Finelock™ M48

System Scaffold User Guide

鼎维固 Wenma

Quality

Quality

The Finelock M48 System Scaffold (thereafter as Finelock M48) is manufactured to the highest possible standards thereby ensuring the quality of each item. Finelock M48 is tested and designed in line with the ISO 9001 series of quality management systems. Furthermore, it offers compliance with the BSEN 12810 & 12811 series, namely:

- BSEN 12810 Part 1:2003 – 'Facade Scaffolds Made of Prefabricated Components: Product Specifications'
- BSEN 12810 Part 2:2003 – 'Facade Scaffolds Made of Prefabricated Components: Particular Methods of Structural Design'
- BSEN 12811 Part 1:2003 – 'Scaffolds – Performance Requirements & General Design'
- BSEN 12811 Part 2:2003 – 'Information on Materials'
- BSEN 12811 Part 3:2003 – 'Temporary Works Equipment – Part 3: Load Testing'
- BSEN 39 Part 1:2009 – 'Metal Scaffolding, Couplers and Special Couplers in steel'
- BSEN 74:2007 – 'Couplers for Use in Scaffolding'
- BS2482:2009 – 'Timber Boards for Use in Scaffolding'

Designation of Finelock M48

The Designation of Finelock M48 is in accordance with BS EN 12810-1:2003 and reference should be made to the Finelock M48 System Scaffold Technical Manual for further information.

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01 General Safety Guidelines

Safety must always come first!

The Finelock M48 System Scaffold is meticulously designed and manufactured with the user's needs and safety in mind. Nonetheless, the inherent safety built into each component cannot compensate for carelessness on the part of the erector or the user. To prevent harm to those utilizing the Finelock M48, adhere strictly to the following safety guidelines. Scaffold designs must incorporate load-bearing member analyses conducted by suitably qualified personnel. Information regarding the load capacity and weight of Finelock M48 components can be found in our Technical Manual. Scaffold assembly, usage, relocation, and dismantling must solely be executed under the supervision of Competent Persons. Should you have any queries, please do not hesitate to contact us for assistance.

Safety is everyone's responsibility. Everyone's safety depends upon the design of scaffolds by a Qualified Person, erection and dismantling of scaffolds by Trained Erectors under the direct supervision of a Competent Person and use scaffolds by properly trained workers. Inspect your scaffold before each use to see that the assembly has not been altered and is safe for your use.

Competence of Scaffolders

Work at Height Regulations 2005 refers to a set of regulations in the United Kingdom that were introduced to reduce the risk of injury from falls when working at height. These regulations apply to all work where there is a risk of a fall that could cause personal injury, and they encompass a wide range of industries and activities. Competence of individuals working at height is now a direct requirement of the Work at Height Regulations 2005. Consequently, employers of erectors have a duty to ensure that individuals involved in the erection, modification or dismantling of such equipment have received the necessary training to enable them to execute their work in a safe manner.

Wenma Scaffolding and Solutions is currently collaborating with the UK's Construction Industry Scaffolders Record Scheme (CISRS), to ensure that its Finelock M48 product line and associated training courses meet CISRS audit standards. As the globally leading accreditation system for scaffolders' competency, CISRS specifically provides tailored training for Finelock M48, thereby guaranteeing that scaffolders attain the required skill set. This specialized training program, known as the System Scaffold Product Training Scheme (SSPTS), is accessible through our approved training partners. For further details, please visit our official website or contact us directly.

Work at Height/Fall Prevention

As with competence, the Work at Height Regulations 2005 place a duty on employers to protect individuals from harm. Scaffolding inevitably carries a risk of falls from height and consequently, it is of paramount importance that a safe system of work be adopted during any scaffold activity.

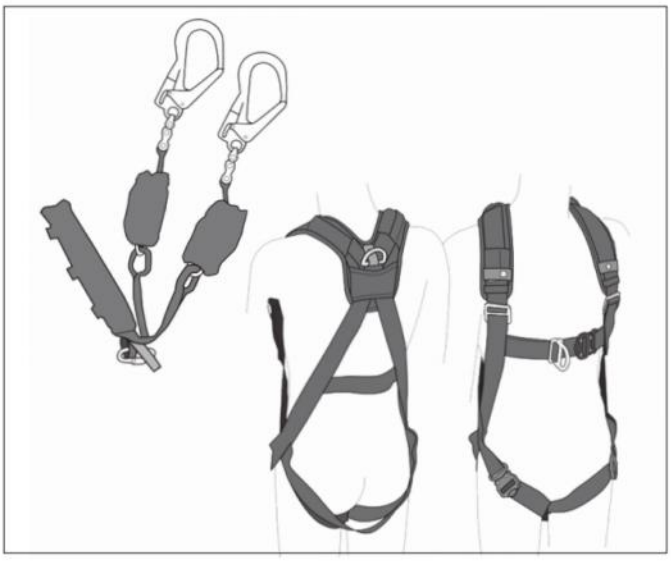
The Finelock M48 System Scaffold is fully compatible with the National Access & Scaffolding Confederation (NASC) safety guidance note SG4 – 'Preventing Falls in Scaffolding & Falsework' and can be used safely with many of the collective fall protection systems demanded by the latest revision of SG4, including the Advanced Guardrail and Scaffolders Step.

01 General Safety Guidelines

All personal fall protection systems are classed as active protection that is only effective if used correctly (e.g. a fall arrest harness and lanyard system require a suitably secure anchor point (refer to Safety Harness Connection Point) and a minimum clearance distance to arrest a fall), unlike collective protection (sometimes referred to as passive protection) that offers protection continuously.

When a personal fall arrest system is used, consideration must be given to reducing the distance a person is liable to fall and the consequences of the fall, particularly the ease of rescuing of a person suspended in a harness (refer to Rescue of Suspended Casualties).

Always wear appropriate PPE with Hi-Vis where required.



High Specification Personal Fall Protection Equipment

Safety Harness Connection Point

The following guidelines are provided to help you select the most appropriate locations for attaching a harness to Finelock M48 System Scaffold. The guidelines presented in this document do not replace established Health and Safety guidelines. Refer to the Work at Height Regulations and Safety Guidance Notes provided by the NASC where necessary.

Connection To A Standard

To ensure a positive connection is created it is recommended that joints between Standards are pinned together (ensure site/local regulations and current Legislation are followed). A Scaffolder can connect to any rosette up to the second rosette above the Ledgers.

1. The rosette on a Standard is a proper connection point for the Scaffold Hook attached to a Lanyard. The Standard must be continuous to the base plate. No more than one person per 2.0m lift can be attached to a single Standard.
2. The Scaffold Hook attached to a Lanyard must only be connected to the large trapezoidal holes to provide a suitable anchor point for the appropriate safety harness.
3. DO NOT attach the safety harness lanyard to itself around a Standard because the edge of the rosette may cut the fabric or it may slip over the rosette to the next lower rosette increasing the fall distance.

Connection To A Ledger

The Ledger is a proper connection point for the Scaffold Hook attached to a Lanyard. It is recommended that no more than one scaffolder be attached to any Ledger at the same time. Both Ledger ends must be attached with tightened wedges to a Standard that is supported by two or more Ledgers attached to the same rosette. To ensure a positive connection is created it is recommended that joints between Standards are pinned together (ensure site local regulations and current Legislation are followed).

01 General Safety Guidelines

1. Diagonal braces must be installed as per Finelock M48 recommendations and/or engineering design and they must be installed as the scaffold is erected. Diagonal braces may not be used as harness connection points.
2. Free fall distance should be limited to 2.0m or less in accordance with current Safety Guidelines for the specific conditions of the fall hazard. In addition, the scaffold-specific fall protection plan should ensure that all fall zones are clear and unobstructed and that an effective scaffolder rescue plan has been developed that can be mobilized quickly in the event that an arrested fall incident occurs.
3. All persons using fall protection systems must be trained in the proper installation and safe use of fall protection equipment, as required by SG4 – Preventing Falls in Scaffolding & Falsework and/or OSHA Work at Height Regulations.
4. Contractors and their employees must comply with the Work at Height Regulations 2005 and/or the OSHA Work at Height Regulations.
5. Scaffolders should use an appropriate safety harness at all time such that the individual stays fully protected from falling when working at heights above that required by fall protection regulations.
6. Scaffolders should hook on immediately after stepping off a ladder or other means of access. Wenma recommends the use of a properly installed Davit Arm and retractable lanyard to ensure that workers are tied-off while climbing exterior vertical scaffold ladders.
7. When it is necessary to reach below the single guardrail (e.g. fixing bracing or handling other materials). Clip to:

— Available and adequate steelwork.

— Standards, but refer to "Safety Harness Attachment Guidelines".

Do not clip to:

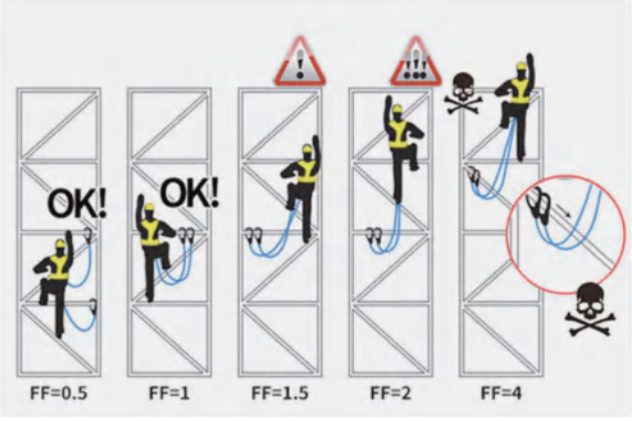
— Bay Braces.

— Standards not supported by two or more Ledgers attached to the same rosette.

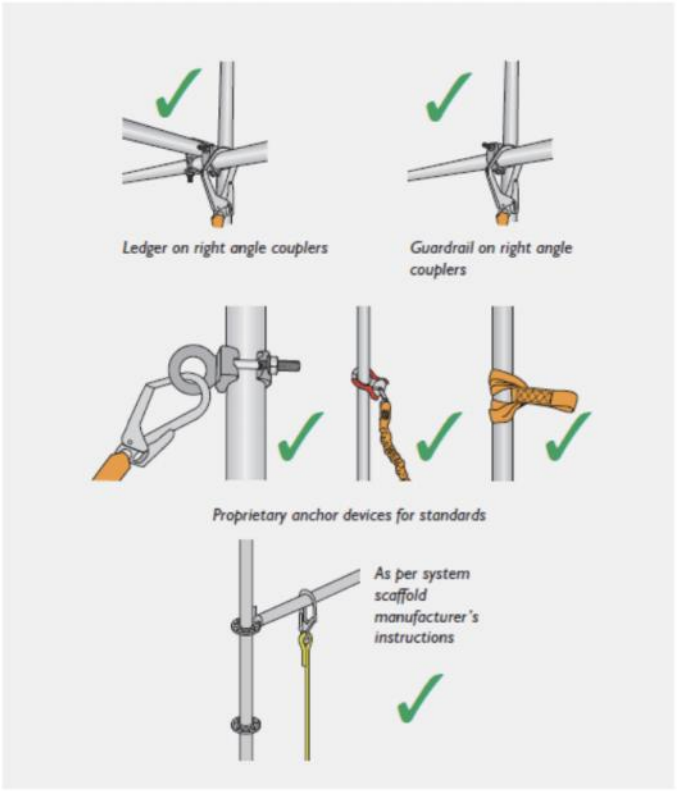
— Puncheons or cantilevered components.

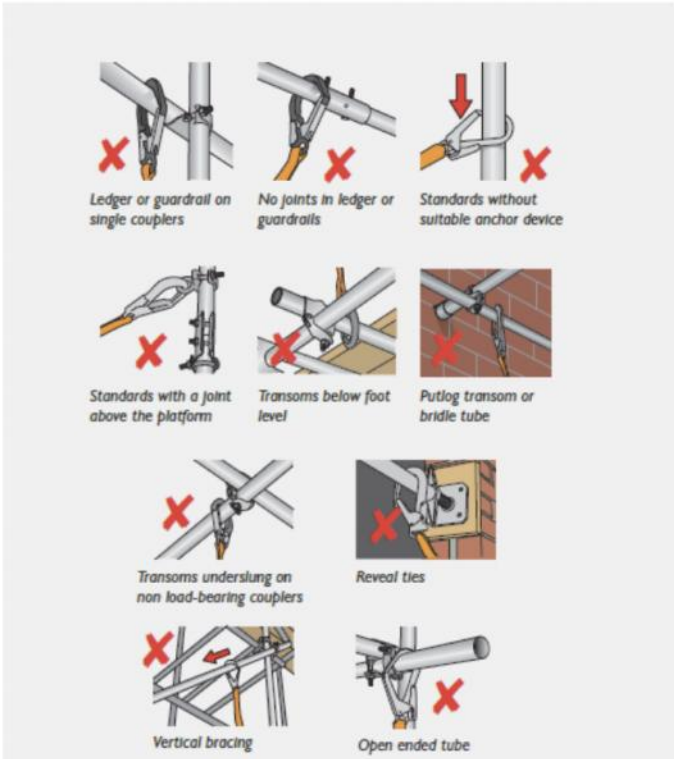
— Pipework, plant guardrails, cable racks etc.

8. Refer to "Safety Harness Connection Guide" for suitable/appropriate harness locations.
9. Anchor points should always be as high as possible. However, this is not always practical in scaffolding which is usually built from the ground up. Our recommendation is that where no higher anchor point is available you should clip to the Ledger immediately below your feet. There is sufficient space between the Ledger and the platform to clip on with a safety harness carabiner.



