

BS1139-6:2014

No: CE/21-22/046



Assembly Manual **Stair Towers MAST Series**

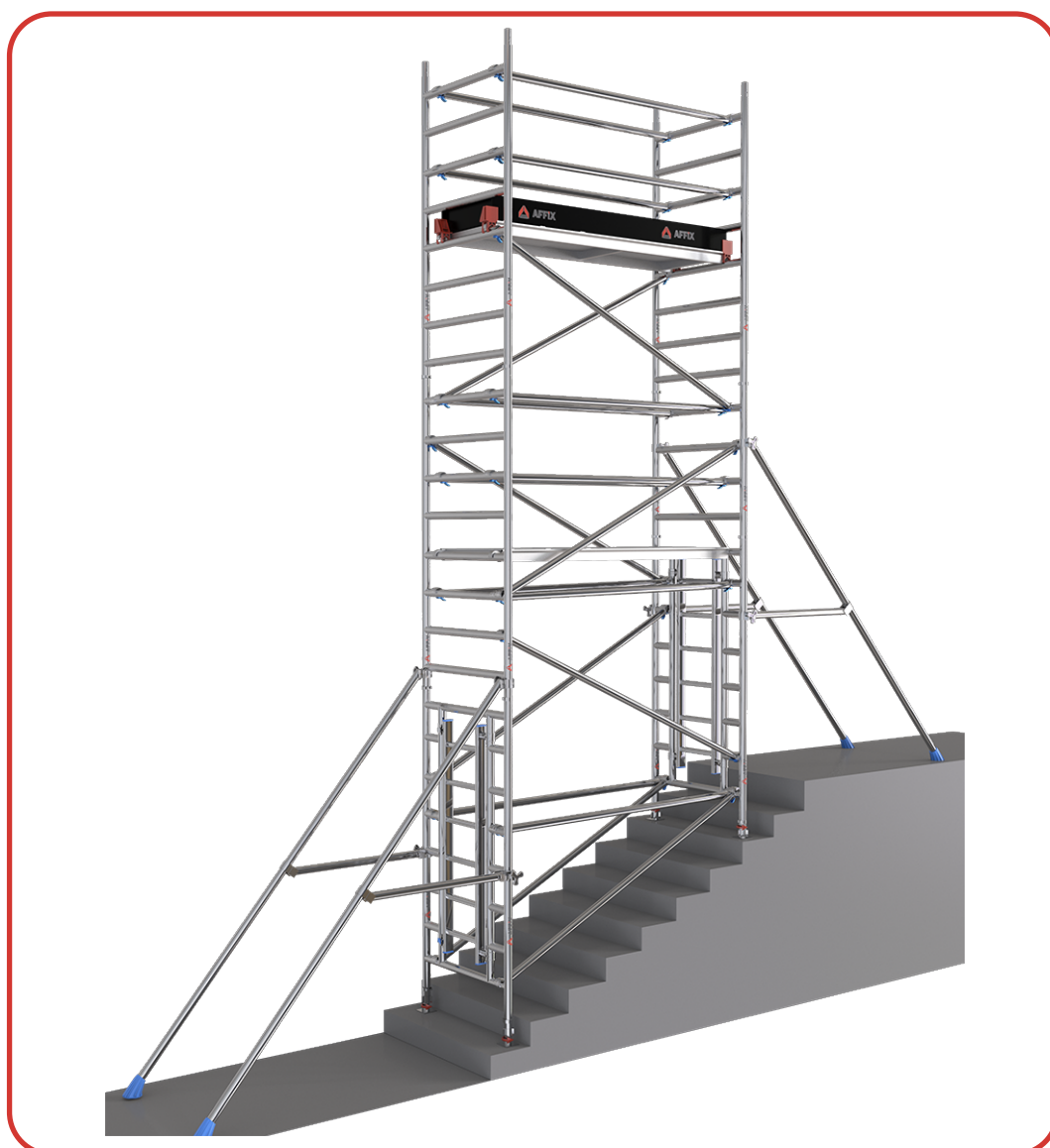
Aluminium Stair Towers

MAST620

BS1139-6 3 7/9 XXXD

The **AFFIX Stair Tower** is an access tower manufactured in our **ISO 9001** accredited facility.

This user guide provides you with step by step instructions to ensure your system is assembled easily and safely, using the **3T (Through the Trapdoor)** method.





WARNING

NEVER FORGET TO LOCK THE
CASTOR WHEELS

DESCRIPTION:

The Affix **MAST** Series Stair Tower are versatile and user-friendly and safe portable access solution which is specifically designed for use on commercial and domestic staircases. It has a compact width of just 0.9 Mtr which enables easy transportation through standard doorways and stairways. It gives a work platform for use by a maximum of two people, with weight evenly distributed across the platform. The tower can be easily erected and with highly customizable assembly it meets almost all the site constraints and provides safe and efficient working platform. The key safety feature is the smart locking claws provided for the horizontal and diagonal bracings. It allows an instant lock-up performed by single hand use, however, with the reverse unlocking plug, two hands are needed to unplug the bracing.

The information and instructions included in this manual are provided to help get the best possible service from your MAST Series Stair Tower. This user guide provides you with step by step instructions to ensure your system is assembled easily and safely, using the 3T (Through the Trapdoor) method.

Through The Trapdoor (3T) Method:

The **3T** method of construction is an approved method of assembly and it minimizes the risk of a fall from height. The erector can complete an 'assembly or access' platform level from which the 'next lift' of frames, braces and platform is added, until the final working height of the tower is achieved. By following the **3T** method, the erector sits through the hatch of the platform with their feet resting on the frame rungs. In this position the erector can attach the guardrail braces. Once guard-rails are secured in position the erector can climb onto the platform and continue constructing the next level.

Compliances:

The Affix **MAST** Tower structure and its components have been designed in accordance with BS1139-6: 2014.

Maximum Safe Working Loads

The safe working load of the tower is **600** kgs including its own weight. The maximum safe working load of any individual platform is **200** kgs evenly distributed.

RECOMMENDATIONS :









- Recommend a minimum of two people to assemble, dismantle and move the platform tower.
- Check that all components are on site and in good working order.
- Ensure that the assembly location is checked to prevent hazards during assembly or moving and while working on the tower. Particular attention should be given to the ground condition, whether level or sloping, obstructions and wind conditions. The ground condition must be capable of supporting the tower structure.
- Towers must always be climbed from the inside of the assembly using the ladder.
- Lifting of components must be done inside the effective base area of the tower.
- Moving the tower is strictly NOT PERMISSIBLE. If required, dismantle and reassemble again.
- Beware of horizontal loads which can lead to instability of the tower. The Max. side force is 20kg.
- Outdoor scaffold towers should, wherever possible, be secured to a building or fixed structure. It is good practice to tie scaffold towers of any height, especially when unattended, or exposed to windy conditions.
- Do Not use boxes or steps to gain additional height.
- Do Not lift or suspend an assembled tower.
- Damaged components or components from other tower systems must never be used.
- Stabilizers should always be fitted when specified. Use the stabilizer shown on the component list according to the tower height.

Air speed and resultant action to be taken

Beaufort Scale	Description	Air Speed	Action to be taken
0	Calm, smoke rises easily upwards	1 mph	No action needed
3	Moderate breeze, raises dust	12 mph	No action needed, keep a watch
4	Raises loose papers, leaves and small twigs move	17 mph	Cease work
5	Strong breeze, tree branches bend, unable to use umbrella	25 mph	If expected, tie tower to a rigid structure
6	Gale force, cannot even walk	40 mph	If expected, dismantle the tower

Safety Checklist :

3T Method Checklist

- Inspect components prior to use 
- Ensure all brace claws operate and lock correctly prior to erection 
- Tower upright and level 
- Diagonal braces fitted 
- Stabilizers/outriggers fitted as specified 
- Platforms located and wind-locks on 
- Toe boards located 
- Check that the guardrails are fitted correctly 

SAFE WORKING LOADS AND HEIGHTS



- Safe working load on the working platform is **200kgs** evenly distributed.
- The load on the tower should not exceed **600 kgs**.
- The recommended platform height is **9M**.

