Schedule of lifts for Tower Crane

A practical guidance

Sir Robert McALPINE

Hands OFF
Step AWAY
Safe SPACE

Schedule of Lifts – Tower Crane

Contents:

Please note:

This document has been provided by Sir Robert McAlpine Limited. It has been checked to the best of our ability but may contain unintentional errors. As per BS 7121-1:2016, CDM 2015 and LOLER, it is the user's responsibility to verify that they understand and have made their own checks before using this document.

The user shall ensure that they properly risk assess and plan their own lifting operations to discharge their legal requirements.

No liability will be accepted for any incidents that result of those using this document.

1. Introduction:

This document has been produced to not only assist and provide guidance on industry accepted methodologies for tower crane lifting operations but also to provide a simple benchmark template that is easy to complete, containing all required information for a schedule of lifts.

All weights & dimensions in the schedules are representative only of standard/common measures throughout the industry and are shown in *red italicized text*. Where specific lifts exceed any of these then simply adjust gross weights, WLL of accessories and considered mode factors as necessary to perform the lifting operation in a safe manner.

The document follows the LEEA convention of 1000kg is equivalent to 1 tonne and the unit used is 't'. Where weights are < 1 t then the unit used will be kg.

Where underscores are used instead of numeric symbols i.e., _ t or _ mm then these are to be completed locally as the variation in the dimensions and weights [net or gross] are too great to cover generically in this document.

Please be aware that this document is not intended to replace appropriate planning of lifting operations by an appointed person. All lifting operations must be planned and managed by a competent person. The document is only to be used by people who have the appropriate training and competence for lift planning operations

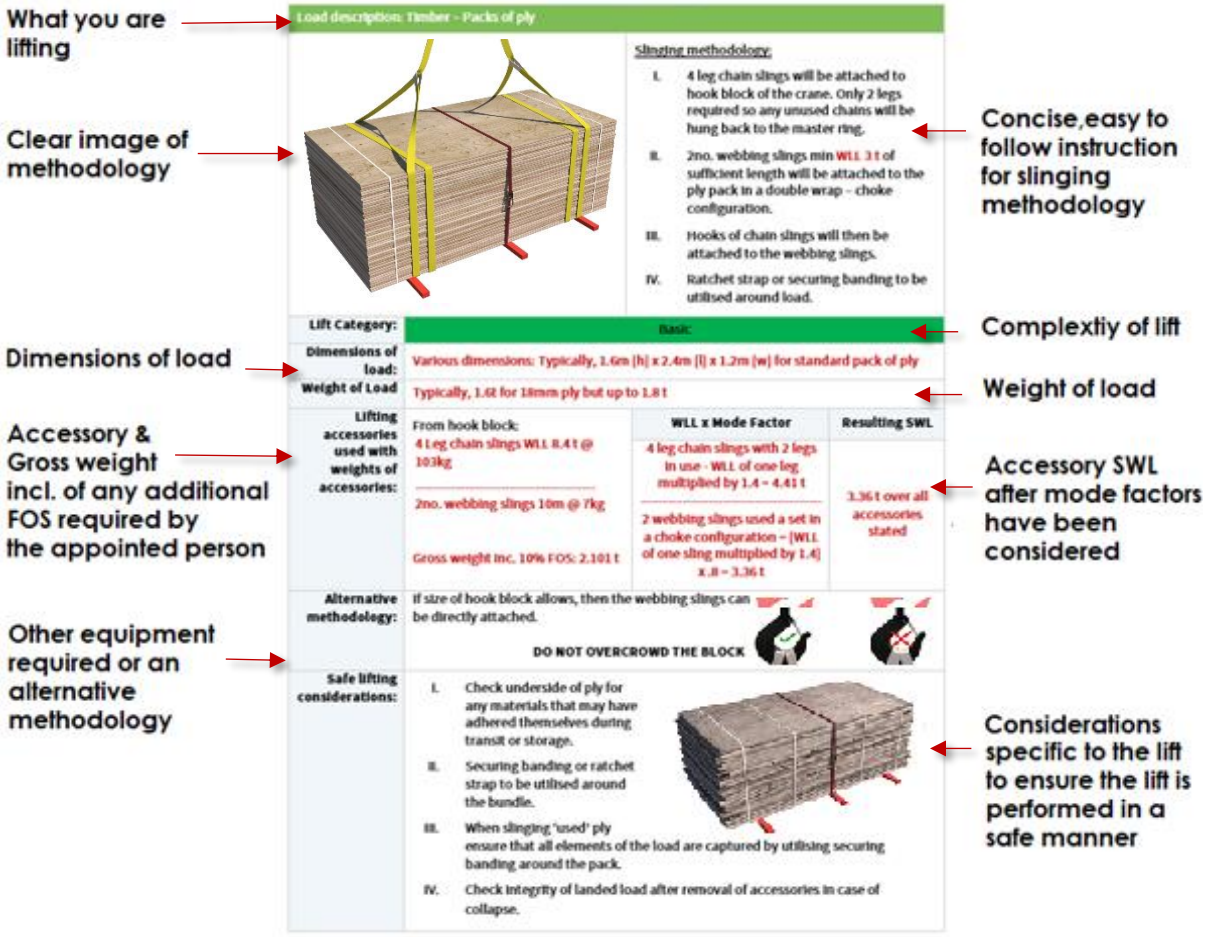
Additionally, sector specific working restrictions have not been considered, e.g. exceptional hazard sites (nuclear, petrochemical etc.), working adjacent to railways etc.

The weight and geometry of loads has not been assessed in relation to any maximum safe wind speeds for the lifting operation (i.e. any sail effects on the loads).

2. Acronyms used through the document:

- FOS – *Factor of Safety*
- SWL – *Safe Working Load*
- WLL – *Working Load Limit*
- wcs – *Worst [worse] Case Scenario*
- [ru] – *Rounded up*
- t – *Tonne*
- kg – *Kilogram[s]*
- c/w – *Complete with*
- Min. – *Minimum*
- *EWL - Effective Working Length*
- *DABs – Daily activity briefings*
- [l] – *Length*
- [h] - *Height*
- [w] – *Width*
- [d] – *Diameter*
- Inc. – *Including or inclusive of*
- no. – *Number*
- mm – *Millimetre*
- m – *Metre*
- RoTE – *Report of thorough examination*
- *@ - at /of*
- *POWRA – Point of work risk assessment*

3. Requirements of a Schedule:



4. Lift classifications:

The lift classifications stated throughout the document are based on all lifts being performed in full view of the crane operator with known weights, and for the simplest of lifting arrangements used.

The planning appointed person should assess each lift and classify accordingly to suit local lifting operation parameters.

Please note:
Lifting operations that are basic can be undertaken once the slinger-signaller has been briefed on the contents of the lift plan and has signed up to it. Intermediate lifting operations should only commence when the lifting supervisor is present until confident of the slinger-signaller's ability and the uniformity of the load being lifted. Complex lifting operations will require the Lifting Supervisor to be present at point of lift to monitor the lifting operation with the appointed person present on the project to brief the lifting operation to be performed.

Refer to: *BS 7121 – 1: 2016 4.3.2* for guidance

5. Notes on accessories:

It is assumed that Grade 10 8.4 t 4 leg chain slings with an EWL of 6m will be used as standard on the tower crane and therefore have been referenced throughout the lifting arrangements.
Where accessories are identified in the schedule 'as per design use', it is assumed that suitable FOS's have been designed into the accessory and as such need no further mode factors employed for that accessory.

When choosing accessories ensure that after mode factors have been used, the accessory is not used past 90% utilisation for the weight of load to be lifted. This produces a 10% safety margin which the user may choose to increase.

All accessory lengths given are so that the accessory is used within an 'excluded' angle of 0-45 Deg.[off the β]

6. Ratings charts:

Flatwoven/ Endless round slings

Ratings for single and multi-leg use of flat woven slings and endless round slings within 90 Deg.
Please note:
SWL for 'Choker' hitch mode factors in each configuration given are shown in *and have been reduced by the required 0.8 factor.*

Flatwoven				
Straight lift with direct attachment 	2 slings Direct attachment 	2 slings Choked 	3 or 4 slings with Direct attachment 	3 or 4 slings Choked 
Endless (round)				
				
1 t	1.4 t	1.12 t	2.1 t	1.68 t
2 t	2.8 t	2.24 t	4.2 t	3.36 t
3 t	4.2 t	3.36 t	6.3 t	5.04 t
4 t	5.6 t	4.48 t	8.4 t	6.72 t
5 t	7 t	5.6 t	10.5 t	8.4 t
6 t	8.4 t	6.72 t	12.6 t	10.08 t
8 t	11.2 t	8.96 t	16.8 t	13.44 t
10 t	14 t	11.2 t	21 t	16.8 t

Grade 8 chain slings

Ratings for single and multi-leg chain slings within 60 Deg. Grade 8 chains slings

Please note:

SWL for 'Choker' hitch mode factors in each configuration given are shown in [redacted] *and have been reduced by the required 0.8 factor*

Chain sling details and configuration chart					
Chain Diameter	Straight lift with direct attachment 	2 slings Direct attachment 		3 or 4 slings with Direct attachment 	
		Angle of leg from vertical		Angle of leg from vertical	
		0-45 deg.	*45-60 deg.*	*0-45 deg.*	*45-60 deg.*
7mm	1.5 t	2.12 t	1.5 t	3.15t t	2.24 t
	1.2 t	1.69 t	1.2 t	2.52 t	1.79 t
8mm	2 t	2.8 t	2 t	4.2 t	3 t
	1.6 t	2.24 t	1.6 t	3.36 t	2.4 t
10mm	3.15 t	4.25 t	3.15 t	6.7 t	4.75 t
	2.52 t	3.4 t	2.52 t	5.36 t	3.8 t
13mm	5.3 t	7.5 t	5.3 t	11.2 t	8 t
	4.24 t	6 t	4.24 t	8.96 t	6.4 t
16mm	8 t	11.2 t	8 t	17 t	11.8 t
	6.4 t	8.96 t	6.4 t	13.6 t	9.44 t
19mm	11.2 t	17 t	11.2 t	23.6 t	17 t
	8.96 t	13.6 t	8.96 t	18.88 t	13.6 t

Grade 10 chain slings

Ratings for single and multi-leg chain slings within 60 Deg. Grade 10 chain slings
Please note:
SWL for 'Choker' hitch mode factors in each configuration given are shown in *and have been reduced by the required 0.8 factor*

Chain sling details and configuration chart – Grade 10 Chains					
Chain Diameter	Straight lift with direct attachment 	2 slings Direct attachment 		3 or 4 slings with Direct attachment 	
		Angle of leg from vertical		Angle of leg from vertical	
		0-45 deg.	*45-60 deg.*	*0-45 deg.*	*45-60 deg.*
6mm	1.4 t	2 t	1.4 t	2.9 t	2.1 t
	1.12 t	1.6 t	1.12 t	2.32 t	1.68 t
8mm	2.5 t	3.5 t	2.5 t	5.3 t	3.8 t
	2 t	2.8 t	2 t	4.24 t	3.04 t
10mm	4 t	5.6 t	4 t	8.4 t	6 te.
	3.15 t	4.48 t	3.2 t	6.72 t	4.8 t
13mm	6.7 t	10.6 t	9.5 t	14 t	10 t
	5.3 t	8.48 t	7.6 t	11.2 t	8 t
16mm	10 t	14 t	10 t	21 t	15 t
	8 t	11.2 t	8 t	16.8 t	12 t
20mm	16 t	22.4 t	16 t	33.6 t	24 t
	12.8 t	17.92 t	12.8 t	26.88 t	19.2 t

7. Communications:

Note: The hand signals in the following pages are CGI representational of those found in BS 7121

Primary communication used for tower crane operations will be via *radios.*

See link to CPA TIN 017 for detailed information regarding the correct selection and use of.

In case of failure of radios then the following hand signals will be used to communicate with the tower crane operator

Hand signals:

Operations start:
The slinger-signaller should raise their right hand with palm facing forward with the other hand perpendicular to the torso, palm down.

Hoist:
To hoist the load, the slinger-signaller should raise a fist above the head with their index finger pointed upwards, spinning in small circles.

Hand clenched

Hand unclenched

'Inch' the load:
'Inching' the load refers to slowly lifting the load.

To inch the load the slinger-signaller will raise their hand to head height & will clench and unclench their fist.

Hand signals:

Lower steady:
To instruct the crane operator to lower the load at a steady rate, hold one arm down against the side of the body. Extend the other arm to the side of the body @ approx. 45 deg., hand closed, index finger pointing downwards & make circular movements with the forearm.

Slew in direction indicated:
To instruct the crane operator to slew the crane, the slinger-signaller should raise their forearm from the side of their body and holding the handout at elbow height with the palm facing downwards in left or right motion.

'Luffing' jib only signal:

Lowering boom while raising load: 'floating the load'
To instruct the crane operator to maintain the height of the load while lowering the boom i.e., sending the load away from the crane. Extend one arm to the side with hand clenched and thumb pointing downwards, while raising the other arm above shoulder height with hand clenched and index finger pointed up while making small circular movement with the forearm.

Raising boom while lowering load: 'floating the load'
To instruct the crane operator to maintain the height of the load while raising the boom i.e., bringing the load towards the crane. Extend one arm to the side with hand clenched and thumb pointing upwards and extend the other arm to the side of the body @ 45 deg., hand closed, index finger pointing downwards while making circular movements with the forearm.

Hand signals:

Operations Cease:
The cease operations signal is performed by extending the arms outwards and bringing them both to the centre of the torso and back out again.
Note:
'Operations cease' is to notify the crane operator that the lifting operation has been completed.

Operations stop:
To indicate that the crane operator should stop, raise one hand just above head height with the palm open and the other hand at the side of the body.
Note:
'Operations stop' is used during a procedure and is usually followed by another instruction i.e., stop –
slew in the direction indicated – stop – lower the load – stop

Emergency stop:
To stop all operations immediately, raise both hands above the head with the palms open and facing forwards.

Hand signals

'Trolley' jib only movement:

Trolley in:
To instruct the crane operator to move the trolley 'in' along the jib, the slinger will raise fore arms to shoulder level and point thumbs ***'inward'*** *& towards each other.*

Trolley out:
To instruct the crane operator to move the trolley 'out' along the jib, the slinger will raise forearms to shoulder level and point thumbs ***'outward'*** *& away from each other.*

'Luffing' jib only movement:

'Jib' Up:
To instruct the crane operator to move the 'head' or 'jib' of the crane to a higher position the slinger will tap the head with one arm, extend the other with their thumb out & up, & move it in a 'up & down' motion.

'Jib' Down:
To instruct the crane operator to move the 'head' or 'jib' of the crane to a lower position the slinger will tap the head with one arm, extend the other with their thumb out & down, & move it in an 'down & up' motion.

8. Wind Assessment:

The following is to be used as a 'General' guidance for wind assessment and by no means replaces site specific weather parameters or control measures stated in lift plans, schedules, and associated risk assessments.

When assessing the max. wind speeds and the effect on loads there are too many variables that need to be taken into consideration to allow definitive wind speeds for each load to be stated in this document.

Size, design & weight are just a few considerations that must be planned for .

The day's weather forecast must form part of the morning DABs

More often than not project lifting teams will need to complete an informal *POWRA* if the weather is unsettled.

When reviewing the safety of the lift in unsettled conditions the following points are to be considered (non-exhaustive):

- Weather conditions at time of lift – *What is the wind speed? Is there a chance of lightning or weather worsening during the anticipated time scale of the lift? Does the weather look like improving which would allow the lift to be performed at a later time during the working day?*
- Path of the of the load and distance travelled – *Will the load be lifted in close proximity to temporary, permanent structures or sensitive areas i.e., Network Rail property etc. Is the load being lifted over a great distance so increasing the time it is 'in the air'?*
- Height of the load when lifted – *Will the load become problematic based on the height it is being lifted from or to?*
- Area of the load - *Is the load of a great area that could cause a 'windsail' effect?*
- Weight & physical make-up of the load – *Is the load of such a weight that it can be 'taken' by the wind, conversely is the load of such a weight that it will become dangerous & uncontrollable if the wind causes 'spinning'.*
- Configuration of the load – *Will the load require turning prior to delivery/install? Are there components of the lift that require calm conditions to achieve a safe install i.e., Cladding panel attachment?*
- Configuration of the accessory arrangement – *Are the accessories of such a length that could cause a pendulum effect in unsettled conditions? Are there any engineering control methods involved that have their own max. wind speed limits i.e., Mechanical load control equipment*
- Controlling the load – *Will additional load controls i.e., more taglines or operatives be required? Are these controls or operatives readily available? With the additional taglines or manual control measures, will this increase existing hazards and/or introduce new problems?*

For industry guidance on tower cranes and wind conditions:

- TCIG TIN 020 - The Effect of Wind on Tower Cranes In Service
- TCIG TIN 025 - Luffing Jib Tower Cranes - Precautions for Operators Working at or near Minimum Radius in Strong Winds
- TCIG TIN 027 - Tower Crane Out-of-Service Wind Speeds
- Liebherr - Influence of wind on crane operations

9. General safety considerations:

Please note:

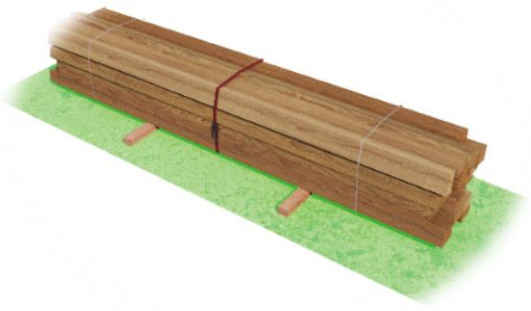
The following is to be used as a 'General' guidance for all lifting operations and by no means replaces site specific safety considerations or control measures stated in lift plans, schedules, and associated risk assessments.

The work area set up:

- Refer to the lift plan and form an exclusion zone(s) and/or restricted zone(s) as required around lifting & delivery areas. Ensure all third parties are removed from lifting operations work area.
- Ensure that any exclusion zone and/or restricted zones are clearly identified using correct signage, segregated using physical barriers and, if required, suitably marshalled.
- As far as is practicable ensure that all background noise is kept to a minimum. If necessary, stop all noisy works during the lifting operation while communicating with the Tower Crane operator.
- Lifting to and from delivery vehicles [inclusive of points above]:
  - Before mounting the vehicle make sure there is a suitable access/egress point.
  - Check that the edge protection is of a suitable height to allow the lifting operation to be performed without slinger's position being compromised, i.e., slinger being above the handrail.
  - Ensure only the accessories required are taken onto the vehicle. If necessary, have someone on hand to pass accessories to the slinger to negate multiple accessories being taken onto the wagon forming potential trip hazards when stored on the vehicle or the slinger having hand's full whilst attempting to gain access to the vehicle
- Slingers are to familiarise themselves with the work area to be aware of their positioning in relation to:
  - The raising and lowering of any load – A safe space to stand.
  - Potential obstacles.
  - Escape routes in case they must 'get out of the way' quickly if the load spins or doesn't act as anticipated i.e., Bundled loads gathering, loads 'turning' when taking from the horizontal to the vertical, hook block & accessories not correctly sited over the centre of gravity.

The load:

- Only lift loads that are in the project approved Schedule of Lifts - if unsure, consult the Lifting Supervisor or Appointed person so that the relevant information can be provided.
- Assess the weight & CoG of the load – if unsure, again, consult the Lifting Supervisor or Appointed person so that the relevant information can be provided.
- Path of the load to be planned to ensure that the lifting operation is performed in a timely manner to negate the load being 'in the air' for any longer that it must
- Ensure the load will stay together during lifting operations and that all loose materials are removed from load or housed and retained securely within the load prior to lift.
- Ensure the load is stable when lowered and landed, prior to releasing the weight and lowering fully. i.e., employ a ratchet strap around the load to negate 'tipping' or 'spreading' [see opposite].



- If the load is repeatedly lifted, ensure there is sufficient space round the load to facilitate safe re-slinging
- When landing loads near pedestrian walkways be mindful of the possible 'fall' area of the load if it were to collapse after accessories have been removed.
- If the load requires to be landed on timbers or spacer 'chocks', make sure they are of such a size to allow a safe removal of the accessories. Do not drag accessories free from any load.

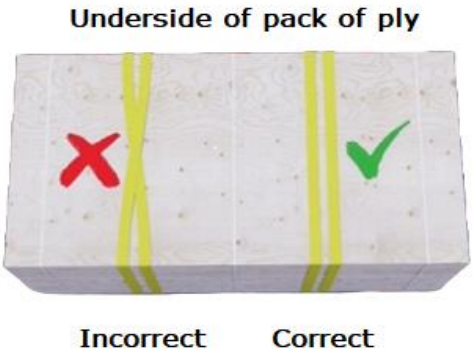
The accessories:

- All accessories used must have a current RoTE and must be suitably identified as per industry regulations.
- Prior to attachment and after removal of the accessories, they must be visually checked for any deformation or damage that could affect their continued safe use. If any damage is found then the Lifting Supervisor is to be informed, the accessory removed from service, tagged as 'Not for use' and stored away in a suitable 'Quarantine box'.
- Ensure the correct accessory is used for the lifting operation– if the correct accessory is not available then do not attempt the lift with 'other' accessories and consult your Lift supervisor and/or Appointed person.
- Check that the accessories to be used are equal to or greater than the WLL stated for use as per the lifting schedule or plan.
- Verify that the angle of use of the accessory is within an 'excluded or beta' angle of 0-45 Deg.
- As far as practicable, protect lifting accessories to ensure they are not damaged by sharp or burred edges and that they are free to align correctly.

The lift:

- Clear a safe lifting path across the project. Lifting over the head of personnel should be minimised as far as is reasonably practicable
- Make sure operatives nearby are aware that the lift is being performed. Issue audible [electronic whistles etc.] and verbal warnings to those in the immediate areas.
- Check that all operatives are clear of the path of the load.
- Attach the accessories to the load as per the lift plan. If it is found that the planned lifting arrangement is not workable, inform the Lifting Supervisor and Appointed person for further guidance and instruction. Do not attempt the lift!

  Note:
  When double wrapping ensure you 'lay' the accessories 'side by side' and ensure they don't cross over on the underside of the load.



- Conduct a 'test' lift of the load prior to movement across the project, to check balance, centre of gravity, stability and attachment of accessories is suitable to ensure a safe lift across the project
- Sling the load to suit a level lift

- Keep hands, fingers, and limbs free from the lifting accessories and choke points during hoisting – **Hands Off!**
- Prior to lifting the load, move away from the load to ensure clothing and any tools that may be carried do not become entangled – **Step Away!**
- When lifting or landing loads do not stand under the load or in any area where there is a danger of being struck or trapped by load when lowering – **Safe Space!**
- If required apply load control measures [taglines/push-pull poles] to assist in configuration of the loads

  Please note:
  When using taglines never wrap them around your hand, wrist, or body to assist in control of the load.

10. Hands Off – Step Away - Safe space:

Hands off, Step Away, Safe Space [HOSASS] is an industry initiative concerning, primarily, the historical behaviour of slingers and 'other' operatives in and around lifting operations and reducing , via various control measures, the physical interface between lift team members and the load.

The aim is to highlight to all lift team members the considerations required, from the conception of the works though to final realisation of a lifting operation, for the safe positioning ,and the positioning of others, when:

- Slinging loads – what actions are to be taken in the immediate area around the load and the control measures to be implemented.
- Hoisting loads – considerations of physical position in relation the load so to reduce the risk of being struck due to unexpected load movement from the test lift through to the final hoisting.
- Controlling the configuration of the load – how to, when to and what with.
- Lowering and landing the load – identifying at what point to approach and how to guide the load to final delivery area.
- Leaving the load – ensuring integrity of stability before 'walking away'.

Schedule of Lifts – Tower Crane

It is not a new concept to avoid putting yourself in harm's way. Despite this, it is common to see people involved in lifting operations placing themselves in locations where, if something went wrong, they could easily be hurt, or worse.

If something appears to be going wrong, it is also common to see people acting instinctively to try and sort the issue, thereby exposing themselves to further danger, rather than stopping the lift and remaining in a safe place until the load is safe to approach. Loads are more likely to move unexpectedly during the initial stages of a lifting operation, particularly when first lifted up (including for trial lift), compared to later stages of a lift.

HOSASS works on the simple principle of personnel assessing their surroundings, identifying hazards nearby, and moving to a place of safety, whenever reasonably practicable away from the load before loads are lifted up.

Personnel should only ever have their hands on a load through necessity, and not habit.

Prior to starting

Assess your surroundings and identify potential nearby hazards, for example any potential for slips, trips, and falls, crushing zones, falling objects, adjacent plant and activities, and areas where you may not be visible to others. Focus on eliminating hazards at source.

Before raising the load

Hands OFF — After slinging the load take your '**Hands Off**'

Hands OFF Step AWAY — '**Step away**' from the load

Hands OFF Step AWAY Safe SPACE — Stand in a '**Safe Space**' before giving direction to the operator

If there's a problem during the lift

Stop - Stand in a safe space and stop the lift

Wait – Wait for the load to become steady

Safe? – Only approach if it is safe to do so

Link to the ILLAPG resource section attending to 'Hands Off – Step Away – Safe Space' here

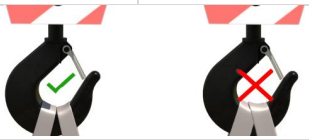
Schedule of Lifts – Tower Crane

The schedules			
Page	Title:	Page	Title:
18.	Timber – Packs of ply	61.	Formwork – Column boxes with proprietary clamp/attachments
19.	Timber – Bundles, Scaffold boards, 4' x 2'	64.	Slab formwork – Tables with proprietary lifting hook - 'C' Hook
20.	Reinforcement – Straight lengths	66.	Precast concrete elements – Kentledge or 'Kelly' concrete block
21.	Reinforcement - Links	68.	Precast concrete elements – Legato or 'Lego' blocks
22.	Reinforcement – 'L'-Shape bundles	70.	Precast concrete elements – Access chamber rings
23.	Reinforcement - Mesh packs	71.	Precast concrete elements – Access chamber cover slabs
24.	Prefabricated 'cages' – Wall sections	72.	Precast concrete elements – Vertical Concrete Barriers/Vehicle Crash Barriers (VCB's)
28.	Reinforcement - Prefabricated 'cages' - Columns	75.	Precast concrete elements – Stair units
30.	Prefabricated 'cages' – Beams	78.	Precast concrete elements – Intermediate landing units] / Capping slab units
31.	Prefabricated 'cages' – Pile capping beams	80.	Precast concrete elements – Concrete drainage pipes [Single]
32.	Transport stillages – Box/Bin	82.	Clay pipe [drainage] - Bundle
33.	Transport stillages – Open/Post/Pallett	84.	Steel pipe [drainage] - Bundle
34.	Containment accessories – Good cages	86.	Scaffolding tubes – Stillages 5' to 10' only
35.	Containment accessories – Wheeled bins	88.	Scaffold tubes – Bundles 7' to 21' only
36.	Containment accessories – Brick Fork cages	90.	Site plant – Mobile tower lights
37.	Containment accessories – Concrete Skips – Bale Arm	91.	Site plant - Compressors
39.	Containment accessories – Waste skips with rated/tested lifting points	92.	Site plant – Welding set generator
40.	Containment accessories – Self Discharge Boat skips	93.	Site plant – Compactor plate
43.	Containment accessories – Gas bottle cages - Single & multi point	94.	Site plant – Drum Roller
45.	Containment accessories – Fuel Bowser	95.	Site plant – Power trowel [float]
47.	Containment accessories – Jetwash Bowser	96.	Steel beams - Girders, H section, I section, U beams, Lintels
49.	Containment accessories – FIBC Bags (Fabric bags)	98.	Loading platform
51.	Formwork components – Ledger frames	101.	Carrying of personnel – Special note
52.	Formwork components – Primary & secondary Beams	102.	Carrying of personnel - Use of Suspended Personnel Carrier
53.	Formwork components – Support legs [outer and inner components]	107.	MEWPs
54.	Formwork components – Panel stacks	109.	Toolbox
56.	Formwork components – 'Strongback' bundles	111.	Transformer box up to 20kva
58.	Formwork – Panels with proprietary clamps in use	112.	Pedestrian barriers

Schedule of Lifts – Tower Crane

The schedules			
Page	Title:	Page	Title:
113.	Heras fence panels - Stillage & loose bundles		
114.	Excavator buckets		
115.	Timber 'Ekki' Mats		
117.	Blank template		

Load description: Timber – Packs of ply	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required so any unused chains will be hung back to the master ring. II. 2no. webbing slings min WLL 3 t of sufficient length will be attached to the ply pack in a double wrap – choke configuration. III. Hooks of chain slings will then be attached to the webbing slings. IV. Ratchet strap or securing banding to be used around load.

