weight (kg)
279801	3.45



Permissible heights, loading and tying of Staircase Towers

SGB recommends two tying and bracing options as shown in the diagrams below.

Ties must always be rigid and carry loads in two horizontally perpendicular directions. The maximum distance of a tie to the nearest node point must not exceed 300mm and the staircase tower must not extend more than 4m above the last tied level when in use. For full information on non-standard types of tower construction, tie patterns or loading cases, please contact your local SGB branch.

The permissible heights of staircase towers under various loading conditions are shown below.

	4 leg*	8 leg	10 leg	10 leg Public Access
Weight per lift	Bottom lift 242kg Middle lift 188kg Top lift 225kg	448kg per 2m lift 270kg per 1.5m base lift (with no guard rails)	472kg per 2m lift 293kg per 1.5m base lift (with no guard rails)	315kg per lift (average)
Max height and load duty	40m loaded to 200kg per lift	33m loaded to 75kg/m² per lift (ties 8m) 23m loaded to 150kg/m² per lift (ties 8m) 38m loaded to 200kg/m² per lift (ties 8m)	45m loaded to 75kg/m² per lift (ties 8m) 32m loaded to 150kg/m² per lift (ties 8m) 53m loaded to 200kg/m² per lift (ties 8m)	12m loaded to 5kN/m² vertically and 3kN/m² horizontally Plan braced at top (ties 6m)
Stair width	535mm	750mm	750mm	1000mm
Tie spacing	8m vertically	4 or 8m vertically	4 or 8m vertically	6m vertically

*For details see SGB Data Sheets

Guidance notes

Staircase tower type		Permissible height of tower (m)					
Number of Legs	Main dimensions of tower (m)	UDL load 75kg/m² on staircase and on boarded platforms		UDL load 150kg/m on staircase and on boarded platforms		Total load 1000kg per staircase and per boarded platform	
		Tie pattern 1 4.00m	Tie pattern 2 8.00m	Tie pattern 1 4.00m	Tie pattern 2 8.00m	Tie pattern 1 4.00m	Tie pattern 2 8.00m
4	1.8 x 3.0	38	36	28	26	38	36
8	1.8 x 4.4	20	33	14	23	23	38
10	1.8 x 4.4	27	45	19	32	32	53
10	2.5 x 5.1	16	9	UDL load of 300kg/m² public access			

1) Two tie platforms are shown. The staircase units act as both plan braces and diagonal braces. If any staircase unit has to be omitted this has to be replaced by additional plan and diagonal bracing.

2) Ties must be rigid and must carry loads in all 4 horizontally directions. The maximum distance of a tie to the nearest node point must not exceed 300mm. The staircase tower must not extend more than 4,00m above the last tied level when in use.

3) The permissible heights of the staircase towers are shown in the table above for various loading cases. For other types of construction, tie patterns or loading cases, contact SGB.

4) The permissible height of the tower is calculated for the following load cases:

a) A uniformly distributed load on staircases and on boarded platforms.
(i) 75kg/m²
(ii) 150kg/m²
(iii) 300kg/m² public access. (limited by CUPLOK System).

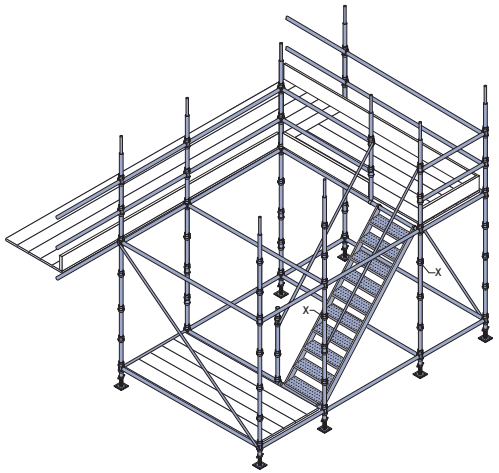
b) A total load of 100kg per staircase and per boarded platform. This is approximately equivalent to one man plus light tools, per metre of staircase height.

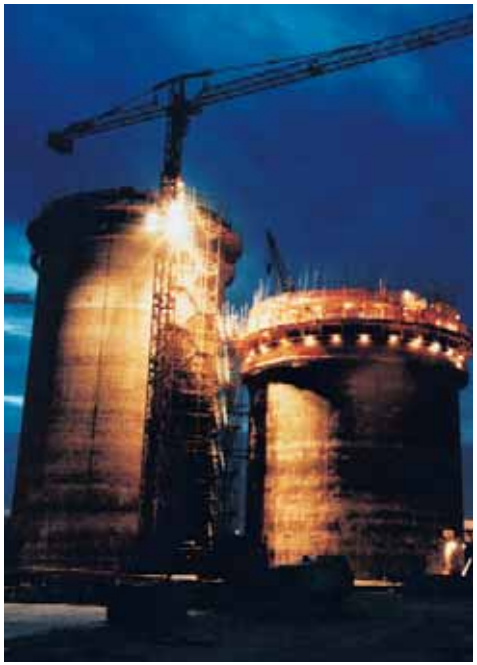
5) All platforms to have double guardrails and toe boards.