ASSEMBLY PROCESS :

PREPARATION

Sort the braces into horizontal and diagonal braces, the diagonals are slightly longer.
Also note that the braces are differently color coded.

Check the locking triggers in the bracing hooks such that they are working properly.

FIRST LEVEL

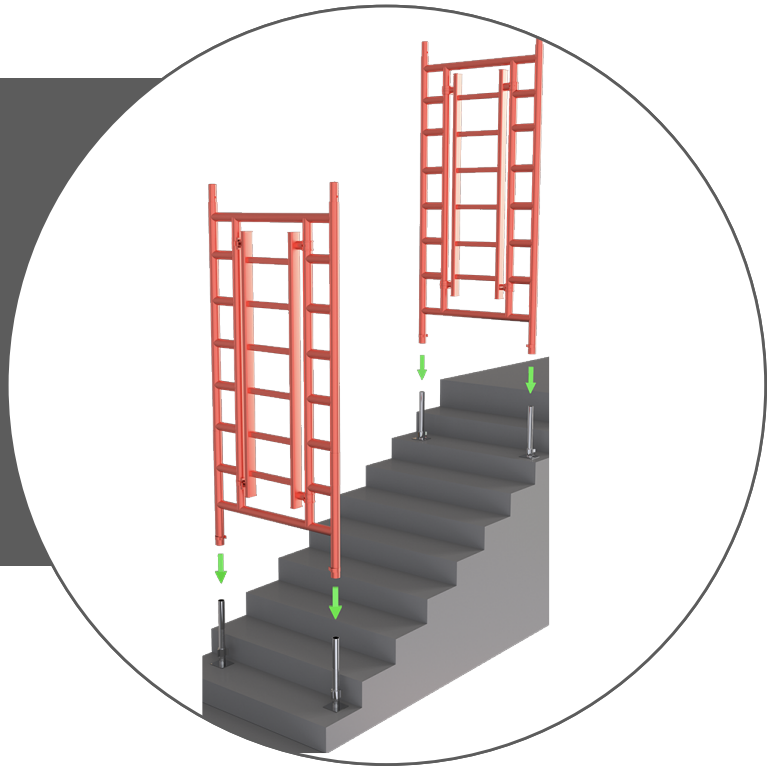
Step 1

Step 1.1

Insert the **Adjustable Jack** inside the bottom of the tubes of the **1st level walk-through frames**

Step 1.2

One person should hold the frame in upright position during this step.



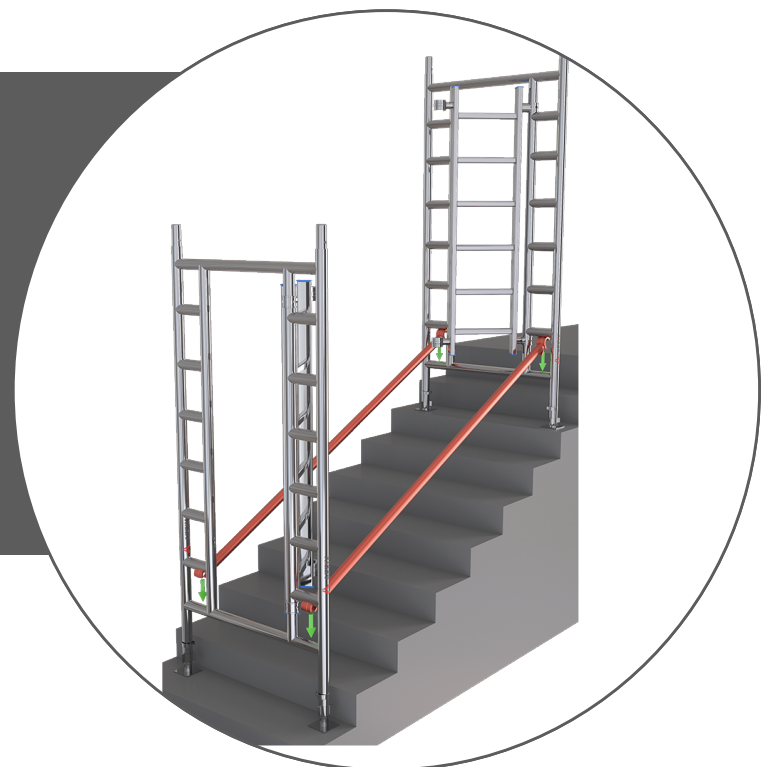
Step 2

Step 2.1

Hook both the **Diagonal Braces** to the **1st Rung** of both the 1 level 6 rungs **Walk through Frames** on both the sides.

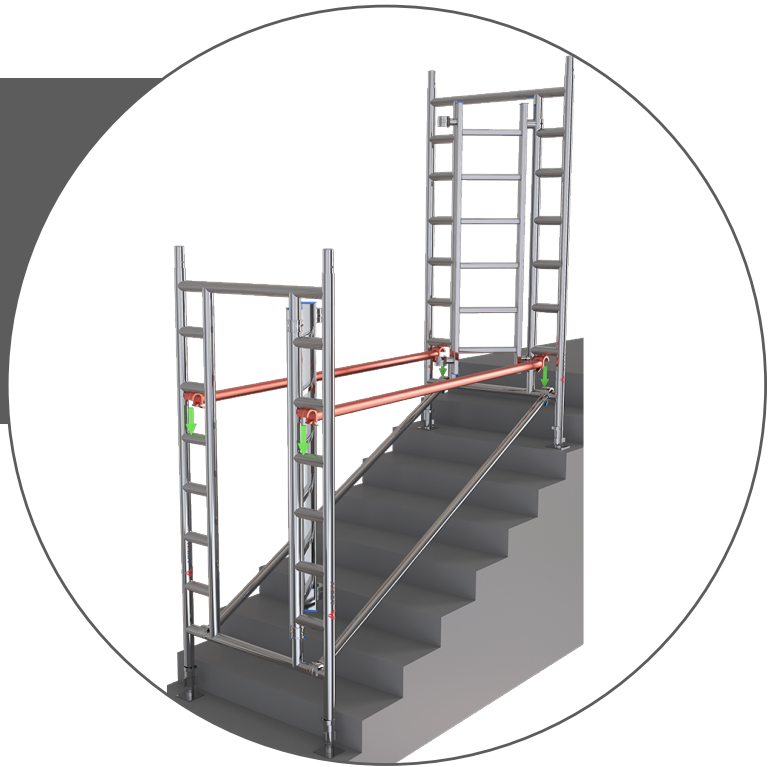
Step 2.2

One person should hold the frame in upright position during this step.



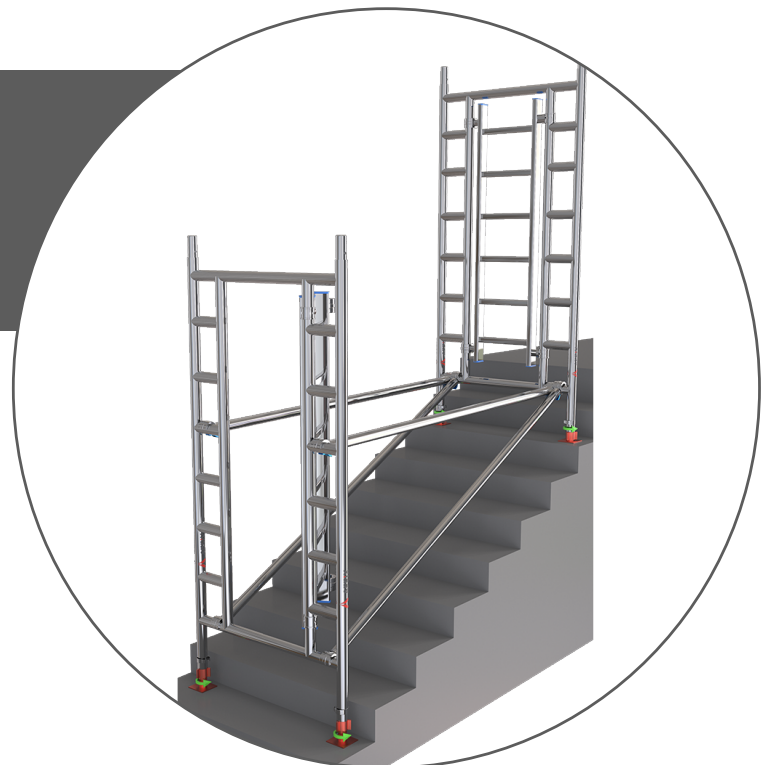
Step 3

Hook both the standard Horizontal Braces to the **2nd rung** towards the upper side, **6-rungs**, 1st level **walk-through frame** and the other side to the **5th rung** towards the lower side, **6-rungs**, 1st level **walk-through frame**.