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 1.6m [h] x 2.4m [l] x 1.2m [w] for standard pack of ply		
Weight of Load	Typically, 1.6 t for 18mm ply but up to 1.8 t		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. webbing slings 10m @ 7kg Gross weight inc. 10% FOS: 2.101 t	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 3.36 t	**Resulting SWL** 3.36 t over all accessories stated
Alternative methodology:	If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 		
Safe lifting considerations:	I. Check underside of ply for any materials that may have adhered themselves during transit or storage. II. Securing banding or ratchet strap to be used around the pack. III. When slinging 'used' ply ensure that all elements of the load are captured by using securing banding around the pack. IV. Check integrity of landed load after removal of accessories in case of collapse. 		

Load description: Timber - Bundles i.e., Scaffold boards, 4 x 2, 6 x 3, loose timber bundles, etc.	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. II. Any unused chains will be hung back to the master ring. III. 2no. webbing slings min WLL 3 t of sufficient length will be attached to the pack in a double wrap – choke configuration. IV. Hooks of chain slings will then be attached to the webbing slings. V. Ratchet strap or securing banding to be used around load.

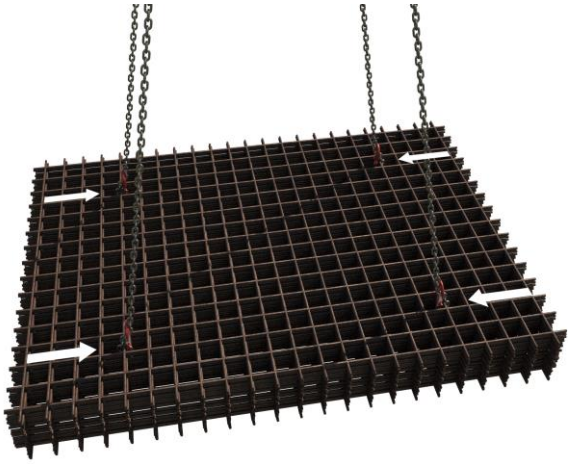
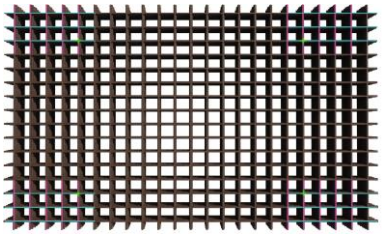
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 1000mm [h], 1000mm [w] & 4800mm [l] for standard pack of 4' x 2' or 6' x 3'		
Weight of Load	Typically, no more than 2.5 t for dimensions given		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. webbing slings 10m @ 7kg Gross weight inc. 10% FOS: 2.871 t	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 3.36 t	**Resulting SWL** 3.36 t over all accessories stated
Alternative methodology:	If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 		
Safe lifting considerations:	I. Check underside of load for any materials that may have adhered themselves during transit or storage. II. Securing banding or ratchet strap to be utilised around the load. III. Check integrity of landed load after removal of accessories in case of collapse. IV. When slinging 'used' timbers ensure that all elements of the load are captured by utilising securing banding or ratchet strap around the pack. 		

Loads description: Reinforcement – Straight lengths	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs are required so any unused chains will be hung back to the master ring. II. 2 legs of the chain sling will be attached to the load in a double wrap - choke configuration. III. Do not lift from tying wire

Lift Category:	Basic		
Dimensions of load:	Typically, in lengths from 6m to 12m with diameters of 500mm		
Weight of Load	Typically, 2.5 t for 12m lengths of 25mm reinforcement		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 2.863 t	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use in a choke configuration – [WLL of one leg multiplied by 1.4] x .8 = 3.528 t	**Resulting SWL** 3.528 t Over all accessories stated
Alternative methodology:	 Collar chains can be used around the load in the same configuration. min WLL 3.15 t ea.		
Safe lifting considerations:	I. Check the bundle for any short lengths of reinforcement that are not captured by the accessories. II. Sling to suit a level load along the length of the bundle. Where necessary a third chain can be employed to achieve the level configuration. i.e., third chain used in the middle of the load to minimise 'sagging' to allow a safe landing. III. When landing the load ensure that suitable timbers/chocks are employed to enable a safe re-slinging of the load. IV. Leave a suitable gap between landed bundles to ensure a safe access to re-sling. Considerations are to be made to the spread of the load when securing wire is removed. V. Do not stack bundles more than 2 bundles high and ensure that timbers of suitable strength and length are employed to enable safe stacking. VI. When landing loads ensure enough room is left between the bundles to allow for safe access for slinger when slinging again.		

Loads description: Reinforcement - Links			
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs are required so any unused chains will be hung back to the master ring. II. 2 legs of the chain sling will be attached to the load in a single wrap – captured choke configuration. III. Do not lift from tying wire		
Lift Category:	Basic		
Dimensions of load:	Various with no typical sizes		
Weight of Load	Typically, no more than 2 t		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t. @ 103kg Gross weight inc. 10% FOS: 2.313 t	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use in a choke configuration – [WLL of one leg multiplied by 1.4] x .8 = 3.528 t	**Resulting SWL** 3.528 t Over all accessories stated
Alternative methodology:	Collar chains can be used around the load in the same configuration. min WLL 3.15 t ea. Additionally, 4 legs of chain sling can be used at each corner of the links bundle in a choke configuration		
Safe lifting considerations:	I. When landing the load ensure that suitable timbers/chocks are employed to enable a safe re-slinging of the load. II. Leave a suitable gap between landed bundles to ensure a safe access to re-sling. III. Link bundles are not to be stacked atop each other or other loads. IV. Sling bundles to suit a level configuration.		

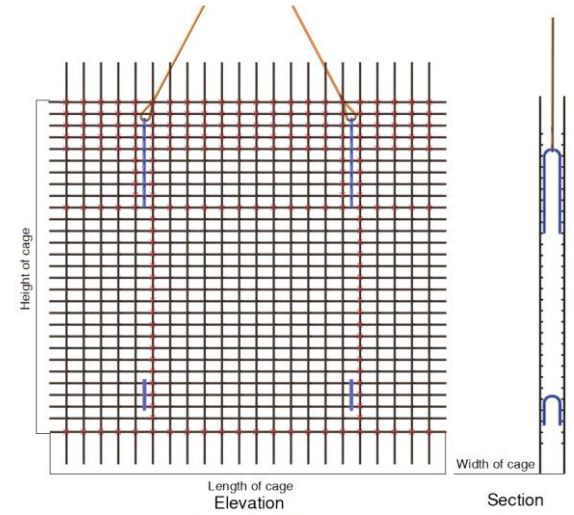
Loads description: Reinforcement – 'L'-Shape bundles			
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs are required so any unused chains will be hung back to the master ring. II. 2 legs of the chain sling will be attached to the load in a double wrap – choke configuration. III. Spacing of the chains to suit a level load. IV. Do not lift from tying wire		
Lift Category:	Basic		
Dimensions of load:	Various with no typical sizes		
Weight of Load	Typically, no more than 2 t		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 2.313 t	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use in a choke configuration – [WLL of one leg multiplied by 1.4] x .8 = 3.528 t	**Resulting SWL** 3.528 t Over all accessories stated
Alternative methodology:	 Collar chains can be used around the load in the same configuration. min WLL 3.15 t ea.		
Safe lifting considerations:	I. When landing the load ensure that suitable timbers/chocks are employed to enable a safe re-slinging of the load. II. Leave a suitable gap (600m) between landed bundles to ensure a safe access to re-sling. III. Sling bundles to suit a level configuration. Where necessary a third chain can be employed to achieve the level configuration. *Please note:* *Bundles are **not** to be slung so that the ends of the bundles are facing either downwards or upwards.* *Slinging in this configuration will make landing problematic due to load 'tipping' when landing.* 		

Loads description: Reinforcement - Mesh packs	
 Hook attachment to be at interserction of the 5th cross and the 3rd line wire	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. II. Chain slings will be attached through the pack of mesh in a captured choke configuration. III. Placement of the chains should be at the intersections of the 5th cross wire and the 3rd line wire.  IV. Do not lift from tying wire.

Lift Category:	Basic		
Dimensions of load:	Typically, 2400mm [w] x 4800mm [l] x 6000 mm [h]		
Weight of Load	Typically, 2.3 t for fifty sheets of A393 mesh sheets		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 2.644 t [ru]	**WLL x Mode Factor**	**Resulting SWL**
		4 leg chain slings with 4 legs in use – WLL multiplied by .8 = 6.72 t	6.72 t over all accessories stated
Alternative methodology:	Collar chains or can be used around the load in the same configuration. min WLL 3.15 t ea. *Please note:* *Some pre-slung packs are slung with short wire bonds. Ensure prior to lifting that they are positioned as per the diagram above and that they are of sufficient WLL after mode factors considered to lift the load*		
Safe lifting considerations:	I. When landing the load ensure that suitable timbers/chocks are employed to enable a safe re-slinging of the load. II. Leave a suitable gap between landed stacks to ensure a safe access to re-sling. IV. Do not stack mesh more than 1500mm in height to avoid the ends of the mesh at head height. V. Utilise protective covering at mesh ends when landed.		

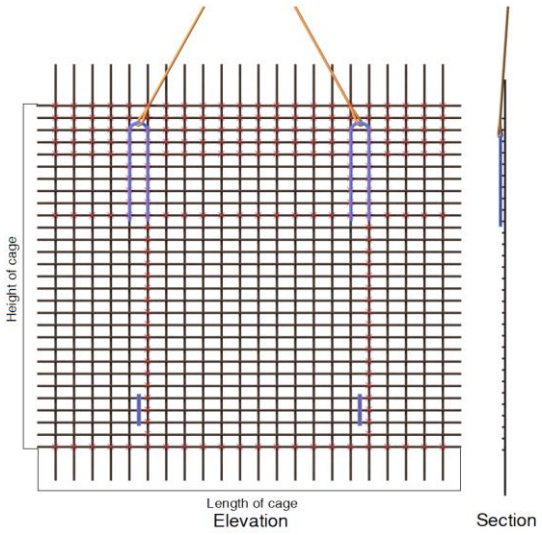
Loads description: Reinforcement - Prefabricated 'cages' – Wall sections

Special note:
*Following images & descriptions are **examples** of 'common' lifting arrangements utilized for these lifts.*
Please refer to local TW's design and confirmed arrangements to define configuration of lift



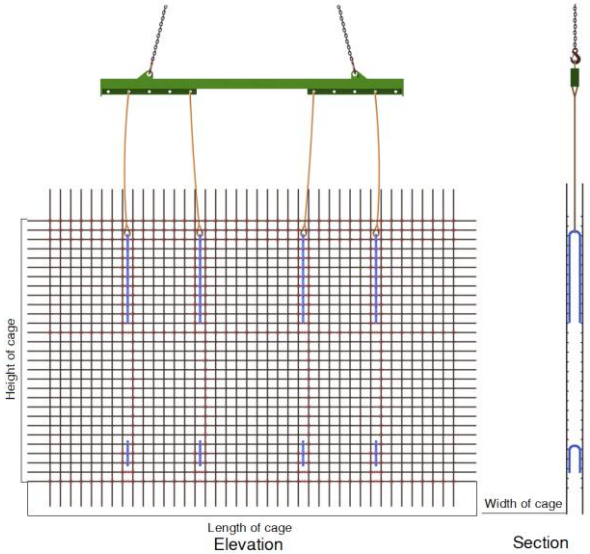
Slinging methodology: Double skinned walls
[typically for double skin walls < 4m long]

I. Check cage has TW confirmation of 'able to lift'
II. Attach 4 leg chain sling to hook block of crane. 2 legs only in use so hang spares back to the master ring.
III. Feed chains through wall section and attach to identified lifting points as per TW design for the cage.



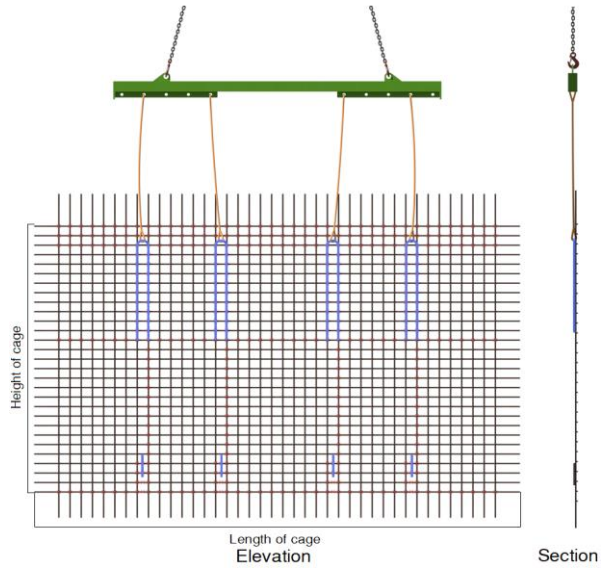
Slinging methodology: Single skinned walls
[typically for single skin walls < 4m long]

I. Check cage has TW confirmation of 'able to lift'
II. Attach 4 leg chain sling to hook block of crane. 2 legs only in use so hang spares back to the master ring.
III. Feed chains through wall section and attach to identified lifting points as per TW design for the cage.

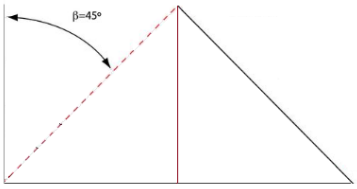


Slinging methodology: Double skinned walls
[typically for double skin walls > 4m long]

I. Check cage has TW confirmation of 'able to lift'
II. Attach 4 leg chain sling to hook block of crane. 2 legs only in use so hang spares back to the master ring.
III. Attach hooks of chain sling to attachment points of lifting beam/frame.
IV. Raise beam to allow safe attachment of ancillary accessories from underside of lifting beam/frame.
V. Feed ancillary accessories through the wall section and attach to identified lifting points as per TW design for the cage

Loads description: Reinforcement - Prefabricated 'cages' – Wall sections	
	<u>Slinging methodology: Single skinned walls</u> *[typically for single skin walls > 4m long]* I. Check cage has TW confirmation of 'able to lift' II. Attach 4 leg chain sling to hook block of crane. 2 legs only in use so hang spares back to the master ring. III. Attach hooks of chain sling to attachment points of lifting beam/frame. IV. Raise beam to allow safe attachment of ancillary accessories from underside of lifting beam/frame. V. Attach ancillary accessories to identified lifting points as per TW design for the cage

Lift Category:	Intermediate		
Dimensions of load:	Various dimensions over assorted designs: _mm [w] x _mm [h] x _mm [l]		
Weight of Load	Various weights over assorted designs _ t		
Lifting accessories used with weights of accessories:	**<u>Direct attachment</u>**: From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: _t --- **<u>Ancillary attachment via Lifting beam/frame:</u>** From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- _m Lifting beam /frame WLL @ _t *[list ancillary accessories here giving lengths, weights & WLL]* Gross weight inc. 10% FOS: _t	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use in direct attachment = WLL of one multiplied by 1.4 = 4.41 t --- 4 leg chain slings with 2 legs in use in direct attachment = WLL of one multiplied by 1.4 = 4.41 t Lifting beam/frame as per designed use *[list ancillary accessories giving mode factors employed to the WLL]*	**Resulting SWL** 4.41 t over all accessories stated --- _ t over all accessories stated
Alternative methodology:	Various methodologies can be used but note that all alternative methodologies should have gone a TW's approval process and confirmed that lift can take place.		

Loads description: Reinforcement - Prefabricated 'cages' – Wall sections	
Safe lifting considerations:	I. Ensure the attachment points for the accessories have been clearly identified and that a *TWC* approval for lifting is in place. II. Check attachment points and surrounding areas for any loose tying wire connections. If found inform the Lift Supervisor and do not lift. **IF UNSURE OF ATTACHMENT CONSULT THE LIFT SUPERVISOR FOR ADVICE.** III. Prefabrication area to be as close as possible to install area to negate lifting the load across project. Minimise distance to be travelled with the wall section. IV. When standing the wall section from horizontal to the vertical monitor the position of the block in relation to the bottom of the wall section to keep the wall section from 'swinging' when fully raised. V. Constant monitoring and adjustment are to be performed in 'slew' and 'boom' positioning to allow a safe 'standing' of the load VI. Attention to be paid to the lower sections of the vertical bars for any unanticipated 'flexing' that could cause a spring of the wall or undue swinging VII. When using a lifting beam, check the frame for any splits or creases in the structure that could affect integrity of the beam. • Has the beam been painted lately that could cover up deformities? VIII. Ensure the length of the chain sling attaching to the cage & top of the beam is of sufficient length to allow for the chain to be within a 0 to 45 deg. excluded angle.  IX. Ensure the hooks of the chain sling fit into the lifting points situated to the top of the beam. If required use bow shackles, or similar, to affect a correct attachment of the crane chain slings.  X. Ensure the ancillary accessory attachment and arrangement to the underside of the beam is 'like for like' and uniform in dimension and WLL. **DO NOT MIX & MATCH THE ACCESSORIES** XI. Attention to be paid to any ancillary accessories within the wall structure, check path of the accessory to ensure it doesn't compromise the structure of the wall. XII. Ensure scaffold tubes and timbers are not used as load bearing points in any lifting arrangements.

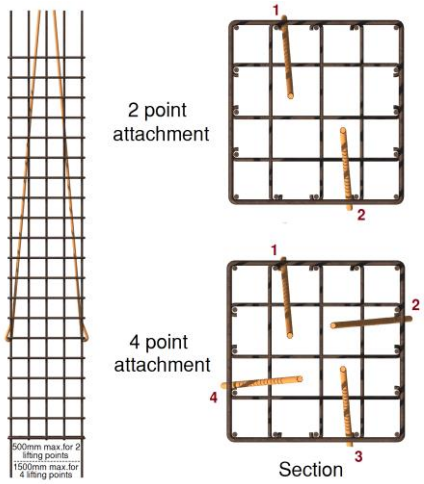
Loads description: Reinforcement - Prefabricated 'cages' – Wall sections	
Additional information:	Reference weights:

Reinforcement weight per square meter (Kg/m2)				
Bar diameter	Bar spacing			
	100mm	150mm	200mm	250mm
10mm	6.16 kg/m2	4.11 kg/m2	3.08 kg/m2	2.46 kg/m2
12mm	8.88 kg/m2	5.92 kg/m2	4.44 kg/m2	3.55 kg/m2
16mm	15.79 kg/m2	10.53 kg/m2	7.9 kg/m2	6.32 kg/m2
20mm	24.66 kg/m2	16.44 kg/m2	12.33 kg/m2	9.86 kg/m2

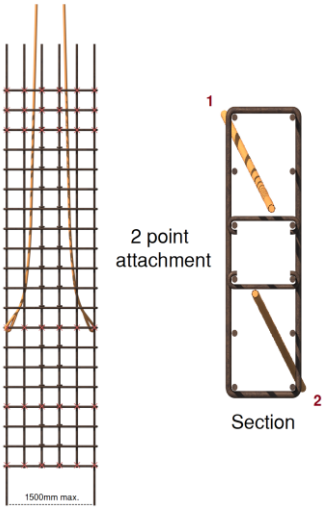
Loads description: Reinforcement - Prefabricated 'cages' - Column

Following are **examples** of lifting arrangments, *Please refer to local TW's design and confirmed arrangements for defined configuration of lift.*

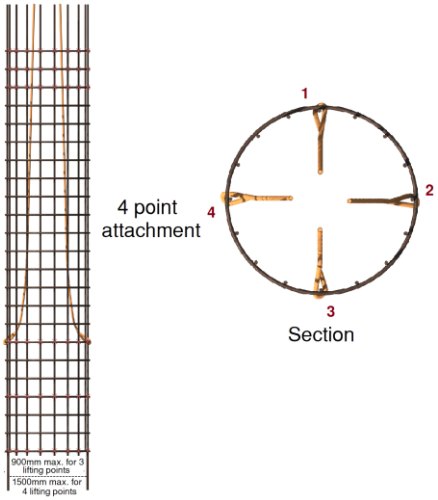
'Square column



'Rectangular column':



'Circular column'



Vertical lifting:

Slinging methodology: - 2 attachment points

[Covering 'Square' & 'Rectangular' cages]

I. Check cage has TW confirmation of 'able to lift'

II. Attach 4 leg chain sling to hook block of crane. 2 legs only in use so hang spares back to the master ring.

III. Feed chains through column and attach to identified lifting points as per TW design for the cage.

Slinging methodology: - 4 attachment points

[Covering 'Square' and 'Circular' cages]

I. Check cage has TW confirmation of 'able to lift'

II. Attach 4 leg chain sling to hook block of crane.

III. Feed chains through column and attach to identified lifting points as per TW design for the cage.

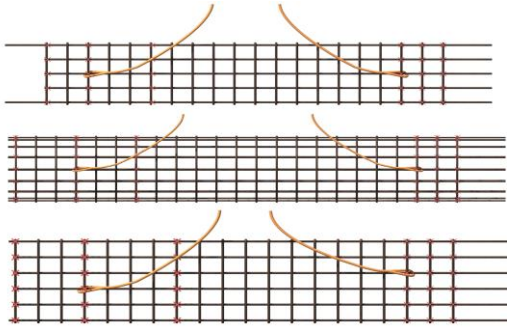
Horizontal lifting:

I. Check cage has TW confirmation of 'able to lift'

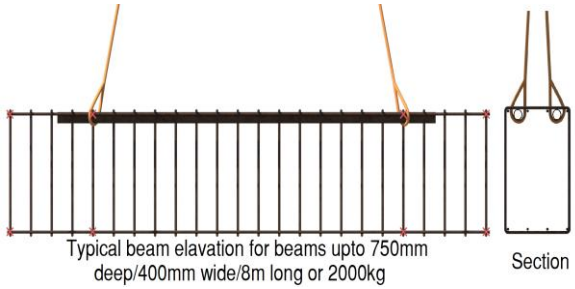
II. Attach 4 leg chain sling to hook block of crane. Dependant on design, if only 2 legs are in use, then hang spares back to the master ring.

III. Attach hooks of chain sling to the identified lifting points as per TW design for the cage in a choke configuration.

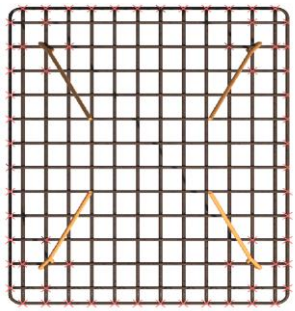
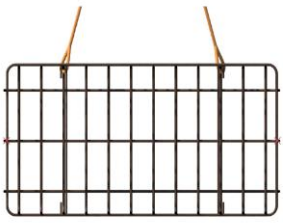
Plan view of example arrangements for horizontal lifting:



Loads description: Reinforcement - Prefabricated 'cages' - Column			
Lift Category:	Intermediate		
Dimensions of load:	Various dimensions over assorted designs: _mm [w] x _mm [h] x _mm [l]		
Weight of Load	Various weights over assorted designs _ t		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: _ t	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use in a choke configuration – [WLL of one leg multiplied by 1.4] x .8 = 3.528 t --- 4 leg chain slings with 4 legs in use – WLL multiplied by .8 = 6.72 t	**Resulting SWL** 3.528 t over all accessories stated --- 6.72 t over all accessories stated
Alternative methodology:	Various methodologies can be used. All must have gone a TW's approval process by *TWC. [Temporary Works Coordinator]* and confirmed that lift can take place		
Safe lifting considerations:	I. Ensure the attachment points for the accessories have been clearly identified and that a *TWC* approval for lifting is in place. II. Check attachment points and surrounding areas for any loose tying wire connections. If found inform the Lift Supervisor and do not lift. **IF UNSURE OF ATTACHMENT CONSULT THE LIFT SUPERVISOR FOR ADVICE.** III. Prefabrication area to be as close as possible to install area to negate lifting the load across project. Minimise distance to be travelled with the column section. IV. When standing the column section from horizontal to the vertical monitor the position of the block in relation to the bottom of the column section to keep the column from 'swinging' when fully raised. V. Attention to be paid to the accessories within the column structure, check path of the accessory to ensure it doesn't compromise the integrity of the columns structure i.e., cause 'rebar' to bend. VI. Constant monitoring and adjustment are to be performed in boom/hook block positioning to allow a safe 'standing' of the column VII. Attention to be paid to the lower sections of the vertical bars for any unanticipated 'flexing' that could cause a spring of the column or undue swinging		

Loads description: Reinforcement - Prefabricated 'cages' – Beams	
 Typical beam elavation for beams upto 750mm deep/400mm wide/8m long or 2000kg Section	Slinging methodology: I. Check cage has TW confirmation of 'able to lift' II. Attach 4 leg chain sling to hook block of crane. III. Attach hooks of chain sling to identified lifting points as per TW design for the cage.