6) Double guardrails parallel to the stairway on both sides must be used.

Base lift

Where a staircase tower is required to give access to a scaffold with a base lift of 1.5m, the 1.5m stairway unit should be used at the base of the tower. Upper lifts will normally then revert to standard 2m stairways to align with the 2m upper lifts of the adjacent scaffold structure. It is also possible to use a 1.5m lift at the top of the tower - in which case an extra 1.8m ledger is required as a guardrail at position X, plus full guardrails to the landing platform.





Guardrails and toeboards

All staircase units are double guardrailed, and all working platforms are double guardrailed and toeboarded.

CUPLOK TOWERS

Square or rectangular access towers can be erected with standard CUPLOK components using standard jacks and base plates or bespoke CUPLOK castor wheels for full mobility. The working platform can be formed using either scaffold boards or battens. When scaffold boards are used, intermediate transoms will be necessary if the width of the tower is greater than the safe span of the boards. If battens are used with Omega transoms, intermediate board support is not required.

The maximum height of a free-standing mobile tower for use internally is 3.5 times the minimum base dimension. For free-standing towers used externally, the maximum height must not exceed 3 times the minimum base dimension. For heights greater than this, additional measures should be taken to ensure the tower is rigid and stable. This can be done by using stabilisers, weighting the base of the tower or tying the tower in to a stable structure.

Bracing

All towers must be fully braced on all four sides and should be adequately plan braced. See details of tower construction below.