Step 4

Use a spirit level on the horizontal braces and the frame rungs to check the level. Adjust the level of the structure by using the adjustable jack if required.

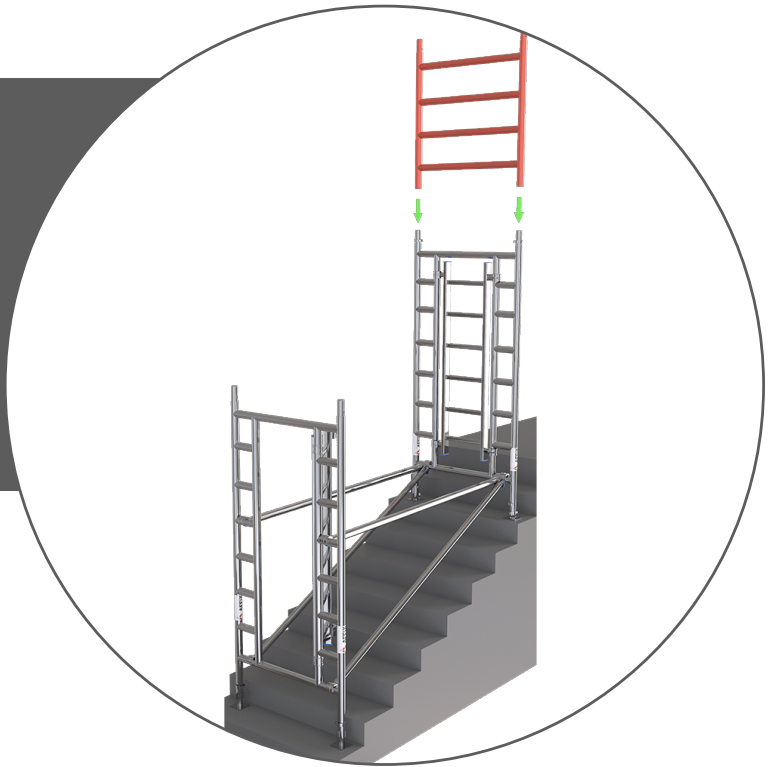


SECOND LEVEL

Step 5

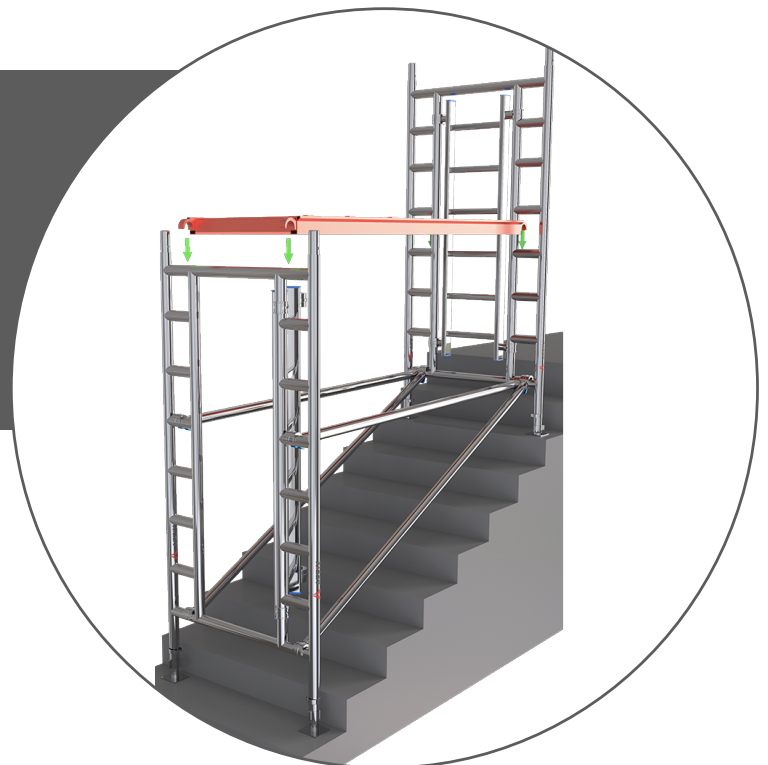
Towards the upper side, insert the 2nd level **3-rungs Span frame** into the spigots of 1st level **6-rungs walk-through frame**.

For clamping instructions refer to the **Clamping Instructions** section on **Page 17**.



Step 6

Hook the Temporary Trapdoor Platform to the **6th rung** of the **walkthrough frame** towards the lower side of the structure and the **3rd rung** of the walkthrough frame towards the higher side of the structure.



Step 7

Using the 3T method, standing on the ladder and leaning back against the edge of the trapdoor aperture

Step 7.1

Towards the lower side of the structure, insert the 2nd level **6-rungs Span frame** into the spigots of 1st level 6-rungs walk-through frame.

For clamping instructions refer to the **Clamping Instructions** section on **Page 17**.



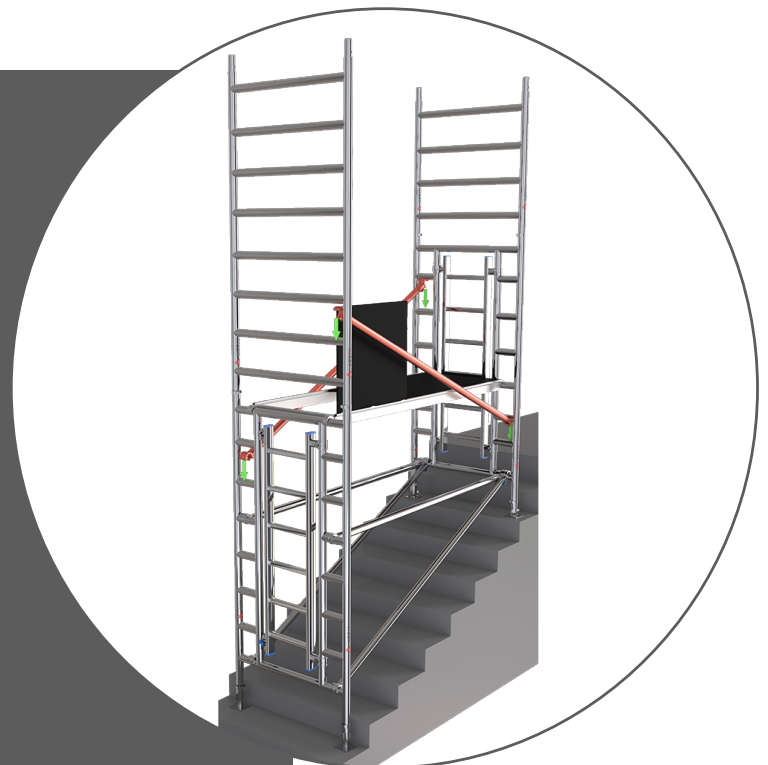
Step 8

Step 8.1

Hook one side of the standard Diagonal brace to the **1st rung** of the 1st level **walkthrough-frame** towards the upper side and the other side of the brace to the **1st rung** of the 2nd level **span frame** towards the lower side.

Step 8.2

Hook one side of the standard Diagonal brace to the **4th rung** of the 1st level **walk-through frame** towards the upper side and the other side of the brace to the **4th rung** of the 1st level **walk-through frame** towards the lower side.