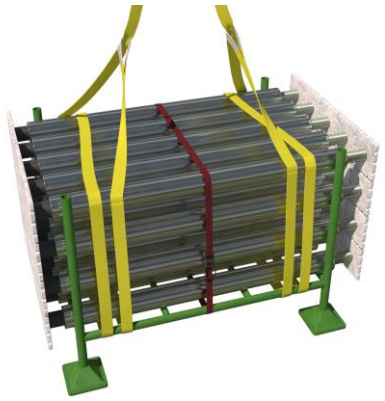
Lift Category:	Basic		
Dimensions of load:	Various dimensions over assorted designs: _mm [w] x _mm [h] x _mm [l]		
Weight of Load	Various weights over assorted designs _ t		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: _ t	**WLL x Mode Factor**	**Resulting SWL**
		4 leg chain slings as per design use	8.4 t over all accessories stated
Alternative methodology:	Various methodologies can be used, but all must have gone a TW's approval process by *TWC. [Temporary Works Coordinator]*		
Safe lifting considerations:	I. Ensure the attachment points for the accessories have been clearly identified and that a *TWC* approval for lifting is in place. II. Check attachment points and surrounding areas for any loose tying wire connections. If found inform the Lift Supervisor and do not lift. **IF UNSURE OF ATTACHMENT CONSULT THE LIFT SUPERVISOR FOR ADVICE.** III. Prefabrication area to be as close as possible to install area to negate lifting the load across project. Minimise distance to be travelled with the beams section. IV. When locating beams in trench or foundation scenarios ensure there is sufficient space around the beam and adjacent area for safe access to allow placement without putting installation operative at risk of crushing. V. Ensure there is easy access to the attachment points to allow safe removal of accessories		

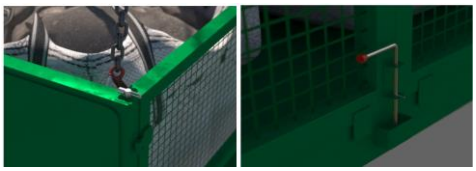
Loads description: Reinforcement - Prefabricated 'cages' – Pile capping beams	
 Plan view of a typical pad foundation cage up to 3m long, 3m wide or 2000kg  Section	Slinging methodology: I. Check cage has TW confirmation of 'able to lift' II. Attach 4 leg chain sling to hook block of crane. III. Attach hooks of chain sling to identified lifting points as per TW design for the cage.

Lift Category:	Basic		
Dimensions of load:	Various dimensions over assorted designs: _mm [w] x _mm [h] x _mm [l]		
Weight of Load	Various weights over assorted designs _ t		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: _ t [ru]	**WLL x Mode Factor**	**Resulting SWL**
		4 leg chain slings as per design use	8.4 t over all accessories stated
Alternative methodology:	Various methodologies can be used, but all must have gone a TW's approval process by *TWC. [Temporary Works Coordinator]*		
Safe lifting considerations:	I. Ensure the attachment points for the accessories have been clearly identified and that a *TWC* approval for lifting is in place. II. Check attachment points and surrounding areas for any loose tying wire connections. If found inform the Lift Supervisor and do not lift. **IF UNSURE OF ATTACHMENT CONSULT THE LIFT SUPERVISOR FOR ADVICE.** III. Prefabrication area to be as close as possible to install area to negate lifting the load across project. Minimise distance to be travelled with the beams section. IV. When locating beams in trench or foundation scenarios ensure there is sufficient space around the beam and adjacent area for safe access to allow placement without putting installation operative at risk of crushing. V. Ensure there is easy access to the attachment points to allow safe removal of accessories		

Loads description: Transport stillages – Box/Bin			
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs in use so hang the unused chains back to the master ring. II. Attach the chains slings to the stillage by feeding the chain under the stillage and taking a 'Turn' around the legs/feet. III. Make sure the 'turn' is taken around opposite legs/feet in the diagonal.		
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 600mm [h] x 800mm [w] x 800mm [l]		
Weight of Load	Typically, no more than 1 t [based on standard stillage WLL]		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 1.124 t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use in a choke configuration – [WLL of one leg multiplied by 1.4] x .8 = 3.528 t	**Resulting SWL** 3.528 t Over all accessories stated
Ancillary Equipment	Use closed mesh netting to negate any lightweight materials being blown from the confines of the stillage. When using a net covering ensure the net is secured to the body of the stillage.		
Safe lifting considerations:	I. When taking a turn around the legs/feet ensure that the chain is passed around the structure and then passed over itself. This enables the chain to be adjusted with ease while trying to sling to suit a level load. II. Check condition of the stillage prior to lifting. ▪ Integrity of the feet? ▪ Splits, dents, and creases that could affect the integrity of the structure when slinging? ▪ Base intact? III. Always check the feet of the stillage to just make sure that stones or mud etc./haven't adhered themselves to the inside of the feet. Check confines of the legs for any loose materials that may be contained within. Special note: If lifting double stacked stillages i.e., from the bed of delivery wagon, then this must be a low-level lift only and the stillages separated as soon as possible to negate overloading the bottom stillage. Checks to be made that not only are any pre slung slings used are of sufficient WLL to take the weight of both stillages, but that in date RoTE's of the slings have been checked prior to lifting.		

Schedule of Lifts – Tower Crane

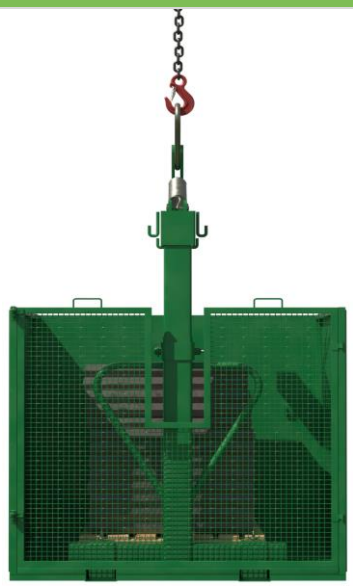
Loads description: Transport stillages – Open/Post			
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs in use so hang the unused chains back to the master ring. II. 2no. webbing slings min WLL 2 t of sufficient length will be attached to the stillage in a double wrap – choke configuration. III. Hooks of chain slings will then be attached to the webbing slings.		
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically for stillage, 1000mm [h] x 1400mm [w] x 1030mm [l]		
Weight of Load	Typically, no more than 1 t [based on standard stillage WLL]		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. webbing slings 8m @ 7kg Gross weight inc. 10% FOS: 1.124 t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over all accessories stated
Alternative methodology:	If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 		
Safe lifting considerations:	I. Sling positions to suit a level load. II. Securing banding or ratchet strap utilised to ensure integrity of the load. III. Check condition of the stillage prior to lifting. ▪ Integrity of the feet? ▪ Splits, dents, and creases that could affect the integrity of the structure when slinging? IV. Always check the feet of the stillage to just make sure that stones or mud etc./have not adhered themselves to the inside of the feet. V. Check inside the confines of the legs for any small objects, i.e. lengths of rebar/dywidag etc. that could fall out once stillage is raised. Special note: If lifting double stacked stillages i.e., from the bed of delivery wagon, then this should be a low-level lift only and the stillages separated as soon as possible to negate overloading the bottom stillage. Checks to be made that not only are any pre slung slings used are of sufficient WLL to take the weight of both stillages, but that in date RoTE's of the slings have been checked prior to lifting.		

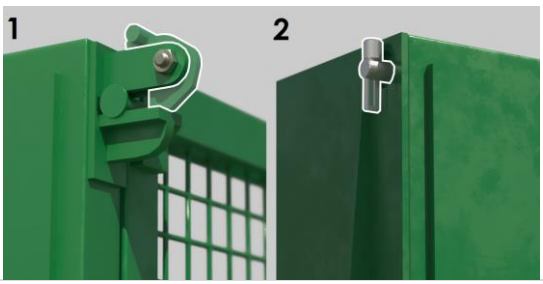
Loads description: Containment accessories – Good cages	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. II. Hooks of chain slings will then be attached to the designed lifting points of the cage. III. Ensure all primary locking and securing mechanisms are being used as per manufacturer's specifications and/or user guides. 

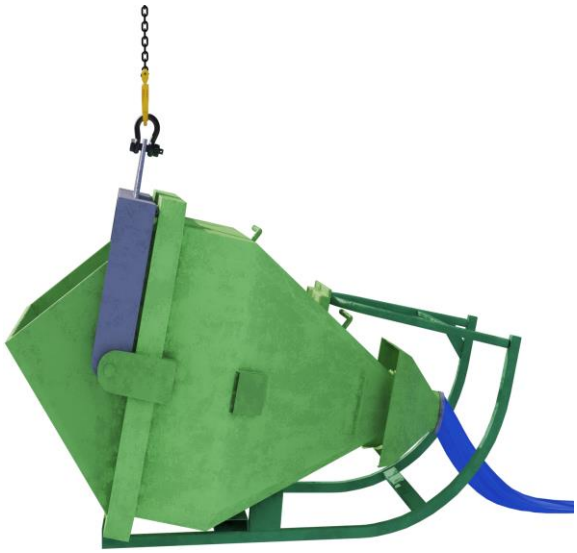
Lift Category:	Basic		
Dimensions of load:	Various dimensions: 1.5 t cage typically 1300mm [h] x 1360mm [l] x 1300mm [w] 3 t cage typically 1300mm [h] x 560mm [l] x 1300mm [w]		
Weight of Load	Max payload as per WLL of cage utilised.		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- Cage WLL 1.5 t @ 300kg [wcs] Cage WLL 3t @ 500kg [wcs] Gross weight inc.10% FOS: 2.094 t [ru] for 1.5 t cage & 3.964 t [ru] for 3 t cage	**WLL x Mode Factor** 4 leg chain slings with 4 legs in use as per design. --- Goods cage being used as per design.	**Resulting SWL** _t over all accessories stated [limited to WLL of goods cage used]
Ancillary Equipment:	Use close mesh netting to prevent any lightweight materials being blown for within the confines of the cage. When using a net covering ensure the net is secured to the body of the cage.		
Safe lifting considerations:	I. Check condition of the cage, attachment points and any locking mechanism prior to lifting. - Ensure all primary locking mechanisms on the goods cages are employed as per design use. II. Do not carry materials in the cage that exceed the height of the cage. III. Check underside of the cage for any materials that may have adhered themselves while cage has been stored, especially inside any fork tine points. IV. Always use ALL attachment points when lifting.		

Loads description: Containment accessories – Wheeled bins	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. II. Hooks of chain slings will then be attached to the designed lifting points of the wheeled bin. III. Use a secured net or designed 'lid' to ensure materials remain inside the bin during transit.

Lift Category:	Basic *[empty]*	Intermediate *[for carrying load and emptying]*	
Dimensions of load:	Various dimensions: Typically, 760mm [w] x 1460mm [l] x 855mm [h]		
Weight of Load	Typically, max. payload of wheeled bins is 750kg to 1.5 t		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- Wheeled bin @ 108kg [inclusive of designed lid for some models] Gross weight inc. 10% FOS: _ t [ru]	**WLL x Mode Factor** 4 leg chain slings with 4 legs in use as per design. --- Wheeled bin being used as per design.	**Resulting SWL** __kg over all accessories stated. [limited to WLL of wheeled bin used]
Ancillary Equipment:	Use proprietary lid (if available for model) or close mesh netting to prevent any lightweight materials being blown from within the confines of the bin. When using a net covering ensure the net is secured to the body of the bin.		
Safe lifting considerations:	I. Prior to lifting ensure that all locks to wheels on the bin are in place. II. Check condition of the wheeled bin and attachment points prior to lifting, this includes any proprietary coverings used. III. Do not carry materials in the cage that exceed the height of the bin. IV. Always use ALL attachment points when lifting. V. Do not exceed the WLL of the wheeled bin.		

Loads description: Containment accessories – Brick Fork cages	
	Slinging methodology: I. Single leg chain sling will be attached to hook block of the crane. II. Hook of chain sling will then be attached to the designed lifting point of the fork component of the cage. III. Fork component will be inserted into pallet and pallet loaded into cage. IV. Fork component will then be removed from pallet and lowered into the fork retention pockets. V. Mesh gate will be closed and secured as per manufacturer's instructions.

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 1200mm [w] x 1540mm [l] x 1300mm [h]		
Weight of Load	Typically, max. payload of the cages is 2 t		
Lifting accessories used with weights of accessories:	From hook block: Single leg chain sling 6m min WLL 2.5 t @ 10kg [ru] --- Brick fork cage @ 440kg Gross weight inc. 10% FOS: 2.7 t [ru]	**WLL x Mode Factor** Single leg chain sling in use as per design. --- Brick fork cage being used as per design.	**Resulting SWL** 2 t over all accessories stated
Ancillary Equipment:	Pallet truck requirement at loading/unloading point to load/remove pallet from cage. *Please note:* *Not essential but will make the operation more time efficient.*		
Safe lifting considerations:	I. Check condition of the cage especially the mesh frontage for any dents and creases that could affect the integrity of the cage. II. Check underside of the cage in test lift for any adhered materials III. Do not carry materials in the cage that exceed the height of the cage. IV. Ensure that door latches are engaged [1] and that the self-locking latch [2] is secured prior to lifting. 		

Loads description: Containment accessories – Concrete Skips – Bale Arm			
	Slinging methodology: I. Single leg chain sling will be attached to hook block of the crane. II. Hook of chain sling will then be attached to the designed lifting point of the concrete skip. III. Once filled, skip will be raised into upright position, tremie pipe secured and arranged so to negate any concrete escaping the pipe. Note: Best practice is to fold the tremie pipe back over the hanger stanchions located to the rear of the skip. 		
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 1780mm [w] x 2720mm [l] x 3500mm [h] for 2000l skip		
Weight of Load	Typically, max. payload of the skips is 6 t		
Lifting accessories used with weights of accessories:	From hook block: Single leg chain sling 2m min WLL 8 t @ 15 kg [ru] --- Concrete skip max weight @ 660kg Gross weight inc. 10% FOS: 7.35 t [ru]	**WLL x Mode Factor** Single leg chain sling in use as per design. --- Concrete skip being used as per design.	**Resulting SWL** 6 t over all accessories stated
Ancillary Equipment:	For storage on site and to enable a safe washing out procedure, a wash out frame should be employed.		
Safe lifting considerations:	I. When landing skip for storage (if wash out frame not employed) then ensure the bale arm securing chain is used. II. Do not use 'greedy' blocks under the frame of the skip when filling. This leads to overfilling of the skip and can lead to unintentional emptying of the skip when raised into the vertical configuration. III. Do not stand under the skip on return to concrete filling point. 		

Loads description: Containment accessories – Concrete Skips – Bale Arm	
Safe lifting considerations contd.:	

IV. When landing the skip ready to fill, ensure the concrete wagon has pulled forward to allow safe landing and to negate the chance of the hook block of the crane clashing with the hopper at the rear of the skip.

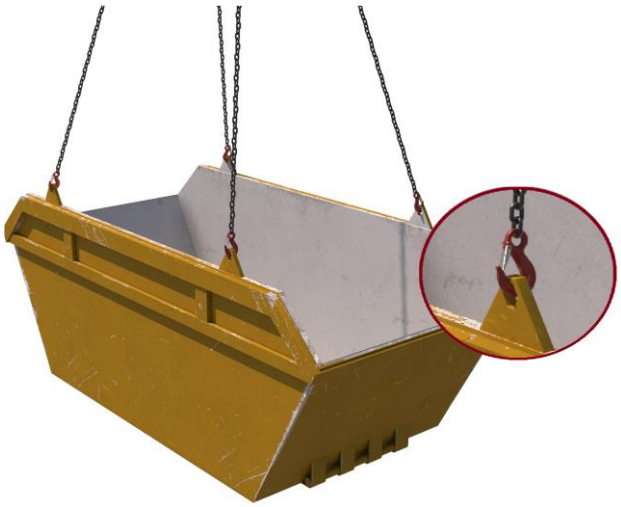
V. On filling the skip, ensure the concrete being put into the skip is being monitored for oversized lumps of concrete that could cause potential blockage of the tremie pipe when emptying at discharge point.

VI. When attaching the hook of the chain sling to the lifting point on the bale arm, check if a suitably sized shackle of sufficient WLL for the load to be carried is required/attached to enable safe attachment.

If you attach the chain sling directly to the aperture in the bale arm there is a chance that hook will not have free movement within the aperture, and this could lead to overloading of the hook.

Hold point:
Be aware of hand trap points when landing the skip into the 'prone position.

See potential hand trap points in graphic opposite.

Loads description: Containment accessories – Waste skips with rated/tested lifting points	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. II. Hooks of chain sling will then be attached to the designed lifting point of the waste skip. III. Ensure the hook of the chain is sitting correctly in the attachment point and that is has free movement. IV. Suitable closed mesh netting will now be attached to skip.

Lift Category:	Basic		
Dimensions of load:	Various dimensions but typically 1700mm [w] x 3700mm [l] x 1200mm [h] for an 8-yard skip.		
Weight of Load	Typically, max. payload of the skips is 6 t (for dimensions given above]		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- Waste Skip @ 800kg Gross weight inc. 10% FOS: 7.6 t [ru]	**WLL x Mode Factor** 4 leg chain slings in use as per design. --- Waste skip being used as per design.	**Resulting SWL** __ t [max] over all accessories stated. [limited to WLL of waste skip used]
Ancillary Equipment:	Close mesh netting to be used as cover for the skip to negate the chance of any lightweight materials being 'blown' from within the confines of the skip. When using a net covering ensure the net is secured to the body of the skip		
Safe lifting considerations:	I. Prior to the skip being allowed on the project the following checks are to be made: ▪ A report of thorough examination is held with site or produced upon arrival to project. ▪ Visual checks are made to the base of the skip checking for any cracks to welds, splits, or creases to the base of the skip that would affect the integrity of the containment. ▪ Deformation to the lift points and welds around the lifting points. II. During the test lift check the underside of the cage any adhered materials. III. Do not carry materials in the skip that exceed the height of the cage. IV. Monitor weight of load within the skip, ascertain total load in test lift. If over WLL of skip, put down and do not lift until weight of contents is reduced to WLL limit.		

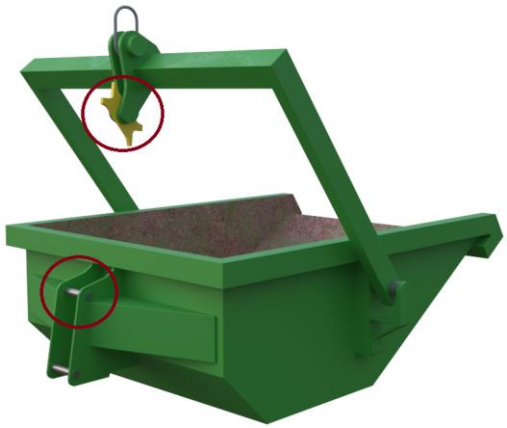
Loads description: Containment accessories – Self Discharge Boat skips			
	Slinging methodology: I. Single leg chain sling will be attached to hook block of the crane. II. Hook of chain sling will then be attached to the designed lifting point of the boat skip. III. When lowering and raising the skip ensure the 'Dog-bone' mechanism or 'Skip Catch' mechanism[s] are working as anticipated Note: See 'Dog-bone' and 'Skip catch' methodologies detailed in 'Safe Lifting Considerations'		
Lift Category:	Basic *[empty]*	Intermediate *[when carrying load and emptying]*	
Dimensions of load:	Various dimensions: Typically for a 2000 l skip 1835mm [w] x 2555mm [l] x 880mm [h]		
Weight of Load	Typically, max. payload of a 2000 l skip is 4 t		
Lifting accessories used with weights of accessories:	From hook block: Single leg chain sling 2m min WLL 5.3 t @ 15 kg [ru] --- Boat skip @ 540kg Gross weight inc. 10% FOS: 5.01 t [ru]	**WLL x Mode Factor** Single leg chain sling in use as per design. --- Boat skip being utilised as per design.	**Resulting SWL** __t over all accessories stated [limited to WLL of self-discharge skip utilised]
Ancillary Equipment:	Close mesh netting to be employed as cover for the skip to remove the likelihood of any lightweight materials being 'blown' for within the confines of the skip. When using a net covering ensure the net is secured to the body of the skip.		
Safe lifting considerations:	I. Check attachment point of the boat skip for any deformation that could affect the integrity of attachment to chain sling. II. Do not carry materials in the skip that exceed the height of the skip walls. III. Ensure load placement into the skip structure does not cause the load to tip – Load weight within the skip must evenly distributed to suit a level lift. IV. Monitor weight of loads being put into skip, ascertain total load in test lift. If over WLL of skip, put down and do not lift until weight of contents is lowered to WLL limit. V. Be aware of hand trap points when using the skip - *See potential hand trap points in graphic opposite.* 		

Loads description: Containment accessories – Self Discharge Boat skips

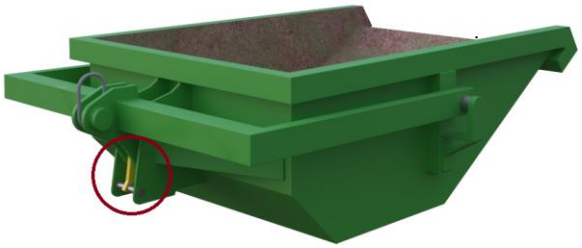
Safe lifting considerations contd.:

'Dog-bone' catch:

Self-discharging skips fitted with a lock and release system.



I. The lock is situated at the rear of the skip and engages with the catch fitted to the top of the lifting arm.



II. When the lifting arm is lowered fully, it will engage with the locking system.

III. When next raised, the skip will rise and discharge its load.

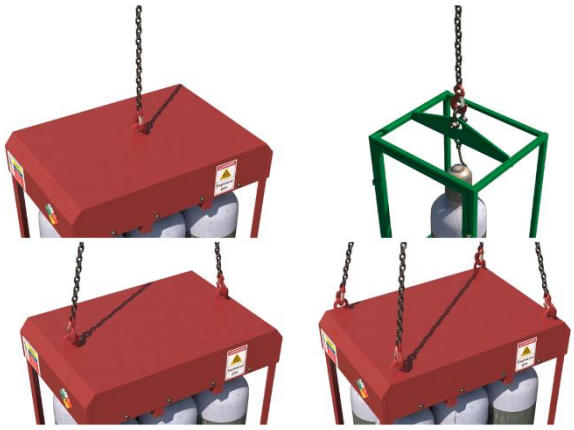
IV. When fully lowered a second time, the lifting arm will disengage from the locking system allowing the unit to be raised and manoeuvred to required location on site.

Loads description: Containment accessories – Self Discharge Boat skips	
Safe lifting considerations contd.:	Skip- catch: Self-discharging skips fitted with a hook and catch locking and release system.

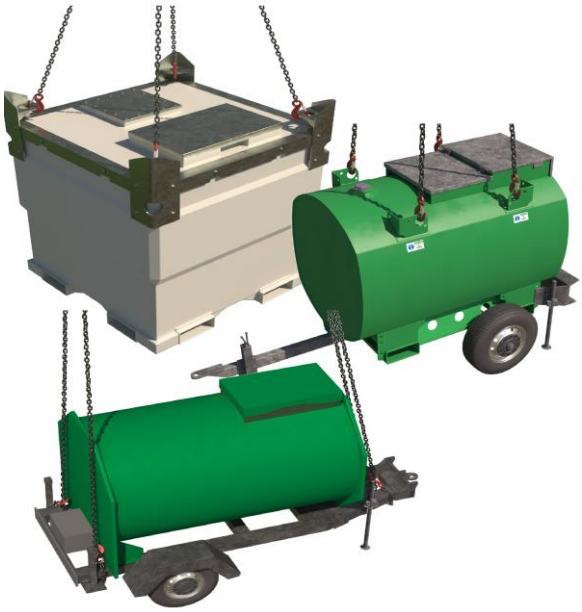
V. The hooks are located on both sides of the bale arm and the catches are situated on both sides of the skip body – *for clarity only one side shall be shown in the following methodology.*

VI. The hooks engage with the catches as the bale arm is lifted upward and towards the front of the skip and will remain in place until the skip is landed, and the bale arm lowered.

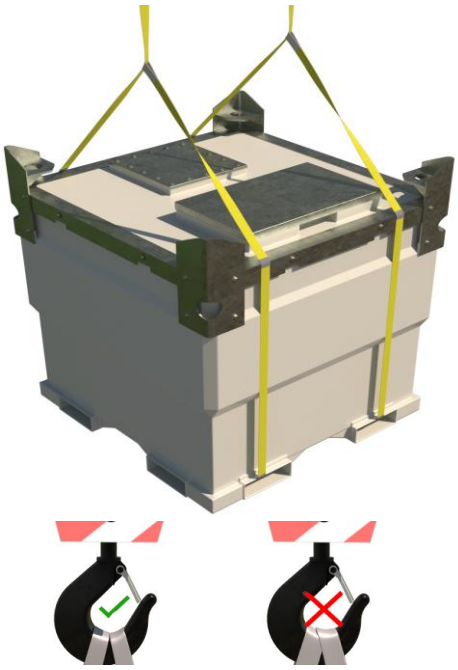
VII. When the bale arm is lowered, ensure the catch does not engage so that the centre of gravity ensures that the skip will then lift in the tipping position.

Loads description: Containment accessories – Gas bottle cages -Single & multi point			
	Slinging methodology: I. 4 leg chain sling will be attached to hook block of the crane. *For single point lifting cages, a single leg chain sling is best practice.* II. Hook[s]of chain sling will then be attached to the designed lifting point of the containment cage. Any unused chain slings to be hung back to the master ring		
Lift Category:	Intermediate		
Dimensions of load:	Various dimensions: Single bottle cage typically 600mm [w] x 515mm [l] x 1900mm [h] Multi bottle cage typically 1120mm [w] x 850mm [l] x 2000mm [h]		
Weight of Load	Typically, max. payload of the cages is 120kg for single bottle carriers and 600kg for multi bottle carriers		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg - For multiple attachment point carriers. Single leg chain sling WLL 5.3 t @ 10kg [ru] - For single attachment point carriers. --- Single Gas bottle cage @ 95kg Multi gas bottle cage @ 130kg Gross weight inc. 10% FOS: 350 kg [ru] – Single bottle cage [wcs] Gross weight inc. 10% FOS: 917 kg [ru] – Multi bottle cage [wcs]	**WLL x Mode Factor** 4 leg chain sling with 2 legs in use - WLL of 1 sling x 1.4 = 4.41 t [2no. attachment point carrier] 4 leg chain sling with 4 legs in use – As per design. [4no. attachment point carrier] Single leg chain sling in use as per design [Single attachment point carrier] --- Gas bottle cage being used as per designed use.	**Resulting SWL** Single bottle cage @ _t over accessories stated [limited to WLL of bottle cage used] --- Multi bottle cage @ _t over accessories stated [limited to WLL of bottle cage used]
Alternative methodology:	Single gas bottle cage - Single leg of a multileg chain sling of sufficient WLL can be used with the unused legs hung back to the master ring. *Special note:* *Some cylinder supply companies do not issue a RoTE for their cylinder carriers.* *In these cases, the bottle frame should be slung utilising webbing slings in a 'choke' configuration with the slings being fed through the fork tines insertion points.* *Long wear sleeves are to be used on the slings.* *They should be of sufficient length to protect the slings along all 'pinch' points anticipated.* *Slings are to be kept attached to the bottle carrier if multiple lifts of the carrier are required.*		

Loads description: Containment accessories – Gas bottle cages -Single & multi point	
Safe lifting considerations:	I. Check condition of the cage for any dents, cracks to weld or creases in sheet metal components that could affect the integrity of the cage. II. Check underside of the cage in test lift for any adhered materials III. Check all securing chains/latches/gates are engaged and working as anticipated prior to lift. *Please note:* *In some cases, the integral lifting points may be too small for a chain hook to be attached to. In this case a suitable sized bow shackle of sufficient WLL will be employed between the hook of the chain sling and the integral lifting point.*

Loads description: Containment accessories – Fuel Bowser	
	<u>Slinging methodology: Direct attachment to lifting points.</u> I. 4 leg Chain sling will be attached to hook block of the crane. II. Hooks of chain sling will then be attached to the designed lifting point of the fuel bowser. <u>Slinging methodology: Choke accessories around load</u> **Chains only:** I. 4 leg chain sling will be attached to hook block of the crane. II. Hooks of chain sling will then be attached to the bowser in a 'choke' configuration around identified points to the substructure of the bowser.