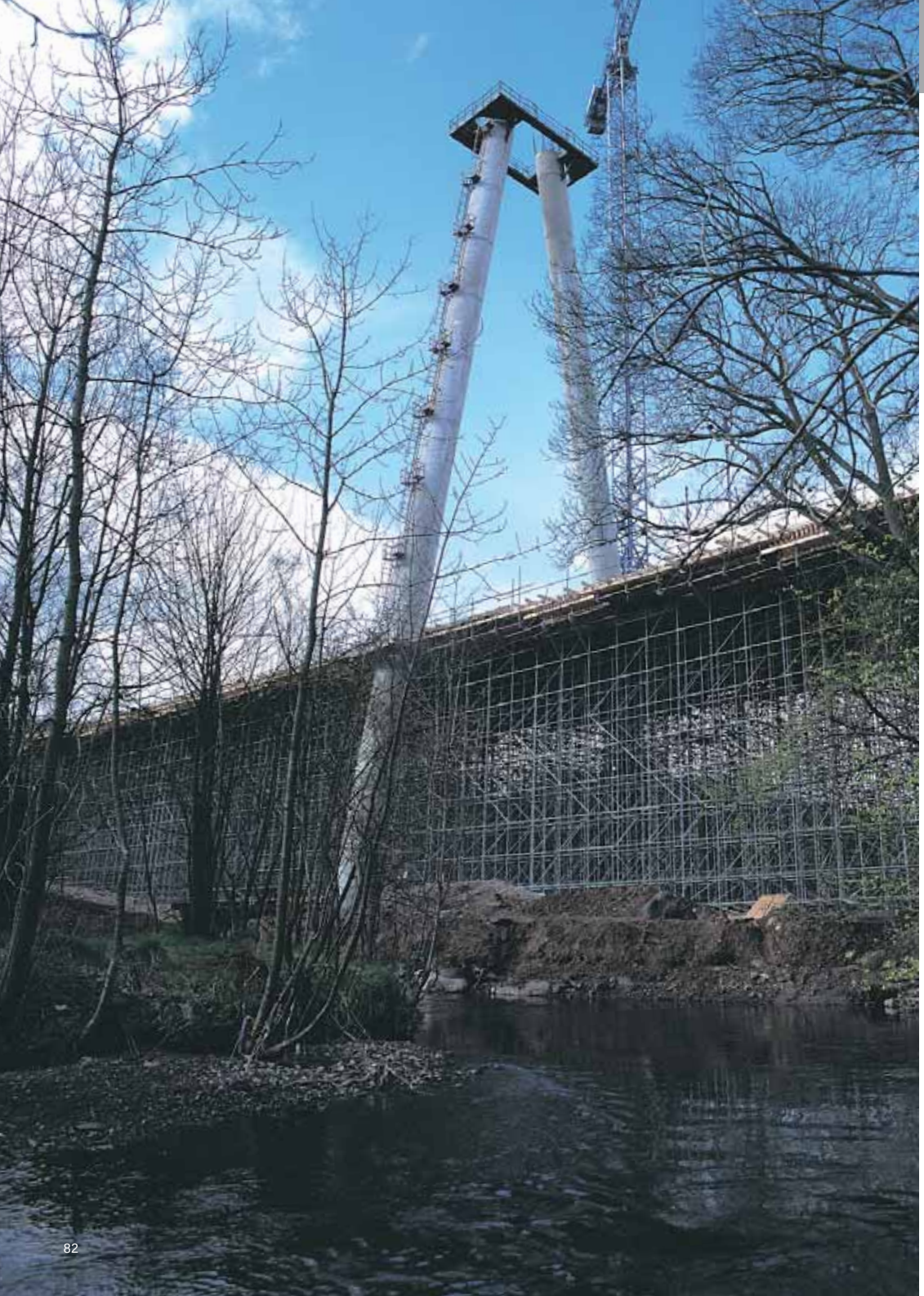
Access

The use of the Safety Gate and Swan-necked Standard provide a safe means of access to and from the main tower platform. This is facilitated by the inclusion of a ladder bay adjacent to the main working platform. The ladder must be of suitable standard (i.e. for industrial use) and should be secured at every level of the tower.

Maximum Working Load

The maximum working load on all towers is 10kN (1 tonne). All towers with a working platform above 5.9m should be erected on steel castor wheels.

Important Safety Note: Castor wheels must be locked before the tower is used and the tower must never be moved with men or materials on it.



CUPLOK FOR SUPPORT STRUCTURES

CUPLOK is widely used for falsework support structures. Its high leg load and wide range of components gives the system the capacity to tackle virtually any soffit support application with a cost-effective solution. For formwork support, a wide number of grid variations can be created to suite differing load requirements and decking systems.

Benefits

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

- High leg load: 74kN
- Unique node point - 4 connections in one action
- Quick erection and systemized bracing
- 20% lighter than traditional scaffolding

Associated Components: DU-AL Aluminium Beam

Complementing CUPLOK in the creation of falsework support structures is SGB's DU-AL aluminium beam system. Its high strength and low weight make it easy to handle and quick to erect. The DU-AL system includes 3 beam profiles. In each case they are supported in forkheads mounted on the CUPLOK verticals and fastened in place with a quick-fixing clamp.

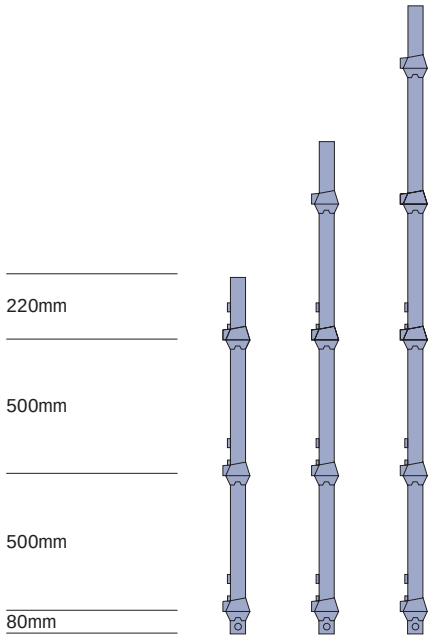
EXTRAGUARD Edge Protection

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

CUPLOK Support Components Verticals (Standards)

Support Standards differ from Access Standards by having no spigot at the head. This allows for the insertion of jacks which provide adjustable support beneath the soffit. Support Standards are available in five sizes and are used in conjunction with 1m, 2m and 3m access standards to cover all soffit heights.

Code	Length (m)	Weight (kg)
270233	2.3	11.6
270183	1.8	9.1
270133	1.3	6.6
270083	0.8	4.1
270043	0.4	2.4



Horizontals (Ledgers)

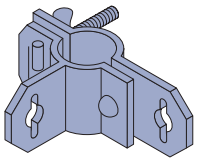
Eight different sizes of Ledger, all with symmetrical blade ends, allow a huge range of grid layouts to be constructed.

Code	Size (m)	Weight (kg)	Overall length (mm)	Colour Code
271060	0.6	2.65	552	None
271090	0.9	3.73	852	None
271100	1.0	4.10	952	Russet
271120	1.2	4.81	1152	White
271130	1.3	5.17	1252	Yellow
271160	1.6	6.24	1552	Black
271180	1.8	6.96	1752	Green
271250	2.5	9.50	2452	None

Bracing Coupler

Locates on the Base and Head Plates, forkheads and Adaptors to allow the use of Jack Braces. Tightened with a butterfly nut.

Code	Weight (kg)
279740	0.8



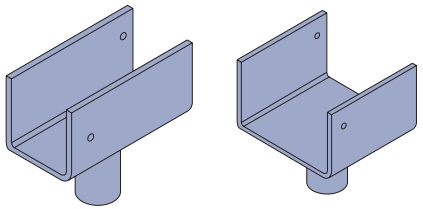
Forkheads

Fixed Forkhead

Designed to hold aluminium, steel or traditional timber beams, Forkheads are used in conjunction with the Universal Jack to give height adjustment. Nail holes are provided to allow timber beams to be fixed in place.