Note: It is strongly recommended that any erection, dismantling or modification of the Finelock M48 System Scaffold be carried out in strict accordance with the latest available edition of the SG4 guidance note and with those involved wearing the necessary fall arrest equipment.

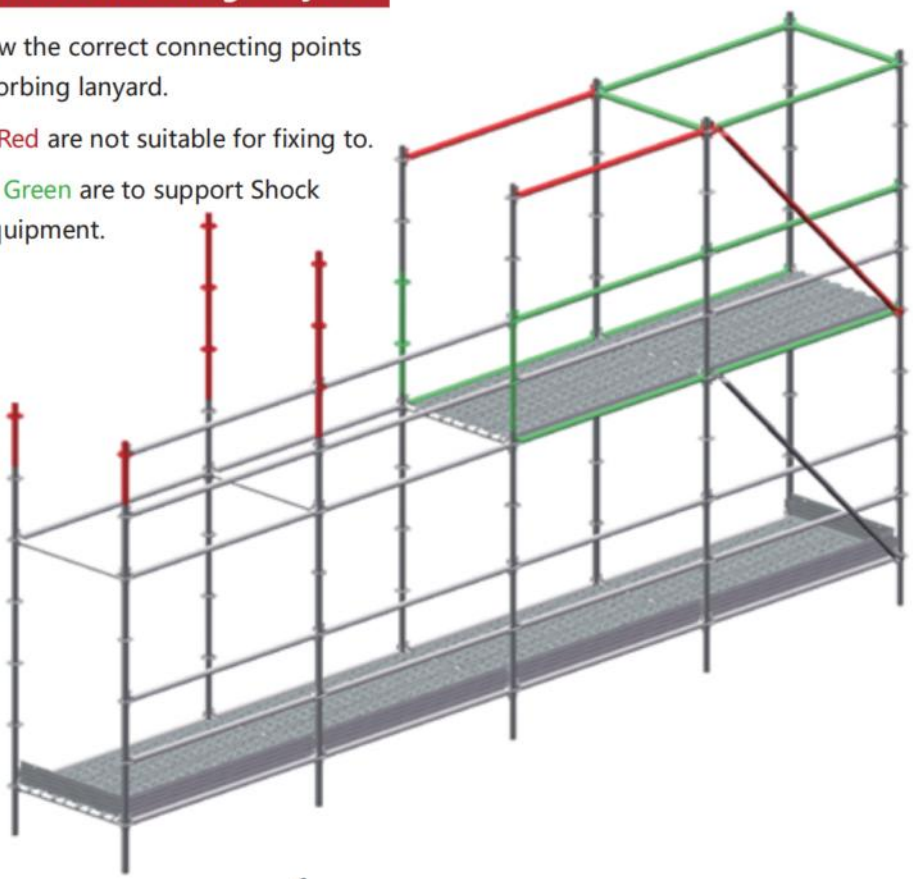




Where To Attach Your Shock Absorbing Lanyard

Here are some examples to show the correct connecting points where to attach your shock absorbing lanyard.

- Connection locations shown in Red are not suitable for fixing to.
- The anchorage points shown in Green are to support Shock Absorbing Lanyard fall arrest equipment.



01 General Safety Guidelines

Rescue of Suspended Casualties

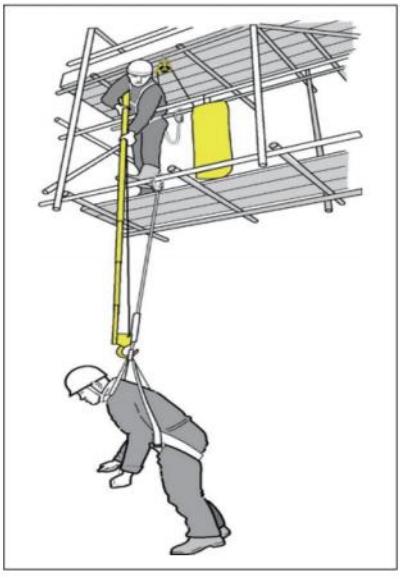
While the Work at Height Regulations 2005 requires that work at height be carried out safely, they also require that contingency plans be made for the eventuality that something goes wrong and this extends to making plans to rescue personnel suspended by fall arrest equipment.

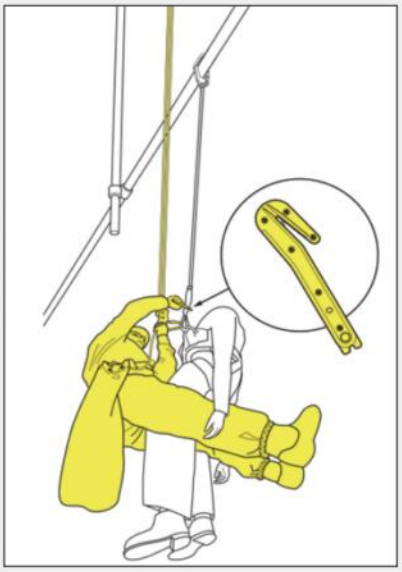
Details relating to rescue and what should be considered can be found in the latest editions of the NASC guidance notes SG4 & SG19 (SG19– 'A Guide to Formulating Rescue Plans)' .

In any eventuality provision should be made to ensure that personnel are fully trained to use any equipment that may be required to execute a rescue of any suspended casualties.

Rescue kits are available that can be deployed quickly by trained operators to facilitate a remote rescue using specialist equipment, without exposing the rescuers to unnecessary risk. These remote rescue kits enable rescuers to attach the equipment to the harness of the suspended scaffolder, release their primary fall protection equipment and either raise them to a safe platform or lower them to the base.

Equipment and techniques can be used that requires a rescuer to descend (or abseil) down to the suspended scaffolder, attach the casualty to the rescuer and then release the scaffolder's primary fall arrest device (e.g. lanyard). The rescuer may then either raise or lower the casualty to safety (depending upon the equipment used). This type of equipment and technique places a rescuer at greater risk and should only be considered as a last resort.





Fully assisted rescue situation.
The rescuer has attached the casualty to themself and is cutting the lanyard webbing using a special cutting device that reduces the risk of accidentally cutting the rescue equipment.

General Safety on Site

As is the case with any scaffold erection, dismantling or modification, consideration must always be given to those that may be affected by the works being carried out. To ensure that the highest standards of safety performance are maintained, consideration should be given to:

- Ensuring that the Finelock M48 system is always erected upon firm & level ground capable of withstanding proposed loadings.
- Ensuring that all Finelock M48 components are inspected before use.
- Ensuring the Finelock M48 system is adequately tied.
- Restricting access to unsafe or incomplete parts of the scaffold.
- Ensuring that the system is erected in accordance with these guidelines. You should contact us for any configurations not covered in this booklet.
- Sheeting, netting, or other similar wind sails are not added.
- Reporting all cases of unauthorized interference to site management.
- Ensuring that the Finelock M48 system is used within its capabilities. The system must not be overloaded.
- Using the Finelock M48 safety panel where there is a risk of items falling.
- Making sure all working platforms are fully guarded - i.e. fitted with double guardrails and toeboards.
- Ensuring that ladders/stair access must be provided onto all scaffold working platforms. Where ladders are used, they must be securely tied and set at an angle of approximately 75° and extend beyond the working platform by at least 1.05m.

01 General Safety Guidelines

General Rules for Safety

Always

- ✓ Always ensure all risk assessments and method statements have been carried out, communicated to those concerned and are understood.
- ✓ Always ensure that there is adequate storage for the materials.
- ✓ Always ensure that there is clear access to the work area.
- ✓ Always ensure all who erect, adapt, and dismantle the scaffold are trained and competent to do so.
- ✓ Always work to current SG4 guidelines.
- ✓ Always ensure that the ground is level and suitable to accept the scaffold.
- ✓ Always ensure that there are adequate tying points.
- ✓ Always ensure loads are evenly distributed.
- ✓ Always ensure scaffold inspections are carried out and recorded as per current legal requirements.
- ✓ Always ensure that defects are notified to the site management immediately they are found.

Never

- × Never remove guardrails, toe boards or brick guards.
- × Never remove ties.
- × Never create gaps in platforms by removing scaffold boards.
- × Never remove warning signs from the scaffold.
- × Never undermine the scaffold by digging trenches under or near to the base.
- × Never overload a scaffolding.
- × Never load directly on to the access scaffold working platform (always use a loading tower).
- × Never add sheeting or netting without prior approval.
- × Never let untrained persons erect, adapt, or dismantle a scaffold.
- × Never use damaged materials.

REMEMBER

SAFETY IS NO ACCIDENT DON'T RISK IT
IF IN DOUBT – ASK!

The information given in this User Guide relates solely to Finelock M48 equipment supplied by Wenma Scaffolding Solutions Co., Ltd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02 Component Identification

Finelock M48 System Scaffold - A Complete Integrated System

The scaffolding system is not just a bunch of parts and components, but a complete integrated system that meets the different customized needs of construction and industrial projects in a safe, reliable and efficient way. Our Finelock M48 System Scaffold is not just another kind of ringlock scaffold as well, but a brand-new-scaffolding system that integrates the cutting-edge technology in the industry by material, process and design innovations. Our Finelock M48 is designed to meet the nuanced demands of contemporary construction sites and industrial projects through the following key improvements:

1. Material Innovations:
The choice of materials used in Finelock M48 emphasizes durability and lightweight properties without compromising strength. This includes the use of high-grade steel or aluminum alloys, which offer enhanced corrosion resistance and load-bearing capabilities. Advanced materials also contribute to longer product life cycles, reducing the overall cost and environmental impact.

2. Process Innovations:
Process improvements include advanced manufacturing techniques such as precision engineering, robotic welding, or even 3D-printing-design technology for complex components. These methods ensure consistent quality control and can facilitate the production of intricate designs that enhance system stability and ease of assembly.

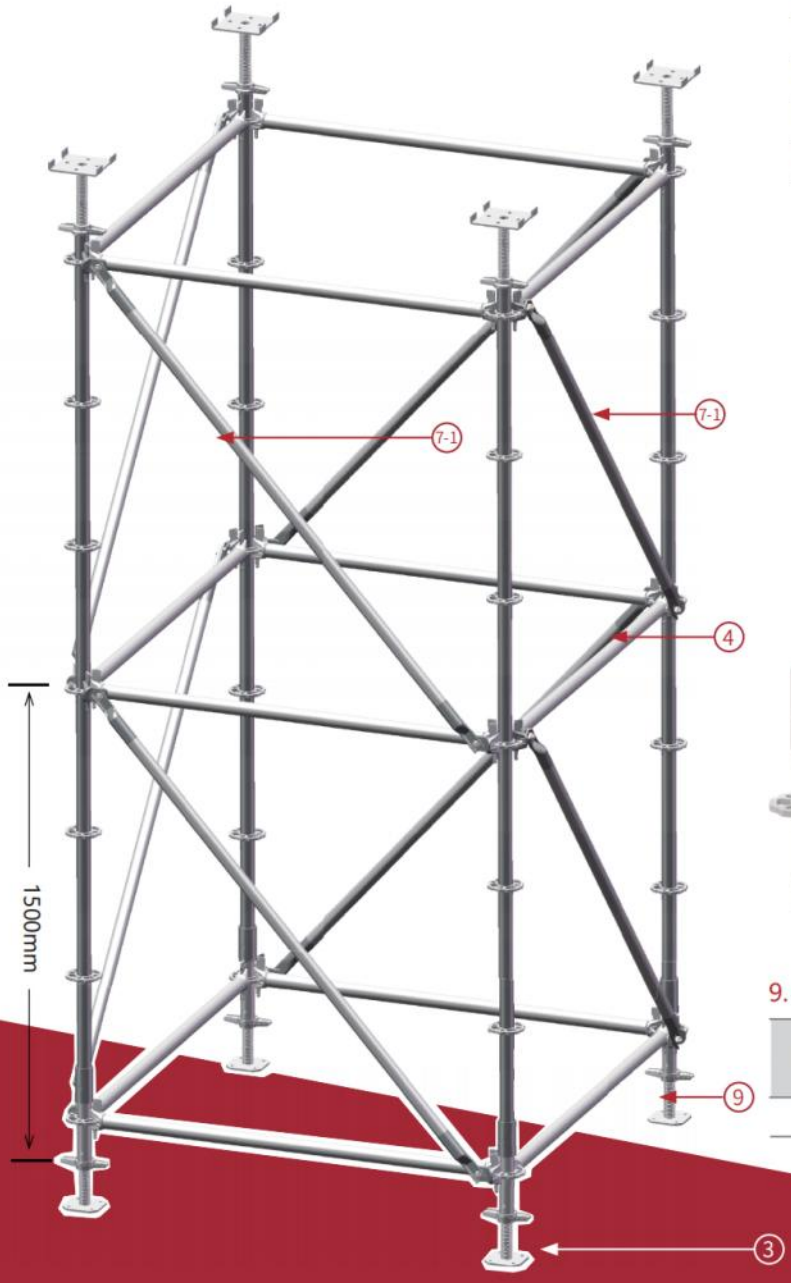
3. Design Innovations:
Our Finelock M48 boasts a modular design that allows for quick and easy configuration to suit various project requirements. This includes components that seamlessly connect, lock securely, and can be rapidly deployed or adjusted on-site. Design features like these not only speed up construction time but also increase worker safety by minimizing the need for manual adjustments at height.

4. Safety Enhancements:
A key aspect of any scaffolding system is safety, and our Finelock M48 incorporates several safety features and special components such as anti-slip platforms, Access Trap Door, Corner Deck and Adjustable Swing Gate with automatic locking mechanisms, and perhaps even smart sensors to monitor structural integrity in real-time. These enhancements aim to prevent accidents and ensure compliance with strict safety regulations.