Step 9 *Option 1 (wall on sides)*

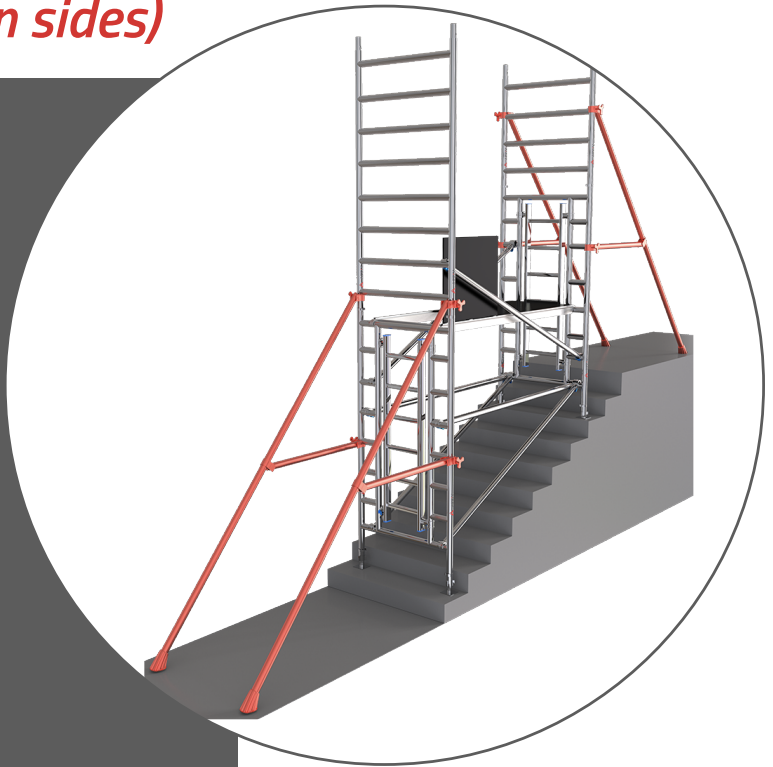
Using the 3T method, standing on the ladder and leaning back against the edge of the trapdoor aperture:

Step 9.1

Clamp the **2 Stabilizers** on the **2 vertical posts** of the frame towards the lower side of the structure as instructed in detail on **Page no.19**.

Step 9.2

Clamp the **2 Stabilizers** on the **2 vertical posts** of the frame towards the upper side of the structure as instructed in detail on **Page no.19**.



Step 9 *Option 2 (no wall on sides)*

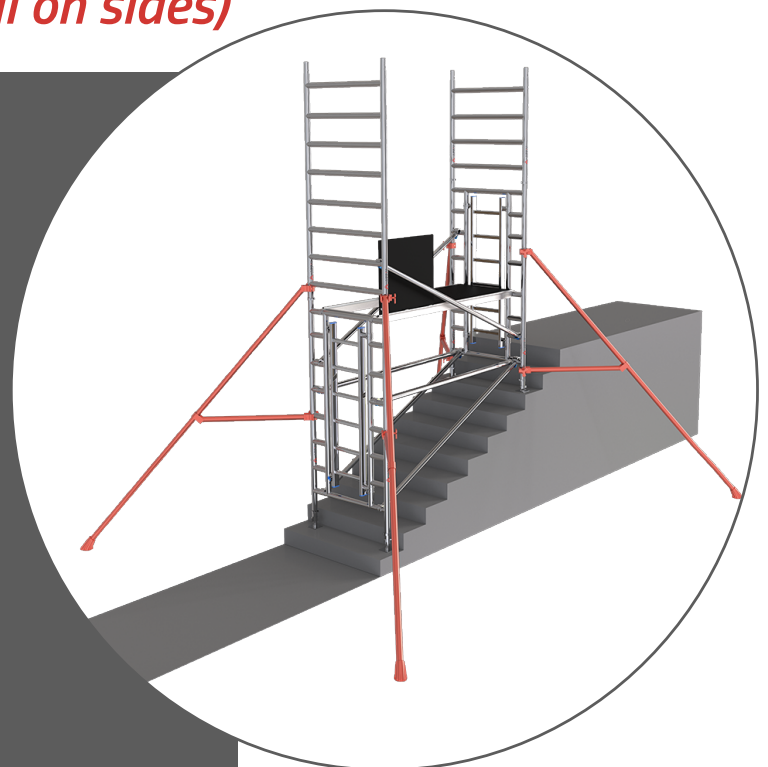
Using the 3T method, standing on the ladder and leaning back against the edge of the trapdoor aperture:

Step 9.1

Clamp the **2 Stabilizers** on the **2 vertical posts** of the frame towards the lower side of the structure as instructed in detail on **Page no.19**.

Step 9.2

Clamp the **2 Stabilizers** on the **2 vertical posts** of the frame towards the upper side of the structure as instructed in detail on **Page no.19**.



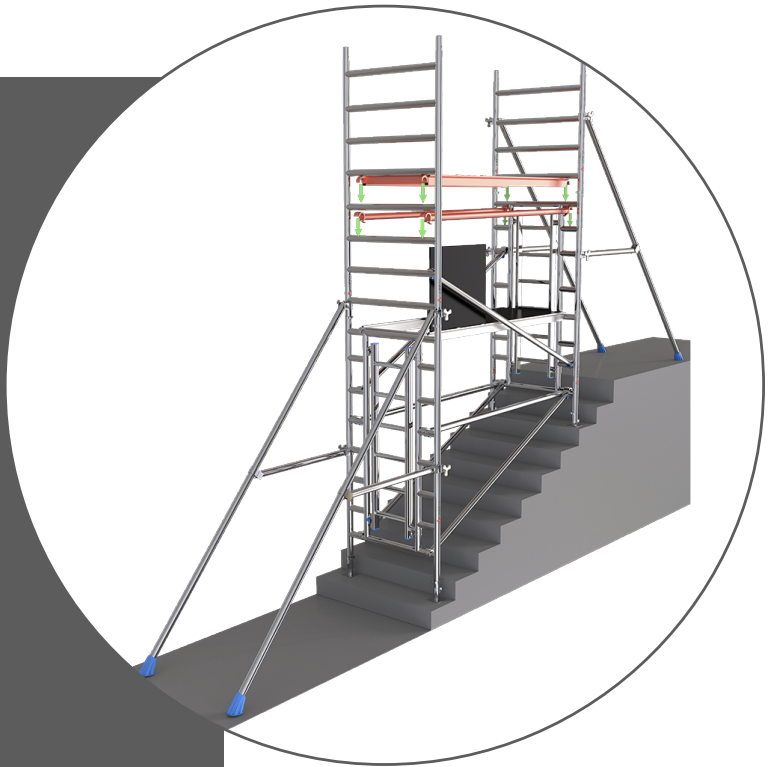
Step 10

Step 10.1

Hook the Intermediate Trapdoor Platform on the **8th Rung** of 1st level, **8-rungs Walk-through frame** towards the upper side and the other side of the platform to the **4th rung** of the 2nd level, **8-rungs Span frame** towards the lower side.

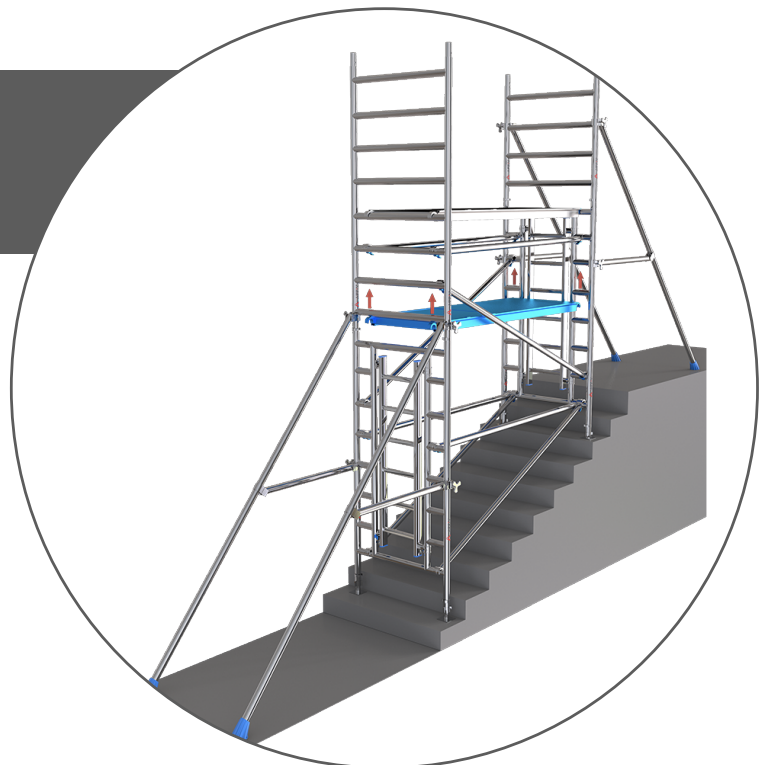
Step 10.2

Hook the standard Horizontal braces pair to the **7th Rung** of 1st level, **8-rungs walk-through frame** towards the upper side and the other side of the braces to the **3rd rung** of the 2nd level, **8-rungs Span frame** towards the lower side.