The larger 200 x 186mm forkhead supports SGB MkII Steel Soldiers when used as horizontal shores.

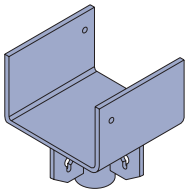
Code	Size (mm)	Weight (kg)
279650	200 x 86	3.9
279653	150 x 162	3.7
279657	200 x 186	5.2



Bracing Forkhead

Fixed forkheads, which incorporate locating lugs to accept jack braces, give the structure extra strength and rigidity.

Description	Code	Size (mm)	Weight (kg)
75mm	279676	200 x 86	4.2
150mm	279681	150 x 162	4.0

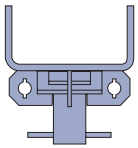


Rocking Forkhead

Forkheads for supporting slabs with slopes in one or two directions. Secondary sloping is achieved by rotating the small handles on the socket at the bottom of the forkhead. Incorporates a facility for jack bracing.

See page 97 for maximum permitted slopes for formwork.

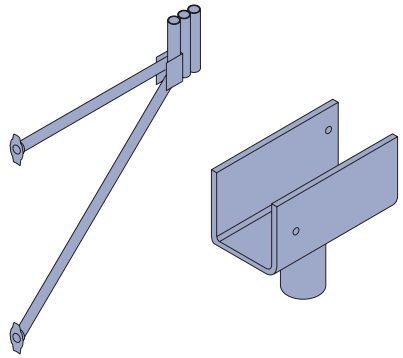
Code	Height (mm)	Weight (kg)
279686	186	6.9



Cantilever Frame

This bracket is designed for supporting cantilever edge slabs and incorporates 3 Jack locations at centres of 1.2, 1.25 and 1.3m. All jack locations can be utilised for traditional primary timbers. Frames are located in the cup joints. They are of standard tubular dimension and can be laced together if used for perimeter access on support scaffolds

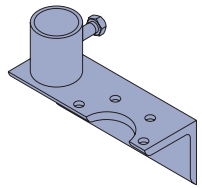
Description	Code	Overall length (m)	Weight (kg)
For 1.5m Lifts	279615	2.01	20.5
For 1.0m Lifts	279610	1.63	18.5



Guardpost Bracket

Allows the location of a length of standard tube to form a handrail round the edge of the formwork deck.

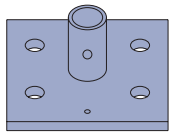
Code	Size (mm)	Weight (kg)
279700	233 x 65	1.7



Base and Head Plate

The Base and Head Plate is used with all SGB decking and support systems. Used at the bottom and the top of the structure, it locates over the universal jack allowing vertical adjustment. When used as a head plate it is bolted to dropheads or Dualform headplates.

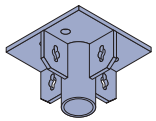
Code	Size (mm)	Weight (kg)
279500	152 x 152	2.3



Bracing Base and Head Plate

A Base and Head Plate which incorporates lugs to accept jack braces.

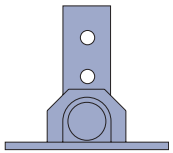
Code	Size (mm)	Weight (kg)
279510	152 x 152	2.4



Swivel Base Plate

To support standards on sloping ground to a maximum of 45° from the horizontal. It should always be secured to a sound timber sole plate. SWL: 57kN at 45°.

Code	Height (mm)	Weight (kg)
279520	159	4.3

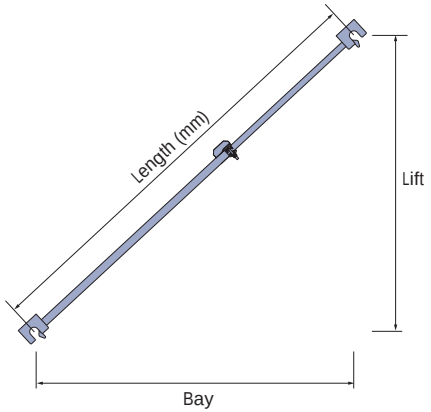


Internal Adjustable Braces

Adjustable braces for internal use in support structures, connecting to the horizontal CUPLOK members. The overall length of the brace is set before installation by positioning the locating pin on the clamp in the appropriate hole and tightening the nut. Braces are available in two sizes which cover the various grid dimensions. See table below.

SWL: 12.5kN in tension or compression.