5. Efficiency & Customization:
The ability to customize the system to fit unique project specifications underscores its flexibility. This involve adjustable height and width configurations, accessories for specific tasks (like cantilever supports or stair towers), and compatibility with other equipment on site. Such versatility streamlines workflows, reduces downtime, and optimizes resource utilization.

Overall, our Finelock M48 represents a significant step forward in scaffolding technology, demonstrating how combining material science, advanced manufacturing processes, and thoughtful design can transform traditional construction practices into safer, more efficient, and adaptable solutions for the modern construction landscape.

02 Component Identification



7-1. Vertical Bay Brace

Part No.	Weight (kg)	Packaging	
		QTY	Type
M60VBB2415	8.50	125	Rack
M60VBB2115	7.90	125	Rack
M60VBB1815	7.33	125	Rack
M60VBB1515	6.69	125	Rack
M60VBB1215	6.23	125	Rack
M60VBB0915	5.86	125	Rack
M60VBB0615	5.54	125	Rack

4. Horizontal Ledger

Part No.	Weight (kg)	Packaging	
		QTY	Type
M60HL30	10.20	150	Rack
M60HL24	8.26	150	Rack
M60HL21	7.28	150	Rack
M60HL18	6.31	150	Rack
M60HL15	5.34	150	Rack
M60HL12	4.36	150	Rack
M60HL09	3.39	150	Rack
M60HL06	2.42	150	Rack
M60HL03	1.40	600	Rack Bin

3. Base Collar

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48BC	1.90	300	Rack Bin
M48BC_S	1.44	300	Rack

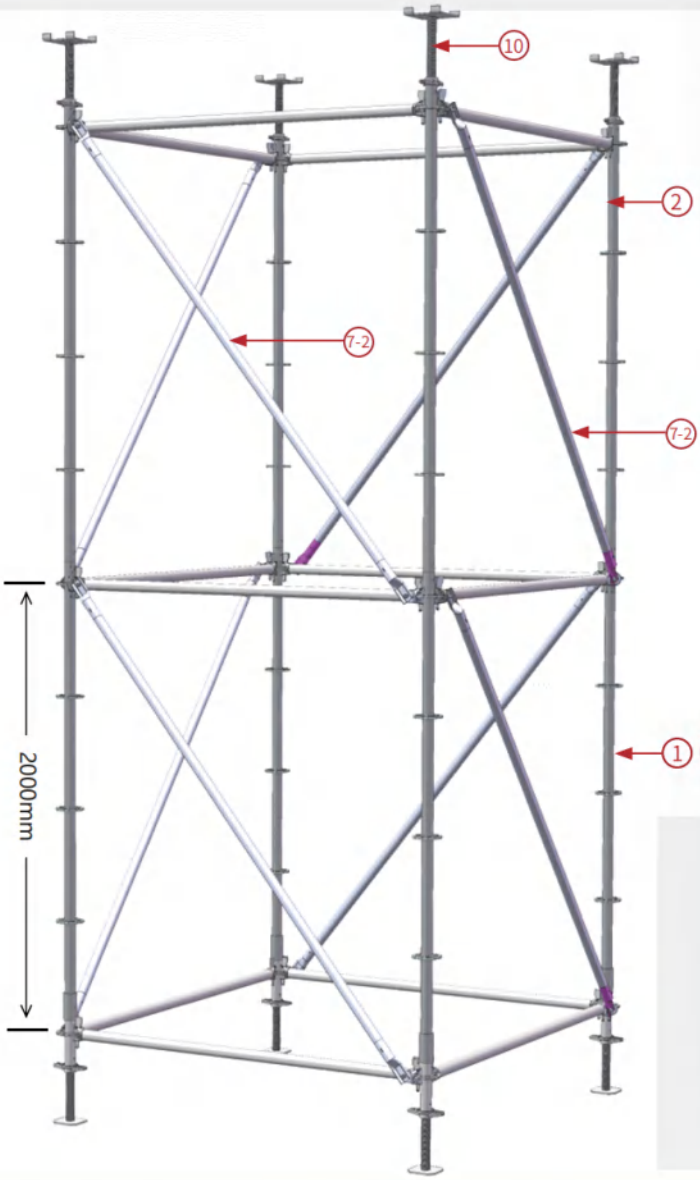
9. Adjustable Base Jack

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48BJ	4.80	250	Rack

Component Identification

10. Adjustable U Head

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48UH	4.80	250	Rack



2. Vertical Standard

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48VS300	13.53	80	Rack
M48VS200	9.90	80	Rack
M48VS150	7.60	80	Rack
M48VS100	5.10	80	Rack
M48VS50	2.70	160	Rack

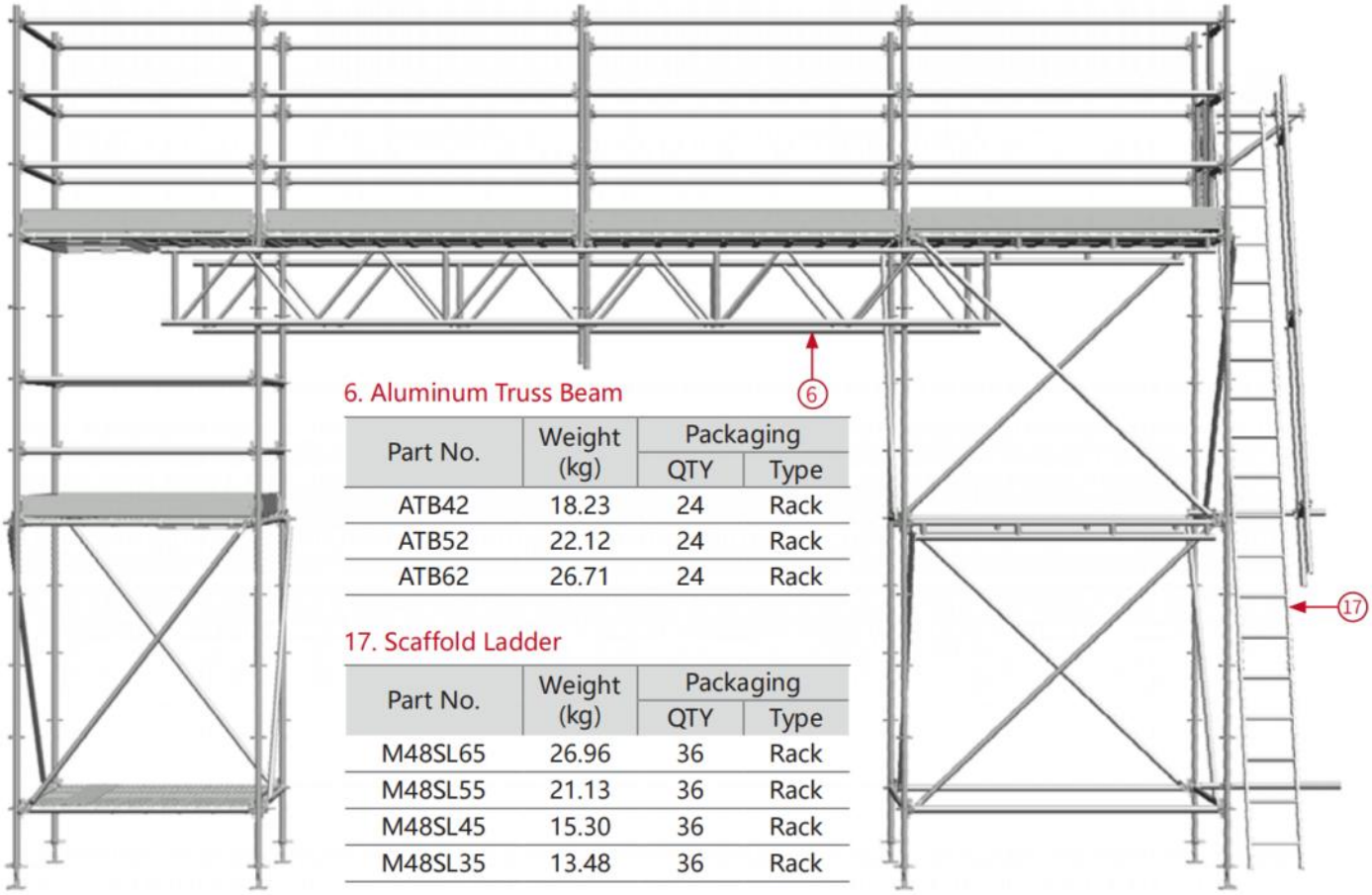
7-2. Vertical Bay Brace

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48VBB3020	10.20	125	Rack
M48VBB2420	9.04	125	Rack
M48VBB2120	8.51	125	Rack
M48VBB1820	8.02	125	Rack
M48VBB1520	7.58	125	Rack
M48VBB1220	7.20	125	Rack

1. Vertical Standard w/Spigot

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48VS300S	14.36	125	Rack
M48VS200S	10.73	125	Rack
M48VS150S	8.43	125	Rack
M48VS100S	5.93	125	Rack
M48VS50S	3.53	125	Rack

02 Component Identification

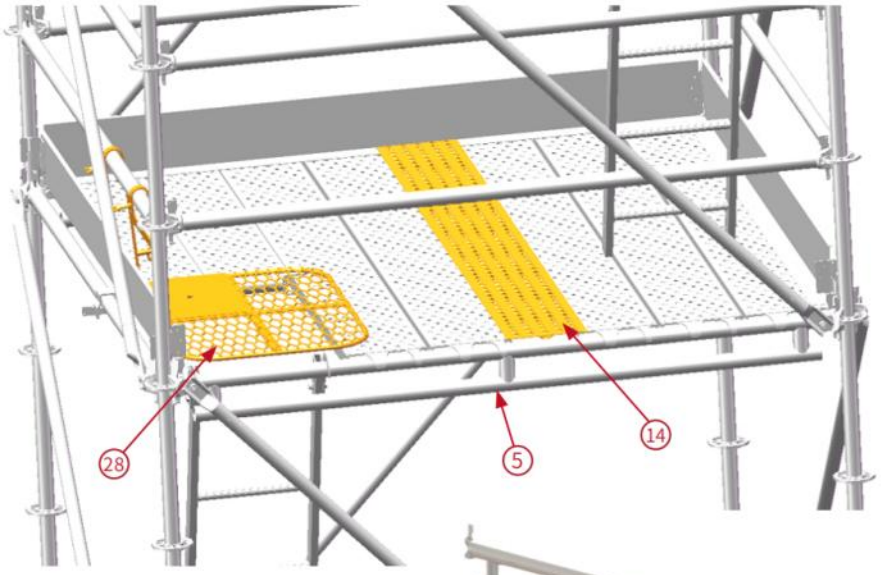


6. Aluminum Truss Beam

Part No.	Weight (kg)	Packaging	
		QTY	Type
ATB42	18.23	24	Rack
ATB52	22.12	24	Rack
ATB62	26.71	24	Rack

17. Scaffold Ladder

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48SL65	26.96	36	Rack
M48SL55	21.13	36	Rack
M48SL45	15.30	36	Rack
M48SL35	13.48	36	Rack



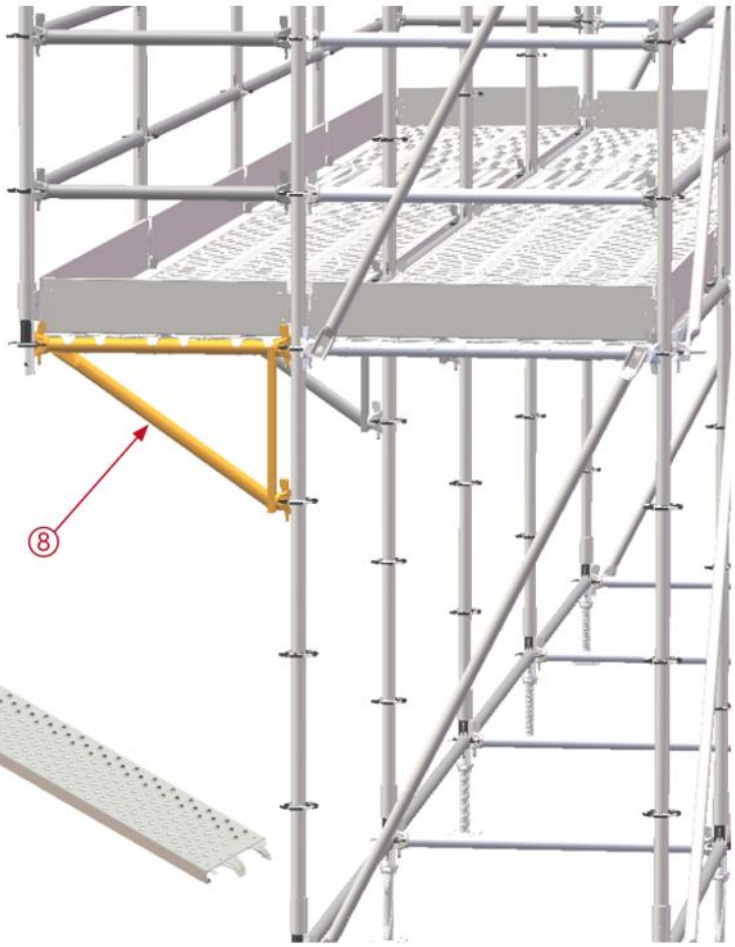
14. Steel Walkboard Filler

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48SWBF30	13.78	176	Rack
M48SWBF24	11.00	176	Rack
M48SWBF21	9.61	176	Rack
M48SWBF18	8.22	176	Rack
M48SWBF15	6.83	176	Rack
M48SWBF12	5.44	176	Rack
M48SWBF09	4.05	176	Rack
M48SWBF06	2.66	176	Rack

