

## Helix Industrial Tower User Guide

### PLEASE READ THIS CAREFULLY

The Helix Industrial Tower range of products are lightweight scaffold towers used extensively for indoor and outdoor use, due to their inherent collective fall prevention measures.

All of the Lyte Industrial Towers are made and tested to Class 3 in accordance with BSEN1004:2004 by The British Standards Institute.

These instructions take into account the latest regulations, guidance and all product standards and is intended to give guidance on the best practice for the erection and dismantling of access towers. These instructions must always be used in conjunction with a suitable and sufficient Risk Assessment relative to the project.

Current regulations require that any person erecting towers must be competent and qualified to do so. For full information on the correct erection and use of mobile access towers, consult the PASMA Operators Code of Practice (Revision 12.1).

Contact PASMA at: PASMA, PO Box 168, Leeds LS11 9WW.

### Safety Notes

#### Before erection

1. Ensure that the instruction guide has been read and understood by anyone using the equipment. If in doubt contact your supplier.
2. Lyte Industries recommend two competent persons are used to build the range of Lyte Towers. On towers above 4mtrs it is an ESSENTIAL requirement that at least two persons are used.
3. Always ensure that the necessary components are available and inspected for damage and wear prior to erection. DAMAGED OR INCORRECT COMPONENTS SHALL NOT BE USED.
4. Ensure the ground level is suitably firm and clear of obstruction.
5. All tower frames must be lifted and lowered on the inside of the tower. It is acceptable to move frames with the aid of a rope, secured with a reliable knot.
6. The life of tower components will be increased if proper care is taken of them during handling, erection, transportation and storage. All components should be inspected after storage and transport.
7. Stabilisers shall always be fitted when specified.
8. Mobile access towers are not designed to be lifted or suspended.

#### Whilst erecting a tower

1. Outdoor freestanding towers must not exceed a platform height of 8.2m, for indoor use the maximum platform height is 12.2m. To ensure maximum stability is achieved, stabilisers or outriggers must be fitted at the first available opportunity, usually after the first module is complete. The quantity schedule overleaf illustrates the correct stabiliser units required for each platform height.
2. Always take into account the ground conditions i.e. are they capable of withstanding the loads imposed by the scaffolding.
3. Ensure the tower is level and vertical.
4. Ensure that the tower is not overloaded and that working loads are adhered to.
5. The Work at Height Regulations 2005 state that all platforms – from which a person is possible to fall a distance liable to cause personal injury – must be fitted with guardrails at a minimum height of 950mm above the platform itself. In addition to this, current regulations require intermediate guardrails be fitted to leave a gap no more than 470mm.
6. Toe boards are mandatory at all places of work from which it is possible that tools, equipment or other material may fall and is liable to cause personal injury. Their use on intermediate or rest platforms is not compulsory unless a risk assessment identifies a risk.

#### Whilst using the tower

1. Do not exceed the safe working load of the tower.
2. Ensure that castors are locked and that the Tower is both level and vertical.
3. All Lyte Industrial Towers must be climbed from the inside using the frames provided, **no other means of access is acceptable.**
4. Beware of high wind conditions; tie the tower to a rigid structure when working outdoors or in exposed conditions. Always refer to Beaufort Scale Force chart below.

Beaufort Scale	Description	Air Speed	Action
0	Calm, smoke rises easily	1mph	None required
<3	Leaves & small twigs in constant motion, wind extends light flag	12mph	No immediate action required
4	Moderate breeze, Small branches move	17mph	Cease work
5	Strong breeze, Large Branches bend	25mph	Tie tower to a rigid structure
>6	Walking progress impeded	40mph	Dismantle tower if such conditions are expected

5. If a tower is left unattended, it must be secured against unauthorised usage or adverse weather conditions.
6. Adjustable legs are intended only to level the tower and never to gain additional tower height.
7. For linking towers or special applications, always consult your supplier.
8. Care must be taken when using power tools, jet washers or other tools that impose side loads. The maximum side load on a freestanding tower is 20kgs.
9. It is not permissible to attach bridging between a tower and a building.
10. Never jump onto platforms.
11. Towers used outdoors shall, wherever possible, be secured to a building or other structure.