Lift Category:	Basic *[empty]*	Intermediate *[containment of fluid within]*	
Dimensions of load:	Various dimensions: Typically - Transcube bowser @ 2000 l capacity 1150mm [w] x 1320mm [h] x 2280mm [l] Typically - Towable bowser @ 950 l capacity 1449 mm [w] x 1498mm [h] x 3175mm [l]		
Weight of Load	Typically: Transcube 2000 l @ unladen 824kg / full 2.809 t Typically: Towable Bowser 950 l @ unladen 450kg / full 1.5 t		
Lifting accessories used with weights of accessories:	*Please note:* *Following weights are given for a Transcube bowser full.* **Chain slings with direct attachment:** From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg Bowser WLL _ t @ _ kg Gross weight inc. 10% FOS: 3.203 t [ru] --- **Chain slings choked:** From hook block > 4 Leg chain slings WLL 8.4t te. @ 103kg Gross weight inc. 10% FOS: 3.203 t [ru]	**WLL x Mode Factor** 4 leg chain sling as per designed use = 8.4 t --- Bowser as per designed use = _ t --- 4 leg chain sling with 4 legs in use in a 'choke' configuration = 6.72 t	**Resulting SWL** _t over accessories stated [limited to WLL of bowser used] --- 6.72 t over accessories stated

Loads description: Containment accessories – Fuel Bowser	
Alternative methodology:	Where fuel bowsers have apertures to the bottom of the structure, 'Fork' point etc., webbing slings of a suitable WLL with mode factors considered can be attached around the load in a 'choke' configuration. Employ wear sleeves to identified pinch points on the structure of the fuel bowser. *Please note:* *This methodology can only be used where there is deformation to the direct attachment points rendering them unusable* If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 
Safe lifting considerations:	I. Checks to be made with manufacturer regarding bowsers being lifted full. See data plate on the side of the bowser structure for WLL of bowser with contents if applicable. II. Ensure all jockey wheels and any outriggers are secure if lifting a wheeled bowser. [Towable Bowser] III. Check condition of jockey wheel to ascertain its condition to ensure safe landing of the bowser. [Towable Bowser] IV. Check underside of the bowser structure for any loose materials that may have adhered themselves during storage. V. Ensure all lockable access doors are closed and secured. VI. Check structure of bowser for any loose materials or tools housed within the structure of the bowser. VII. Check lifting points for any deformation that could affect integrity of the attachment and that the sizing of will allow a safe attachment with the hook of the chain sling. VIII. Ensure that hooks of chain sling move freely within the confines of the attachment point. If not, then use correctly sized shackles of a suitable WLL after mode factor considerations.

Loads description: Containment accessories – Jetwash Bowser	
 *Please note:* *Chain slings may need to be shortened to suit a level load*	Slinging methodology: I. Webbing sling of appropriate length will be fed thru the rear bowser 'tie' down points to form a 'captured cradle' arrangement. II. Webbing sling, again of appropriate length, will be attached to lifting eye positioned at the front of the bowser structure via suitably sized bow shackle. III. 4 leg chain sling will be attached to the hook block of the crane – 3 legs in use so hang the spare leg back to the master ring. IV. Attach the hooks of the chain sling to the end loops of the webbing slings

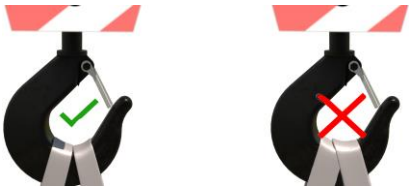
Lift Category:	Basic [empty]	Intermediate [containment of fluid within]	
Dimensions of load:	Various dimensions: Typically for a 2000 l 1600mm [h] x 4090mm [l] x 1982mm [w]		
Weight of Load	Typically: 2000 l @ unladen 715kg / full 2.8 t		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- Bow shackle Min. WLL 4.25 t @ 2kg --- Webbing slings Min. WLL 3 t of appropriate length @ 7kg [wcs] Gross weight [full] inc. 10% FOS: 3.21 t [ru]	**WLL x Mode Factor** 4 leg chain sling with 3 legs directly attached – as per design use = 8.4 t --- Bow shackle as per designed use = 4.25 t --- Webbing slings use in a 3-point lift = WLL of one multiplied by 1.4 for only 2 slings used = 4.2 t	**Resulting SWL** 4.2 t over accessories stated
Alternative methodology: **Alternative methodology [contd.]:**	If size of hook block allows, then the webbing slings can be directly attached. Ensure webbing sling lengths have been correctly selected to allow the bowser to be slung level. **DO NOT OVERCROWD THE BLOCK**  		

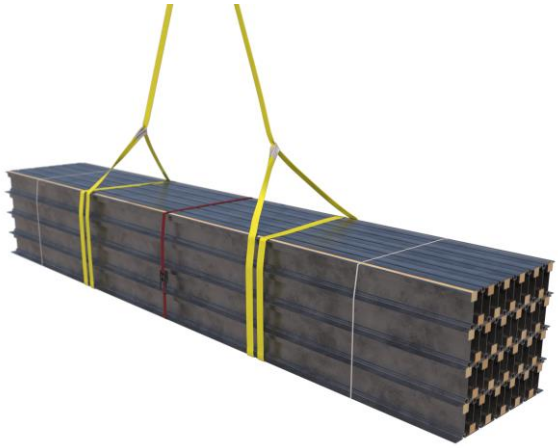
Loads description: Containment accessories – Jetwash Bowser	
	Where the sub-structure of the bowser allows, a 4 leg chain sling can be employed in a 'choke' configuration around the sub-structure at the front and rear of the bowser.  
Safe lifting considerations:	I. As far as Is reasonably practicable, lift the bowser empty or full. This is to prevent the centre of gravity changing during the lifting operation. II. Ensure all jockey wheels and any outriggers are secure. III. Check condition of jockey wheel to ascertain its condition to ensure safe landing of the bowser. IV. Check underside of the bowser structure for any loose materials that may have adhered themselves during storage. V. Check structure of bowser for any loose materials or tools housed within the structure of the bowser. VI. Check lifting points for any deformation that could affect integrity of the attachment and that the sizing of will allow a safe attachment with the hook of the chain sling. VII. Check for leaks from engine compartment for fuel powered bowsers. VIII. Do not sling around the containment element of the bowser as this can lead to 'splitting' and will affect the integrity of containment.

Loads description: Containment accessories – FIBC Bags (Fabric bags)			
	Slinging methodology: Chain sling I. 4 leg chain sling will be attached to the hook block of the crane II. Attach the hooks of the chain sling to the lifting loops of the FIBC situated to each corner of the bag structure Slinging methodology: Bulk bag Frame I. 4 leg chain sling will be attached to the hook block of the crane. Single leg in use so hang the unused chains back to the mater ring. II. Attach single leg of chain sling to attachment point of frame. III. Attach frame to bag as per manufacturer's instructions.		
Lift Category:	Basic [for lifting FIBC in containment]	Intermediate [for lifting the FIBC not in containment – Low level only]	
Dimensions of load:	Various dimensions: Typically, 900mm [h] x 900mm [l] x 900mm [w]		
Weight of Load	Typically: 1 t for dimensions given.		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- FiBC [Fabric Bag] @ 5 kg --- Bulk bag frame @ 25 kg Gross weight [full] inc. 10% FOS: 1.219 t [ru] – Chain sling with direct attachment Gross weight [full] inc. 10% FOS: 1.247 t [ru] – Bulk bag frame being utilised	**WLL x Mode Factor** 4 leg chain sling as per design use [for single leg use WLL = 2 t] --- FIBC [Fabric bag] as per design use = 1 t --- Bulk bag frame as per design use	**Resulting SWL** 1 t over accessories stated
Alternative methodology:	Bulk Bag lifting frames can be utilised if available. Ensure that the bulk bag frame is used as per manufacturer's instructions and is of sufficient WLL. Example: https://cqegroup.com/uk/wp-content/uploads/sites/5/2018/02/Bulk-Bag-Lifting-Frame-User-Guide-Issue-2.pdf *Please note:* *All methodologies described here and above are for Low-Level lifts only.*		

Loads description: Containment accessories – FIBC Bags (Fabric bags)	
Ancillary Equipment:	For lifting across projects, the bags **MUST** be placed in a suitably sized containment accessory of sufficient size to contain the bag c/w an in date RoTE. 
Safe lifting considerations:	I. All bulk bags have been inspected, prior to lifting, to ensure that they have not been damaged during transit to site. The inspection should be to the same standard as a that for a lifting accessory such as a fabric sling. The inspection should confirm that: ▪ The bags have been correctly filled and the contents have not shifted during transport. ▪ There are no abrasions, nicks, tears to the body of the bag or the lifting loops. ▪ The contents of the bags are not saturated due to rain and therefore possibly overloaded. II. Checks are made to ensure the bulk bags can be safely lifted with the lifting equipment and accessories available at site. III. The bulk bags are suitable for their intended use at site. If bulk material is to be discharged from the bottom of the bag, they should be fitted with a bottom discharge mechanism (spout). *Special Note:* *Cutting the underside with a knife is not permitted as this could cause shock loading of the crane as well as positioning someone under the load.* IV. An inspection of the bag(s) is performed to ensure they have not been contaminated with oils, greases, or chemicals during transport. V. The bulk bags are lifted in line with instructions issued by the manufacturer. VI. At no time are the bulk bags to be lifted over persons even when in a suitably sized containment accessory as above VII. When stored on site, they are single stacked only. VIII. Single-trip FIBCs should be treated as 'single use' (lifting off a vehicle after delivery), after which they should be destroyed / disposed of as their integrity cannot be guaranteed. IX. After arrival at site, Single-trip FIBCs should not be lifted other than to place them into a suitably sized stillage or certified lifting containment accessory.  X. When Bulk bags become damaged, they cannot be lifted. They should be isolated, quarantined, and identified as not for lifting. The contents should be placed into a suitably sized stillage or containment accessory as soon as possible. The bag must then be destroyed and disposed of. *It should be assumed that all Single-trip FIBCs, irrespective of content type, are damaged and could fail at any point.*

Loads description: Formwork components – Ledger frames	
	Slinging methodology: I. 2no. Webbing slings min. WLL 2 t will be attached to the frames in a single wrap 'captured choke' configuration. II. 4 leg chain sling will be attached to hook block of the crane. Only 2 legs in use so hang the unused chains back up to the master ring. III. Attach the hooks of the chain slings to the loop ends of the webbing slings.

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 1000mm [w] x 1800mm [l] x 50mm [h] – 'Single' frames Typically, 1000mm [w] x 3000mm [l] x 50mm [h] – 'Double' frames		
Weight of Load	Typically, 260 kg for a stack of 25 'Single' frames Typically, 400kg for a stack of 25 'Double' frames		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. webbing slings 6m (l) @ 7kg. Gross weight inc. 10% FOS: 407kg [ru] – 25 no. 'Single' frames Gross weight inc. 10% FOS: 561kg [ru] – 25 no. 'Double' frames	**WLL x Mode Factor** 4 leg chain sling with 2 legs in use - WLL of 1 sling x 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	Chain slings can be used directly around the load(s) in the same configuration as the webbing slings. If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 		
Safe lifting considerations:	I. Ensure the integrity of the load when landing. Employ banding or a rachet strap around the load. II. When landing the load use suitably sized timber chocks/spacers to negate having to 'drag' the accessories from the load. III. Land the load on level ground so that when any securing banding is released the load stays together.		

Loads description: Formwork components – Primary & secondary Beams	
	Slinging methodology: I. 2no. Webbing slings Min. WLL 3 t will be attached to the packs of beams in a double wrap 'choke' configuration. II. 4 leg chain sling will be attached to hook block of the crane. Only 2 legs of the chain sling are required so hang the unused chains back up to the master ring. III. Attach hooks of chain slings to the lifting loops of the webbing slings.

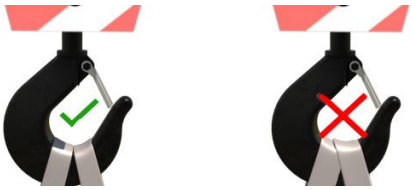
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 'Primary' beams @ 500mm [w] x 10m [l] x 1125mm [h] – [5 x 5 pack] Typically, Secondary beams @ 750mm [w] x 7.5m [l] x mm [h] – [10 x 5 pack]		
Weight of Load	Typically, 2 t for a stack of 25 primary beams Typically, 1.215 t for a stack of 50 secondary beams		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. Webbing slings 8m (l) @ 7kg Gross weight inc. 10% FOS: 2.321 t – 25 no. 'primary' beams Gross weight inc. 10% FOS: 1.48 t [ru] – 50 no. 'secondary' beams	**WLL x Mode Factor** 4 leg chain sling with 2 legs in use - WLL of 1 sling x 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 3.36 t	**Resulting SWL** 3.36 t over accessories stated
Alternative methodology:	Chain slings can be used directly around the load(s) in the same configuration as the webbing slings. If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 		
Safe lifting considerations:	I. Check load for sharp or burred edges on the beams and if necessary, utilise protective sleeves at the recognised pinch points. II. Ensure the integrity of the load when landing. Employ banding or a rachet strap around the load. III. When landing the load use suitably sized timber chocks/spacers to negate having to 'drag' the accessories from the load. IV. Land the load on level ground so that when any securing banding is released the load stays together. V. Position slings to suit a level load.		

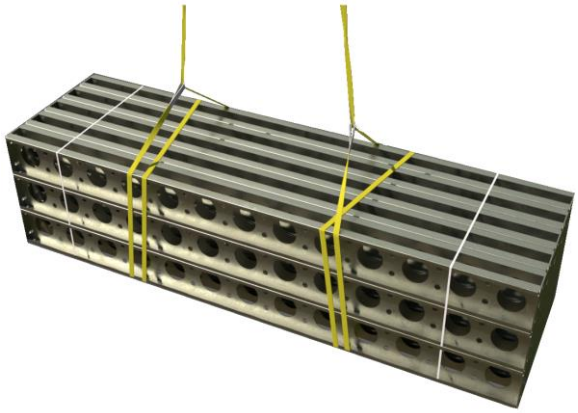
Loads description: – Formwork components – Support legs [outer and inner components]	
	Slinging methodology: I. 2no. Webbing slings min. WLL 2 te. will be attached to the packs of beams in a double wrap 'choke' configuration. II. 4 leg chain sling will be attached to hook block of the crane. Only 2 legs of the chain sling are required so hang the unused chains back up to the master ring. III. Attach hooks of chain slings to the lifting loops of the webbing slings.

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 'Outer' components 1000mm [w] x 4670mm [l] x 1000mm [h] – [5 x 5 pack] Typically, 'Inner' components 1000mm [w] 1680x mm [l] x 1000mm [h] – [5 x 5 pack]		
Weight of Load	Typically, 566 kg for a stack of 25 'outer' component Typically, 255 kg for a stack of 25 'inner' components		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. webbing slings 8 m (l) @ 7kg. Gross weight inc. 10% FOS: 744 kg [ru] – 'Outer' components Gross weight inc. 10% FOS: 401 kg [ru] – 'Inner' components	**WLL x Mode Factor** 4 leg chain sling with 2 legs in use - WLL of 1 sling x 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	Chain slings can be used directly around the load(s) in the same configuration as the webbing slings. If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK**  		
Safe lifting considerations:	I. Ensure the integrity of the load when landing. Employ banding or a rachet strap around the load. II. When landing the load use suitably sized timber chocks/spacers to negate having to 'drag' the accessories from the load. III. Land the load on level ground so that when any securing banding is released the load stays together. IV. Position sling to suit a level load. V. Check load for any loose leg components in the middle of the pack.		

Loads description: – Formwork components – Panel stacks	
	Slinging methodology: I. 2no. webbing slings min. WLL 4 t [wcs] will be attached to the packs of pans in a double wrap 'choke' configuration. II. Chain sling[s] will be attached to hook block of the crane. Only 2 legs of the chain sling are required so hang the unused chains back up to the master ring. III. Attach hooks of chain slings to the lifting loops of the webbing slings.

Lift Category:	Basic		
Dimensions of load:	Various dimensions but typically: ▪ TOPMAX 2.4m [w] x 5.4m [l] x .720m [h] [Stack 2 pack of 3] – Largest pans ▪ TOPEC [Harsco] 1.8m [w] x 1.8m [l] x 1.2m [h] [Stack of 8] – Largest pans ▪ PERI (Trio) 2.4m [w] x 3.3m [l] x 1.2m [h] [Stack of 8] – Largest pans Please note: *Above weights and dims are given as typical examples through the industry, for other manufacturer's dimensions and weights, check with supplier and adjust accessories to suit net weights calculated.*		
Weight of Load	Typically: ▪ TOPMAX @ 2.97 t for a stack of 6 [2 packs of 3] ▪ TOPEC (Harsco) @ 415 kg [ru] for a stack of 8 ▪ PERI (Trio) @ 3.184 t for a stack of 8		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. webbing slings WLL _ t 10 m [l] [wcs] @ 20kg. Gross weight inc. 10% FOS: 3.403 t [ru] – TOPMAX Gross weight inc. 10% FOS: 592 kg [ru] – TOPEC (Harsco) Gross weight inc. 10% FOS: 3.638 t[ru] – PERI (Trio)	**WLL x Mode Factor** 4 leg chain sling with 2 legs in use - WLL of 1 sling x 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = _ t	**Resulting SWL** 4.48 t over accessories stated

Loads description: – Formwork components – Panel stacks	
Alternative methodology:	. If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 
Safe lifting considerations:	I. Ensure the integrity of the load when landing. Employ banding or a rachet strap around the load. II. When landing the load use suitably sized timber chocks/spacers to negate having to 'drag' the accessories from the load. III. Land the load on level ground so that when any securing banding is released the load stays together. IV. Position sling to suit a level load. V. Check load for any shorter panels in the stack that aren't captured by banding or the accessories. VI. Protection to be used around the webbing sling if required to protect from sharp or burred edges. **Single pan movement:** When moving single panels in the horizontal i.e., to make up shutters for walls, columns, and tables etc. some formwork systems will use proprietary lifting accessories i.e., transport bolts. These lifts should be performed at low level and manufacturers recommended methodologies should be followed. **Do not lift pans as a cradled lift, even for short distances**

Loads description: Formwork components – 'Strongback' bundles	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. 2 legs only required so the unused chains will be hung back to the master ring. II. 2no. webbing slings min WLL 2 t of sufficient length will be attached to the pack of 'strong backs' in a double wrap – choke configuration. III. Hooks of chain slings will then be attached to the webbing slings.

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 900mm [w] x 3600 mm [l] x 900mm [h] [pack of 5 x 5]		
Weight of Load	Typically, 1.805 t [pack of 5 x 5]		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. webbing slings 8 m (l) [wcs] @ 7 kg. Gross weight inc. 10% FOS: 2.107 t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated

Alternative methodology:

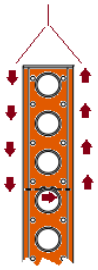
Chain sling[s] can be used in a single wrap 'captured choke' configuration through the load by passing the chain sling through the 'holes' in the structure of the bottom row of strong backs – sling to suit a level load.

If size of hook block allows, then the webbing slings can be directly attached.

DO NOT OVERCROWD THE BLOCK

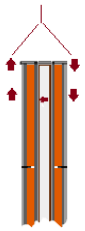
Single 'Strongback' slinging:

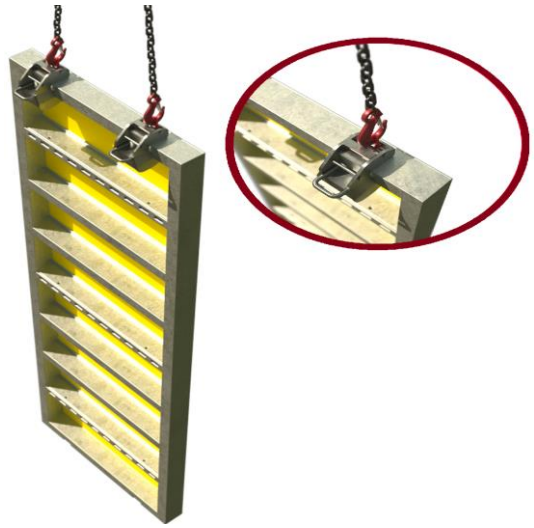
When slinging single 'strong-backs' in the vertical for placement, then checks to be made with manufacturer's instructions as some manufacturers stipulate a proprietary attachment plate or lifting point for this operation.

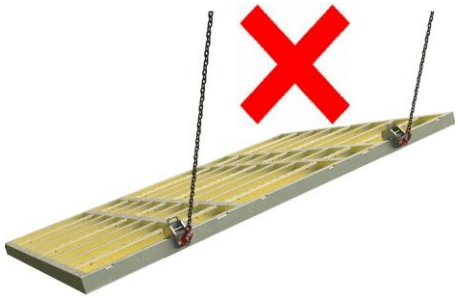


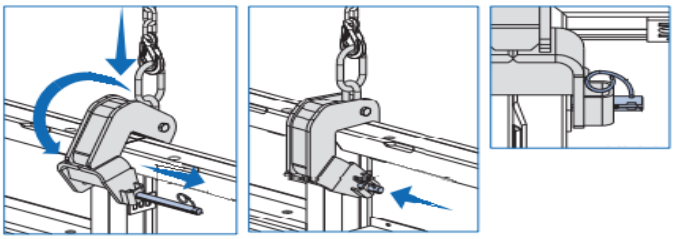
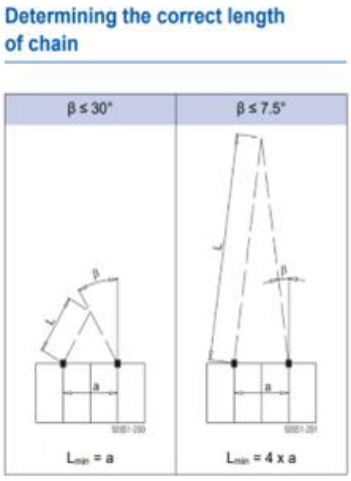
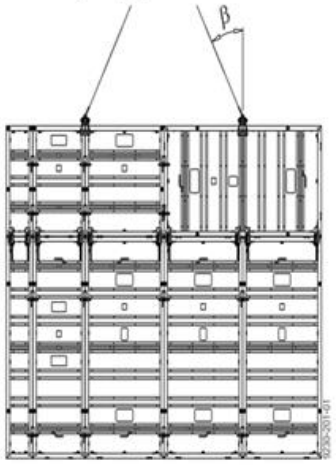
If none of the above are stipulated, then sling through either the central 'Tie Rod' space in the 'Strongback' structure in a single wrap 'captured choke' configuration.

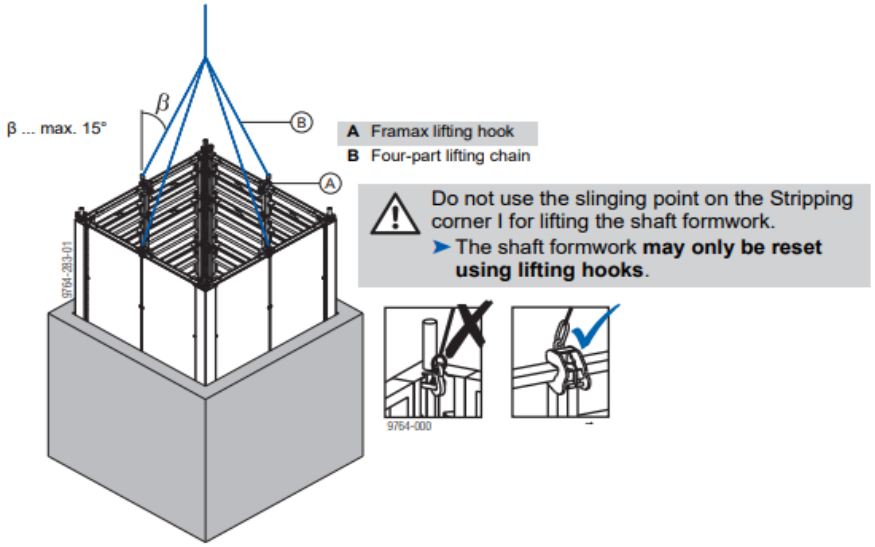
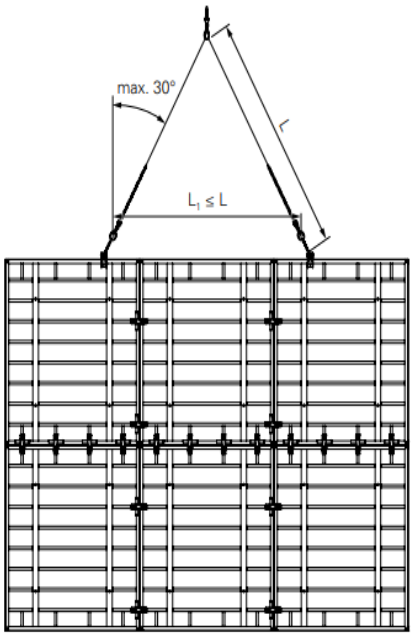
When slinging in the above arrangement ensure you sling under the first strengthening joint as a minimum.

Loads description: Formwork components – 'Strongback' bundles	
Alternative methodology contd.:	You can also sling through the holes in the structure of the 'Strongback' using the same 'captured choke' configuration. When slinging in these arrangements the schedule must reflect the changes made to weight of load, use of accessory and mode factors employed. 
Safe lifting considerations:	I. Check underside of pack for any materials that may have adhered themselves during transit or storage. II. Securing banding or ratchet strap to be used around the bundle. III. Check pack for any shorter lengths of strong backs that have been put in the pack, if found then ensure they are secure. Additional banding or ratchet strap[s] may be required. IV. When slinging ensure that all elements of the load are captured by using securing banding around the pack. V. Check integrity of landed load after removal of accessories in case of collapse. VI. Load slung to suit a level load. VII. When lifting strong backs as part of shoring or propping assemblies, ensure that they are free i.e., not bolted to the shutter or any tilt plates / anchors.