5. Double Ledger

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48DL30	17.60	75	Rack
M48DL24	14.30	75	Rack
M48DL21	11.00	75	Rack
M48DL18	7.70	75	Rack
M48DL15	4.40	75	Rack

Component Identification

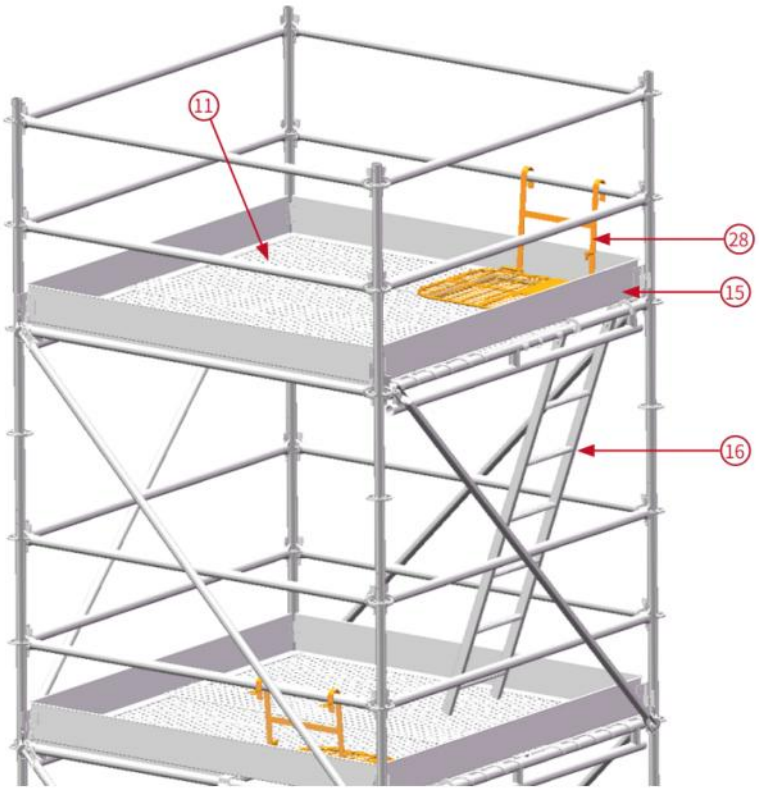


8. Side Bracket

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48SB12	11.60	25	Rack
M48SB09	7.48	50	Rack
M48SB06	5.93	50	Rack
M48SB03	4.00	100	Rack Bin

11. Steel Plank

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48SP_30	18.49	96	Rack
M48SP_24	15.09	96	Rack
M48SP_21	13.40	96	Rack
M48SP_18	11.70	96	Rack
M48SP_15	10.00	96	Rack
M48SP_12	8.26	96	Rack
M48SP_09	6.61	96	Rack
M48SP_06	4.91	96	Rack



28. Access Trap Door

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48ATD	14.13	10	Rack Bin

15. Toeboard

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48TB30	7.71	176	Rack
M48TB24	6.22	176	Rack
M48TB21	5.47	176	Rack
M48TB18	4.72	176	Rack
M48TB15	3.97	176	Rack
M48TB12	3.22	176	Rack
M48TB09	2.48	176	Rack
M48TB06	1.73	176	Rack

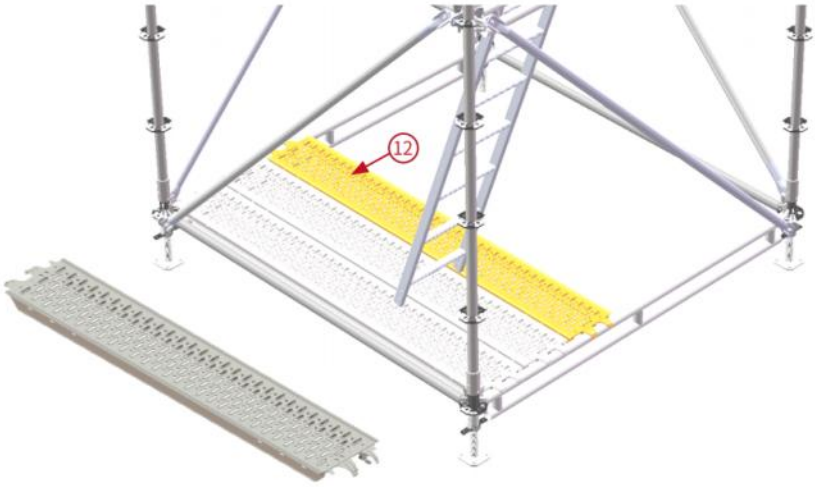
16. Access Ladder

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48AL21	7.65	36	Rack
M48AL15	5.83	36	Rack

02 Component Identification

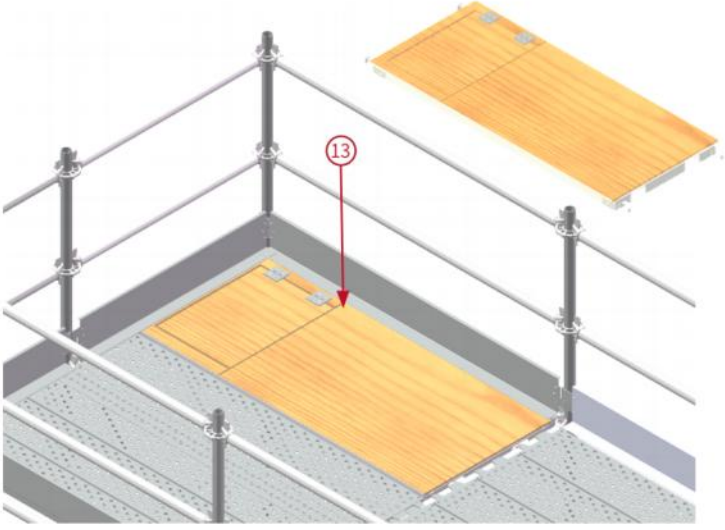
12. Steel WalkBoard

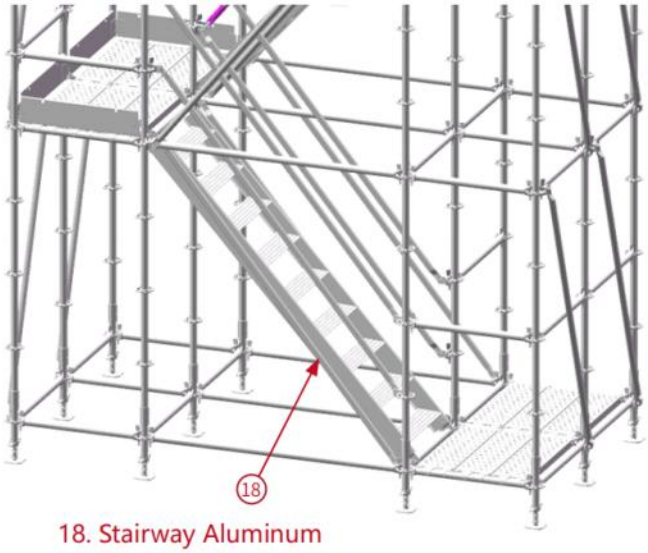
Part No.	Weight (kg)	Packaging	
		QTY	Type
M48SWB_30	21.58	68	Rack
M48SWB_24	17.48	68	Rack
M48SWB_21	15.42	68	Rack
M48SWB_18	13.37	68	Rack
M48SWB_15	11.32	68	Rack
M48SWB_12	9.27	68	Rack
M48SWB_09	7.22	68	Rack
M48SWB_06	5.16	68	Rack



13. Access Walkboard

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48AWB18_09	14.83	19	Rack
M48AWB18_06	13.86	23	Rack





18. Stairway Aluminum

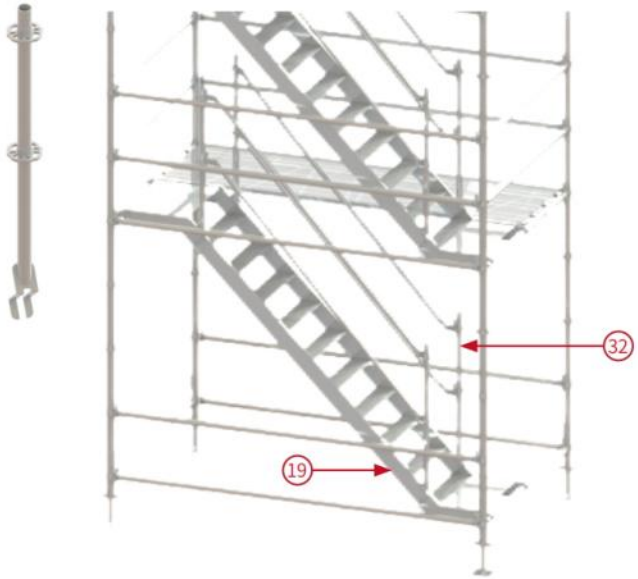
Part No.	Weight (kg)	Packaging	
		QTY	Type
M60SW2420_AL650	23.59	8	Rack
M60SW2420_AL650	22.68	8	Rack
M60SW2420_AL650	20.84	8	Rack

32. Platform Stairway Post

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48PSP	5.79	80	Bin

19. Platform Stairway Aluminum

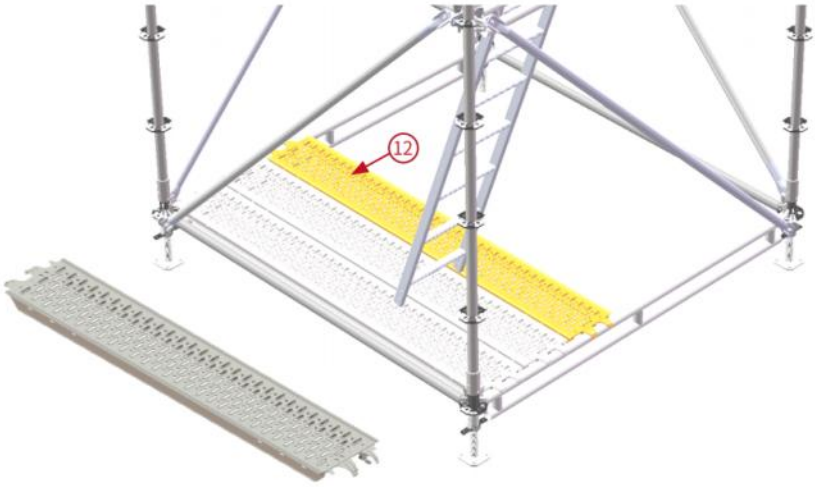
Part No.	Weight (kg)	Packaging	
		QTY	Type
M48PSW3020_AL750	33.75	6	Rack
M48PSW2420_AL750	22.00	6	Rack



02 Component Identification

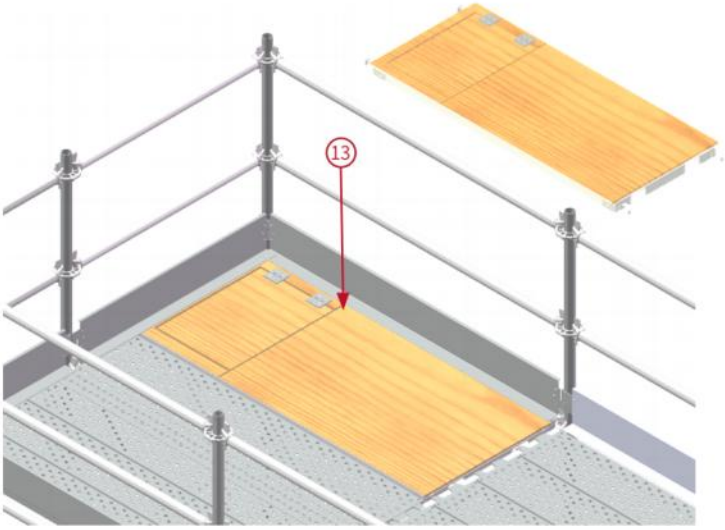
12. Steel WalkBoard

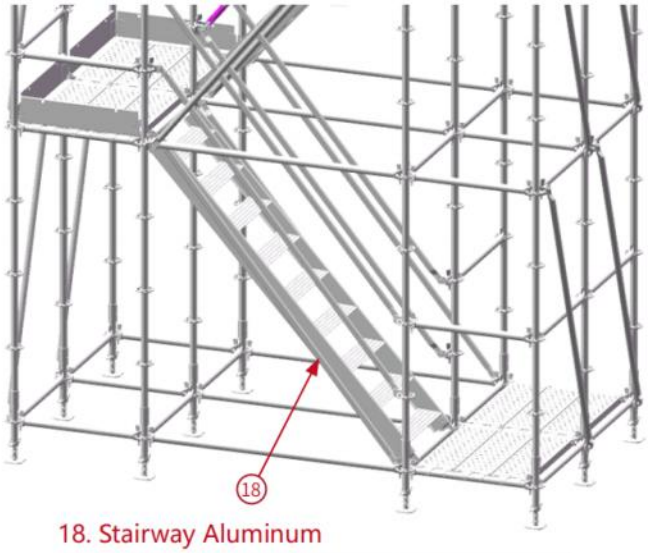
Part No.	Weight (kg)	Packaging	
		QTY	Type
M48SWB_30	21.58	68	Rack
M48SWB_24	17.48	68	Rack
M48SWB_21	15.42	68	Rack
M48SWB_18	13.37	68	Rack
M48SWB_15	11.32	68	Rack
M48SWB_12	9.27	68	Rack
M48SWB_09	7.22	68	Rack
M48SWB_06	5.16	68	Rack