Step 11

Remove the Temporary Trapdoor Platform hooked in **Step 6**.



Step 12

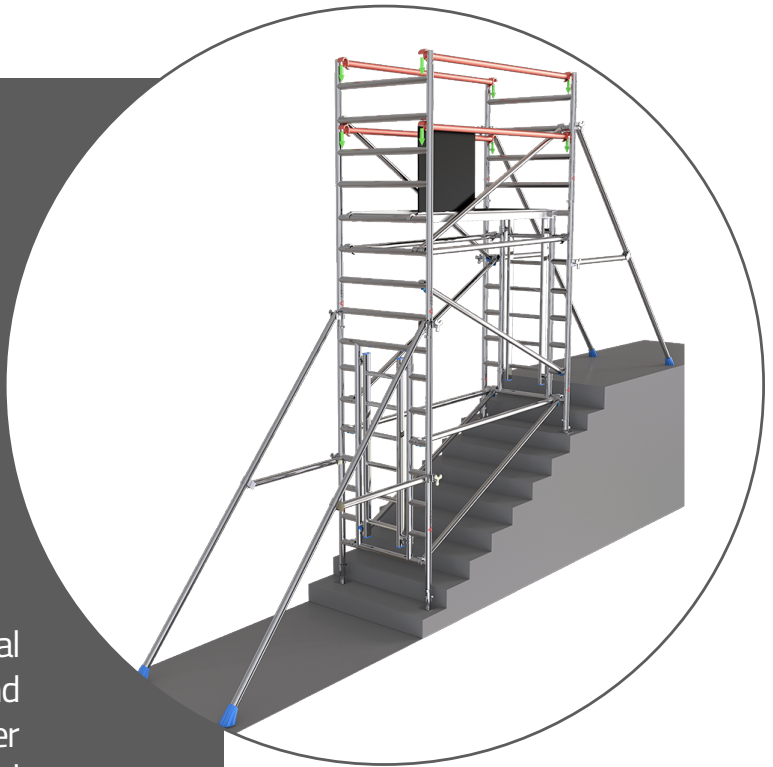
Using the 3T method, standing on the ladder and leaning back against the edge of the trapdoor aperture:

Step 12.1

Hook the lower pair of standard Horizontal Braces (Mid-Rail) to the **2nd rung** of 2nd level **4-rungs span frame** towards the upper side and the other side of the braces to the **6th rung** of the 2nd level **8-rungs span frame** towards the lower side.

Step 12.2

Hook the upper pair of standard Horizontal Braces (Guard-Rail) to the **4th rung** of 2nd level **4-rungs span frame** towards the upper side and the other side of the Horizontal Braces to the **8th rung** of the 2nd level **8-rungs span frame** on the lower side.



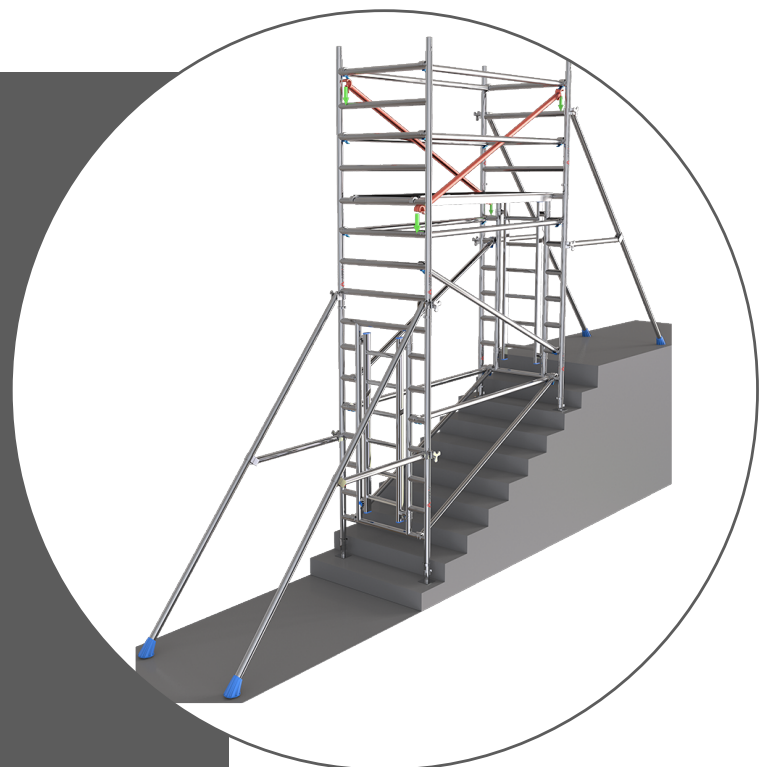
Step 13

Step 13.1

Hook one side of the standard Diagonal brace to the **3rd rung** of the 2nd level **4-rungs span frame** towards the upper side and the other side of the brace to the **3rd rung** of the 2nd level **8-rungs span frame** towards the lower side.

Step 13.2

Hook one side of the standard Diagonal brace to the **7th rung** of the 1st level **8-rungs walk-through frame** towards the upper side and the other side of the brace to the **7th rung** of the 2nd level **8-rungs span frame** towards the lower side.



THIRD LEVEL

Step 14

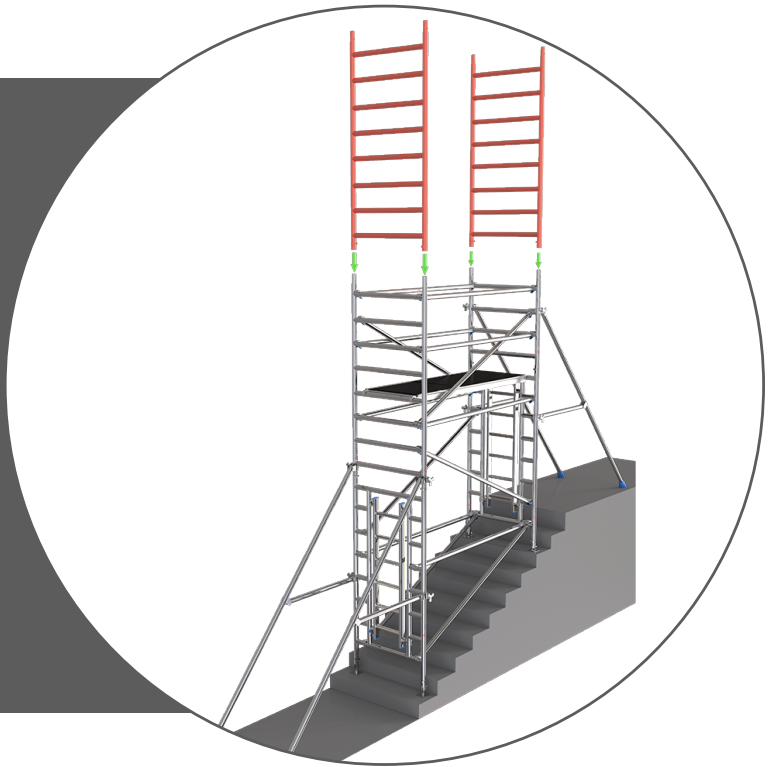
Step 14.1

Towards the lower side, insert the 3rd level **8-rungs span frame** into the spigots of **2nd level span frame**.