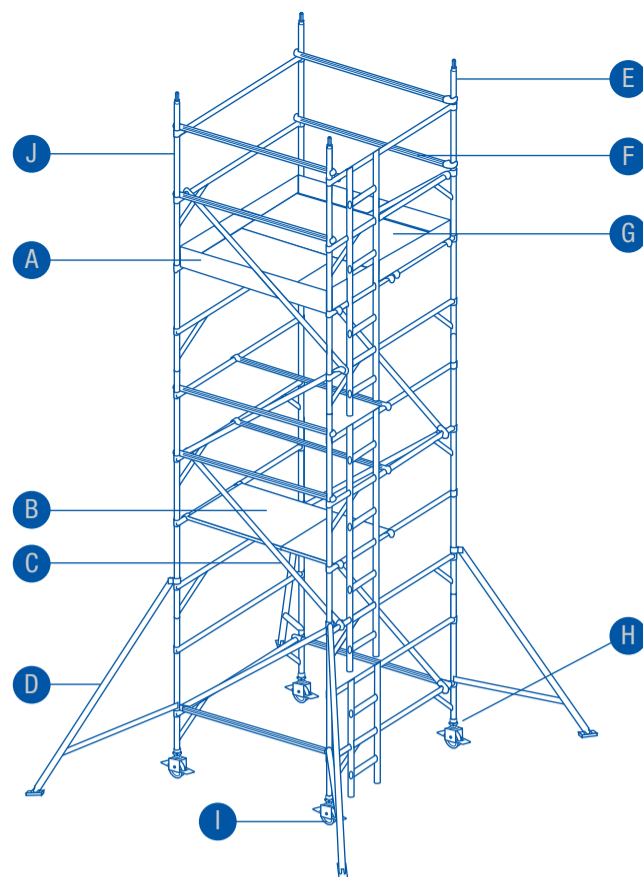
#### Before moving a tower

1. Towers should only be moved with the utmost caution. Before moving, ensure the route is clear of any obstructions, both at ground level and overhead (particularly overhead cables).
2. Never attempt to move a tower with people or materials still on it.
3. Ensure the tower height is reduced to 4m when stabilisers are in the correct position. Reduce tower to 2m when stabilisers are in the incorrect position before moving.
4. Stabilisers should be left fitted in position, though raised no more than 25mm from the ground.
5. Move the tower only by applying manual effort, pushing at the base of the tower.
6. NEVER MOVE A TOWER IF WIND LEVELS ARE ABOVE 3 ON THE BEAUFORT SCALE.

#### After moving the tower

1. Always inspect the tower after moving and before use.
2. Always refer to the instructions in this guide.
3. Never throw equipment from the tower, either lower it with a rope or by hand.
4. Any components found to be damaged should be isolated, tagged and reported to someone in authority to either have them repaired or removed from service.
5. In accordance with current regulations any tower that has been erected must be checked every 7 days (minimum) to ensure that the tower continues to comply with the regulations.

## Helix Industrial Tower



<b>A</b> - Toe Board Set	<b>F</b> - Horizontal Brace
<b>B</b> - Hatch Deck	<b>G</b> - Standard Deck
<b>C</b> - Diagonal Brace	<b>H</b> - Adjustable Leg
<b>D</b> - Stabiliser	<b>I</b> - Castor
<b>E</b> - 2, 3, 4 Rung Ladder Frame	<b>J</b> - 2, 3, 4 Rung Span Frame

### Stabilisers

STABILISERS OR OUTRIGGERS SHALL ALWAYS BE FITTED WHEN SPECIFIED.

- Fix one stabiliser to each corner of the Tower at approx 45 degrees.
- Ensure top clamp is positioned under a rung casting and tighten the clamp as low down as possible.
- For large stabilisers fix the middle clamp and tighten.
- For telescopic stabilisers extend legs until rubber foot makes contact with the ground.
- Lock telescopic leg with attached spring clip.
- Ensure rubber feet are firmly in contact with the ground, by sliding lower clamp upwards and tighten securely. Securely tighten top clamp (and mid clamp where applicable) to provide a rigid base structure.
- When moving the Tower lift and lock each telescopic leg clear of the ground, at a height of no more than 25mm.
- Unlock castors ensuring area is firm and clear of all obstructions both on the ground and above.
- After moving check all castors are firmly on the ground and locked.
- Check that the tower is vertical, then reposition stabilisers as described above.

### Maximum Safe Working Loads

The maximum safe working load for the tower is 950kg. This is to include the tower self weight and ballast.

The maximum capacity of each working level is 275kg, regardless of the number of decks. The individual decks have a maximum capacity of 275kg.