13. Access Walkboard

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48AWB18_09	14.83	19	Rack
M48AWB18_06	13.86	23	Rack





18. Stairway Aluminum

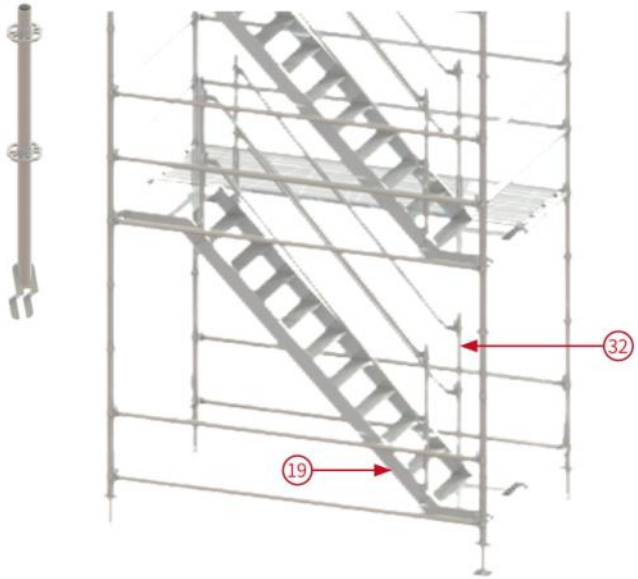
Part No.	Weight (kg)	Packaging	
		QTY	Type
M60SW2420_AL650	23.59	8	Rack
M60SW2420_AL650	22.68	8	Rack
M60SW2420_AL650	20.84	8	Rack

32. Platform Stairway Post

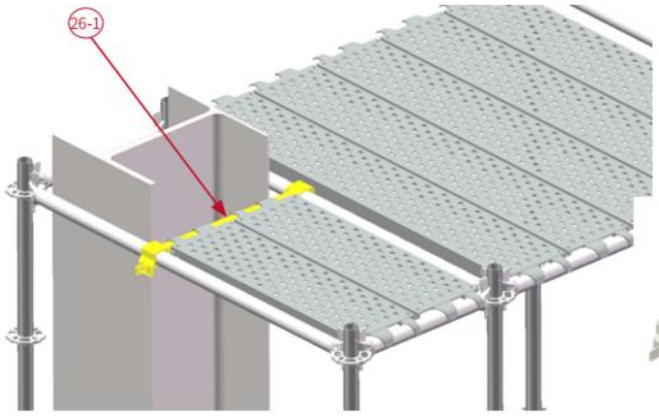
Part No.	Weight (kg)	Packaging	
		QTY	Type
M48PSP	5.79	80	Rack

19. Platform Stairway Aluminum

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48PSW3020_AL750	33.75	6	Rack
M48PSW2420_AL750	22.00	6	Rack



02 Component Identification

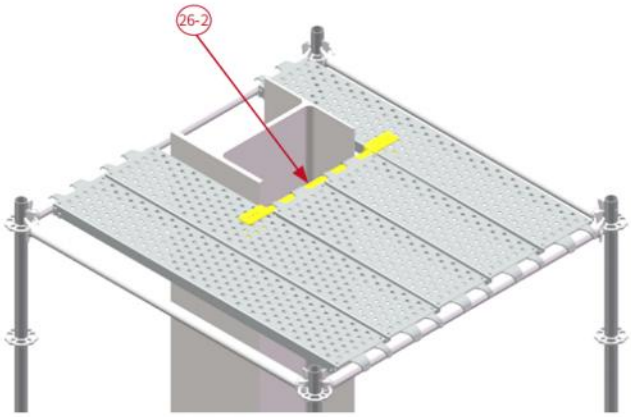


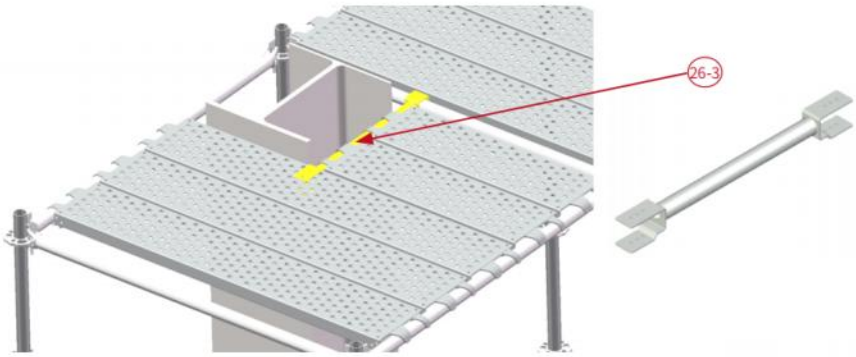
26-1. Transom Ledger to Ledger

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48TLL24	9.37	154	Rack
M48TLL21	8.31	154	Rack
M48TLL18	7.25	154	Rack
M48TLL15	6.19	154	Rack
M48TLL12	5.13	154	Rack
M48TLL09	4.04	154	Rack

26-2. Transom Board to Board

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48TBB75	3.69	154	Rack
M48TBB50	2.81	154	Rack
M48TBB25	1.92	154	Rack



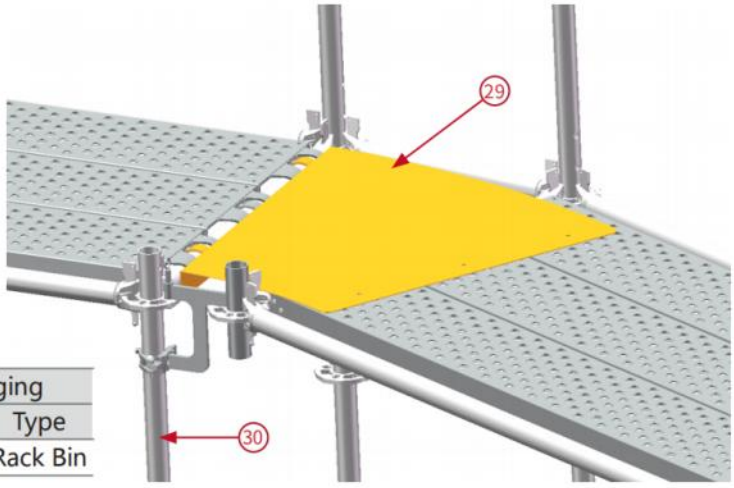


26-3. Transom Ledger to Board

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48TLB75	3.83	154	Rack
M48TLB50	2.95	154	Rack
M48TLB25	2.06	154	Rack

29. Corner Deck

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48CD	7.33	80	Rack Bin



30. Corner Deck Adaptor

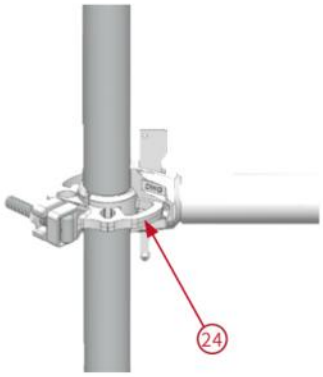
Part No.	Weight (kg)	Packaging	
		QTY	Type
M48CDA	2.17	300	Rack Bin

27. Adjustable Swing Gate

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48ASG	11.07	16	Rack

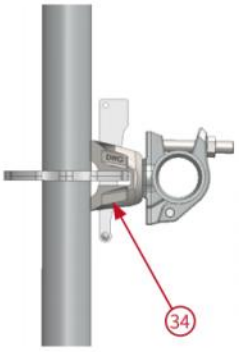
31. Spigot Clamp

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48SC	1.40	400	Rack Bin



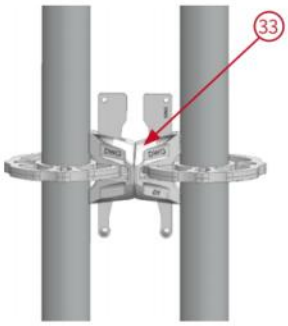
24. Rosette Wedge Coupler

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48RWC	1.25	1000	Rack Bin



34. Wedge-Head Coupler Horizontal

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48WHC_H	1.07	500	Rack Bin



33. Wedge-Head Coupler Double

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48WHC_D	0.96	500	Rack Bin

36. Wedge-Head Coupler Swivel

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48WHC_S	1.26	500	Rack Bin

35. Wedge-Head Coupler Vertical

Part No.	Weight (kg)	Packaging	
		QTY	Type
M48WHC_V	1.07	500	Rack Bin

03 Installation Steps

The importance of proper installation steps for scaffolding

The correct installation of scaffolding is paramount to ensure the safety of workers, the stability of the structure, and the overall efficiency of any construction or maintenance project. Here are key reasons highlighting the importance of adhering to proper scaffold installation steps:

1. Worker Safety:
Incorrect installation can lead to scaffold collapse, causing severe injuries or fatalities among workers. Following the right steps ensures that every component is securely fastened, reducing the risk of accidents.

2. Structural Stability:
Each component of a scaffold system is designed to bear specific loads. Proper installation guarantees that the structure can withstand the intended loads, including the weight of workers, materials, and environmental forces like wind.

3. Compliance with Regulations:
Local and national regulations often dictate strict guidelines for scaffolding setup. Non-compliance can result in legal liabilities, fines, or work stoppages. Correct installation procedures help meet these standards.

4. Efficiency and Productivity:
Well-installed scaffolding enables smooth workflow, providing easy access to all areas of the work site, which in turn increases productivity and reduces downtime due to safety concerns or rework.

5. Project Timelines:
Mistakes during installation can lead to delays in the project schedule, as correcting errors or dealing with accidents consumes time and resources. Accurate initial setup helps maintain project timelines.

6. Cost Effectiveness:
While proper installation requires careful planning and execution, it ultimately saves costs by preventing accidents, minimizing material waste, and avoiding potential legal and insurance claims.

7. Public and Site Safety:
In addition to protecting workers, correct installation also safeguards the public and the surrounding property from potential hazards like falling debris or scaffold collapse.

In summary, the importance of correct scaffold installation steps lies in safeguarding lives, maintaining structural integrity, complying with legal requirements, enhancing work efficiency, preserving project timelines, and optimizing financial outcomes. It is a fundamental aspect of any responsible construction practice.

General Instructions for Preparation

1. Risk Assessment and Scaffolding Plan

- Conduct a thorough site inspection, identifying any potential hazards such as overhead power lines, underground utilities, or uneven ground.
- Prepare a comprehensive risk assessment document, outlining measures to mitigate identified risks.
- Develop a detailed scaffolding plan or method statement, including the scaffold's layout, height, and tie patterns, ensuring compliance with local regulations and best practices.

2. Ground Preparation

- Verify that the ground can support the scaffold's load. If unsure, consult a structural engineer or Wenma's engineers.
- Level the ground if necessary, removing any debris or soft spots that could compromise stability.
- Utilize sole pads or base plates under scaffold legs to evenly distribute the load and prevent ground penetration.

3. Permits and Permissions

- Obtain necessary permits from local authorities if erecting the scaffold on public property, such as a highway or sidewalk.

4. Tie Structure Assessment

- Assess the suitability of the structure(s) to which the scaffold will be tied, ensuring they can safely bear the additional load.

5. Operatives' Competency and Training

- Confirm that all scaffolding operatives have received adequate training and hold relevant certifications for erecting, altering, or dismantling Finelock M48 Sysem Scaffold.
- Ensure a minimum team of two competent operatives is assembled for each task, adhering to safety guidelines.

6. Personal Protective Equipment (PPE)

- Provide and ensure all operatives wear appropriate PPE, including hard helmets, safety harnesses, protective footwear, and high-visibility clothing.7. Set-Off Distance for Inside Boards

7. Set-Off Distance for Inside Boards

- Measure and mark the required distance from the building facade for inside boards installation to maintain safe working clearances.

8. Material Inspection

- Thoroughly inspect all Finelock M48 components for any signs of damage, cracks, or corrosion before assembly. Discard or repair any defective parts.

9. Assembly Tools

Use the correct tools for the job, specifically a 500g hammer, to ensure precise fitting without damaging components.

10. Erection Process

- Follow the manufacturer's instructions, such as Finelock M48 System Scaffold Technical Manual and User Guide, and the prepared Scaffolding Plan during erection, starting with the base units and progressively building upwards, ensuring each level is secure before advancing.
- Implement bracing and ties at specified intervals to stabilize the scaffold.
- Only approved couplers and connectors are used with the Finelock M48 to maintain system integrity.

03 Installation Steps

11. Inspection and Handover

- Upon completion, conduct a final inspection of the scaffold by a competent person, verifying compliance with safety standards and the initial plan.
- Document the inspection and provide handover instructions to users, emphasizing the importance of adhering to safe working practices.

12. Ongoing Maintenance and Checks

- Regularly inspect the scaffold during its use, especially after adverse weather conditions or any incidents, to ensure continued safety and stability.

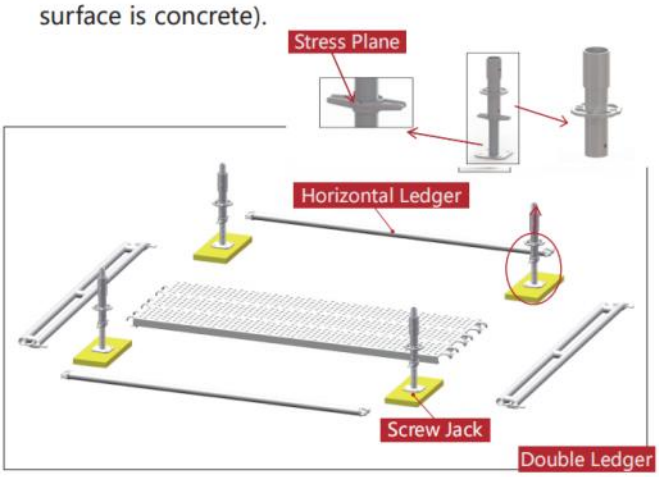
By following these steps meticulously, you can ensure the safe and efficient installation of Finelock M48 System Scaffold, protecting both the workers and the general public. If you have anything uncertain about utilizing Finelock M48, please do not hesitate to contact us to get our professional advice immediately.