Loads description: Formwork – Panels with proprietary clamps in use	
	Slinging methodology: - Proprietary clamps I. 4 leg Chain sling[s] will be attached to hook block of the crane. Only 2 legs of the chain sling are required so hang the unused chains back up to the master ring. II. Attach 2no. proprietary clamps to the shutter as per manufacturer's instructions. III. Attach hooks of the chain slings to the attachment points of the proprietary clamps

Lift Category:	Intermediate		
Dimensions of load: **Weight of Load**	Various dimensions & weights: *See manufacturer's instructions for max. weights and size of shuttering make up for safe lifting.*		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. proprietary clamps WLL 1.5 t @ 20 kg Gross weight inc. 10% FOS: _ t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 proprietary clamps used as per manufacturer's instructions	**Resulting SWL** 3 t over accessories stated [based on 1.5t clamps being used]
Alternative methodology:	**Single clamp use:** Check manufacturer's literature for 'Single' clamp use, the clamps are limited to single pans only. **Multi clamp use on 'Box shutters' and larger area shutters** Again, check manufacturer's literature for permissible angles of sling when using multi clamp configurations. *Please note:* *A lifting beam may need to be employed to suit multi clamp use on larger area shutters*		
Safe lifting considerations:	I. Do not lift shutters to the vertical with the face of the shutter to the slab/floor unless manufacturer's guidance allows. II. Position the lifting hooks where they cannot slip or secure the lifting hooks so that they cannot slip sideways. III. Ensure that the lifting clamp attachment ring is seated correctly in the hook of the chain sling.		

Loads description: Formwork – Panels with proprietary clamps in use	
Safe lifting considerations contd.:	IV. Always ensure when removing 'shutter' from formed concrete that you do not use the crane to 'pull' the shutter away. Instead ensure the shutter is released and is clear to lift free. Pulling the 'shutter' from the formed concrete may impose forces on the clamps that are greater than the stated WLL.  **Check the shutter is free to remove – do not use the crane to release the shutter.** V. Establish weight of shutter prior to lifting for install or removal. VI. If relevant ensure all locking pins are in place.  VII. Slinger to have been familiarised and briefed on the safe use of the proprietary clamp. VIII. When landing shutter into the horizontal, ensure suitably sized timbers are placed beneath the shutter to allow safe removal of the clamps. IX. Never use the lifting clamps to lift the shutter in the 'Horizontal' across project. The clamps are only designed for 'Vertical' & 'Horizontal to Vertical' use only. X. When standing the shutter from horizontal to the vertical monitor the position of the block in relation to the bottom of the wall section so as to keep the wall section from 'swinging' when fully raised. XI. Preparation/construction area of the formwork should be as close to the install area as practicable. *Special note:* *The maximum allowable wind speed for lifting of shutters needs to be assessed on a case by case basis. Consideration should also be given to the route of the lifting operation, noting any zones of wind funnelling / buffeting.*
Additional information:	**Examples of manufacturer sling angles to be employed:** <u>Framax lifting hook [DOKA]:</u>  Gang-form with Framed formwork Framax Xlife (example): 

Loads description: Formwork – Panels with proprietary clamps in use	
Additional information: contd.	Framax lifting hook [DOKA] contd. Shaft formwork example  Lifting hook Trio [PERI]: **Max. crane sling angle = 30°** If the spacing L 1 of the Lifting Hook is smaller than the individual chain length L of the lifting gear, then the crane sling angle is ≤ 30°. (Fig. 3) If the Lifting Hook is used together with the Lifting Gear Combi TRIO, the individual chain length L of the lifting gear is a max. 3.90 m.  *Special note:* *Always refer to manufacturer's operating instructions and literature for permissible weights to be lifted & allowable angles of use of the lifting clamps.*

Loads description: Formwork – Column boxes with proprietary clamp/attachments	
	Slinging methodology: -Proprietary clamps/attachments I. 4 leg chain sling will be attached to hook block of the crane. Only 2 legs of the chain sling are required so hang the unused chains back up to the master ring II. Attach 2no. proprietary clamps/attachment points to the column shutter as per manufacturer's instructions and to suit a level load. III. Attach hooks of the chain slings to the attachment points of the proprietary clamps/integral lifting points *Please note for clarity:* ▪ ***Proprietary clamp:*** *A lifting accessory specifically designed for the formwork shuttering – LOLER applies, so RoTE, daily, and weekly check required.* ▪ ***Proprietary attachment:*** *An integral component of the formwork shuttering structure that enables lifting – PUWER applies, so daily check required.*

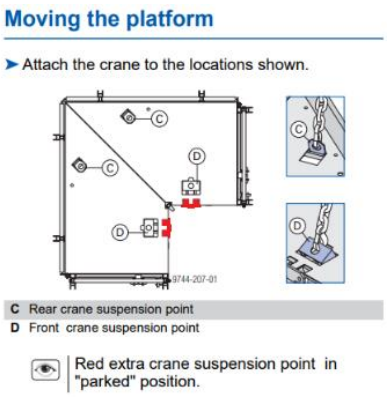
Lift Category:	Intermediate		
Dimensions of load: **Weight of Load**	Various dimensions & weights: *See manufacturer's instructions for max. weights and dimensions of column boxes permitted to be lifted.*		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. proprietary clamps WLL _t @ 20 kg Gross weight inc. 10% FOS: _ t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 proprietary clamps used as per manufacturer's instructions	**Resulting SWL** _t over accessories stated
Alternative methodology:	There are various methodologies of lifting column formwork and their associated components. Some manufacturers allow component parts i.e., Access platforms, once attached to the column structure to form lifting points to allow placement /removal of the column box. Others allow the column boxes to be lifted with proprietary support struts attached *Please note:* *When lifting column boxes with proprietary push-pulls then ensure integrity of the attachment. If 3rd party [not proprietary] push-pulls are being used, then these* ***must*** *be removed prior to lifting the column box. [see following page]*		

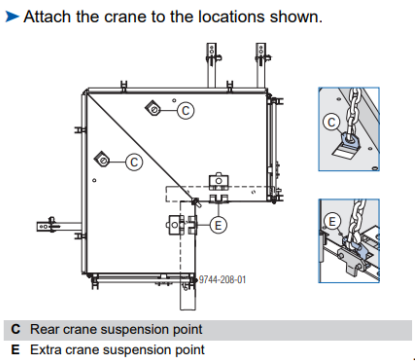
Loads description: Formwork – Column boxes with proprietary clamp/attachments

Alternative methodology: contd.:

Examples of manufacturer's components used for lifting:

DOKA access platform lifting points:



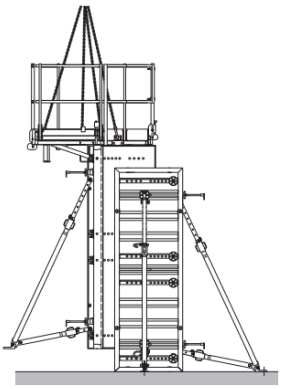


The above example shows DOKA guidance on lifting points for their access platform. The first image is for placing the platform, the second image shows the lifting points for removal. Note how the lifting points have changed!

Opposite is composite graphic showing column box being lifted with proprietary support struts.

Lifting with proprietary support struts attached is subject to a TW's review and sign off and only permissible if the project Appointed Person allows.

Lifting with 3rd party support struts is forbidden and these must be removed prior to lifting


The platform can stay attached to the formwork throughout this entire operation.

PERI access platform lifting points:

Placing of Formwork

Always install the element unit with the concreting platform first.
Locating boards facilitate formwork adjustment.

Formwork half with concreting platform (placing formwork)

1. Attach 3-sling lifting gear to the crane eyes, lift formwork to a vertical position and then transport to the place of use. (Fig. A3.01)

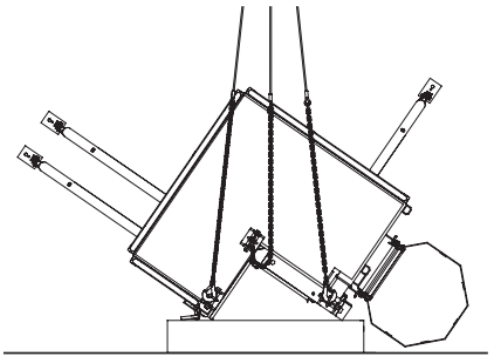


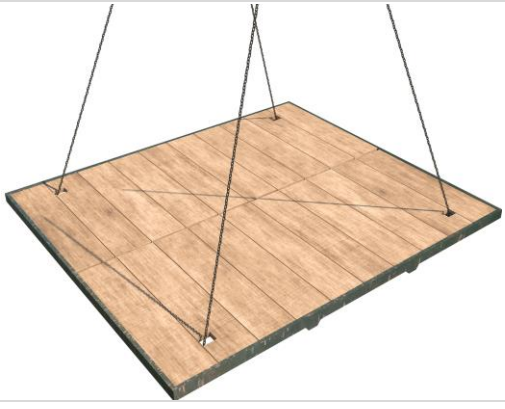
Fig. A3.01

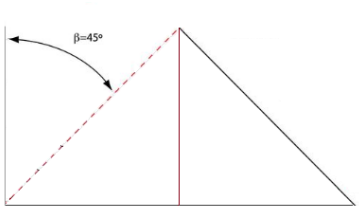
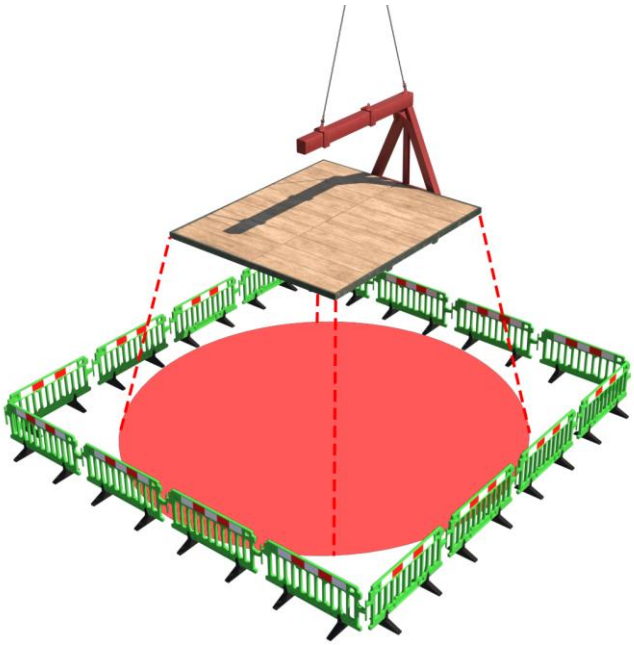
Above shows guidance provided for lifting column formwork utilising system access platform.

Always refer to manufacturer's literature and guidance when using these methodologies

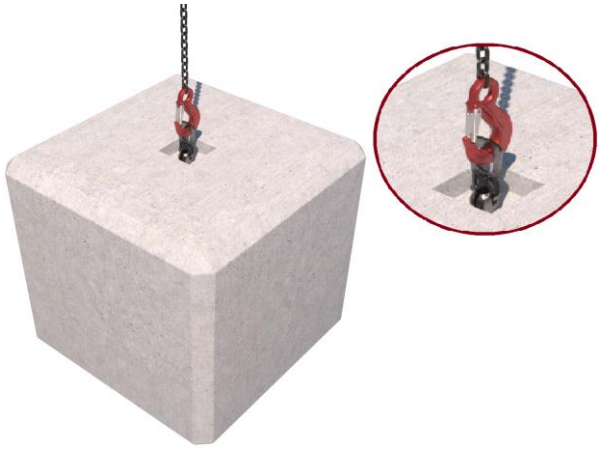
Loads description: Formwork – Column boxes with proprietary clamp/attachments	
Safe lifting considerations:	• Lifting methodology to follow manufacturer's instructions for safe use. • If integral attachments are being used, then ensure these are clearly identified and briefed to the lift team. • Ensure lifting methodology allows a safe landing of the column boxes whether it is being installed around column skeleton or being removed from completed structure. • Do not 'pull' the column box from the completed structure. Ensure the column is free for removal. Pulling the column box from the formed concrete may impose forces on the clamps/attachment used that are greater than the stated WLL. • Slinger to have been familiarised and briefed on the safe use of the proprietary clamp/proprietary attachment. • When standing the shutter from horizontal to the vertical monitor the position of the block in relation to the bottom of the column section so as to keep the wall section from 'swinging' when fully raised. • Preparation/construction area of the formwork should be as close to the install area as practicable. *Special note:* *The maximum allowable wind speed for lifting of shuttering columns needs to be assessed on a case by case basis. Consideration should also be given to the route of the lifting operation, noting any zones of wind funnelling / buffeting.*

Loads description: Slab formwork – Tables with proprietary lifting hook - 'C' Hook	
 *Please note:* *Images above and through the schedule are representational only of a typical methodology*	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. 2 legs only required so the unused chains will be hung back to the master ring. II. 2 legs of chain sling will be attached to the lifting points on the C – Hook. III. If applicable the 'forks' of the C -Hook will be adjusted. *Please note:* *Lifting points and, if applicable, 'forks' of the C–Hook will be positioned to suit CoG & sizing of table formation.* IV. C-Hook arrangement will be raised and placed under the table formation required for lifting. V. Table formation will then be attached to C- Hook as per manufacturer's instructions/safe use guide.

Lift Category:	Intermediate		
Dimensions of load:	Various dimensions to suit sizing capacity of proprietary hook – see manufacturer's guidance.		
Weight of Load	Various dimensions to suit WLL of proprietary hook with FOS considered – see manufacturer's guidance.		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- C – Hook WLL @ _t Gross weight inc. 10% FOS: _t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- Proprietary lifting hook, 'C-Hook', as per design use.	**Resulting SWL** _t over all accessories stated
Alternative methodology:	**Attachment utilising chain sling:** Chain sling[s] can be used in a single wrap 'captured choke' configuration through the load by passing the chain sling through cut 'holes' in the top timber structure of the 'table' and 'choked around the primary & secondary beams to suit a level load. 		

Loads description: Slab formwork – Tables with proprietary lifting hook - 'C' Hook	
Safe lifting considerations:	I. A specific *Risk Assessment* and method statement **must** be authored to suit the lifting of the table formation, from preparation of the arrangement thru to final install and release of C-Hook/accessories. II. Care is to be taken in the planning stage when specifying the positioning of not only the lift team members but of the install/removal team as well, through the lifting operation. III. Use of proprietary lifting hooks **must** follow the manufacturers safe use guide and operating manual. IV. When using proprietary lifting hooks [C- Hooks], ensure the install/removal team, slinger[s] and lifting supervisor[s] are familiarised on the safe use of the hook to ensure correct attachment through the lifting/placing process. XIII. When attaching the chain slings to the table formation in the 'choke' configuration , the length of the slings must be sufficient to allow for the chain to be within a 0 to 45 deg. excluded angle.  V. Exclusion and restricted 'zones' must be in place around the immediate install/removal areas and directly beneath the work area. These zones shall be suitably marshalled with appropriate signage. Area of works and timings [where practicable], must be communicated to work force in immediate and adjacent areas in DABs or specifically held toolbox talks. *Please note:* *When setting up exclusion and restricted zones around the area beneath the lifting operation, an allowance must be made for falling objects and the anticipated trajectory of fall.*  VI. Prior to lifting table formation ensure that all support 'legs' are secured in the correct manner utilising manufacturer's recommend methodologies of securing. VII. If the table formations are to be lifted inclusive of edge protection, then these attachments are subject to a TW 's confirmation to be able to lift. These attachments must be included in the weight of the table and assessment of revised balance of the load.

Loads description: – Precast concrete elements – Kentledge or 'Kelly' concrete block



Slinging methodology – Precast anchor point

I. Single leg chain sling will be attached to hook block of the crane.

II. Attach precast lifting accessory min WLL 2 t to the cast in anchor point.

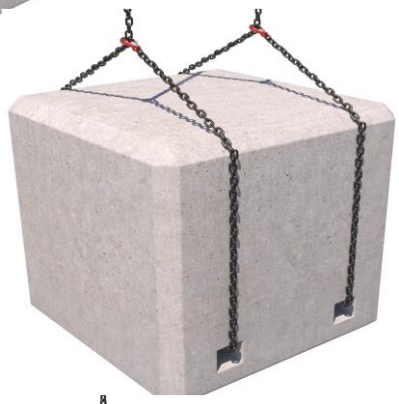
III. Hook of chain sling will then be attached to the anchor point of the concrete block.

Slinging methodology – Embedded anchor point

I. Single leg chain sling will be attached to hook block of the crane.

II. Hook of chain sling will then be attached to the embedded anchor point of the concrete block.

Special note:
Temporary works verification of anchor point required in both above methodologies.



Slinging methodology – 'Through' the block

I. 4 leg chain sling will be attached to the hook block of the crane. Only 2 legs in use so hang the unused chains back up to the Master ring.

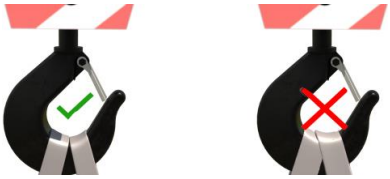
II. Feed the chains though the attachment holes in the block and utilise in a single wrap 'captured choke' configuration.

Slinging methodology – 'Around' the block

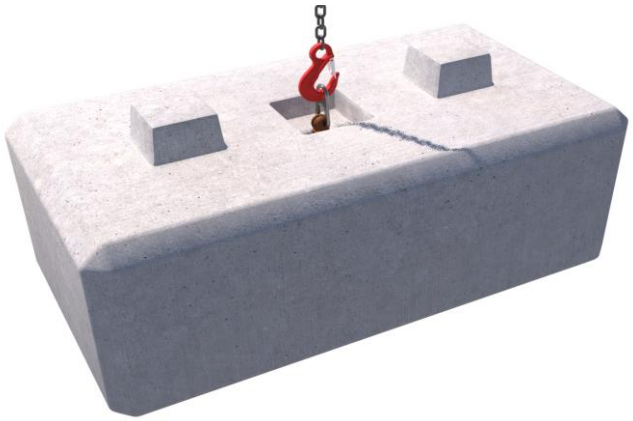
I. 4 leg chain sling will be attached to the hook block of the crane. Only 2 legs in use so hang the unused chains back up to the Master ring.

II. Feed the chains under the block in single wrap choke configuration.

Special note:
Only blocks with 'slinging' notches in the bottom of the block to be lifted this way as the notches form a 'captured choke'.

Loads description: – Precast concrete elements – Kentledge or 'Kelly' concrete block			
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 800mm [w] x 800mm [l] x 800mm [h]		
Weight of Load	Typically, max. 1800kg for dimensions given		
Lifting accessories used with weights of accessories:	***Please note:*** *The following is for the worst-case scenario [wcs] mode factors used in the shown configurations – 'Choked chains around block'* From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 2.094 t [ru]	**WLL x Mode Factor** Multi leg chain sling with 2 legs in use in 'choke' configuration – [WLL of one leg multiplied by 1.4] x .8 = 4.48 t	**Resulting SWL** 4.48 t over accessories stated
Alternative methodology:	**Attachment to anchor points:** Single leg of a multi leg chain sling can be used if of sufficient WLL. Hang unused chains back up to the master ring. **Choke attachment:** Webbing slings can be employed in the same configuration of the chain slings. If size of hook block allows, then the webbing slings can be directly attached.  **DO NOT OVERCROWD THE BLOCK**		
Safe lifting considerations:	I. When lifting from a precast or embedded attachment point a Temporary Works check should be performed to ensure integrity of the lifting point. II. Check condition of the lifting point, check for any cracks around the immediate area. III. Ensure that any threads are clean, and the lifting accessory is fully engaged / bearing on the insert / block. IV. Check underside of the block in test lift for any adhered materials. V. If utilising webbing slings, ensure there is adequate protection of the webbing slings in case of sharp edges on the block can affect the integrity of the attachment. VI. When attaching 'through' or 'around' the block, ensure the accessories are of sufficient length so that the angle of the chains doesn't require a reduction of the SWL in the configuration being used. VII. Check prior to lifting that any attachment holes or notches are of sufficient size to allow the hook of the chain sling to pass through without using excessive force.		

Loads description: – Precast concrete elements – Legato or 'Lego' blocks

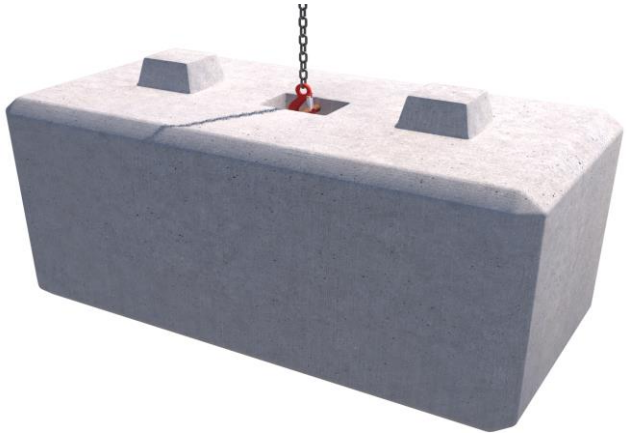


Slinging methodology – Precast anchor point

I. Single leg chain sling will be attached to hook block of the crane.

II. Attach precast lifting accessory min WLL 2 t to the cast in anchor point.

III. Hook of chain sling will then be attached.
   a. to the anchor point of the concrete block.

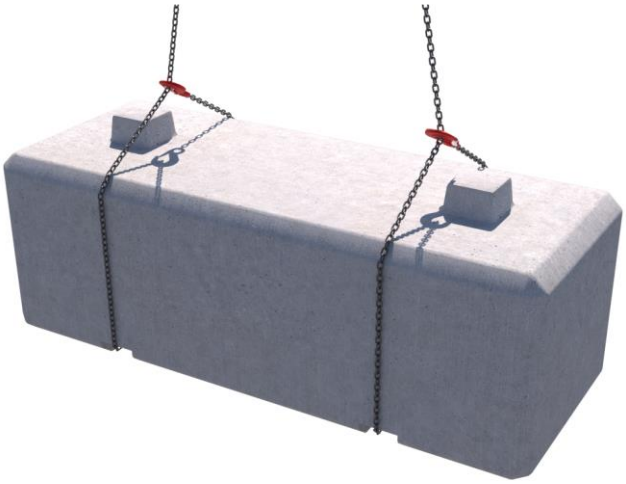


Slinging methodology – Embedded anchor point

I. Single leg chain sling will be attached to hook block of the crane.

II. Hook of chain sling will then be attached to the anchor point of the concrete block.

Special note:
Temporary works verification of anchor point required in both above methodologies.



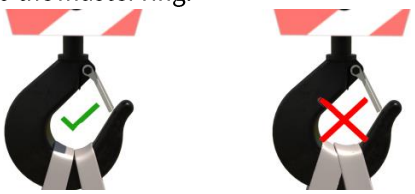
Slinging methodology – 'Around' the block

I. 4 leg chain sling will be attached to the hook block of the crane. Only 2 legs in use so hang the unused chains back up to the Master ring.

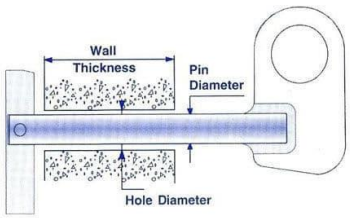
II. Feed the chains under the block in single wrap choke configuration.

Special note:
Only blocks with 'slinging' notches in the bottom of the block to be lifted this way as the notches form a 'captured choke'.

Lift Category:	Basic

Loads description: – Precast concrete elements – Legato or 'Lego' blocks			
Dimensions of load:	Various dimensions: Typically, 800mm [w] x 1600mm [l] x 800mm [h]		
Weight of Load	Typically, max. 1800kg for dimensions given		
Lifting accessories used with weights of accessories:	***Please note:*** *The following is for the worst-case scenario [wcs] mode factors used in the shown configurations – Choked chains around block* From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 2.094 t [ru]	**WLL x Mode Factor** Multi leg chain sling with 2 legs in use in 'choke' configuration – [WLL of one leg multiplied by 1.4] x .8 = 4.48 t	**Resulting SWL** 4.48 t over accessories stated
Alternative methodology:	**Attachment to anchor points:** Single leg of a multi leg chain sling can be used if of sufficient WLL. Hang unused chains back up to the master ring. **Choke attachment:** Webbing slings can be employed in the same configuration of the chain slings. If size of hook block allows, then the webbing slings can be directly attached.  **DO NOT OVERCROWD THE BLOCK**		
Safe lifting considerations:	I. When lifting from a precast or embedded attachment point a Temporary Works check should be performed to ensure integrity of the lifting point. II. Check condition of the lifting point, check for any cracks around the immediate area. III. Ensure that any threads are clean, and the lifting accessory is fully engaged / bearing on the insert / block. IV. Check underside of the block in test lift for any adhered materials. V. If utilising webbing slings, ensure there is adequate protection of the webbing slings in case of sharp edges on the block can affect the integrity of the attachment. VI. When attaching 'through' or 'around' the block, ensure the accessories are of sufficient length so that the angle of the chains doesn't require a reduction of the SWL in the configuration being used. VII. Check prior to lifting that any attachment holes or notches are of sufficient size to allow the hook of the chain sling to pass through without using excessive force.		

Loads description: – Precast concrete elements – Access chamber rings	
	Slinging methodology: I. 3no. lifting pins min. WLL 750kg will be attached to the attachment holes located in the side walls of the 'ring' structure. II. 4 leg chain sling will be attached to hook block of the crane. Only 3 legs of the chain sling are required so hang the unused chain back up to the master ring. III. Attach hooks of chain slings to the attachment eyes of the lifting pins.

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically: 1050mm [d] x 1000mm [h]		
Weight of Load	Typically, 900 kg for dimensions given		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- Man-hole lifting pins @ 6kg. Gross weight inc. 10% FOS: 1.11 t [ru]	**WLL x Mode Factor** 4 leg chain sling with 3 legs in use – As per design use --- 3 Lifting pins min WLL 750kg used as set - WLL of one multiplied by 2.1 = 1.575 t	**Resulting SWL** 1.575 t over accessories stated
Alternative methodology:	Be aware that some Man-hole rings will have a different lifting methodology i.e., 4 chains in use or a different lifting pin than the one stated. In these cases, check documentation of the Man-hole ring and if still unclear consult the manufacturer for guidance.		
Safe lifting considerations:	I. Ensure the lifting pin is correctly sized for the Man-hole ring attachment holes and thickness of the structure. II. Use the lifting pin as per manufacturer's instruction. III. During the test lift, check the underside of the ring for any adhered materials. IV. Check entire structure of the Man-Hole ring for any cracks to the concrete. If any found consult the Lift supervisor/Appointed Person for advisement on how to proceed.		