Components for Helix Industrial Tower	Weight
150mm Locking Castor	3.54kg
Adjustable Leg	0.98kg
2RSWSF 2 Rung single width span frame	3.45kg
2RSWLF 2 Rung single width ladder frame	4.00kg
3RSWSF 3 Rung single width span frame	5.10kg
3RSWLF 3 Rung single width ladder frame	8.95kg
4RSWSF 4 Rung single width span frame	7.40kg
4RSWLF 4 Rung single width ladder frame	9.90kg
2RDWSF 2 Rung double width span frame	4.55kg
2RDWLF 2 Rung double width ladder frame	5.65kg
3RDWSF 3 Rung double width span frame	6.79kg
3RDWLF 3 Rung double width ladder frame	8.80kg
4RDWSF 4 Rung double width span frame	9.05kg
4RDWLF 4 Rung double width ladder frame	11.93kg
1.8 HD Hatch Deck	13.40kg
2.5 HD Hatch Deck	17.71kg
1.8m Standard Deck	12.62kg
2.5m Standard Deck	17.22kg
1.8m Horizontal Brace	2.05kg
2.5m Horizontal Brace	2.50kg
2.1m Diagonal Brace	2.20kg
2.7m Diagonal Brace	2.70kg
1.8m Side Toeboard	2.90kg
2.5m Side Toeboard	3.54kg
1.2m End Toeboard	1.94kg
0.85m End Toeboard	1.15kg
Standard Stabiliser	3.80kg
Telescopic Stabiliser	8.20kg
Large Telescopic Stabiliser	8.40kg

## Assembly Checklist

These checks must be completed directly after the Tower has been built and before each consecutive use.

- 1 Always inspect components before erecting the tower.
- 2 Always inspect the tower before using.
- 3 Ensure that the tower is upright and square.
- 4 Ensure castors are locked.
- 5 Ensure legs are correctly adjusted.
- 6 Ensure all horizontal braces and platforms are level.
- 7 Ensure stabilisers are fitted as specified in the instruction manual.
- 8 Ensure platforms are correctly located and anti-lift locks are on.
- 9 Ensure all handrails are in place.
- 10 Ensure Toeboards are correctly fitted as described in the instruction manual.
- 11 Always check whether the structure assembly is still correct and complete.
- 12 Check that no environmental changes have influenced the safe use of the mobile tower.
- 13 At no time is it acceptable to extend the height of the platform by use of ladders, boxes or other devices.

Always refer to this checklist before and after erection of the tower.  
**If in doubt about any application consult your supplier for advice.**

**PLEASE REMEMBER: A thorough risk assessment must be carried out prior to any work being carried out at height.**

	Platform Height	1st Frame	2nd Frame	3rd Frame	4th Frame	5th Frame	6th Frame	7th Frame
Internal or external work	1.2m	2 x 4 rung	–	–	–	–	–	–
	1.7m	2 x 2 rung	2 x 3 rung	–	–	–	–	–
	2.2m	2 x 2 rung	2 x 4 rung	–	–	–	–	–
	2.7m	2 x 4 rung	2 x 3 rung	–	–	–	–	–
	3.2m	2 x 4 rung	2 x 4 rung	–	–	–	–	–
	3.7m	2 x 2 rung	2 x 4 rung	2 x 3 rung	–	–	–	–
	4.2m	2 x 2 rung	2 x 4 rung	2 x 4 rung	–	–	–	–
	4.7m	2 x 4 rung	2 x 4 rung	2 x 3 rung	–	–	–	–
	5.2m	2 x 4 rung	2 x 4 rung	2 x 4 rung	–	–	–	–
	5.7m	2 x 2 rung	2 x 4 rung	2 x 4 rung	2 x 3 rung	–	–	–
	6.2m	2 x 2 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	–	–	–
	6.7m	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 3 rung	–	–	–
	7.2m	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	–	–	–
7.7m	2 x 2 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 3 rung	–	–	
Internal Only	8.2m	2 x 2 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	–	–
	8.7m	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 3 rung	–	–
	9.2m	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	–	–
	9.7m	2 x 2 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 3 rung	–
	10.2m	2 x 2 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	–
	10.7m	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 3 rung	–
	11.2m	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	–
11.7m	2 x 2 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 3 rung	
12.2m	2 x 2 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	2 x 4 rung	

# Helix Industrial Tower

### Are you PASMA qualified?

Here at Lyte we have strengthened our commitment to our customers even further with the introduction of access industry training courses.

We now offer the nationally recognised PASMA and BLMA courses to all our customers.

The Work at Height Regulations 2005 require that the assembly, dismantling or alteration of Mobile Access Towers should only be undertaken by a competent person, or if being trained, under the supervision of a competent person.

PASMA therefore sponsors training courses provided only by authorised training members. Lyte is proud to be one of these members.