Static Tower

A "Static Tower" in the context of scaffolding is a relatively fixed, non-moving temporary work platform structure that primarily enables independent working tasks. During the scaffolding erection process, such a "Static Tower" serves as the fundamental stability component of the entire scaffolding system. It is meticulously interconnected through Vertical Standards, Horizontal Ledgers, Diagonal Braces, and various connecting fittings, collectively forming a stable structure in the vertical dimension, thereby ensuring the overall stability and safety for elevated work activities.

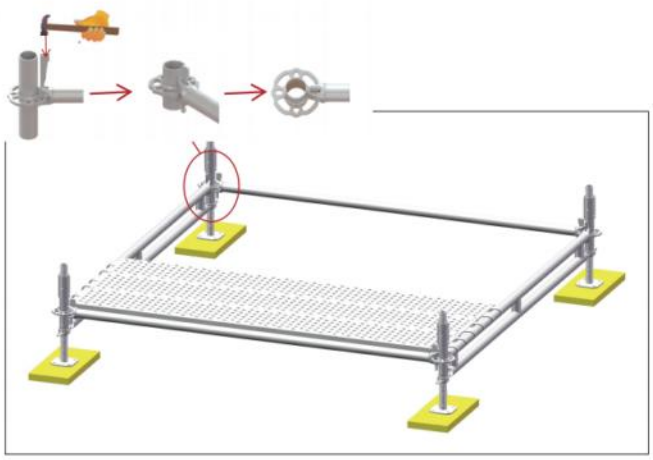
Step 1

- **Scaffold Foundation Preparation:**
  Ensure that the ground at the erection site has been properly prepared in accordance with requirements, providing a sturdy foundation for the scaffold.
- **Positioning Components:**
  Lay out the Ledgers, Double Ledgers, Steel Planks and place the Adjustable Base Jacks at the corners.
- **Insert Base Collar into Adjustable Base Jacks:**
  Fit the Base Collars onto the Adjustable Base Jacks, positioning the base plates of the Jacks onto load-spreading bases.
- **Central Placement of Adjustable Base Jacks on Sole Plates:**
  The Adjustable Base Jacks must be centered on the Sole Plates (Sole Plates can be omitted if the ground surface is concrete).



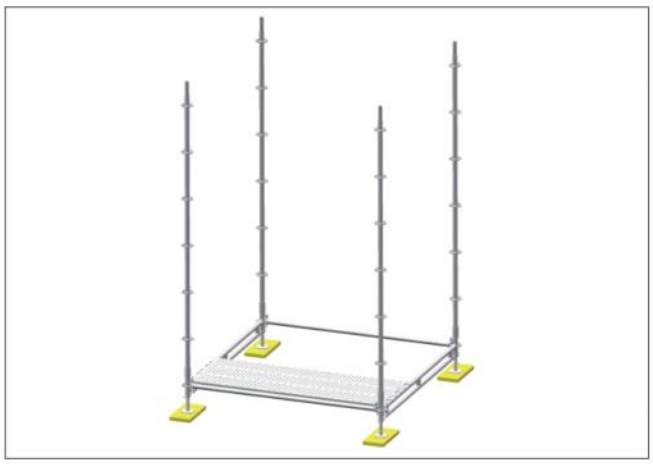
Step 2

- Connect Ledgers and Double Legers through the small holes in the rosettes, and use a spirit level to ensure the base framework of the tower scaffold is accurately aligned.
- Insert Steel Plank in the access area on Double Ledgers. These can be advantageous for right-angled alignment of the basic structure.



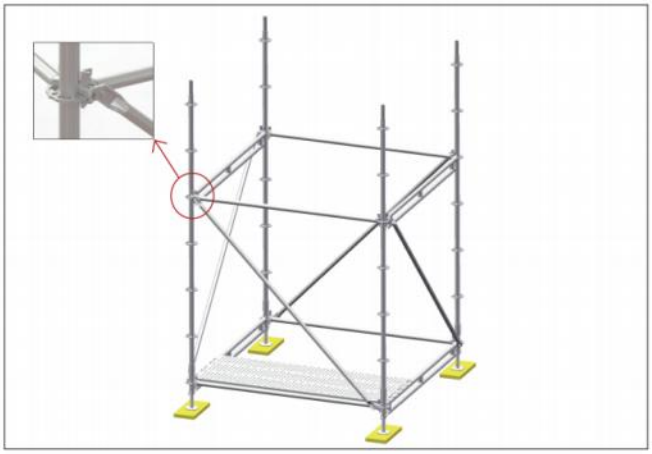
Step 3

- Fit Vertical Standards.



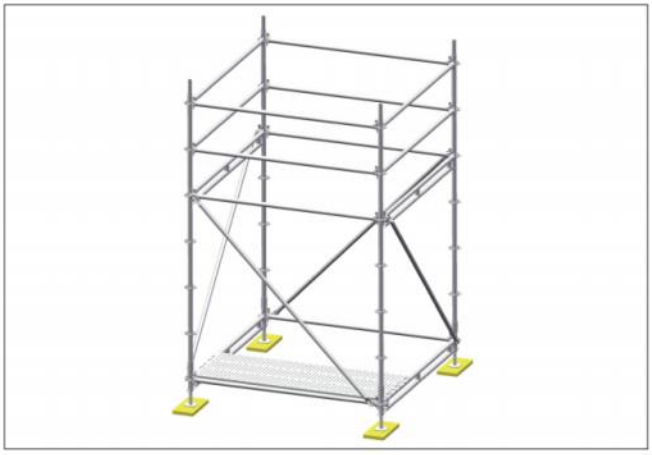
Step 4

- Fit Ledgers and Double Ledgers at 2 meters rosette node from below.
- Stiffen all 4 sides of the scaffolding using Vertical Diagonal Braces. Bay Braces should be fitted preferably on the outside of the scaffolding. Absent Bay Braces reduce the stability of the scaffolding.
- Knock in Wedges securely.



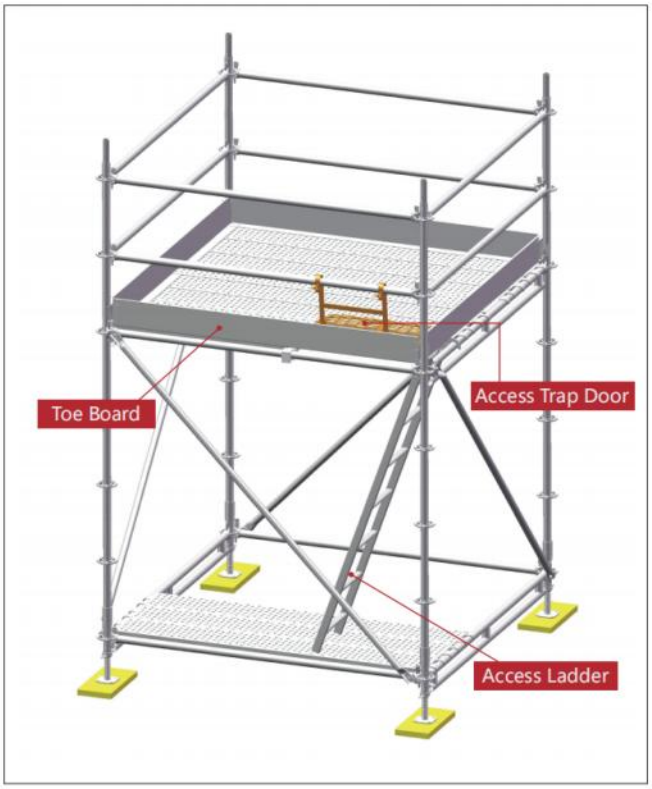
Step 5

- When constructing further scaffolding levels, it is essential to take into account the risks associated with the scaffolders based on the conducted Risk Assessment.
- In accordance with SG4:22 and the requirements of the CISRS System Scaffolding Product Training Scheme (SSPTS), utilize a Scaffolders Step to install the Standards and Ledgers on the upper level from below, initially forming a pre-guard rail prevention.



Step 6

- Install Steel Planks and Transom (here used M48TLB50) on the upper level from below.
- Fit the Access Ladder.
- The scaffolding operatives ascend to the upper level.
- Fit Access Trap Door on the ladder egress.
- Install Toebaords on all four sides.



Note: Scaffolders should undergo training and obtain certification to comprehensively understand the installation procedure in Finelock M48 CISRS SSPTS training.

03 Installation Steps Static Tower

Step 7

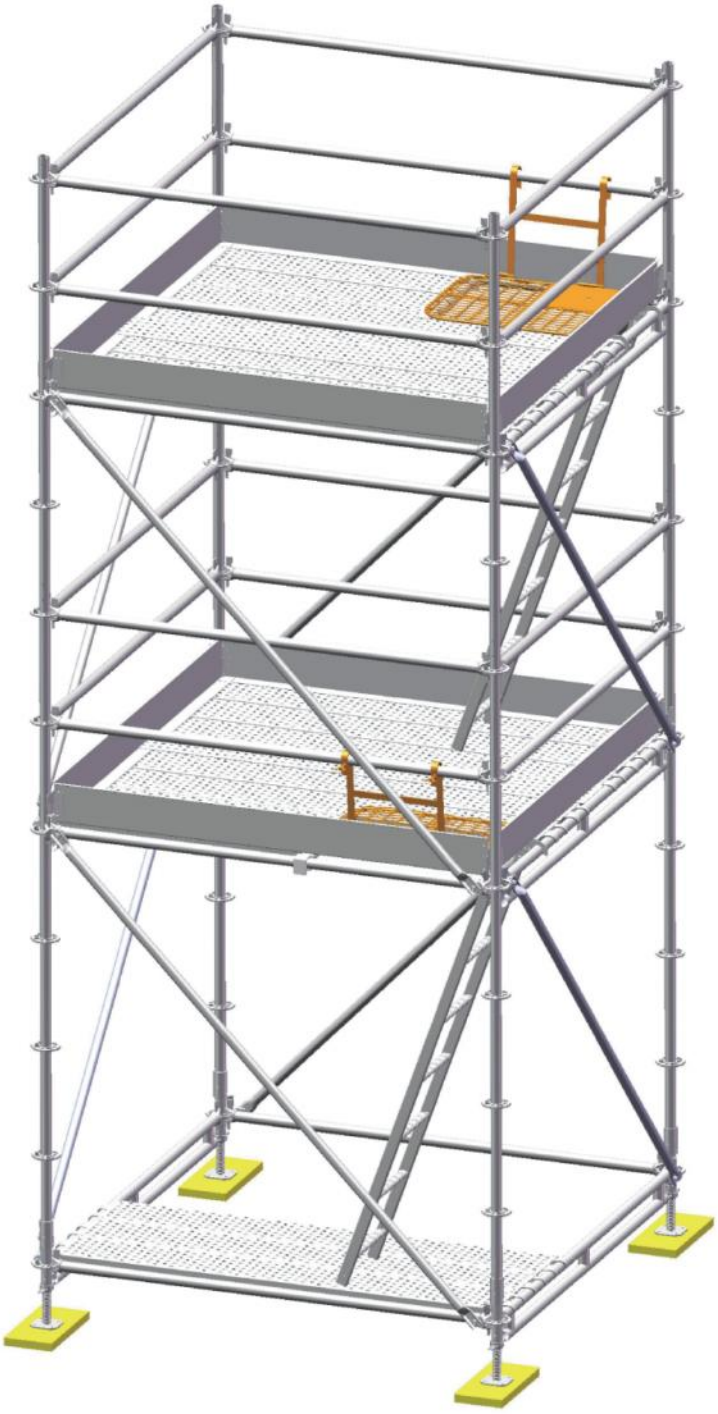
- Repeat the above steps adding more Standards, Ledgers and Braces as the lifts progress upwards.
- The further scaffolding levels must be assembled taking into account the risk assessment of the scaffolding erectors.

Note: The stability of the tower scaffolding must be verified in each specific case. If necessary, stability must be assured by anchoring, ballasting weights, bracing or widening of the scaffolding.

Caution: During assembly, there may be a risk of falls. Assembly must consider the results of the risk assessment. If temporary boards are used instead of Walkboard, or if the scaffolding lift is not decked over its full surface, sufficient horizontal stiffness must be ensured. The suitability of the support Ledgers for vertical load transmission can be verified with the aid of our Technical Manual. If some Ledgers or Bay Braces cannot be fitted for project-specific reasons, horizontal forces can for example be transmitted via anchors or the frame. possibly with bundled Standards by using Wedge-Head Coupler Double connectors.

WARNING

SERIOUS INJURY OR DEATH CAN RESULT FROM YOUR FAILURE TO FAMILIARIZE YOURSELF, AND COMPLY WITH ALL APPLICABLE SAFETY REQUIREMENTS OF CENTRAL, PROVINCIAL AND LOCAL REGULATIONS AND THESE SAFETY GUIDELINES BEFORE ERECTING, USING OR DISMANTLING THIS SCAFFOLD.