Loads description: – Precast concrete elements – Access chamber cover slabs	
	Slinging methodology: I. 4 leg chain sling will be attached to hook block of the crane. Only 3 legs of the chain sling are required so hang the unused chain back up to the master ring. II. Attach the hooks of the chain sling directly to the embedded lifting points to the structure of the cover.

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 1050mm [d] x 675mm [l] x 150mm [h]		
Weight of Load	Typically, 250 kg for dimensions given		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 389 kg [ru] –	**WLL x Mode Factor**	**Resulting SWL**
		4 leg chain sling with 3 legs in use – As per design use	8.4 t over accessories stated
Alternative methodology:	Be aware that some access chamber covers will have a different lifting methodology i.e., 4 legs of chain sling in use or a single precast/embedded lifting point. In these cases, check documentation of the access chamber cover and if still unclear consult the manufacturer for guidance. *Please note*: *For precast or embedded lifting points a temporary works design check must be made to ensure integrity of the lifting point.*		
Safe lifting considerations:	I. Prior to the lift check the hooks of the chain sling will fit onto the embedded lifting point and has free movement within the confines of the attachment point. II. During the test lift, check the underside of the ring for any adhered materials. III. Check the structure of the cover for any cracks that could affect the integrity of the lift. IV. Check the attachment points for any deformation of the point that could mean it has been weakened		

Loads description: Precast concrete elements – Vertical Concrete Barriers/Vehicle Crash Barriers (VCB's)

Slinging methodology: - 'Around' the VCB

I. Attach 4 leg chain sling to the hook block the crane.

II. Only 2 legs are required so hang the unused chains back up on to the master ring.

III. Attach the chains around the barrier in a single wrap 'captured' choke configuration.

Special note:
Only blocks with 'slinging' notches or fork points in the base of the barrier to be lifted this way as these notches/points form a captured choke.

Slinging methodology: – 'Block' Grab

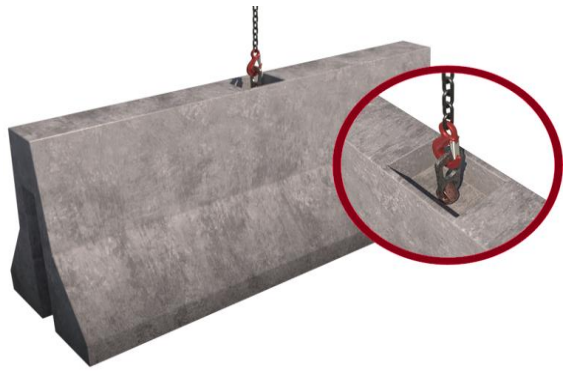
I. Attach single leg chain sling to hook block of the crane.

II. Attach hook of chain sling to the attachment point of the grab.

III. Utilise the grab on the barrier as per manufacturer's instruction.

IV. Ensure all component parts of the grab are engaged and check the integrity of load.

Special note:
Block grabs are only to be used as a low-level lift for placing.

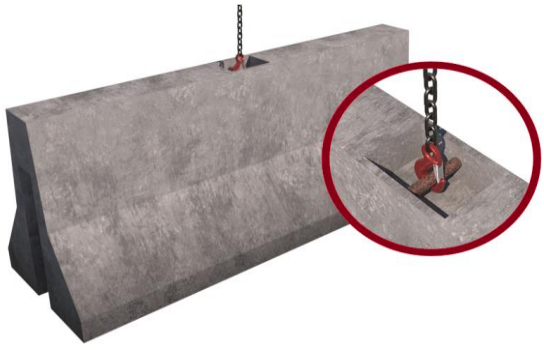


Slinging methodology: - Precast anchor point

I. Attach single leg chain sling to hook block of the crane.

II. Attach precast lifting accessory Min WLL 2.5 t. *[must be > than weight of VCB]* to the cast in anchor point.

III. Hook of chain sling will then be attached to the anchor point of the concrete block.



Slinging methodology: - Embedded anchor point

I. Attach single leg chain sling to hook block of the crane.

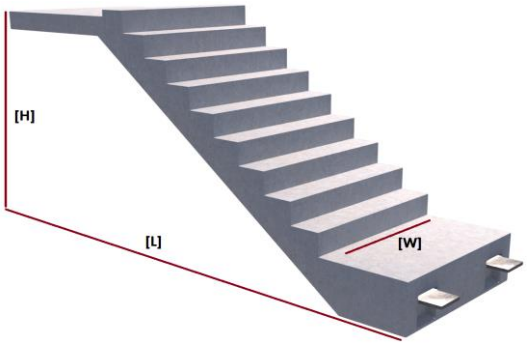
II. Attach hook of chain sling to the embedded anchor point.

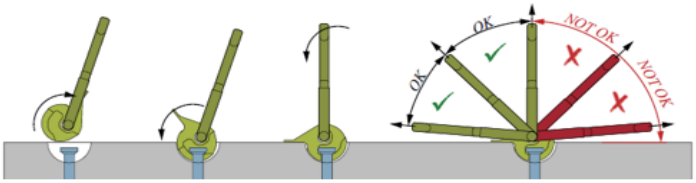
Special note:
Temporary works verification of anchor point required in the last 2 methodologies.

Schedule of Lifts – Tower Crane

Loads description: Precast concrete elements – Vertical Concrete Barriers/Vehicle Crash Barriers (VCB's)			
Lift Category:	Basic		
Dimensions of load:	Various dimensions but typically: 450mm [w] x 315 mm [l] x 800mm [h]		
Weight of Load	Typically, 2.5 t for dimensions given		
Lifting accessories used with weights of accessories:	**Chain sling methodologies** ***Please note:*** *The following is for the worst-case scenario [wcs] mode factors used of the shown configurations utilising chain slings.* From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 2.864 t [ru]	**WLL x Mode Factor** 4 leg chain sling with 2 legs in use in 'choke' configuration – [WLL of one leg multiplied by 1.4] x .8 = 4.48 t	**Resulting SWL** 4.48 t over accessories stated
	Block grab methodology: ***Please note:*** *The following is for utilisation of the block grab with worst-case scenario [wcs] weights given for accessories.* From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg --- Block grab Min WLL 3 te. @ 235kg Gross weight inc. 10% FOS: 3.122 t [ru]	4 leg chain sling with 1 leg in use in – WLL of one leg = 4 t --- Block grab as per designed use	3 t over accessories stated
Alternative methodology:	**Attachment to anchor points & block grab:** Single leg of a multi leg chain sling can be used if of sufficient WLL. Hang unused chains back up to the master ring. *Please note:* *Some manufacturers use 2no. anchor points to the top of the barrier structure. Adjust methodology, image, and accessory configurations to suit.* **Choke attachment:** Webbing slings can be employed in the same configuration of the chain slings. If size of hook block allows, then the webbing slings can be directly attached.   **DO NOT OVERCROWD THE BLOCK**		
Safe lifting considerations:	I. When lifting from a precast or embedded attachment point a Temporary Works check should be performed to ensure integrity of the lifting point. II. Ensure precast lifting attachment[s] are of the correct WLL.		

Loads description: Precast concrete elements – Vertical Concrete Barriers/Vehicle Crash Barriers (VCB's)		
Safe lifting considerations contd.	III.	Check condition of the lifting point, check for any cracks around the immediate area.
	IV.	Check underside of the barrier in test lift for any adhered materials.
	V.	If utilising webbing slings, ensure there is adequate protection of the webbing slings in case of sharp edges on the barrier that can affect the integrity of the attachment.
	VI.	When attaching 'around' the barrier, ensure the accessories are of sufficient length so that the angle of the chains doesn't require a reduction of the SWL in the configuration being used.
	VII.	Check prior to lifting that any attachment 'notches' are of sufficient size to allow the hook of the chain sling to pass through without using excessive force.
	VIII.	When using hydraulic grabs these should be of low-level lifts only. If required to lift over shoulder height then these operations are subject to a specific risk assessment being authored and should be performed in a sterile area i.e., restricted zones with physically barriered exclusion zones that are suitably marshalled, and sign posted.

Loads description: Precast concrete elements – Stair units		
	Slinging methodology: Direct attachment of chain slings to cast in anchor points… I. Lifting anchors shall be attached to the cast in lifting points as per manufacturer's instructions. II. 4 leg chain sling will then be attached to the hook block of the crane. III. Chain-sling will then be arranged to suit 'placement' of stair unit. IV. Hooks of chain sling will then be attached to the Lifting anchors  *Please note:* *Configuration of chains to be identified in the lift plan and not 'worked' out at point of lift.*	
Lift Category:	Intermediate *[as a minimum]*	Complex *[dependant on localised parameters and hazards]*
Dimensions of load:	Various dimensions: When stating sizing of the stairs give the size as per 'Install' configuration *See example opposite*	
Weight of Load	Various weights over different designs	
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- Precast attachment point anchors Min. WLL to suit weight of stairs as per design. --- Additional accessories Min. WLL to suit methodology of use in the lifting arrangement. Gross weight inc. 10% FOS: _ t [ru]	**WLL x Mode Factor** 4 leg chain slings per designed use --- Precast attachment anchors WLL as per TW design attending to stair weight --- Additional accessory [description here] Min. WLL
		Resulting SWL _t over accessories stated will be to suit design weight of stair units with mode factors considered for required use in the methodology.

Loads description: Precast concrete elements – Stair units	
Alternative methodology:	Additional accessories i.e., chain blocks, lever hoists can be employed to assist in manipulating the load orientation prior to install. When using these 'additional' accessories the WLL of ALL accessories should be assessed to factor in all considered mode factors. Ensure that the 'additional' accessories are used within their own working parameters by referring to the manufacturer's instructions as evidence they are being used as intended  *Example opposite shows a lever hoist being used on the 'upper' section of stairs to aid configuring the stairs into an 'install' orientation.*
Safe lifting considerations:	I. A specific r*isk assessment* and method statement **must** be authored to suit the lifting of the stair unit from preparation of the arrangement thru to final install and release of accessories. II. Care is to be taken in the planning stage when attending to the positioning of not only the lift team members but of the installation team as well, through the lifting operation. III. Stair unit installation historically takes place in restrictive areas with limited identifiable 'Safe Spaces'. Safe 'emergency' egress must be identified in the planning stage and prior to submittal. IV. When lifting 'blind' a robust communication strategy **must** be in place. V. Preparation area of the lifting arrangement should be as close to the install area as practicable. A lifting corridor should be planned and briefed to all the work force in the localised and adjacent work areas. VI. Any additional 'furniture' to the stair units i.e., handrails etc. are to be included in the weight of the load and subject to a TW review & confirmation of permissible attachment. VII. Seek advice from manufacturers guidance and literature for the safe use and implementation of the precast lifting accessories. This will include [but not exhaustive of] : *Following graphics are typical examples.* *Safe and correct attachment:* 

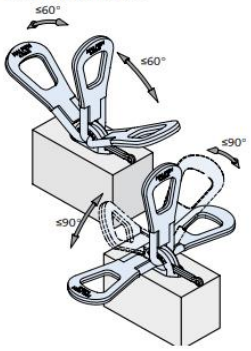
Loads description: Precast concrete elements – Stair units

Safe lifting considerations contd.:

Angles of use:

2. Lifting

The ring clutch can be subjected to loads in any direction (do not exceed the load limits of the anchors!). Angled pull of up to 60° due to the use of a spreader is permissible.



'Wear' limits of the anchors:

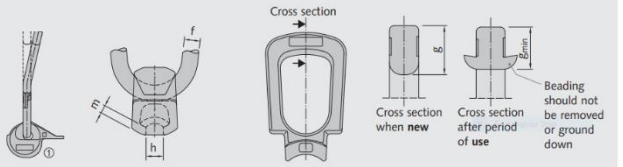
Tolerances for the universal head lifting link

Wear limits for the lip thickness "m" and hole size for "h" [mm]

Load class	1.0 to 1.3	1.5 to 2.5	3.0 to 5.0	6.0 to 10.0	12.0 to 20.0	32.0	45.0
m_{min}	5.5	6.0	8.0	12.0	18.0	24.0	24.0
h_{max}	13.0	18,0	24.5	32.5	47.5	58,0	58,0

Wear limits for minimum link diameter "g" and chain link elongation "f" [mm]

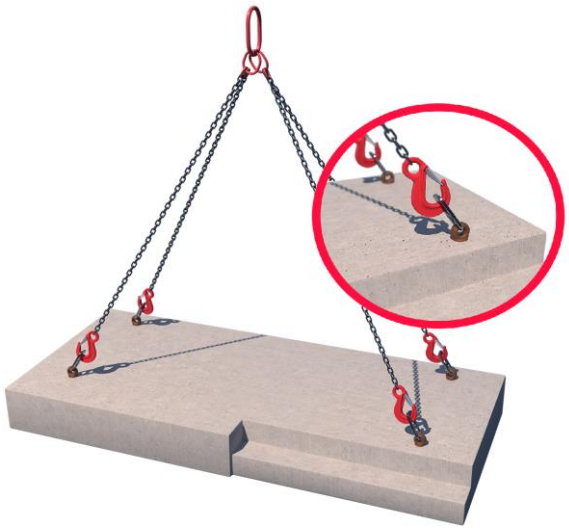
g_{min}	14.0	17.5	28.0	36.0	56.0	80.0	85.0
f_{min}	10.5	12.5	18.5	26.0	36.0	40.0	48.5



① It is prohibited to re-bend any element damaged by mis-use. De-commission the universal head lifting link if there is any significant bending.

VIII. When using additional accessories, ensure the attachment for 'in line' use is realised using appropriate attachment accessories.

Schedule of Lifts – Tower Crane

Loads description: Precast concrete elements – ILU's [Intermediate 'landing' units] / Capping slab units	
	Slinging methodology: I. Lifting anchors shall be attached to the cast in lifting points as per manufacturer's instructions. II. 4 leg chain sling will then be attached to the hook block of the crane. III. Hooks of chain sling will then be attached to the Lifting anchors

Lift Category:	Intermediate *[as minimum]*	Complex *[dependant on localised parameters and hazards]*	
Dimensions of load:	Various dimensions over assorted designs		
Weight of Load	Various weights over assorted designs		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- Precast attachment point anchors Min. WLL to suit weight of units as per design. Gross weight inc. 10% FOS: _t [ru]	**WLL x Mode Factor** 4 leg chain slings per designed use --- Precast attachment anchors WLL as per TW design attending to unit weight	**Resulting SWL** _t accessories stated [This will be to suit design weight of the units with mode factors considered for required use in the methodology]
Safe lifting considerations:	I. A specific *risk assessment* and method statement **must** be authored to suit the lifting of the landing/capping slab unit from preparation of the arrangement through to final install and release of accessories. II. Care is to be taken in the planning stage when attending to the positioning of not only the lift team members but of the installation team as well, through the lifting operation. III. Intermediate 'landing' units. These lifts historically take place in restrictive areas with limited identifiable 'Safe Spaces'. Safe 'emergency' egress **must** be identified in the planning stage. IV. Capping slabs. Historically performed at height, so again, safe 'emergency' egress and 'safe spaces' must be identified, as well as working from height management, in the planning stage. V. When lifting 'blind', which isn't uncommon especially in the placement of landing sections, then a robust communication strategy **must** be in place.		

Loads description: Precast concrete elements – ILU's [Intermediate 'landing' units] / Capping slab units

Safe lifting considerations contd.:

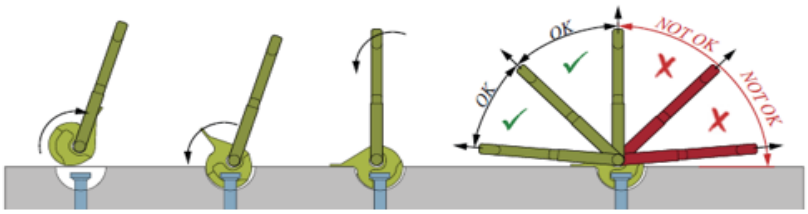
VI. Preparation area of the lifting arrangement should be as close to the install area as practicable. A lifting corridor should be planned and briefed to all the work force in the localised and adjacent work areas.

VII. Any additional 'furniture' to units i.e., handrails etc. are to be included in the weight of the load and subject to a TW review & confirmation of permissible attachment.

VIII. Seek advice from manufacturer's guidance and literature for the safe use and implementation of the precast lifting accessories. This will include [but not exhaustive of]:

Following graphics are typical examples.

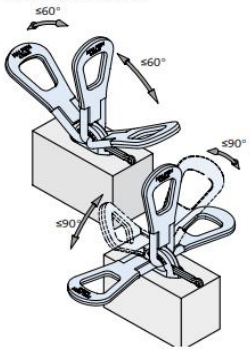
Safe and correct attachment: example graphic below



Angles of use:

2. Lifting

The ring clutch can be subjected to loads in any direction (do not exceed the load limits of the anchors!). Angled pull of up to 60° due to the use of a spreader is permissible.



'Wear' limits of the anchors:

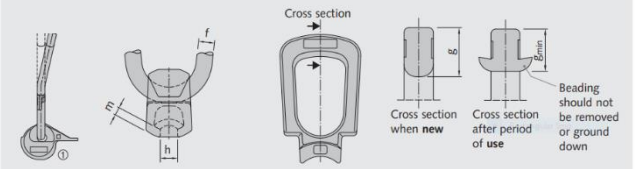
Tolerances for the universal head lifting link

Wear limits for the lip thickness "m" and hole size for "h" [mm]

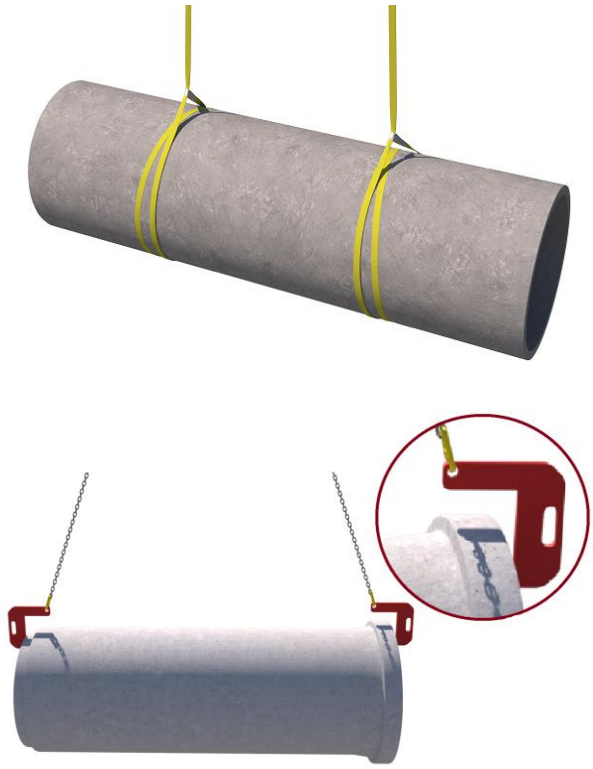
Load class	1.0 to 1.3	1.5 to 2.5	3.0 to 5.0	6.0 to 10.0	12.0 to 20.0	32.0	45.0
m_{min}	5.5	6.0	8.0	12.0	18.0	24.0	24.0
h_{max}	13.0	18,0	24.5	32.5	47.5	58,0	58,0

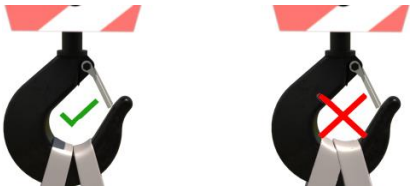
Wear limits for minimum link diameter "g" and chain link elongation "f" [mm]

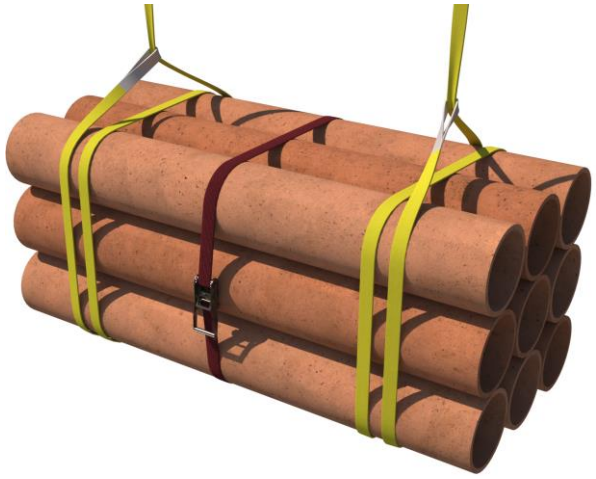
g_{min}	14.0	17.5	28.0	36.0	56.0	80.0	85.0
f_{min}	10.5	12.5	18.5	26.0	36.0	40.0	48.5



① It is prohibited to re-bend any element damaged by mis-use. De-commission the universal head lifting link if there is any significant bending.

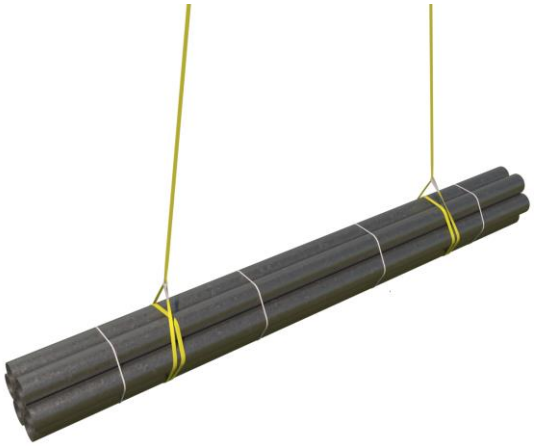
Loads description: Precast concrete elements – Concrete drainage pipes [Single]			
	Slinging methodology: - Choked slings I. 4 leg chain slings will be attached to hook block of the crane. 2 legs in use so hang the unused chains back to the master ring. II. 2no. webbing slings min WLL 3 t of sufficient length will be attached to the stillage in a double wrap – choke configuration. III. Hooks of chain slings will then be attached to the webbing slings. Slinging methodology: - Pipe lifter I. Pipe lifter chain will be attached to hook block of the crane. II. Lifting hook attachments will now be placed at the pipe ends as per manufacturer's instructions. *Please note:* *Pipe lifting chain set is **only** to be used as a low-level lifting accessory for placing.*		
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically: 1080mm [d] x 2500mm [l]		
Weight of Load	Typically, 2.057 t for dimensions given		
Lifting accessories used with weights of accessories:	Webbing Sling methodology: From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no webbing slings 8m [l] @ 7kg Gross weight inc. 10% FOS: 2.384 t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 3.36 t	**Resulting SWL** 3.36 t over accessories stated
	Pipe Lifting Chain Sling methodology: From hook block > Pipe Lifting Chain Sling WLL 2.5 t @ 60kg Gross weight inc. 10% FOS: 2.33 t [ru]	Pipe lifting chain sling as per designed use	2.5 t over accessories stated

Loads description: Precast concrete elements – Concrete drainage pipes [Single]	
Alternative methodology:	Webbing Sling methodology: If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK**  Pipe Lifting Chain Sling methodology: If the master ring of the pipe lifting chain set does not have a correct seating arrangement to the 'bowl 'of the hook of the crane, then a suitably sized shackle of sufficient WLL can be used between hook block of crane and master ring.
Safe lifting considerations:	I. Ensure the pipe lifting chain sling master ring is of sufficient size to attach to the 'bowl' of the hook of the crane. II. When using pipe lifting chain sets, these should be of low-level lifts only. If required to lift over shoulder height then these operations are subject to a specific risk assessment being authored and should be performed in a sterile area i.e., restricted zones with physically barriered exclusion zones that are suitably marshalled, and sign posted. III. All lifts with pipe lifting chain sets are to be of a slow and steady manner. IV. During the test lift check underside of the pipe for any adhered materials. V. Place accessories to suit a level load. VI. Check pipe for any cracks or signs of damage that could affect the integrity of the pipe. VII. When landing the pipe for storage ensure that suitably sized timbers or spacers chocks are employed to negate having to drag accessories from under the load. VIII. Employ stop blocks or similar to base/bottom the load to stop any rolling after accessories have been removed.

Loads description: Clay pipe [drainage] - Bundle	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. 2 legs in use so hang the unused chains back to the master ring. II. 2no. webbing slings min WLL 2 t of sufficient length will be attached to the stillage in a double wrap – choke configuration. III. Hooks of chain slings will then be attached to the webbing slings.

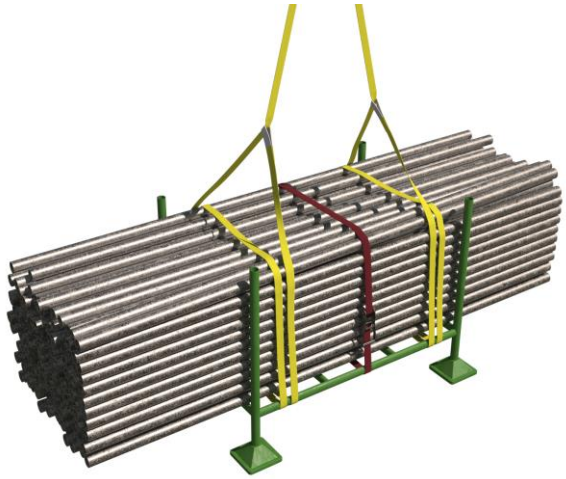
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 1000mm [w] x 1000mm [h] x 2000mm [l] for pack of 9 plain ended pipes. 300mm in diameter @ 2000mm in length @ 78.3kg p/m [ru]		
Weight of Load	Typically, 1.41 t [ru] for dimensions and specification given above		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no webbing slings 8m [l] @ 7kg Gross weight inc. 10% FOS: _t 1.672 t	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 		
Safe lifting considerations:	I. Check underside of pack for any materials that may have adhered themselves during transit or storage. II. Securing banding or ratchet strap to be used around the bundle. III. Check pack for any shorter lengths of pipe that have been put in the pack, if found then ensure they are secure. Additional banding or ratchet strap[s] may be required. IV. When slinging ensure that all elements of the load are captured by using securing banding around the pack. V. Check integrity of landed load after removal of accessories in case of collapse. VI. Load slung to suit a level load.		

Loads description: Clay pipe [drainage] - Bundle		
Safe lifting considerations contd.:	VII.	Ensure timber packing is used between levels of pipes to aid integrity & stability of load when landed.
	VIII.	After the test lift, lower the load to the floor without releasing the weight of the load and, if required, retighten the ratchet strap to ensure integrity of the encasement of the load

Loads description: Steel pipe [drainage] - Bundle	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. 2 legs in use so hang the unused chains back to the master ring. II. 2no. endless webbing slings min WLL 2 t of sufficient length will be attached to the stillage in a double wrap – choke configuration. III. Hooks of chain slings will then be attached to the webbing slings.