The training courses are based on a format and content agreed by all PASMA members and draws upon their collective, first-hand experience. Widely recognised and recommended by safety professionals, it provides successful delegates who pass a written and practical test with a competency certificate and an encapsulated, credit card-sized Photo card.

For more information or to book the training course please contact the Lyte Training Coordinator on 01639 846800.

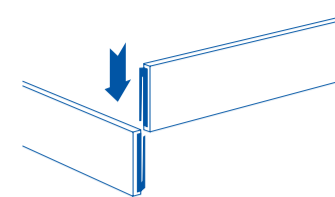


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## Toeboard Fitting

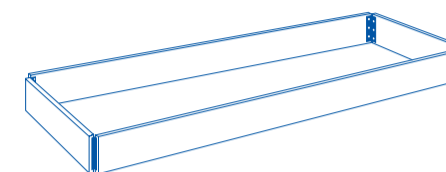
- 1 Stand 1 x long Toeboard section, with link clamp facing down, and 1 x short Toeboard section, with link clamp facing up, as shown in Diagram 1.

Diagram 1



- 2 Slide long Toeboard link clamp down onto upward facing link clamp on short Toeboard. Ensure that the two boards are firmly linked.

Diagram 2

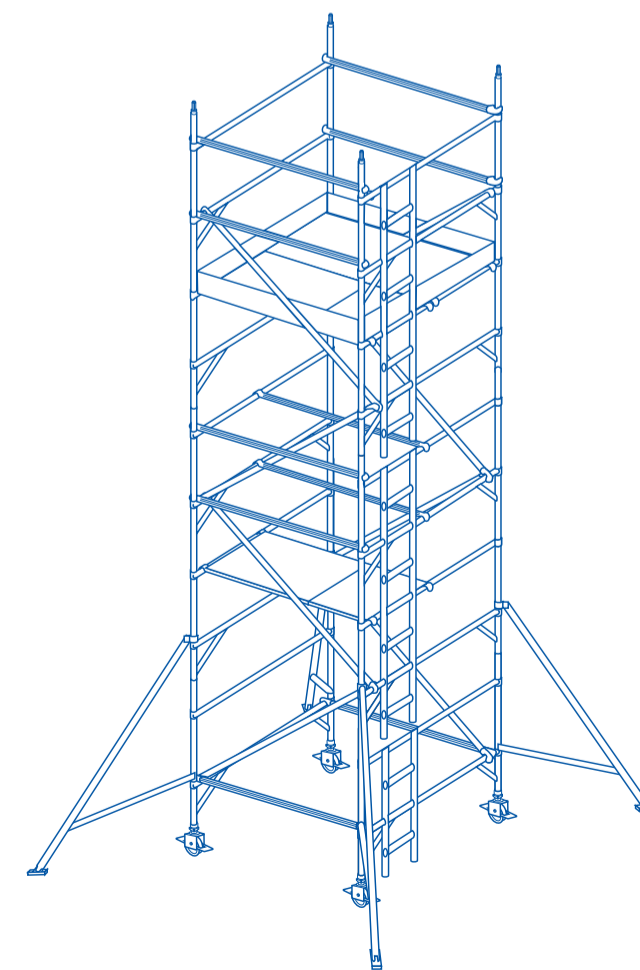


- 3 Repeat Step 1 & 2 until all four Toeboard sections are in place, as shown in Diagram 2.

\* Aluminium folding toeboard unit available in 2008

## Assembly Instructions for Helix Industrial Tower

Instructions manual to BS EN 1298 – (IM) – en  
in accordance to ISO 639 1998



# Helix Industrial Tower System



**1a**

Ensure spring clip pins are disengaged from all frame sections. Insert castors onto adjustable legs. Place completed units into the bottom ends of one 2 rung span frame and one 2 rung ladder frame. Ensure each castor brake is on by moving the red lever to the downward position.

**2a**

Fit horizontal brace (ribbed tube) on to the vertical tube just above the bottom rung of span frame as shown in diagram. The frame will now support itself.

**3a**

Connect opposite horizontal brace in the downward position. Now engage braces on to the ladder frame. Adjust all four castors to ensure the tower is correctly square and level using a spirit level.

**4a**

Slide the second section of frames (4 rung span and ladder frames) onto the protruding spigots. Now engage spring clips on both frames.

**4a**

Fit diagonal braces (smooth tube) in opposing directions as shown in diagram. Always ensure that separate frames are braced together.

**5a**

Fit stabilisers at earliest possible convenience.

**6a**

Position hatch deck on the 4th rung above ground level and engage wind clips. Ensure the hatch opens to the outside of the tower.