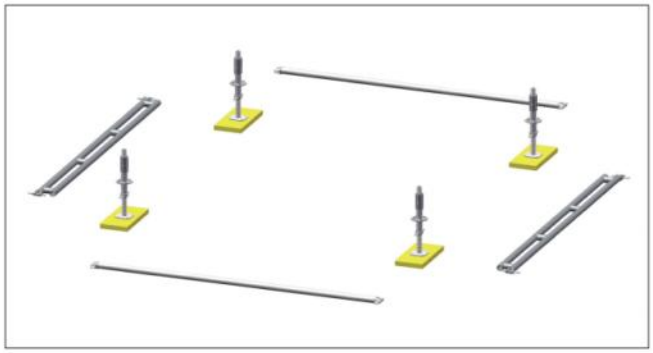


Loading Bay

In the context of scaffolding, a "Loading Bay" refers to a reinforced tower structure specifically designed for the loading and unloading of materials. It represents a specialized component within the scaffolding system, intended to provide a secure and efficient area for the vertical transport of heavy or large volumes of construction materials and equipment.

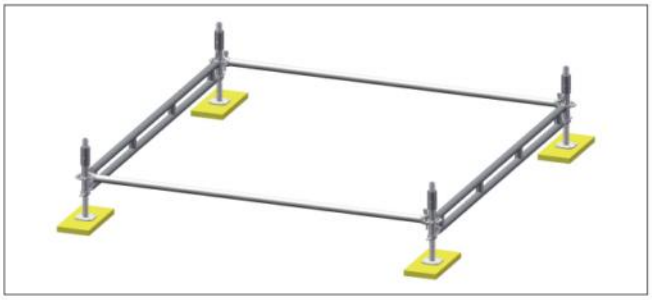
Step 1

- **Scaffold Foundation Preparation:**
  Ensure that the ground at the erection site has been properly prepared in accordance with requirements, providing a sturdy foundation for the scaffold.
- **Positioning Components:**
  Lay out the Ledgers, Double Ledgers and place the Adjustable Base Jacks at the corners.
- **Insert Base Collar into Adjustable Base Jacks:**
  Fit the Base Collars onto the Adjustable Base Jacks, positioning the base plates of the Jacks onto load-spreading bases.
- **Central Placement of Adjustable Base Jacks on Sole Plates:**
  The Adjustable Base Jacks must be centered on the Sole Plates (Sole Plates can be omitted if the ground surface is concrete).



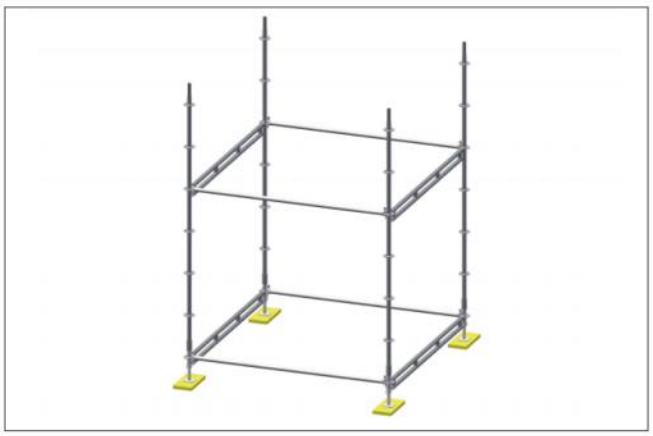
Step 2

- Connect Ledgers and Double Legers through the small holes in the rosettes, and use a spirit level to ensure the base framework of the tower scaffold is accurately aligned.



Step 3

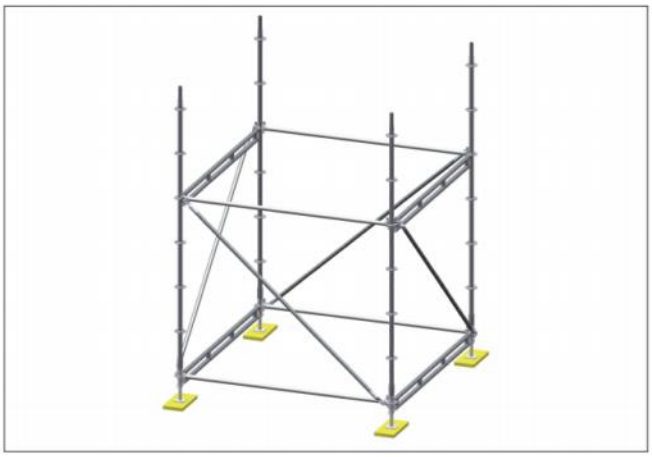
- Fit Vertical Standards.
- Fit Horizontal Ledgers and Double Ledgers at 2 meters rosette node from below.
- Ensure Standards are vertical, and Ledgers are horizontal. Check the Bay for square.



03 Installation Steps Loading Bay

Step 4

- Stiffen all 4 sides of the scaffolding using Vertical Diagonal Braces. Bay Braces should be fitted preferably on the outside of the scaffolding. Absent Bay Braces reduce the stability of the scaffolding.
- Knock in Wedges securely.



Step 5

- If the first lift is not a loading platform, then a temporary platform will need to be added to aid construction of the loading platform above.
- Toeboards may also be placed each side of the bay.

Step 6

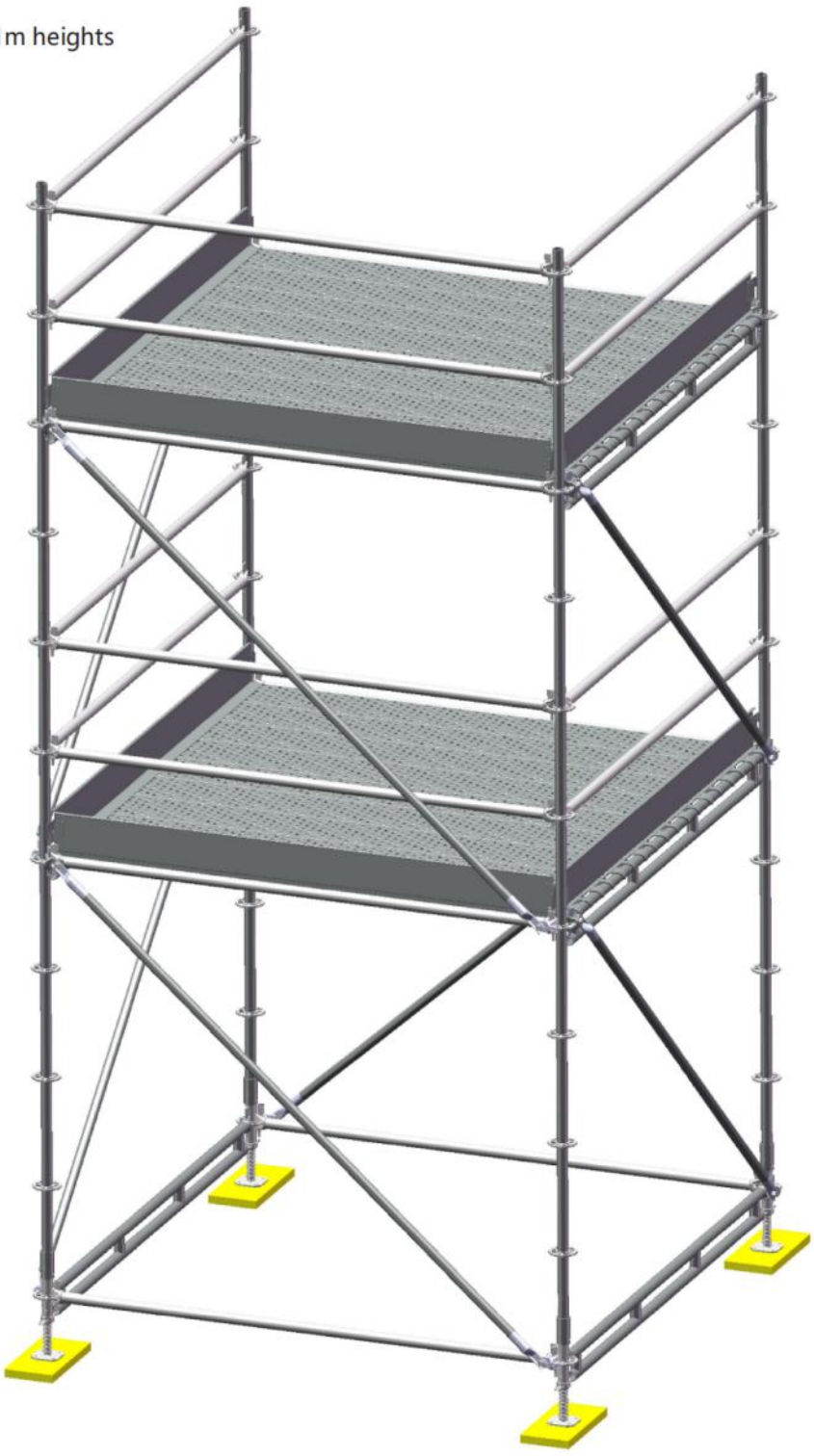
- Working from the temporary platform, fit Vertical Standards.
- Fit Ledgers and Double Ledgers at 2 meters rosette node from the temporary platform.

Step 7

- Install Vertical bay braces on all 4 sides of the intermediate level. Bay Braces should be fitted preferably on the outside of the scaffolding. Absent Bay Braces reduce the stability of the scaffolding.
- Install Ledgers.

Step 8

- On the working level, install steel planks to create a working platform.
- Around the entire working level, install toeboards to form complete three-sided side protection.
- Subsequently, install Ledgers at 0.5m and 1m heights to construct guardrails.
- The stability of the tower scaffolding must be verified in each specific case. If necessary, stability must be assured by anchoring, ballasting weights, bracing, or widening of the scaffolding.



WARNING

BE SURE TO FULLY SEAT WEDGES IMMEDIATELY AFTER PLACING COMPONENT. WEDGES THAT ARE NOT FULLY SEATED WILL NOT SUPPORT DESIGN LOADS. FAILURE TO SEAT WEDGES COULD CAUSE SERIOUS INJURY OR DEATH.

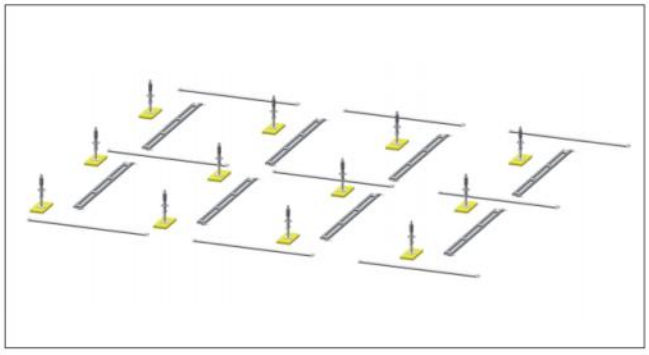
03 Installation Steps Birdcage

Birdcage

Birdcage scaffolding, also known as full scaffolding or internal scaffolding, refers to a type of scaffolding system that completely encapsulates the interior of a building or structure, resembling a large birdcage. This method provides a working platform and support structure for various tasks, such as plastering, painting, electrical installations, or any other internal construction or renovation work that requires access to high or difficult-to-reach areas within the building envelope. Birdcage scaffolding is particularly useful in buildings with a large open interior space, such as atriums, halls, or industrial warehouses, where extensive internal works are planned, ensuring both efficiency and safety for the workforce.

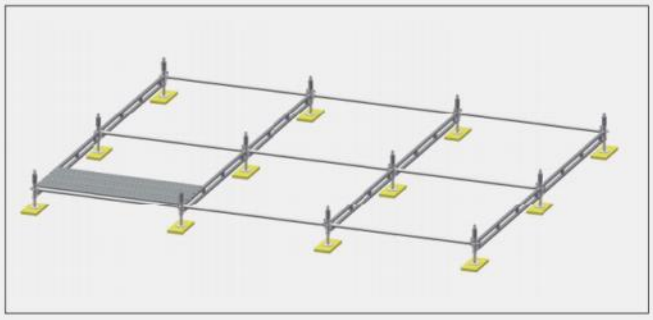
Step 1

- **Scaffold Foundation Preparation:**
  Ensure that the ground at the erection site has been properly prepared in accordance with requirements, providing a sturdy foundation for the scaffold.
- **Positioning Components:**
  Lay out the Ledgers, Double Ledgers and place the Adjustable Base Jacks at the proper locations.
- **Insert Base Collar into Adjustable Base Jacks:**
  Fit the Base Collars onto the Adjustable Base Jacks, positioning the base plates of the Jacks onto load-spreading bases.
- **Central Placement of Adjustable Base Jacks on Sole Plates:**
  The Adjustable Base Jacks must be centered on the Sole Plates (Sole Plates can be omitted if the ground surface is concrete).



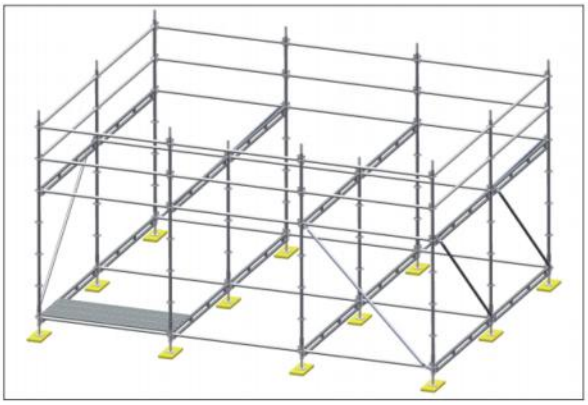
Step 2

- Connect Ledgers and Double Ledgers in the small holes of the rosettes, and align the base frame of the tower scaffolding using a spirit level.
- Insert Steel Planks in the access area on Double Ledgers. These can be advantageous for right-angled alignment of the basic structure.