Lift Category:	Basic		
Dimensions of load:	Various dimension: Typically, 440mm [w] x 440mm [h] x 3000mm [l] for a pack of 16 drainage pipes - Single pipe @ 110mm diameter, 6mm wall thickness and 3000mm in length @ 16.17kg p/m [based on a standard drainage pipe cast in raft slabs]		
Weight of Load	Typically, 777 kg [ru] for specification and dimensions above		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no webbing slings 8m [l] @ 7kg Gross weight inc. 10% FOS: 976 kg [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 		
Safe lifting considerations:	I. Best practice is to use endless round slings when slinging steel tubes, the slings encase and grip the load better than flatwoven. If using flatwoven, ensure it exerts a force uniformly on to the outside of the bundle, ensuring all items within cannot move around or fall out. II. Check underside of bundle for any materials that may have adhered themselves during transit or storage.		
Safe lifting considerations contd.:	III. Securing banding or ratchet strap to be used around the bundle. IV. Check bundle for any shorter lengths of pipe that have been put in the pack, if found then ensure they are secure. Additional banding or ratchet strap[s] may be required. V. When slinging ensure that all elements of the load are captured by using securing banding around the bundle. VI. Check integrity of landed load after removal of accessories in case of collapse.		

Loads description: Steel pipe [drainage] - Bundle	
	VII. Load slung to suit a level load. VIII. Ensure timber packing is used between levels of pipes to aid integrity & stability of load when landed. IX. After the test lift lower the load to the floor without releasing the weight of the load and, if required, retighten the ratchet strap to ensure integrity of the encasement of the load

Loads description: Scaffolding tubes – Stillages 5’ to 10’ only	
 *Note:* *Image is representational only and not to scale for length of scaffold tubes*	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. 2 legs in use so hang the unused chains back to the master ring. II. 2no. webbing slings min WLL 2 t of sufficient length will be attached to the stillage in a double wrap – choke configuration. III. Hooks of chain slings will then be attached to the webbing slings.

Lift Category:	Basic		
Dimensions of load:	Various dimensions but typically: 1020mm [w] x 600mm [h] x Max. 10’ [l]		
Weight of Load	Typically, 1 t for a full stillage [based on standard stillage WLL]		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no webbing slings 8m [l] @ 7kg Gross weight inc. 10% FOS: 1.23 t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK**		
Safe lifting considerations:	I. Sling positions to suit a level load. II. Check condition of the stillage prior to lifting. III. Check integrity of the feet to ensure the stillage doesn’t collapse on landing. IV. Splits, dents, and creases that could affect the integrity of the structure when slinging? V. Always check the feet of the stillage to just make sure that stones or mud etc./haven’t adhered themselves to the inside of the feet. VI. Check inside the confines of the legs for any small objects, length of rebar/Dywidag etc. that could fall out once stillage is raised.		

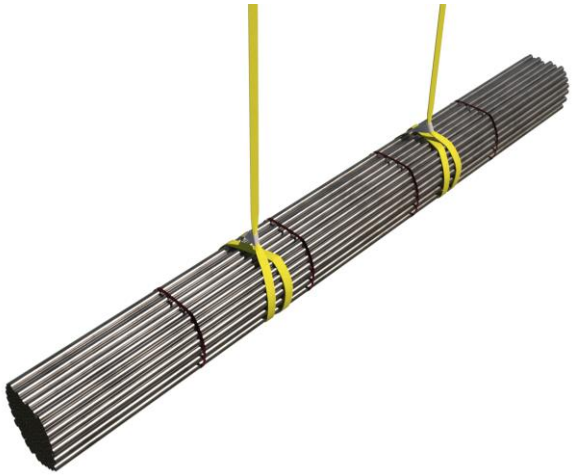
Loads description: Scaffolding tubes – Stillages 5’ to 10’ only	
Safe lifting considerations contd.:	VII. Ensure that all lengths of the tubes are of similar length and remove any short lengths prior to lifting. VIII. Ensure that there are no loose tubes that can slide out of the middle of the bundle during the lifting operation. IX. Ratchet strap **must** be employed around the stillage, so it encases the bundle of tubes. After the test lift, lower the stillage to the floor without releasing the weight of the load and, if required, retighten the ratchet strap to ensure integrity of the encasement of the load.
Additional information:	Reference weights:

Reference weights:	Tube length [m/foot]			
	1.52m/5’	1.829m/6’	2.439m/8’	3.048m/10’
1no. tube [kg]	6.84 kg	8.24 kg [ru]	11 kg [ru]	13.8 kg [ru]
Bundle of 61no. [kg]	418 kg [ru]	503 kg [ru]	671 kg	842 kg [ru]

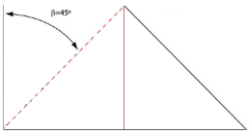
All weights based on 4.5kg per metre and rounded up thru each calculation.

For example:
10’ scaffold tube @ 3.048m so…3.048 x 4.5 = 13.716 ru. to 13.8 x 61 (tubes) = 841.8 kg ru. to 842kg

Schedule of Lifts – Tower Crane

Loads description: Scaffold tubes – Bundles 7’ to 21’ only	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. 2 legs in use so hang the unused chains back to the master ring. II. 2no. webbing slings min WLL 2 t of sufficient length will be attached to the bundle in a double wrap – choke configuration. III. Hooks of chain slings will then be attached to the webbing slings.

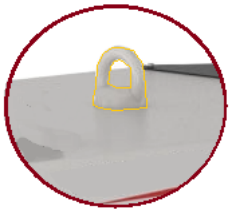
Lift Category:	**Basic**		
Dimensions of load:	Various dimensions: Typically, (for a bundle of 61 x 21’ tubes) 435 mm [w] x 6410 mm [21’] [l] x 435 mm [h]		
Weight of Load	Typically, 1.72 t [wcs] for a pack of 61 x 21’ tubes		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- 2no. webbing slings @ min 3.5m (l) @ 5kg Gross weight inc. 10% FOS: 2.1 t [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK**  		
Safe lifting considerations:	I. Best practice is to use endless round slings when slinging scaffold tubes, the slings encase and grip the load better than flatwoven. If using flatwoven, ensure it exerts a force uniformly on to the outside of the bundle, ensuring all items within cannot move around or fall out. II. When slinging the scaffold tubes with webbing slings, keep the length of the slings down to a minimum. With other bundled loads, longer slings are required to enable a double wrap. With scaffold tubes, the circumference of a manufacturer’s bundle of 61 tubes is approx. 1.74m so to enable a double wrap only 3.5m of sling is required. Keeping the slings to a minimum will help negate the swing of the load.		

Loads description: Scaffold tubes – Bundles 7’ to 21’ only	
Safe lifting considerations contd.	*Special note:* *When directly attaching webbing slings to the block, the length of the slings must be sufficient to keep within a 0 to 45 deg. excluded angle.*  III. Ensure that all lengths of the tubes are of similar length and remove any short lengths prior to lifting. IV. Place slings to suit a level load. V. Securing banding or ratchet strap to be used around the bundle.
Additional information:	Reference weights:

Reference weights:	Tube length [m/foot]			
	1.52m/5’	1.829m/6’	2.439m/8’	3.048m/10’
1no. tube [kg]	6.84 kg	8.24 kg [ru]	11 kg [ru]	13.8 kg [ru]
Bundle of 61no. [kg]	418 kg [ru]	503 kg [ru]	671 kg	842 kg [ru]

All weights based on 4.5kg per metre and rounded up thru each calculation.

For example:
10’ scaffold tube @ 3.048m so… 3.048 x 4.5 = 13.716 ru. to 13.8 x 61 (tubes) = 841.8 kg ru. to 842kg

Loads description: Site plant – Mobile tower lights	
	Slinging methodology: I. Configure the lighting set mast for lifting as per manufacturer's instructions. II. Attach single leg chain sling to hook block of the crane. III. Attach hook of chain sling to the identified lifting point of the anchor point. *Please note:* *Lifting points are usually identified by the mark shown opposite*  *Where lifting points are not marked then consult the operating manual – see opposite for typical non - marked lifting point.* 

Lift Category:	Basic		
Dimensions of load:	Various dimensions but typically: 1380mm [w] x 2420mm [h] x 2320mm [l]		
Weight of Load	Typically, 1 t for dimensions given		
Lifting accessories used with weights of accessories:	From hook block > Single leg chain sling WLL 2 t @ 25 kg Gross weight inc. 10% FOS: 1.128 t [ru]	**WLL x Mode Factor**	**Resulting SWL**
		Single leg chain sling as per designed use	2 t over accessories stated
Alternative methodology:	Single leg of a multileg chain sling of sufficient WLL can be used with the unused legs hung back to the master ring.		
Safe lifting considerations:	I. Prior to lifting check all jockey wheels and outriggers [If applicable] are secure. II. Check housing of the lighting set for any loose materials or tools that could be stored within. III. Check engine compartment for oil or fuel leaks IV. Check mast section is locked and configured for lifting. Do not lift without the mast section detracted or suitably stowed as per manufacturer's instructions 		

Loads description: Site plant – Mobile tower lights		
	V. Check jockey wheel condition to allow safe landing of the lighting set VI. Check glass on light frames to ensure there are no cracks that could affect the integrity of the housing of the glass once lifted. VII. Check integrity of the lifting point for deformities.	

Loads description: Site plant - Compressors	
	Slinging methodology: I. Attach single leg chain sling to hook block of the crane. II. Attach hook of chain sling to the integral lifting point of the compressor anchor point.

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 1700mm [w] x 1545mm [h] x 3565mm [l] for 4 tool compressor		
Weight of Load	Typically, 1.3 t for 4 tool compressor		
Lifting accessories used with weights of accessories:	From hook block > Single leg chain sling WLL 2 t @ 25kg Gross weight inc. 10% FOS: 1.458 t [ru]	**WLL x Mode Factor** Single leg chain sling as per designed use	**Resulting SWL** 2 t over accessories stated
Alternative methodology:	Single leg of a multileg chain sling of sufficient WLL can be used with the unused legs hung back to the master ring. *Special note:* *Where the lifting point appears to be corroded / unsound for lifting, consult the lifting supervisor / appointed person to assess lifting with chains / slings around the chassis.*		
Safe lifting considerations:	I. Prior to lifting check jockey wheel is secure. II. Check jockey wheel condition to allow safe landing of the compressor. III. Check housing of the lighting set for any loose materials or tools that could be stored within. IV. Check compressor for oil or fuel leaks- Utilize a 'plant nappy' under the compressor once landed safely. V. Check integrity of the lifting point for deformities. VI. Ensure compressor is switched off. VII. Do not lift with any coiled hoses attached to the structure of the compressor		

Loads description: Site plant – Welding set generator	
	Slinging methodology: I. Attach single leg chain sling to hook block of the crane. II. Attach hook of chain sling to the integral lifting point of the compressor anchor point. .

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 785 mm [w] x 890 mm [h] x 1270 mm [l]		
Weight of Load	Typically, 250 kg for dimensions given		
Lifting accessories used with weights of accessories:	From hook block > Single leg chain sling WLL 2 t @ 25kg Gross weight inc. 10% FOS: 303kg [ru]	**WLL x Mode Factor** Single leg chain sling as per designed use	**Resulting SWL** 2 t over accessories stated
Alternative methodology:	Single leg of a multileg chain sling of sufficient WLL can be used with the unused legs hung back to the master ring. *Special note:* *Where the lifting point appears to be corroded / unsound for lifting, consult the lifting supervisor / appointed person to assess lifting with chains / slings around the chassis.*		
Safe lifting considerations:	I. Check integrity of the lifting point for any deformities. II. Check that the hook of the chain sling fits into the lifting point, if needed a bow shackle of a suitable WLL can be employed between the hook of the chain sling and the attachment point. III. Ensure that all compartments are secure and that any cables are either secured or removed prior to lifting. IV. Check generator for oil or fuel leaks – Utilize a 'plant nappy' under the generator once landed safely. V. Check generator is switched off.		

Loads description: Site plant – Compactor plate			
	Slinging methodology: I. Attach single leg chain sling to hook block of the crane. II. Attach hook of chain sling to the integral lifting point of the compactor plate		
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 600 mm [w] x 1264 mm [h] x 809 mm[l] overall length with handle up		
Weight of Load	Typically, 200kg for dimensions given		
Lifting accessories used with weights of accessories:	From hook block > Single leg chain sling WLL 1.4 t @ 25 kg Gross weight inc. 10% FOS: 248 kg [ru]	**WLL x Mode Factor** Single leg chain sling as per designed use	**Resulting SWL** 1.4 t over accessories stated
Alternative methodology:	Single leg of a multileg chain sling of sufficient WLL can be used with the unused legs hung back to the master ring.		
Safe lifting considerations:	I. Check compactor to ensure that all components are secure. II. Ensure centre of gravity prior to lifting. III. Check integral lifting eye for deformities. IV. Ensure the compactor is free from oil and fuel leaks. V. Check the 'plate' for any loose stones or mud that could fall when lifted. VI. Ensure the compactor is turned off.		

Loads description: Site plant – Drum Roller			
	Slinging methodology: I. Attach single leg chain sling to hook block of the crane. II. Attach hook of chain sling to the integral lifting point of the compactor plate		
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 770 mm [w] x 1220 mm [h] x 870 mm [l]		
Weight of Load	Typically, 266 kg for dimensions given		
Lifting accessories used with weights of accessories:	From hook block > Single leg chain sling WLL 1.4 t @ 25kg Gross weight inc. 10% FOS: 321 kg [ru]	**WLL x Mode Factor**	**Resulting SWL**
		Single leg chain sling as per designed use	1.4 t over accessories stated
Alternative methodology:	Single leg of a multileg chain sling of sufficient WLL can be used with the unused legs hung back to the master ring.		
Safe lifting considerations:	I. Check roller structure to ensure that all components are secure. II. Ensure centre of gravity prior to lifting. III. Check integral lifting eye for deformities. IV. Ensure the roller is free from oil and fuel leaks. V. Check the 'rollers' for any loose stones or mud that could fall when lifted. VI. Ensure the roller is turned off.		

Loads description: Site plant – Power trowel [float]			
	Slinging methodology: I. Attach single leg chain sling to hook block of the crane. II. Attach hook of chain sling to the integral lifting point of the power trowel *Please note:* *Ensure the hook of the chain sling fits the lifting aperture. If required a bow shackle of a suitable WLL can be used to ensure integrity of attachment* 		
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, __mm [d] x __mm [h] x __mm [l]		
Weight of Load	Typically, ___kg for dimensions given		
Lifting accessories used with weights of accessories:	From hook block > Single leg chain sling WLL 1.4 t @ 25 kg Gross weight inc. 10% FOS: ____kg / t [ru]	**WLL x Mode Factor** Single leg chain sling as per designed use	**Resulting SWL** 1.4 t over accessories stated
Alternative methodology:	Single leg of a multileg chain sling of sufficient WLL can be used with the unused legs hung back to the master ring. *Please note:* *Some power trowels have multi-lifting eyes around the circumference of the blade housing framework; therefore, a multi-leg chain sling must be employed of the sufficient WLL. Consult the operator's manual for correct configuration of the lifting arrangement. Any unused chains are to be hung back to the master ring*		
Safe lifting considerations:	I. Check power trowel structure to ensure that all components are secure. II. Check integral lifting eye for deformities. III. Ensure the power trowel is free from oil and fuel leaks. IV. Check the 'blades' for any loose stones or mud that could fall when lifted. V. Ensure the power trowel is turned off		

Schedule of Lifts – Tower Crane

Load description: Steel beams - Girders, H section, I section, U beams, Lintels	
Special note:  *Structural steelwork and fabricated steel assemblies shall have designed lifting points or a method for making a positive connection to a removable lifting bracket.*	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required so any unused chains will be hung back to the master ring. II. Attach hooks of chain sling to the integral lifting eyes of the beam. *Please note:* *Ensure the hook of the chain sling fits the integral lifting eye.* *If required bow shackles of a suitable WLL with mode factors considered can be utilised to ensure integrity of attachment.* 

Lift Category:	Basic		
Dimensions of load:	Various dimensions: __mm [h] x __mm [l] x __mm [w]		
Weight of Load	_kg / t for dimensions given		
Lifting accessories used with weights of accessories:	From hook block: 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: _kg	**WLL x Mode Factor**	**Resulting SWL**
		4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t	4.41 t over all accessories stated

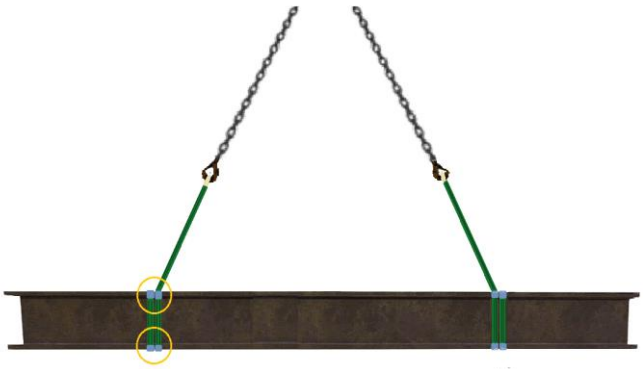
Alternative methodology:

Other attachment accessories can also be used to provide a 'positive' attachment, much like the integral lifting points, through predrilled holes in the structure of the beams - *See examples opposite.*

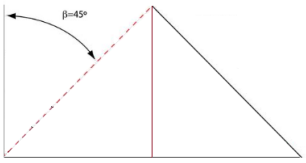
When lifting with these accessories ensure they are used as per manufacturers specification and instructions.

Webbing slings can be used around beams in a double wrap 'choke' configuration.

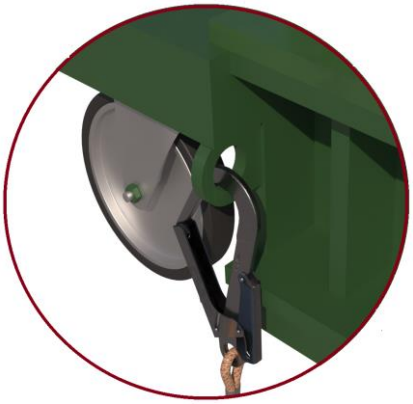
Ensure wear sleeves are used to protects the webbing slings from any sharp or burred edges.

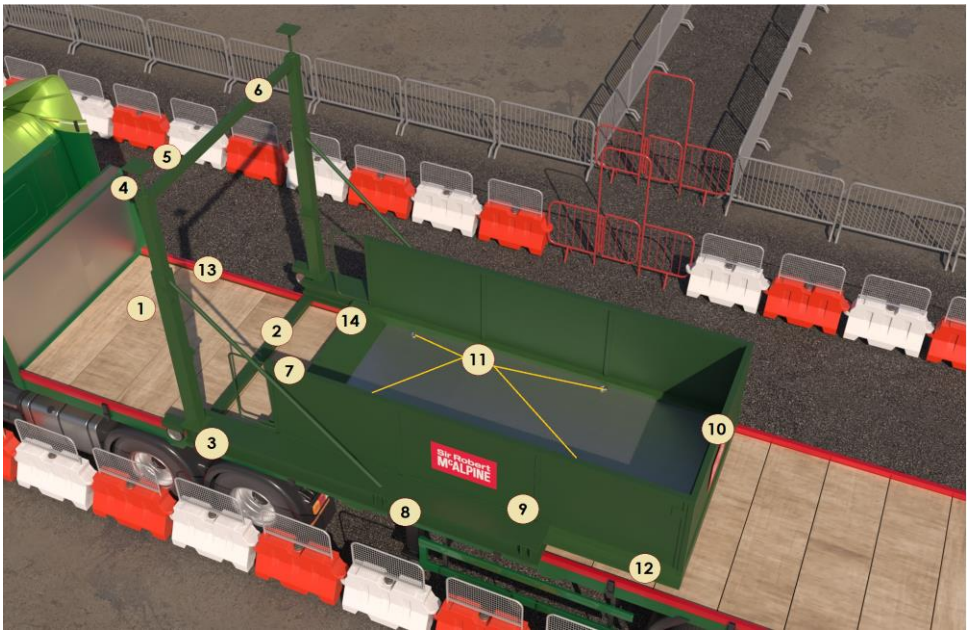


If size of hook block allows, and the EWL of the slings is sufficient enough to allow the webbing sling to be within a 0 to 45 deg. excluded angle , then the webbing can be directly attached.

Load description: Steel beams - Girders, H section, I section, U beams, Lintels	
Alternative methodology: contd.:	Slings to be placed to suit a level load. **DO NOT OVERCROWD THE BLOCK**  
Safe lifting considerations:	I. With direct attachment of the chain sling, ensure the chain sling attaching to the top of the beam is of sufficient length to allow for the chain to be within a 0 to 45 deg. excluded angle.  II. A temporary works check on the attachment points to have been completed prior to lifting. III. Tagline[s] to be used to allow configuration of beam to be controlled from initial raising of the beam to final lowering/installation.
Additional information:	Reference weights: If beams are not marked with the known weight, then always check with manufacturer and design drawings for anticipated weights of beams supplied. *Special note*: *Always check with design drawings that any welds, or additional bolted assemblies etc. are included in the weight*

Loads description: Loading platform	
 *Image above is representational only of a 4 point lift typical of methodology for a loading platform.*	Slinging methodology: I. Attach 4 leg chain sling to hook block of the crane. II. If required shorten chain slings to suit methodology of install [see operators manual or safe user guide for recommended length of chains] III. Attach hooks of chain sling to the integral lifting points situated to the structure of the platform. *Please note:* *See manufacturer's specification sheet, operating manual, or safe user guide to identify the lifting points recommend for each model of loading platform being lifted.*

Lift Category:	Intermediate *[as minimum]*	Complex *[dependant on localised parameters and hazards]*	
Dimensions of load:	Various dimensions but typically: 2410 mm [w] x 1000 mm [h] x 9000 mm [l] for extended telescoping platform *[check manufacturer's specification for 'other' model types]*		
Weight of Load	Typically, 3 t for dimensions given		
Lifting accessories used with weights of accessories:	From hook block > Single leg chain sling WLL 8.4 .t @ 103kg Gross weight inc. 10% FOS: 3.414 t [ru]	**WLL x Mode Factor**	**Resulting SWL**
		4 leg chain sling as per designed use	8.4 t over accessories stated
Alternative methodology:	See manufacturer's literature to configure the accessories to suit loading platform. Where required bow shackles may need to be utilised to enable a correct attachment of the hooks of the chain sling to lifting points of the loading platform. Ensure they are of sufficient WLL with mode factors considered.		
Safe lifting considerations : **Safe lifting considerations contd.:**	I. A specific risk assessment and method statement **must** be authored to suit the lifting of the Loading platform from preparation of the arrangement through to final install and release of accessories. II. Prior to lifting ensure checks are made to the loading platform to ensure integrity of attachment of all components. - See list and graphic on next page for details. III. Attach tagline to aid control of configuration of platform through the initial raising process 		

Loads description: Loading platform	
	See below graphic for typical checks to be made to Loading platforms The checks are inclusive of 'Roller' models of Loading platforms.  *Please note:* *This is not an exhaustive list and manufacturers checklists are to be obtained, and the checks contained within followed.* 1. Check base prop & leg assembly [if applicable]. 2. Check base bar assembly. 3. Check that prop legs are plumb. 4. Check prop head to spreader beam fixings or prop 'flat' head to slab [if applicable]. 5. Check screw jacks are tight and to the correct height. 6. Check top bar assembly 7. Check handrail assembly. 8. Check all deck plates to inner beam bolt plates are intact and present [if applicable]. 9. Check the condition of the side structure including all fixing bolts and pins. 10. Check the condition of the doors, and again ensure all fixing bolts and pins are present. 11. Check condition of lifting eyes and any fixed 'Bow' shackles [if applicable] 12. Check stoppers and bolts for deformation or signs of fatigue. 13. Check rolling action [Roller platforms only] 14. Check Deck locking bolt action [Roller platforms only] *Special note:* *Check for any specific requirements when lifting the deck whilst it is extended, sometimes a balancing weight may be required to be fixed to the deck prior to lifting.*

Loads description: Carrying of personnel - Use of Suspended Personnel Carrier

Special note for the following schedule:

All crane manufacturer manuals forbid the use of cranes for lifting people as a failure in the hoist rope means the hook and load will fall and should be avoided.

However, if the lifting of personnel is unavoidable, then a stand-alone lift plan must be in place for the operation as per BS 7121-1:2016 which specifies that the lifting of persons should be classified as a 'Complex lift', therefore it is essential that each lifting operation involving the lifting of persons is individually planned, taking into account all hazards identified by the risk assessment.

As per BS7121- Part 1 : Section 4: 4.3.2.4 The appointed person responsible for the lifting operation should be present on the project

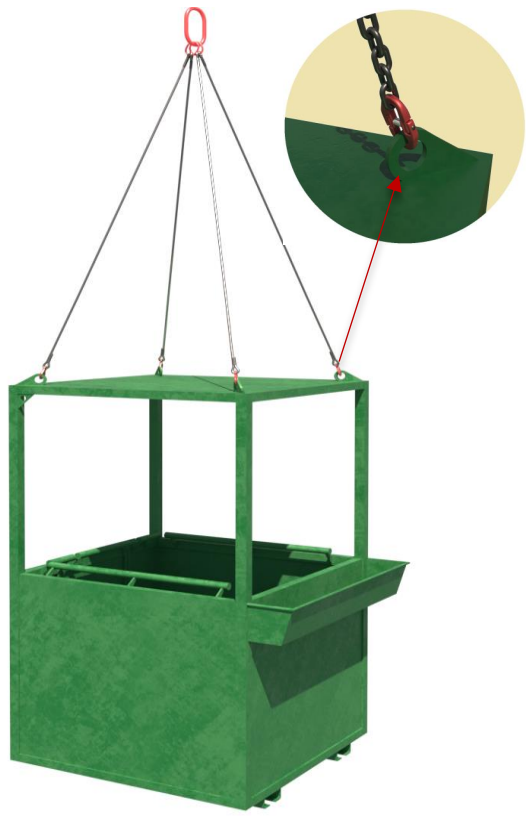
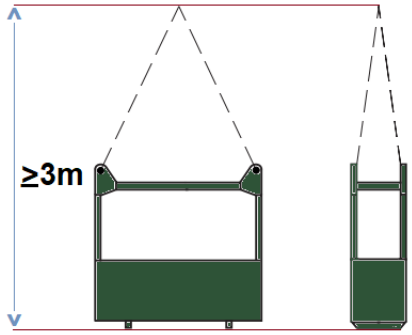
The inclusion of this lifting operation in a schedule format is to provide a brief overview of the safe lifting considerations for this lifting operation.