Description	Code	Weight (kg)
Short Adjustable Brace	279810	10.8
Long Adjustable Brace	279820	15.1



Short Brace

Grid (m)	Length (m)
1.0 x 1.2	1.57
1.0 x 1.3	1.64
1.0 x 1.6	1.89
1.5 x 1.2	1.93
1.5 x 1.3	1.99
1.0 x 1.8	2.06
1.5 x 1.6	2.20
1.5 x 1.8	2.35
2.0 x 1.3	2.39

Long Brace

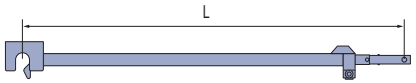
Grid (m)	Length (m)
2.0 x 1.6	2.57
2.0 x 1.8	2.70
1.0 x 2.5	2.70
1.5 x 2.5	2.92
2.0 x 2.5	3.21

A range of fixed length braces are also available to cover grid sizes not accommodated in the table above.

Jack Brace

A telescopic brace for use at base and head level. It connects to the horizontal CUPLOK member at one end and to the Bracing Coupler or the lug on the Base Plate or Adaptor at the other end.
SWL = 6.25kN

Description	Code	Weight (kg)
Jack Brace Type S	279720	6.5
Jack Brace Type L	279710	10.9

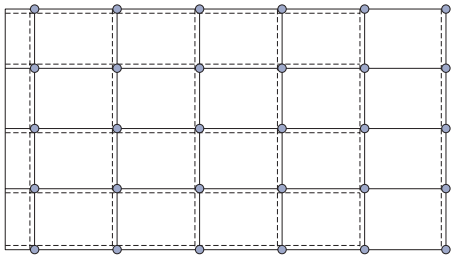


Safe Working Loads for Support Structures

The load carrying capacity of any support structure is dependant on several key factors:

- Spacing between standards
- Height from ground to soffit level
- Required jack extension
- Temporary access platforms within the structure
- Ground conditions
- Lift height
- Deck weight and live load
- Bracing

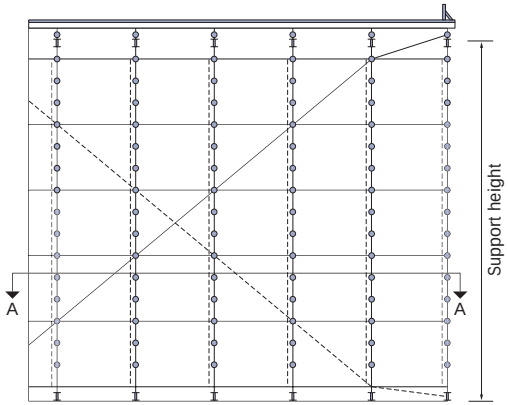
Typical Support Structure Assembly



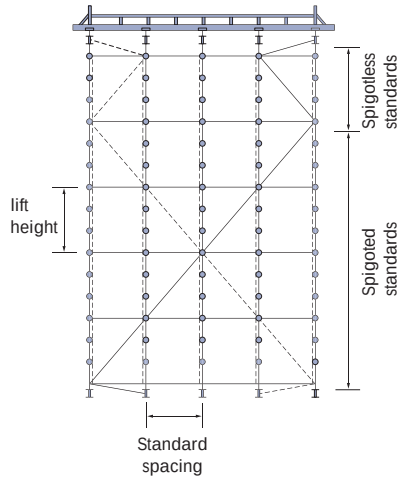
Section A-A

Using ledgers of 1.8m or less, the following leg loadings can be accommodated (provided the rules overleaf are followed and the structure is at least 4 x 4 bays):
1.0m lift height: 64kN
1.5m lift height: 64kN
2.0m lift height: 50kN

If 2.5m ledgers are used the achievable loadings will be:
1.5m lift height: 60kN
2.0m lift height: 45kN



Front elevation



Side elevation

External Standards

The loading capacities shown are based on the inner standards which are restrained in four directions. For external standards restrained in either three or two directions the safe working loads are reduced by 20%.

Eccentric Loads and Jack Extension

The loading figures are based on a load eccentricity of up to 25mm and fully extended Base and Head Jacks as a 'worst case' situation.

Heavier Loads

If Jack extensions are below 350mm and standard eccentricities do not exceed 5mm, loads can be increased to 74kN for structures with 1.5 lifts/1.8 ledgers and below.

3 Lug CUPLOK

The above load information only applies to high grade SGB CUPLOK, which is identified by having 4 lugs on the top cups. If 3 lug CUPLOK Standards are introduced into the structure, a reduced capacity applies as follows:

Lift height (m)	Vertical loading (kN)
1.0	57
1.5	45
2.0	33

The permissible loads given for Standards and Jacks in CUPLOK support scaffolds assume that the structure has been braced in accordance with SGB's design recommendations.

Safety

The wide range of grid and lift sizes allow CUPLOK to accommodate many different loads and decking options. CUPLOK for support structures should be erected in the same manner as for access scaffolding. SGB can provide information on the safe erection and dismantling of scaffolding structures.

- Ledgers placed in the lowest cup give a strong, solid base
- 5 sizes of spigotless standards ensure minimum jack extension

Layout

The simplest type of support structure is one with continuous lines of ledgers in both directions as this automatically gives accurate setting out of the standards. This is particularly important when using a formwork system such as SGB's DU-AL aluminium beam system.