Step 14.2

Towards the upper side, insert the 3rd level **8-rungs span frame** into the spigots of **2nd level span frame**.

For **clamping instructions** refer to the Clamping Instructions section on **Page 17**.



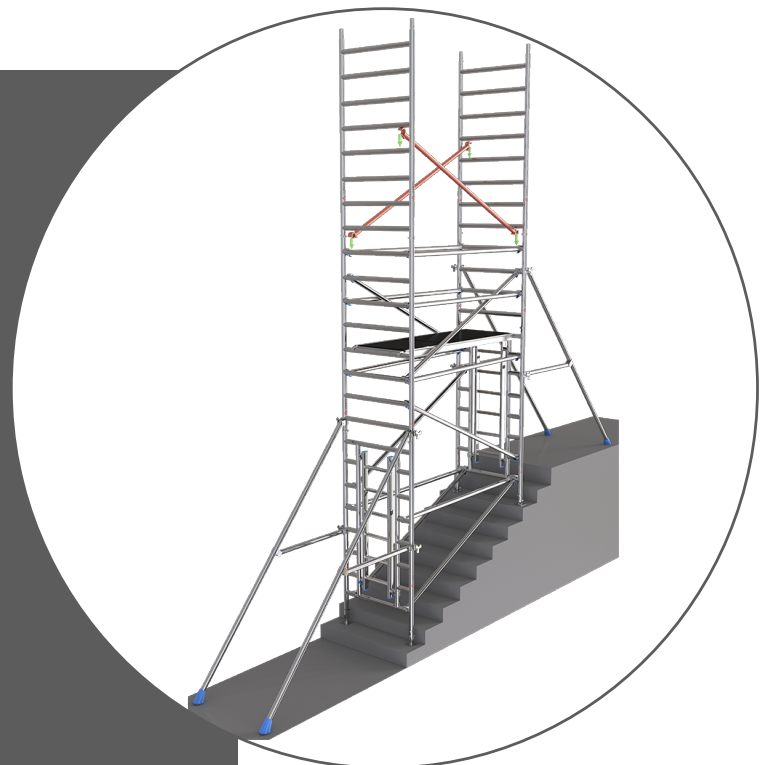
Step 15

Step 15.1

Hook one side of the standard Diagonal brace to the **4th rung** of the 2nd level **4-rungs span frame** towards the upper side and the other side of the brace to the **4th rung** of the 3rd level **8-rungs span frame** towards the lower side.

Step 15.2

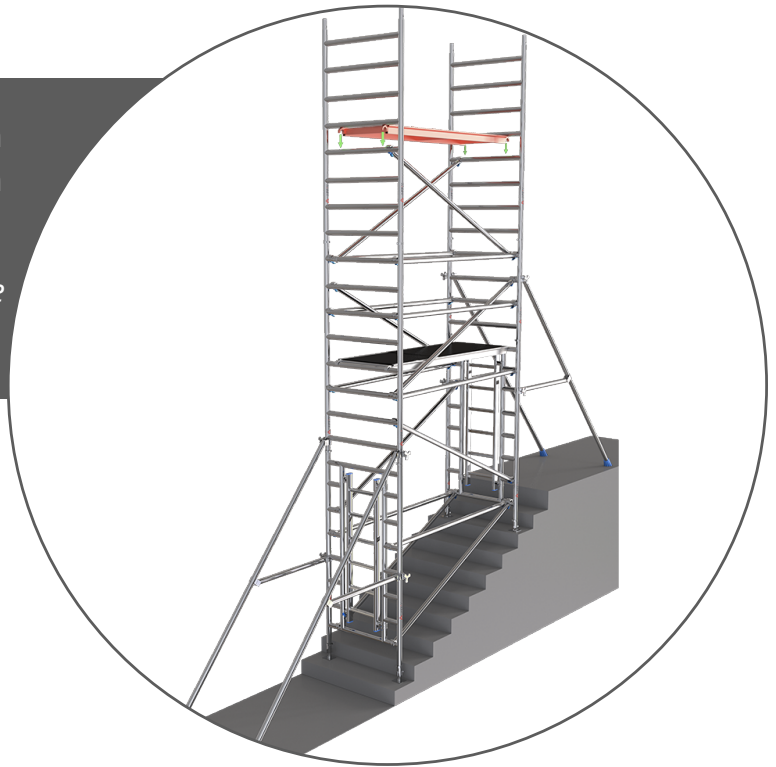
Hook one side of the standard Diagonal brace to the **4th rung** of the 3rd level **8-rungs span frame** towards the upper side and the other side of the brace to the **8th rung** of the **2nd level span frame** towards the lower side.



Step 16

Hook the **Working Trapdoor Platform** on the **4th rung** of 3rd level **span frames** on both the sides of the structure.

Note : Ensure the trap-door is on the same side as that of the Intermediate Platform.



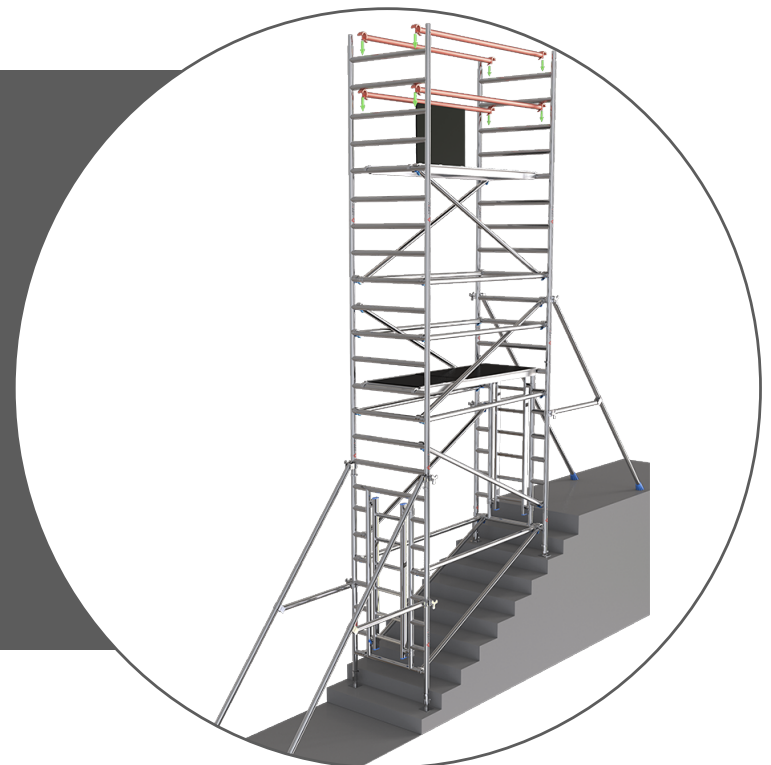
Step 17

Step 17.1

Hook the lower pair of standard **Horizontal braces** (Mid-Rail) to the **6th rung** of **3rd level span frames** on both the sides of the structure.

Step 17.2

Hook the upper pair of standard **Horizontal braces** (Guard-Rail) to the **8th rung** of **3rd level span frames** on both the sides of the structure.