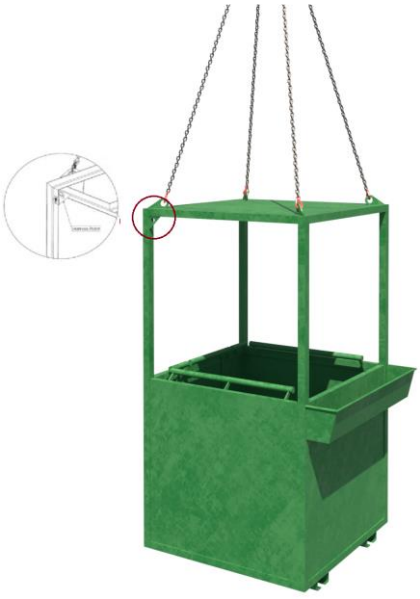
The schedule format can be used in the stand-alone lift plan mentioned previously.

References:

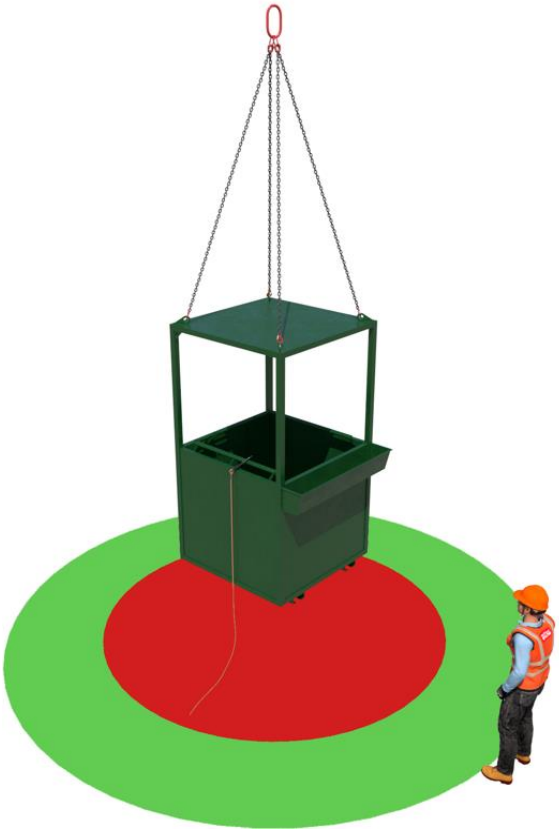
External:

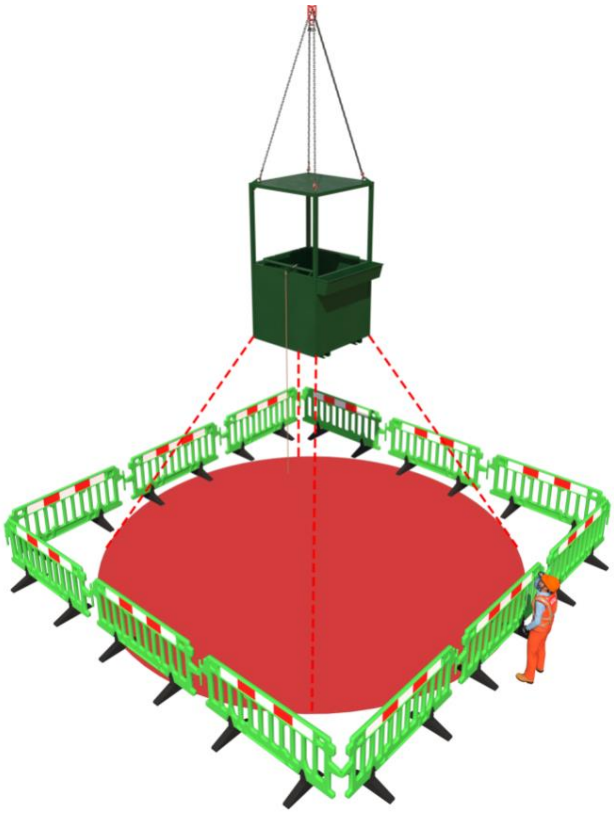
- LOLER 1998 Lifting Operations and Lifting Equipment Regulations (LOLER) 1998
- TCIG TIN 040 Lifting of Persons with Tower Cranes
- Working at height on Mobile Cranes
- BS7121 Part 1: 20.1 Raising or lowering of personnel
- BS EN 14502-1:2010 - Cranes. Equipment for the lifting of persons Suspended baskets
- The Work at Height Regulations 2005
- HSE – Work at Height

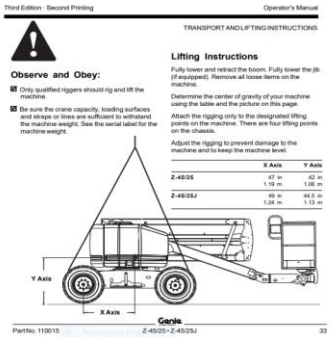
Loads description: Carrying of personnel - Use of Suspended Personnel Carrier			
User note: *The following methodology is for a 'closed' Suspended Personnel Carrier – The schedule, if used, should be adjusted to suit 'open' Suspended Personnel Carrier operations.*			
	Slinging methodology : - Integral chain/wire sling I. Attach master ring of integral chain sling to the hook block of the crane. II. Once personnel have entered the carrier, close access/egress 'gate' and ensure integrity of closure. Please note: Ensure the attachment accessories are of such a length, that when suspended from the hook of the crane , the vertical distance between the floor of the carrier and the crane hook is ≥ 3 m 		
Lift Category:	Complex (requires a stand-alone lift plan – see note on previous page)		
Dimensions of load:	Various dimensions: Typically: 700 mm [w] x 2210 mm [h] x 1450 mm [l] [for a 2 person access cage]		
Weight of Load	Typically, 640 kg for a 2 person carrier lifting at capacity inc. weight of carrier.		
Lifting accessories used with weights of accessories:	From hook block > *Note:* *Suspended personnel carriers have integral chain slings attached.* *Weight of chains are included in the self-weight of the carrier.* Gross weight inc. 50% FOS: [ru] @ wcs for use of externally supplied chains [for a 2 person carrier]	**WLL x Mode Factor** Integral chains as per designed use for carrier used at WLL.	**Resulting SWL** _ kg over accessories stated [limited to WLL of the carrier utilised]
Safe lifting considerations:	Before work taking place ensure a 'Hierarchy of Control' has been evaluated & applied at the planning stage:		

Loads description: Carrying of personnel - Use of Suspended Personnel Carrier	
Safe lifting considerations contd.:	▪ Ensure the possibility of MEWPs has been thoroughly investigated and deemed to be impractical ▪ Plan the works so that temporary or building structures can be utilized rather than resorting to access cage duties. If the suspended personnel carrier is the only way to provide access to the work face, then: Ensure the crane is fit for use - Refer to BS7121 – Part 1:2016 & TCIG TIN 040 for detailed crane requirements when lifting personnel. https://www.cpa.uk.net/downloads/195/CPA-TCIG-TIN-040-Issue-A-140402.pdf Check the weather forecast - Suspended personnel carrier duties are restricted in wind speeds over 7m/s Do not attempt to perform the work in a 'window' between gusts - plan the works where there is a period of anticipated low wind speeds. The crane operator must be competent & comfortable with performing the lifting operation. No lone working. A minimum of 2no. operatives to be always present in the carrier, of which one must be a competent slinger signaller. Do not enter or exit the carrier unless at ground level and cage is stationary and stable. Prior to lifting ensure: ▪ All tools are tethered to relevant personnel or handrails. ▪ That all operatives are wearing a harness and restraint lanyard. ▪ That operatives attach their lanyard from the harness to an identified anchorage point. *Checks to be made to the attachment point to ascertain it is fit for use* *[Seek manufacturer's guidance if the information isn't readily available from official literature.]* ▪ Ensure the length of the lanyard restricts access from the carrier.  Limit the amount of time spent utilising the suspended personnel carrier. **Keep the work short-term.** There must always be a slinger-signaller in the carrier with a radio that has a dedicated crane channel for communication with the crane operator, lift supervisor & appointed person.  In case of radio failure or the battery running out, make sure that you have the operative's phone numbers - Ensure that phones are adequately charged. Ensure that communications to the crane operator are performed on a licensed Ofcom registered radio frequency channel.

Loads description: Carrying of personnel - Use of Suspended Personnel Carrier	
Safe lifting considerations contd.:	*Hold point:* *Only use dedicated crane communication radios.* Radio checks to be performed prior to entering the carrier. Slinger - signaller to be issued with a fully charged 'spare' battery Ensure that there are spare batteries put aside solely for suspended personnel carrier operations if anticipated. Slinger signaller and crane operator to have a full understanding of the English language so that there is no ambiguity when instructions are given. Slinger signaller and other operatives to have adequately charged mobile phones as a backup in case of catastrophic communication failure. *Hold point:* *All operatives involved to have each other's mobile number, inclusive of the lift supervisor and appointed person* Personnel in the carrier must be: ▪ Harness trained in the use of the harness being used. ▪ Have undergone working at height training ▪ Of a calm and pragmatic disposition. ▪ Physically fit. Whilst in the cage **do not**: ▪ Lean from the carrier structure. ▪ Stand on the guardrails or place materials on platforms, guardrails. ▪ Use boxes , steps etc. to gain extra height. ▪ Behave in a way that will cause 'rocking' movement of the carrier . A suitably risk assessed rescue plan to be in place prior to the lifting operation taking place which **must** consider [non-exhaustive]: ▪ Operative's requirements if they find themselves in the carrier for some time due to mechanical failure of the crane ▪ Placement of a safety rope in the carrier of sufficient length so that food, drink, extra clothing, and rescue equipment can be attached for 'pulling up' into the carrier structure. ▪ The rope should be contained within suitable containment i.e. bag etc. and secured to an identified 'storage' point within the confines of the carrier structure that does not hinder the safe execution of the works being performed  *Special note:* *Do not load the suspended personnel carrier with rescue items unless there is sufficient room.*

Loads description: Carrying of personnel - Use of Suspended Personnel Carrier	
Safe lifting considerations contd.:	*This can cause its own hazards while in the confines of the carrier.* ▪ Gauge how long the operatives will be in the carrier - *Have conversations with the crane supplier for maximum 'response times' that are anticipated for service/repair engineers' attendance.* Ensure the master ring of the integral chain/wire rope slings, correctly in the bowl of the crane hook  Before attachment of the carrier, ensure that the gate/door to the carrier is secure and works as anticipated & that the integral chains are fit for use and configured correctly. *Hold Point:* *Any door or gate for entering or leaving a carrier should always open inwards and must have an automatic catch to prevent it from being opened inadvertently* Check attachment points for the chain/wire rope slings for any signs of deformation that could impede the safe use of the suspended personnel carrier. *Hold point:* *Has the carrier undergone painting recently that could hide deformities?* Check inside the structure of the carrier for any loose materials left over from previous use - If found remove. Check for openings in the carrier that could enable materials or tools to fall from the structure. Perform a test lift of the carrier for stability & lifting level Check the underside of the structure to ensure that there isn't anything adhered/attached to the bottom that could fall off or become dislodged when travelling across the project. While performing the 'test' lift, check the weight of the carrier to ensure it is not overloaded. Remember the attachment of tagline(s?) to the structure of the carrier to assist in the control and configuration from the initial raising, through to the final lowering of the carrier If practicable.  No standing under the carrier when landing. - Identify a 'Safe Space' to stand when landing the load.

Loads description: Carrying of personnel - Use of Suspended Personnel Carrier	
Safe lifting considerations contd.:	Ensure there are full physical exclusion and restricted zones set up directly below the anticipated area of works *Hold point:* *When setting up exclusion zones, ensure consideration has been given for an allowance with the zonal parameters for objects falling from within the confines of the carrier attending to and allowing for a worst case scenario trajectory.* *See example exclusion set up below:* 

Loads description: MEWPs		
 *Please note:* *Images are representational only - see manufacturer's literature for lifting arrangement to be used on each model.*	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. II. Attach hooks of the 4 leg chain sling directly to the identified lifting points of the MEWP *Please note:* *a. A specific wind speed assessment is required when considering the limiting wind speed when lifting such machines.* *b. Bow shackles may be required between the hooks of the chain sling and the identified lifting point on the MEWP to allow a safe attachment.* *c. Chain slings may require shortening to suit a level load* 	
Lift Category:	Intermediate *[as minimum]*	Complex *[dependant on localised parameters and hazards]*
Dimensions of load: **Weight of Load**	Various dimensions and weights over different models. - See manufacturer's operations manual or contact supplier for information	
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- _no. Bow shackles WLL _t @ _kg ea. Gross weight inc. 10% FOS: _t [ru]	**WLL x Mode Factor** 4 leg chain slings as per design use --- _no. bow shackles used as set = WLL of one multiplied by _._ = _ kg / t **Resulting SWL** _t over accessories stated
Alternative methodology:	Various methodologies use over varying models. – See manufacturer's operating manuals for guidance on how to lift the MEWP. If the guidance is unclear, then contact the supplying company or manufacturer for definitive information. Example of manufacturer's guidance on lifting arrangement:  	

Loads description: MEWPs	
Safe lifting considerations:	I. Ensure the machine is switched off prior to lifting II. Verify that the identified lifting points are free from deformities that could affect the integrity of the attachment of the accessories. III. Check structure of the MEWP for any signs of hydraulic leaks. IV. Check that the accessories passing near or over any component part or structure of the MEWP that, once weight has been taken, will not subject the MEWP to crushing or undue pressure. *Please note:* *Handrails etc. are easily bent meaning the machine will have to be quarantined until any damage repaired.* V. Ensure that the platform and structure of the MEWP is free from loose materials and tools. If found, remove. VI. During the test lift check the underside and tyres/wheels of the MEWP for any mud etc. that may have adhered.

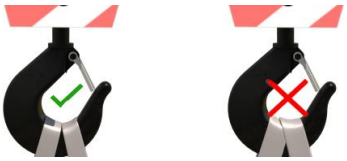
Loads description: Toolbox	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required so any unused chains will be hung back to the master ring. II. Attach webbing slings min WLL 2 t through the fork points of the toolbox and around the structure of the box in a single wrap captured 'choke' configuration. *Please note:* *If box doesn't have fork points, then the slings should be double wrapped.*

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically: 550 mm [w] x 590 mm [h] x 1186 mm [l]		
Weight of Load	Typically, 75kg empty *Please note:* *Typically, toolboxes do not have a WLL.* *Max. allowable weight on SRM projects for lifted toolboxes will be 1t unless otherwise stated in manufacturer's literature*		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- Webbing slings WLL 2 t Min 6m (l) [for single wrap] & 8m (l) for [the double wrap]. @ 10kg Gross weight inc. 10% FOS: 1.23 t [ru] for fully laden toolbox with SRM permissible weight	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	Chain slings can be employed in the same configuration stated for the webbing slings. Ensure when sling with chain slings that the chains, when tightened, do not affect the integrity of the box i.e., crush or deform the structure  If size of hook block allows, then the webbing slings can be directly attached.  **DO NOT OVERCROWD THE BLOCK**		

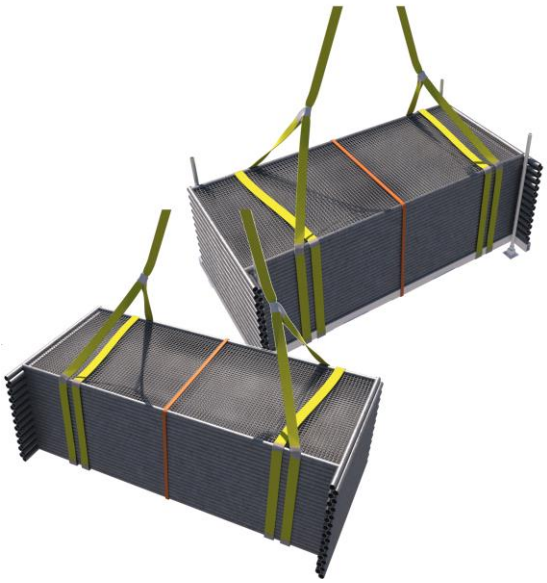
Loads description: Toolbox	
Safe lifting considerations:	I. During test lift, check the underside of the toolbox for any materials, mud etc, that could have adhered itself to the bottom of the box structure. If applicable check the fork points for the same. II. Check structure of box for creases or holes in base and sides that could affect the safe lifting.
Safe lifting considerations contd.:	III. Check load for level. IV. Ensure that any materials, tools etc. are secured so that any movement in the box doesn't affect the CoG through the lift. If there is doubt, then remove prior to lifting.

Loads description: Transformer box up to 20kva	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required so any unused chains will be hung back to the master ring. II. Attach 2no. Webbing sings min WLL 2 t around the transformer box in a double wrap 'choke configuration *Please note:* *For smaller transformer boxes a single webbing sling can be used in a double wrap configuration around the box as long as it is fed through the carrying handle situated to top of the box to form a captured 'choke'*

Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 640 mm [w] x 950 mm [h] x 1500 mm [l]		
Weight of Load	Typically, 300 kg for dimensions given		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- Webbing slings WLL 2 t Min 4m (l) @ 10kg Gross weight inc. 10% FOS: 455 kg [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	Chain slings can be used in the same configurations around the boxes as the webbing slings shown. If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK**  		
Safe lifting considerations:	I. Check structure of box for any lose tools etc. that could fall when lifting. II. Check any compartments for loose tools or equipment that may have been placed inside. III. Check all doors [if applicable] are locked/secured prior to lifting. IV. Ensure that any leads/cable have been disconnected. V. Protect the webbing sings from any burrs or sharp edges on the box structure by using wear sleeves at the pinch points VI. Check the data plate on the side of the box for weight. **DO NOT LIFT FROM THE MANUAL HANDLES**		

Loads description: Pedestrian barriers			
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required so any unused chains will be hung back to the master ring. II. Attach 2no. Webbing sings min WLL 2 t through the vertical barrier 'stack' in a 'choke configuration.		
Lift Category:	Basic		
Dimensions of load:	Various dimensions: Typically, 100 mm [w] x 1100 mm [h] x 2300 mm [l]		
Weight of Load	Typically, 400 kg for vertical 'stack' of 25 @ 16 kg ea. barrier		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- Webbing slings WLL 2 t Min 4m (l) @ 10 kg Gross weight inc. 10% FOS: 565 kg [ru]	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	Chain slings can be used in the same configuration as the webbing slings. If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK** 		
Safe lifting considerations:	I. Sling load to allow a safe landing. II. Check the legs of the panels for any mud etc. that could be in the leg from where it was stored or used.		

Schedule of Lifts – Tower Crane

Loads description: Heras fence panels - Stillage & Loose bundles	
	Slinging methodology: - In stillage I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required so any unused chains will be hung back to the master ring. II. Attach 2no. Webbing sings min WLL 2 t around the stillage in a double wrap 'choke' configuration. Slinging methodology: - Loose I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required so any unused chains will be hung back to the master ring. II. Attach 2no. Webbing sings min WLL 2 t around the panel stack in a double wrap 'choke' configuration.

Lift Category:	Basic		
Dimensions of load:	Various dimensions but typically: 2000mm [w] x 1550mm [h] x 3500mm [l] [in stillage]		
Weight of Load	Typically, 624kg [30 panels in stillage] & 420kg [30 panels loose]		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg --- Webbing slings WLL 2te. Min 10m (l) @ 15 kg Gross weight inc. 10% FOS: 817 kg [ru] wcs in stillage	**WLL x Mode Factor** 4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t --- 2 webbing slings used a set in a choke configuration = [WLL of one sling multiplied by 1.4] x .8 = 2.24 t	**Resulting SWL** 2.24 t over accessories stated
Alternative methodology:	If size of hook block allows, then the webbing slings can be directly attached. **DO NOT OVERCROWD THE BLOCK**		
Safe lifting considerations:	I. Protect the webbing sings from any burrs or sharp edges on stillage and panel structures by using wear sleeves at the pinch points. II. Check the feet of the stillage for any mud etc. that could be in the leg from where it was stored. III. Ensure the integrity of the load by using a ratchet strap or securing banding around the load. IV. Ensure when landing loose panels that timbers/spacers are of sufficient size to allow safe removal of accessories.		

Schedule of Lifts – Tower Crane

Loads description: Excavator buckets	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required so any unused chains will be hung back to the master ring. II. Attach the chain slings around the 'pin' of the excavator bucket in a single wrap, captured choke configuration. *Please note:* *If smaller buckets do not allow room for 2 chains, then a single chain can be attached in the same configuration.*

Lift Category:	Basic		
Dimensions of load:	Various dimensions: 1200mm [l] x 973mm [l] x 1560mm [d] [for a 22t excavator digging bucket]		
Weight of Load	Typically, 1.629 t For given dimensions		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 1.906 t [ru]	**WLL x Mode Factor**	**Resulting SWL**
		4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t	4.41 t over accessories stated
Alternative methodology:	Multiple buckets can be slung together. When lifting multiple buckets, consider the safe landing of the buckets. To ensure a safe configuration of landing either sling the buckets in a 'stack, where the buckets are arranged to fit inside each other or sling the buckets 'back-to-back'. In each methodology ensure the chains slings capture all the pins on each bucket.	 	
Safe lifting considerations:	I. Check integrity of the 'pin' prior to lifting. Check for splits or cracks that could affect the integrity of the attachment II. When slinging smaller buckets, do not sling with direct attachment to the 'pin'. The bucket could slide against the hook while travelling and impose side loadings on the hook that may not fail at the time of lift but will affect long term use of the chain. III. If you can't choke a chain sling around the 'pin', then utilise a webbing sling of sufficient WLL in 'choke configuration. IV. Check bucket interior for mud, earth etc. that could fall when lifted.	 	

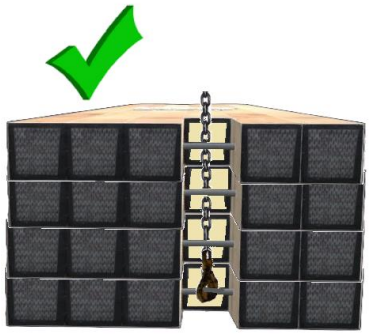
Loads description: Timber 'Ekki' mats	
	Slinging methodology: I. 4 leg chain slings will be attached to hook block of the crane. Only 2 legs required (*see note below*) so any unused chains will be hung back to the master ring. II. Attach the hooks of the chain slings to the lifting points. *Please note:* *Some timber mats will arrive with 4 'notches' for the attachment points, when lifting these mats ALL lifting points must be used.*

Lift Category:	Basic		
Dimensions of load:	Various dimensions (but for purposes of schedule) : 5000 mm [l] x 1000 mm [w] x 150 mm [h]		
Weight of Load	Typically, .981 tonnes for dimensions given of a hardwood excavator mat		
Lifting accessories used with weights of accessories:	From hook block > 4 Leg chain slings WLL 8.4 t @ 103kg Gross weight inc. 10% FOS: 1.193 t [ru]	**WLL x Mode Factor**	**Resulting SWL**
		4 leg chain slings with 2 legs in use - WLL of one leg multiplied by 1.4 = 4.41 t	4.41 t over accessories stated

Alternative methodology:

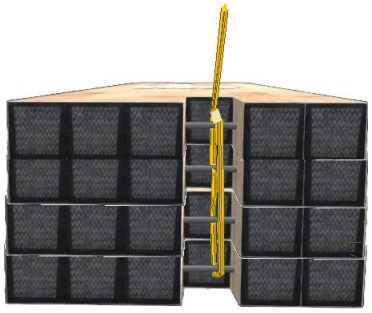
Multiple mats can be slung together.

If lifting across project, then the stack or pack of mats should be treated as any other timber pack/bundle and be slung in a double wrap configuration utilising webbing slings of sufficient SWL after the mode factors have been considered. See schedule titled 'Timber – Bundles' for details on methodology and safe lifting considerations.



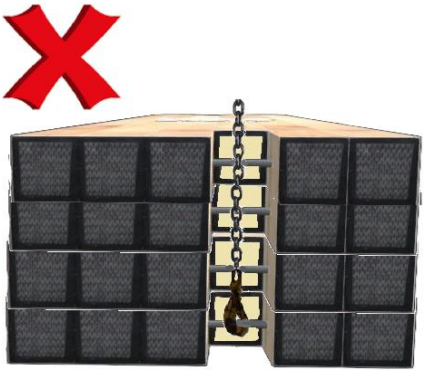
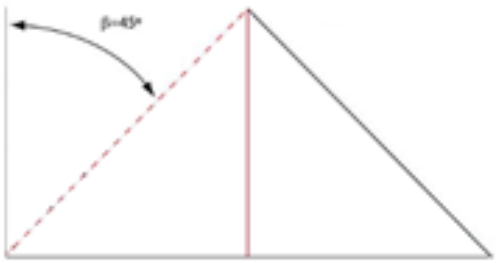
It is also acceptable to lift multiple mats together by feeding the hook of a chain sling between the structure of the mats and the attachment points and hooking onto the bottom mat attachment point. Be aware that this methodology can be problematic as size of chain and spacing of aperture may not be suited for this methodology.

Best practice...



Best practice for this methodology would be to use a fabric sling in a captured choke configuration

Hold point:
Always check with the manufacturer or supplier of the mats that this methodology is acceptable and within the capabilities of the attachment points

Loads description: Timber 'Ekki' mats	
Alternative methodology:	Do not lift the stack or pack of mats with the chain sling fed on the outside of the attachment points as: ▪ The higher layers [above the bottom mat] aren't captured by the accessories ▪ When attaching the hook of the chain sling to the lifting point pressure of the lift could be put on the hook that the hook isn't designed for. ▪ The load is also at considerable risk of rotating as the centre of gravity of the load is above the load attachment point.  *Hold point:* *When using a chain sling or webbing sling fed through the attachment aperture for multi mat stacks, this should be a low-level lift for placing only - Only ever lift a maximum of 4no. mats in this configuration.*
Safe lifting considerations:	I. Check integrity of the attachment point prior to lifting - Check for splits or cracks around the immediate area that could affect the integrity of the attachment II. Examine the structure of the mat, again for any cracks, splits, deterioration that could be problematic when lifting and bring into doubt the integrity of the load  III. Ensure the underside of the mat is free from adhered materials that could fall during travel of the load. IV. If required, use webbing sling wear sleeves (or similar) where the mats have sharp edges. V. When slinging in packs ensure securing banding is used around the load to negate any spread of the load when landed.  VI. Always ensure that the hook of the chain sling can move freely within the confines of the attachment point. Don't force the hook into the aperture VII. After attachment of hook, check the attachment point sits in the bowl of the hook correctly. VIII. Ensure the length of the accessories attaching to the mat(s) of sufficient length to allow for accessories used to be within a 0 to 45 deg. excluded angle. 

Schedule of Lifts – Tower Crane

Loads description: Template			
		Slinging methodology: I. II. .	
Lift Category:	Basic	Intermediate	Complex
Dimensions of load:			
Weight of Load			
Lifting accessories used with weights of accessories:	From hook block > Gross weight inc. 10% FOS: t [ru]	**WLL x Mode Factor**	**Resulting SWL** over accessories stated
Alternative methodology:			
Safe lifting considerations:			

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