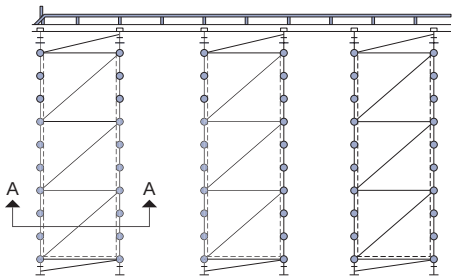
Bracing

The composition of the falsework structure will have a bearing on the amount of ledger bracing required. Where access is required through the structure, rows of legs can be built as shown in the diagram below. In this case ledger bracing is required across each row. An effective diagonal brace must extend from the forkhead to the baseplate level in both directions.

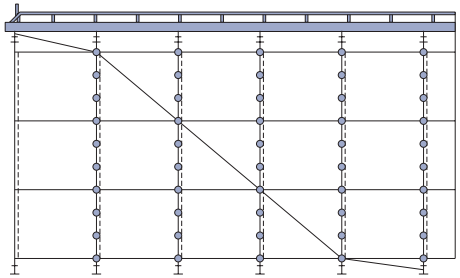
To give greater access beneath the deck, the support structure can be built as a series of towers. These towers will have to be ledger-braced in both directions and, depending on their height, plan braces may be necessary to keep the towers square.

For rows of towers, horizontal lacing should be used at vertical intervals of not less than four times the minimum base dimension. This may be in the form of CUPLOK ledgers if the spacing is suitable or from tube and fittings.

Rows of legs

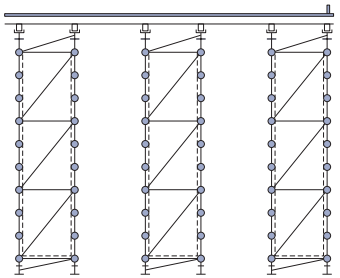


Front elevation

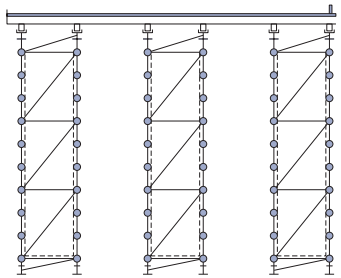


Side elevation with Ledger Braces

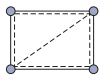
Individual towers



Front elevation



Side elevation



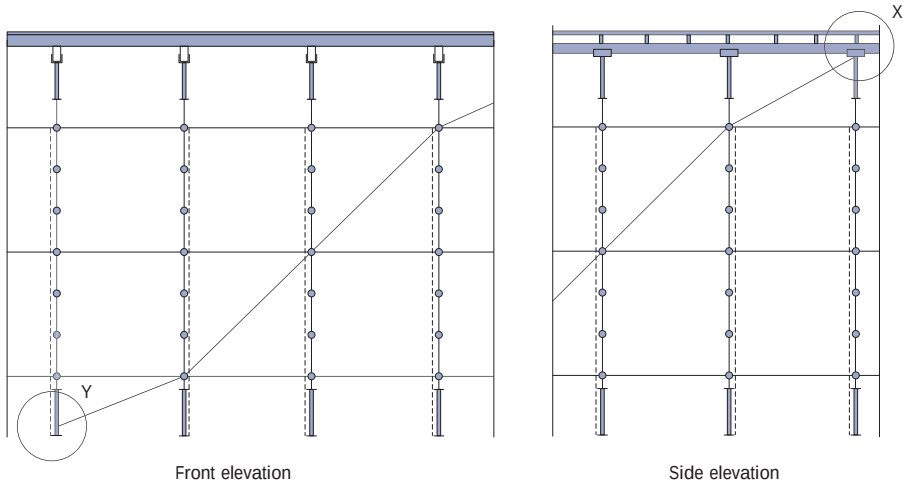
Section A-A

Diagonal braces should be fixed to the ledgers as shown, as close to the node point as possible. The maximum gap between the side of the brace and the node point should be 50mm. The bracing should be installed immediately after the erection of each lift to ensure that all bays are properly squared up.

The quantity of bracing should be calculated, but a minimum amount must always be used. This requires one complete brace from the top to the bottom lacing level, on each row of standards, one in seven bays in each direction.

Jack Bracing with Bracing Adaptor

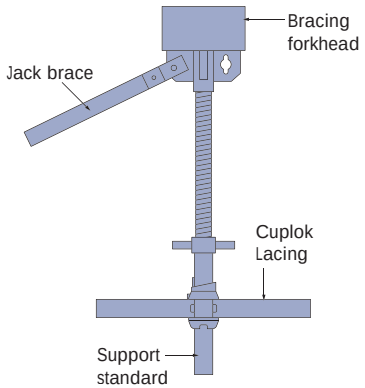
The Drophead Bracing Adaptor is normally used on top of the Jack and allows lacing with CUPLOK ledgers.