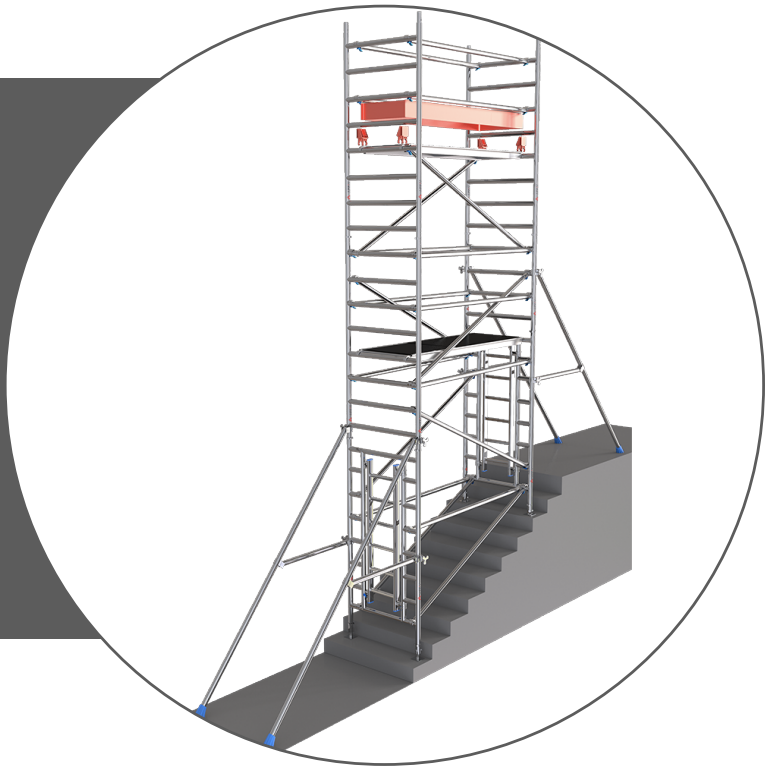
Step 18

Step 18.1

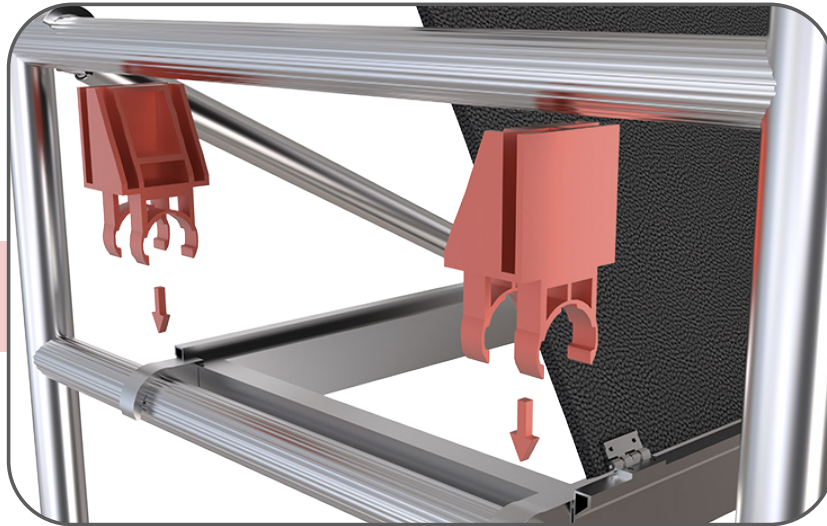
Clamp the **4 plastic toe-board holders** on all the 4 corners of the working platform level, around the working platform. For more details, refer to Toe-board assembly details on **Page 16**.

Step 18.2

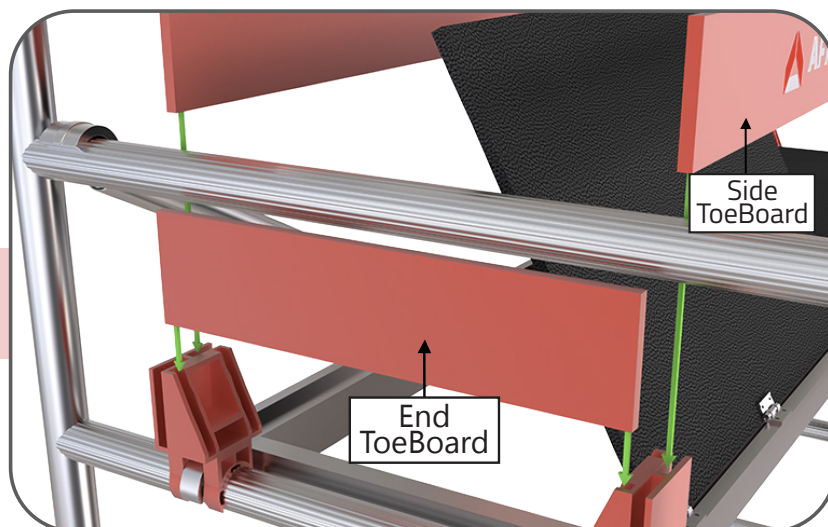
Insert the wooden toe-boards in the **toe-board holder slots**, on all the 4 sides.



Toeboard Assembly Details

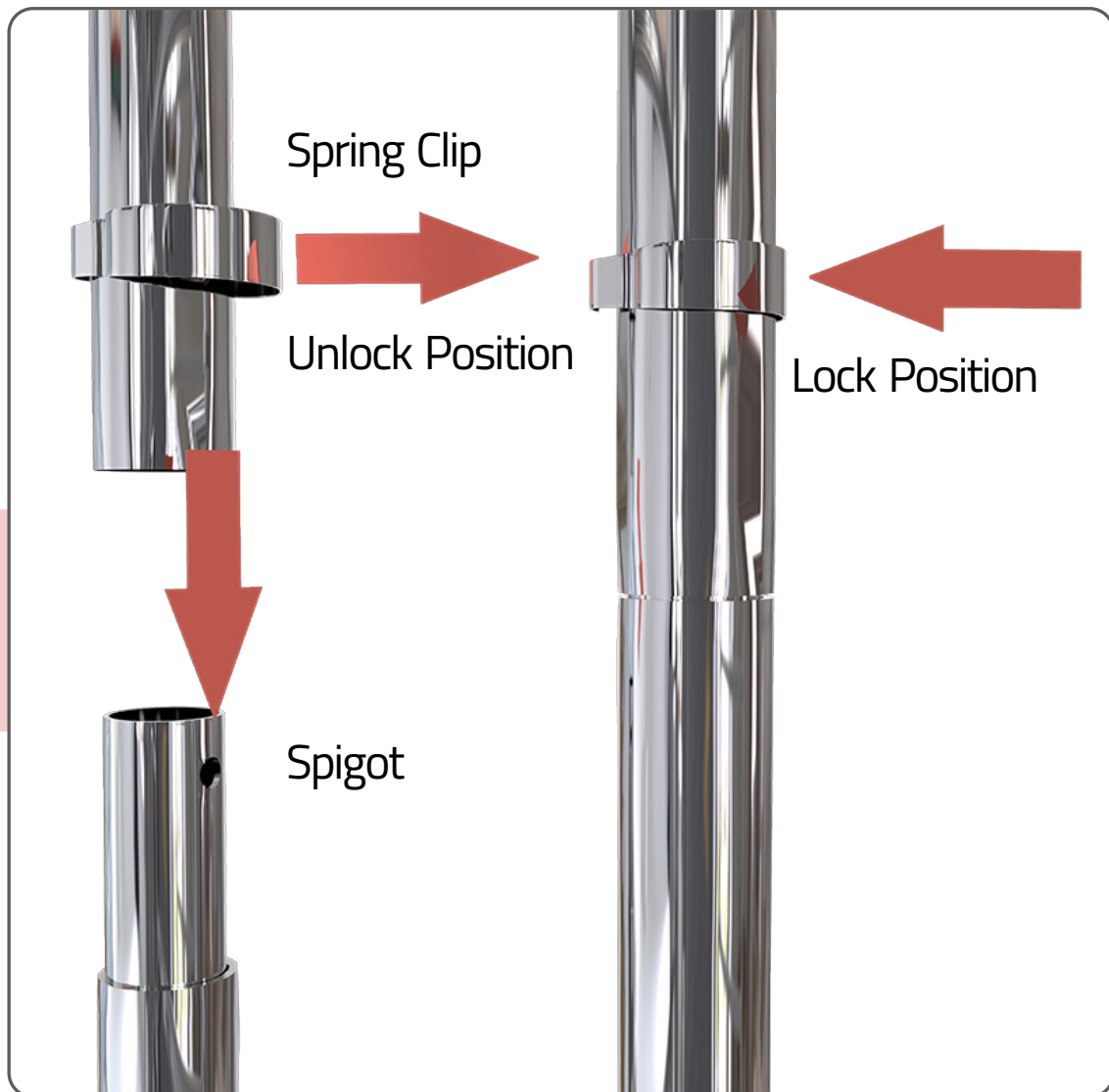


Fix the claw of the Toeboard **TB** on the **Rungs** facing each other as shown in the figure.