**7a**

Access the platform by climbing the inside of the tower ensuring that you only use the 3T method (Through The Trap) as shown in diagram. Never climb the outside of the Tower. Using the hatch platform as side protection, sit with both feet firmly on the frame rungs. Fit horizontal braces to both sides of platform deck at first and second rungs above platform in order to form collective guardrail fall prevention. This platform is safe to use when all horizontal braces are secure. You must never stand on an unprotected platform. To erect further sections follow instructions as in stages 4a, 5a, 7a & 8a, until the required height is reached.

Note: A hatch deck rest platform must be placed no more than 4m with horizontal braces at 470mm and 950mm high ensuring collective fall prevention.

**9a**

Fit an additional 4 rung span frame and 4 rung ladder frame onto top of existing frames and engage spring clips.

**10a**

Fit diagonal braces to secure lower frame to upper frame as shown in diagram. Now fit a fixed deck directly above you on the 8th rung from the ground and slide the platform away from you so there is no platform directly below it. Once fixed deck is in place now fit a hatch deck directly above you on the 8th rung as shown in diagram, ensuring the hatch door opens to the outside of the tower.

**11a**

Fit horizontal braces as described in diagram 8a using the 3T method.

**12a**

Fit toe boards (see fitting instructions). Toe boards are to be fitted to all working platforms or platforms which are being used to store tools or materials. Upon completion of use, disassemble the tower in opposite order to assembly instruction.

**1b**

When using the tower to gain an odd platform height (1.2m, 1.7m, 2.7m, 3.2m, 3.7m, 4.7m, 5.2m, 5.7m, 6.7m, 7.2m, 7.7m, 8.7m, 9.2m, 9.7m, 10.7m, 11.2m and 11.7m) you may need to use a 4 rung frame first as illustrated in the next three diagrams.

**1b.** Follow previous stages 1a, 2a and 3a ensuring you use 2 x 4 rung frames. Next place 2 diagonal braces on the 1st and 3rd rung in opposing directions as shown in diagram 1b. Now fit stabilisers. Next place a hatch deck on the 2nd rung ensuring the trap door opens to the outside of the tower. Now using the 3T method, fit horizontal braces as described in diagram 8a.

**2b.** Repeat process until desired height is reached.

**3b.** Intermediate platforms can be removed as illustrated in diagram 3b but Lyte Industries advise you leave a platform every 2m. A hatch deck rest platform must be placed at least every 4m with horizontal braces at 470mm and 950mm high ensuring collective fall prevention. Upon completion of use, disassemble the tower in opposite order to assembly instructions.

**1b**

**2b**

**3b**

QUANTITY SCHEDULE Lyte Helix Industrial Tower System Double Width to BSEN1004:2004 1.8m 2.5m

Component Schedule	Internal or external work																						
	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	9.7	10.2	10.7	11.2	11.7	12.2
Platform Height (metres)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1150mm Dual Locking Castor	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Adjustable Leg - ALH	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
4 Rung Access Frame - HL4SW	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2
6 Rung Access Frame - HL6SW	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2
8 Rung Access Frame - HL8SW	2	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Hatch Decks	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Standard Deck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Horizontal Brace	6	6	6	10	10	10	10	14	14	14	14	18	18	18	18	22	22	22	22	22	22	22	22
Diagonal Brace	2	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24
Side Toe Board	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
- DW as per deck length	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
End Toe Board - TBEDW	-	-	4	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Stabiliser	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Telescopic Stabiliser	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Telescopic Stabiliser	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

QUANTITY SCHEDULE Lyte Helix Industrial Tower System Single Width to BSEN1004:2004 1.8m 2.5m

Component Schedule	Internal or external work																						
	1.2	1.7	2.2	2.7	3.2	3.7	4.2	4.7	5.2	5.7	6.2	6.7	7.2	7.7	8.2	8.7	9.2	9.7	10.2	10.7	11.2	11.7	12.2
Platform Height (metres)	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
150mm Dual Locking Castor	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Adjustable Leg - ALH	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
4 Rung Access Frame - HL4SW	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2
6 Rung Access Frame - HL6SW	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2	2	-	2
8 Rung Access Frame - HL8SW	2	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Hatch Decks	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Horizontal Brace	6	6	6	10	10	10	10	14	14	14	14	18	18	18	18	22	22	22	22	22	22	22	22
Diagonal Brace	2	4	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24
Side Toe Board	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
- SW as per deck length	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
End Toe Board - TBESW	-	-	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Standard Stabiliser	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Telescopic Stabiliser	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Large Telescopic Stabiliser	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Components schedule based on 3T specification