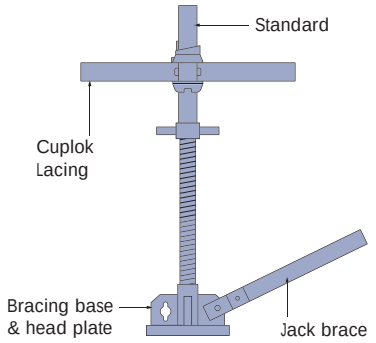
Front elevation

Side elevation

Detail X of Forkhead Bracing



Detail Y of Base Jack Bracing

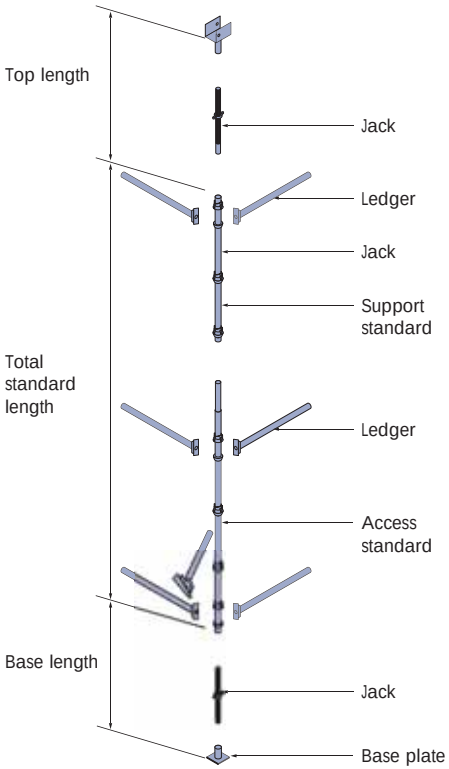


Height make-up

The height of the support structure is determined by the total standard length plus the length taken up by the jacks, base plates and adaptors. Note that the standards must always finish with a spigotless standard at the top so that a jack can be inserted. The overall height of the various combinations of standards is shown in the table below.

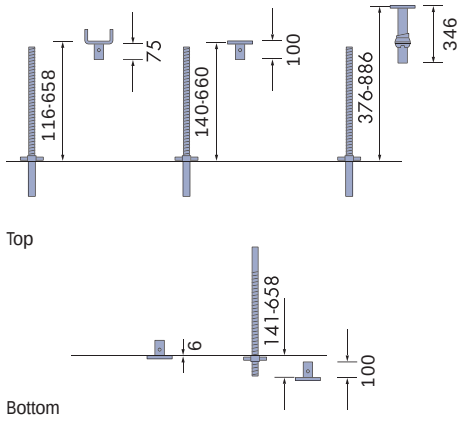
Care should be taken to make a suitable allowance in the extension of the top jack for general adjustment and for striking the formwork.

Total	Number of Standards					
Standard	Support			Access		
length (m)	1.30	1.80	2.30	1.00	2.00	3.00
1.3	1					
1.8		1				
2.3			1			
2.8		1		1		
3.3	1				1	
3.8		1			1	
4.3			1		1	
4.7		1				1
5.3			1			1
5.8		1			2	
6.3			1		2	
6.8		1			1	1
7.3			2		1	1
7.8		1				2
8.3			1			2
8.8		1			2	1
9.3			1		2	1
9.8		1			1	2
10.3			1		1	2



Top and base adjustment

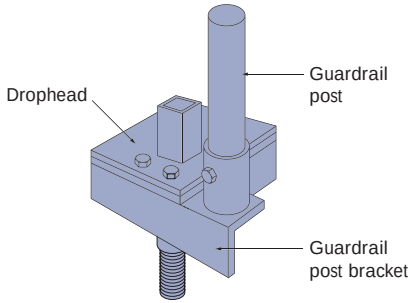
These diagrams show the overall dimensions of various component combinations at the top and base of the structure. Any arrangement at the top can be combined with any arrangement at the base. To ascertain the overall length of standards required, deduct the top and base adjustments from the overall soffit height.