Then insert the **Side Toeboard** and the **End Toeboard** in the respective toeboard slots as shown in the figure.

Clamping Instructions



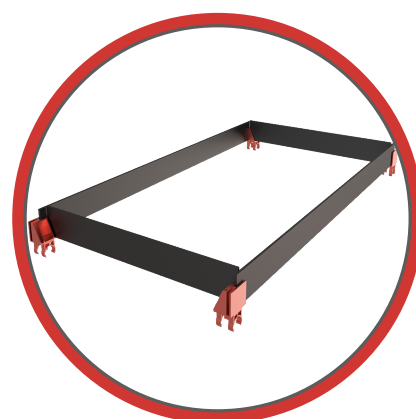
Always ensure the **Spring Clips** are in the lock position after inserting the upper frame in the **Spigot**. To insert, unlock the **Spring Clip**.



JA500



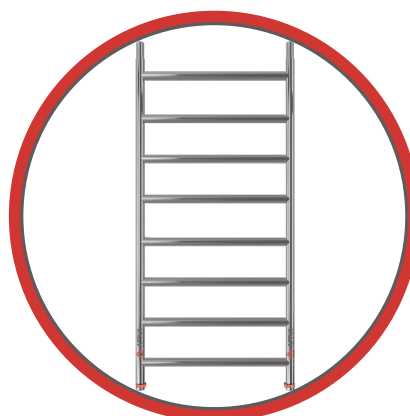
FW20900



BT200/250
ToeBoard Set



FM10900



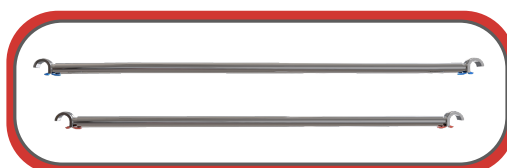
FM20900



ST200/300/450/600
Stabilizer



PT200/250
Trapdoor Platform



BD200/250, BH200/250
Diagonal Brace, Horizontal Brace

Stabilizers are to be used, when specified, to guarantee the structural stability of the tower.



Option - 01

Fig. 01

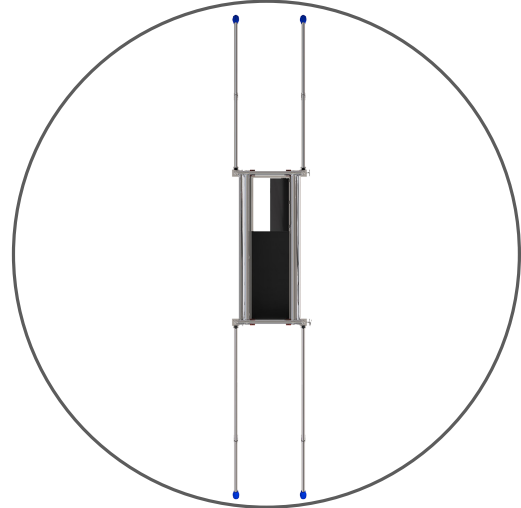
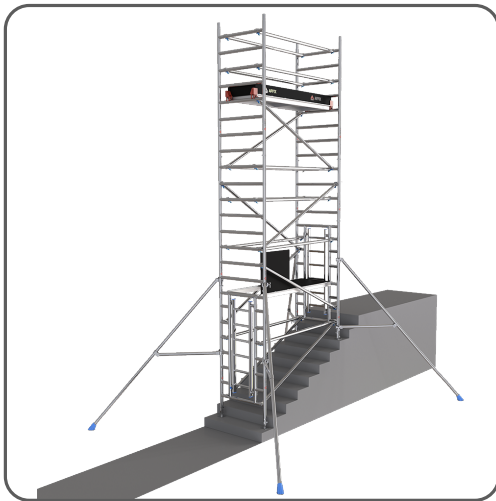


Fig. 02



Option - 02

Fig. 01

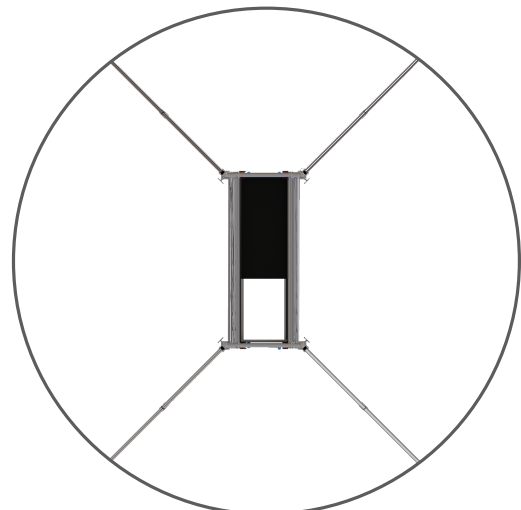


Fig. 02

Fig. 01

Lightly tighten the upper clamp of the stabilizer on each corner vertical posts at a height where the foot is touching the ground. Position the clamp of the lower arm such that the lower arm is as horizontal as possible.

Fig. 02

Position the stabilizers so that the footpads are approximately equidistant from each other in pairs of two (opposite sides).

Moving the Tower

Moving the tower is strictly NOT Permissible. If required, dismantle and re-assemble again.

Comply To

- Independently tested for use.
- Compliant to 3T Assembly process.
- Safe working load on the platform is 200kgs/Sq Mtr, evenly distributed.
- Maximum permissible distributed load on the tower 600 Kgs.

Type Approval

The scaffold towers referred to herein have been tested by



MAST SERIES TABLE Confirming to BS1139-6:2014

ALUMINIUM STAIR TOWER

	MAST	420	620	820	1020
Tower Height	in Mtrs	4.0	6.0	8.0	10.0
Working Height	in Mtrs	5.0	7.0	9.0	11.0
Platform Height	in Mtrs	3.0	5.0	7.0	9.0
Weight	in Kgs	104	125	166	206
Components	Code	Specs			
Walkthrough Frame	FW20900	2.0 Mtrs	2	2	2
Span Frame	FS20900	2.0 Mtrs	1	3	5
Span Frame	FS10900	1.0 Mtrs	1	1	1
Adjustable Jack with Base Plate	JA500	0.5 Mtr	4	4	4
Horizontal Braces	BH200	2.0 Mtr	8	12	16
Diagonal Braces	BD200	2.2 Mtrs	4	8	12
Stabilizer	ST200	2.0 Mtrs	4	0	0
Stabilizer	ST300	3.0 Mtrs	0	4	0
Stabilizer	ST450	4.5 Mtrs	0	0	4
Stabilizer	ST600	6.0 Mtrs	0	0	0
Trapdoor Platform	PT200	2.0 Mtrs	1	2	3
Toe Board	BT200	Set	1	1	1

BS1139-6:2014 Certification by TUV India



Statement of Confirmation

No.: CE/21-22/046

Client's Reference – EN-AS-BS-2122-000

Name & Address of the Manufacturer:

AFFIX SCAFFOLDING.

Hugo Building, Office No.13
Opp Old Fatihima Shopping Centre
Umm Dom Stree, Muaither, Doha , Qatar

Product Type:

- Cantilever Tower
- Bridgeway Tower
- Stair Tower

Review Results/Observations:

The Technical File referenced above submitted by the manufacturer has been reviewed for its document contents – the above product/s, generally comply with the Safety requirements of the British Standards:

BS-1139-6:2014

Validity: 15 November 2024 (Subject to annual factory production control audits)



Mahesh Gaur

General Manager - Product Certification and Product Testing Laboratory

(This Statement of Confirmation is valid under the conditions stated overleaf)

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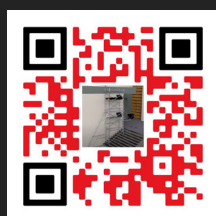
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Website: www.affixscaffolding.com

To Check Assembly Video

SCAN ME



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