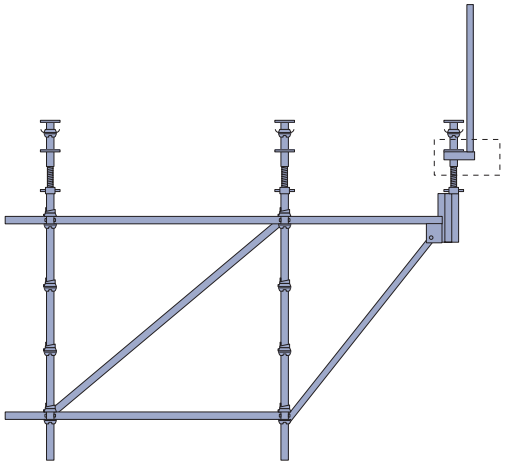


All dimensions are in mm

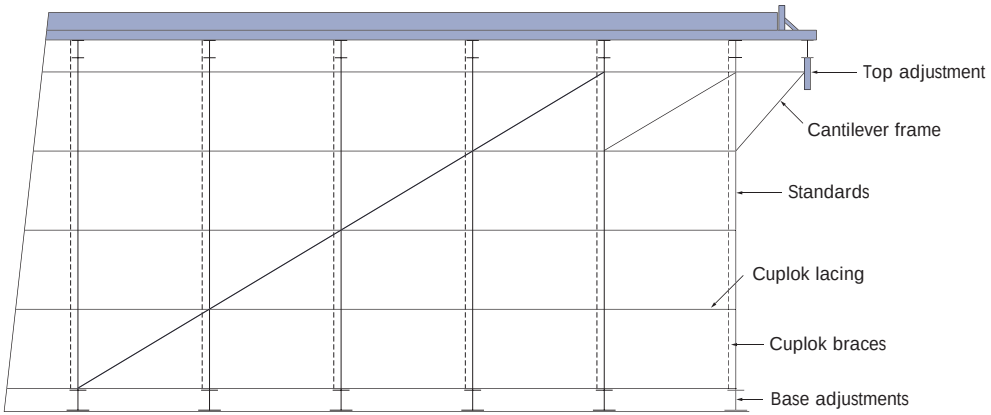
Use of Cantilever Frames

The Cantilever Frame incorporates 3 sockets at 1.2, 1.25 and 1.3m centres to provide support for cantilever slabs. If the Cantilever Frame is used, ledgers and bracing must be placed as shown in the diagram below. The Guardrail Post Bracket can be connected to the adaptors as shown and will accept a standard scaffold tube as a guardrail post.





Bracing and use of Cantilever Frames



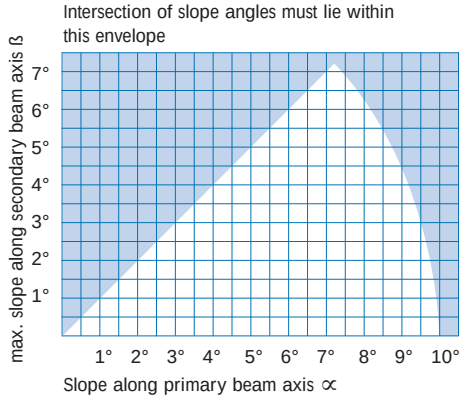
Temporary Working Platforms

When a working platform is required just below soffit level and the bay length exceeds 1.5m then Intermediate Transoms of 1.2, 1.3, 1.8 or 2.5m can be used to ensure scaffold boards are supported at their maximum centres. This will accommodate a safe working deck without overlapping boards.

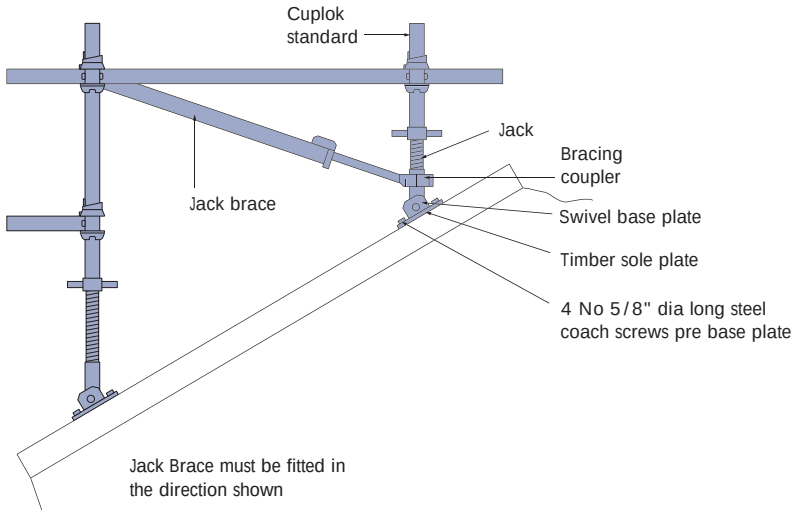
Where the Cantilever Frames are used, one or two additional braces may have to be used, as shown in the diagram, to cater for the horizontal forces created at the top and bottom of the cantilever bracket.

Use of the Rocking Forkhead

The maximum permissible slope of the formwork can be checked using the graph opposite. After the grid layout of the scaffold has been established, the slopes in two directions at right angles along the grid lines can be ascertained. Note that the primary bearers must run in the direction of maximum slope.



Use of the Swivel Base Plate



SGB reserves the right to alter or amend without notice the design and/or specification of any of the equipment forming part of the SGB CUPLOK System in the interests of improvement.

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1006/CDP/5K