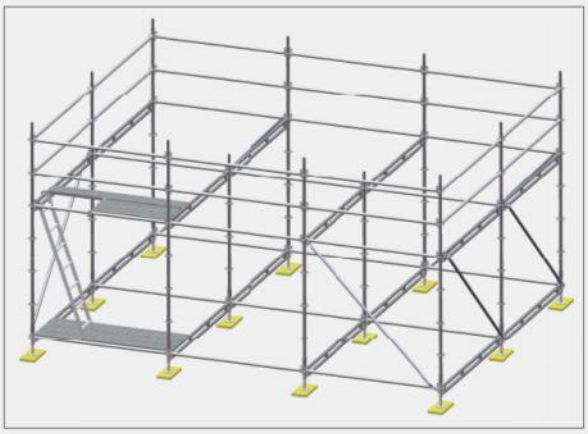
Step 3

- Fit Vertical Standards.
- Fit Ledgers and Double Ledgers at 2 meters rosette node from below.
- According to conducted Scaffold Plan stiffen the relevant bay side of the scaffolding by using Vertical
- Diagonal Braces. Bay Braces should be fitted preferably on the outside of the scaffolding. Absent Bay Braces reduce the stability of the scaffolding.
- Knock in Wedges securely.
- When constructing further scaffolding levels, it is essential to take into account the risks associated with the scaffolders based on the conducted Risk Assessment.
- In accordance with SG4:22 and the requirements of the CISRS System Scaffolding Product Training Scheme (SSPTS), utilize a Scaffolders Step to install the Standards and Ledgers on the upper level from below, initially forming a pre-guard rail prevention.



Step 4

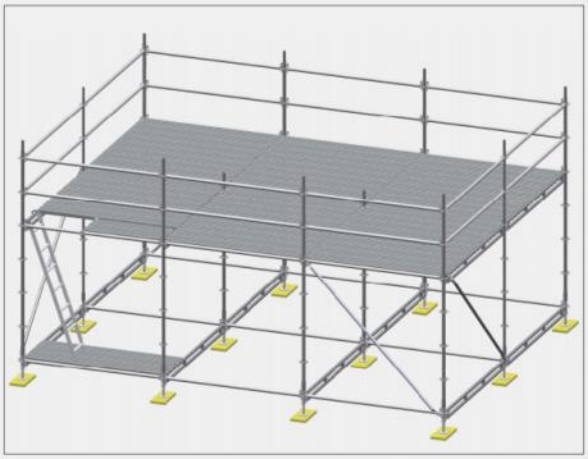
- Fit Access Ladder on the Steel Planks at the access area.
- Install Steel Planks and Transom (here used M48TLB50) on the upper level from below.



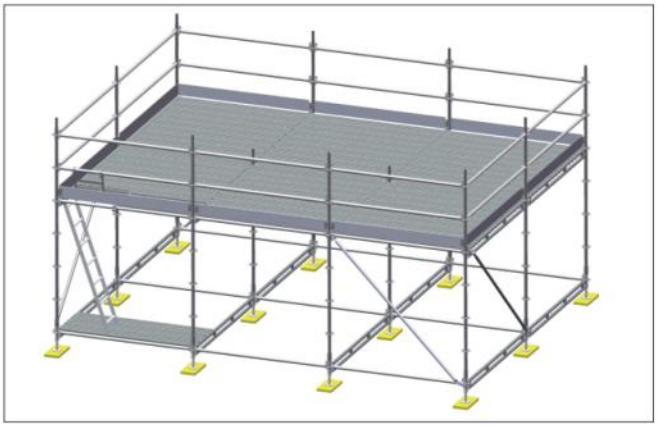
Note: Scaffolders should undergo training and obtain certification to comprehensively understand the installation procedure in Finelock M48 CISRS SSPTS training.

Step 5

- The scaffolding operatives ascend to the upper level from the Access Ladder.
- Install Steel Planks evenly from the access area to spread out.



03 Installation Steps Birdcage

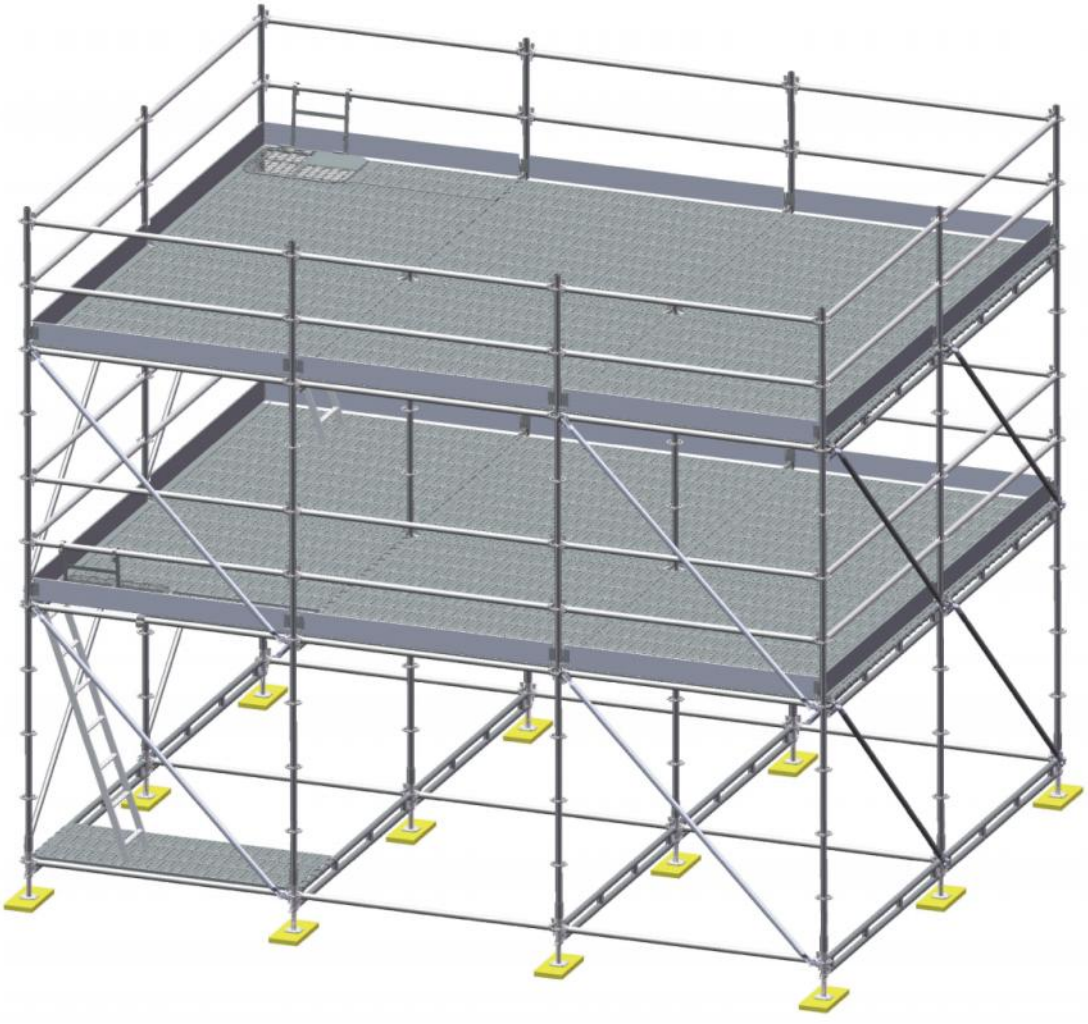


Step 6

- Install Toeboards on all four sides of the outer edge of the scaffolding.
- Place an Access Trap Door at the ladder opening.

Step 7

- Repeat the above steps adding more Standards , Ledgers, Braces and Steel Planks as the lifts progress upwards.
- The further scaffolding levels must be assembled taking into account the risk assessment of the scaffolding erectors.

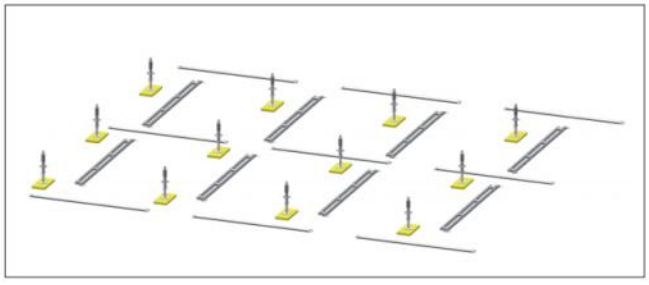


Independent with Return

An Independent Scaffold with Return refers to a freestanding scaffold structure that includes a section extending out from the main scaffold body and then returning back towards it, forming an L-shape or U-shape configuration. This design is useful when work needs to be performed around corners of buildings or structures, or when access is required on multiple faces of a building from a single scaffold setup. The 'return' part of the scaffold allows workers to easily move from one side of the structure to the other without having to dismount and reposition the scaffold, thus increasing efficiency and safety. It is not reliant on the building or structure for support, ensuring stability and minimizing the impact on the existing structure.

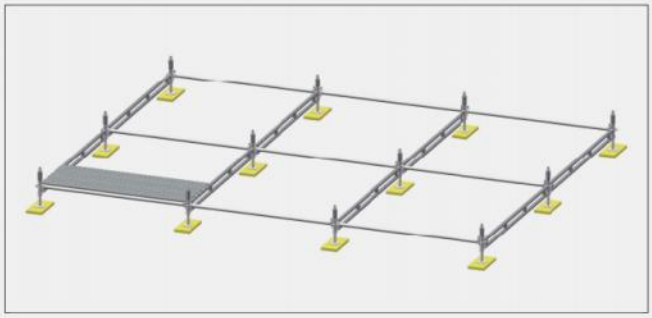
Step 1

- **Scaffold Foundation Preparation:**
  Ensure that the ground at the erection site has been properly prepared in accordance with requirements, providing a sturdy foundation for the scaffold.
- **Positioning Components:**
  Lay out the Ledgers, Steel Planks and place the Adjustable Base Jacks at the proper locations as Scaffold Plan.
- **Insert Base Collar into Adjustable Base Jacks:**
  Fit the Base Collars onto the Adjustable Base Jacks, positioning the base plates of the Jacks onto load-spreading bases.
- **Central Placement of Adjustable Base Jacks on Sole Plates:**
  Fit the Base Collars onto the Adjustable Base Jacks, positioning the base plates of the Jacks onto load-spreading bases.



Step 2

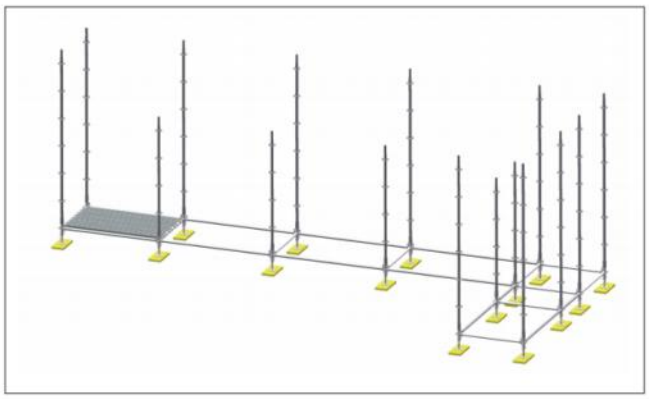
- Align the Base Collar rosettes so that one of the small openings in the rosette points in the Ledger direction. The small openings at right angles to the first will automatically align the Transoms at 90 degrees. The larger openings are generally used for connecting the Vertical Bay Braces.
- Connect the Ledgers to the rosette on the Base Collar. Do not hammer in the wedges at this stage. Using a spirit level, adjust the Jacks so that the Ledgers and Transoms are horizontal.
- Place Steel Planks of the correct bay length into the end bay to fully deck out the bay. Adjust the position of the Jacks and Base Collar by pushing one Jack sideways either in or out in order that the Planks are parallel with the Ledgers.
- Only a small amount of movement may be needed to ensure the bay is square enough to lock down the Planks with Deck Locks.
- When you are satisfied that the scaffold is fully squared and levelled, hammer in the wedges.



03 Installation Steps Independent with Return

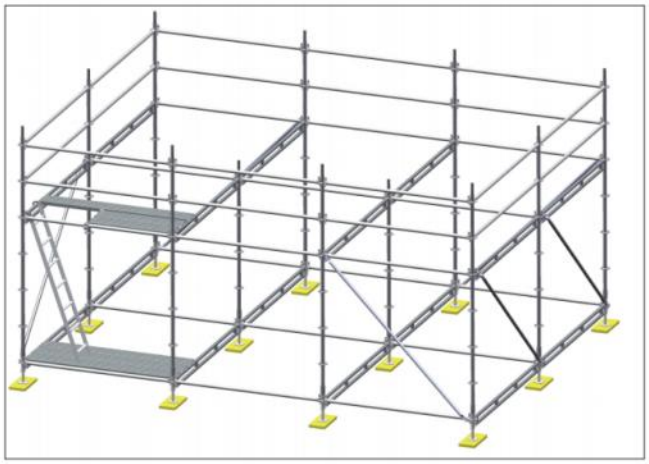
Step 3

- Fit Vertical Standards into Base Collars.
- It is recommended that the joints in inner and outer Standards of the scaffold be at different levels. Start with a longer Vertical on the outside. This will stagger the joints in the Verticals which will also aid in its stability if the scaffold is above eight meters high. It will also provide the connections for the first level of Guardrails on the outside of the scaffold.



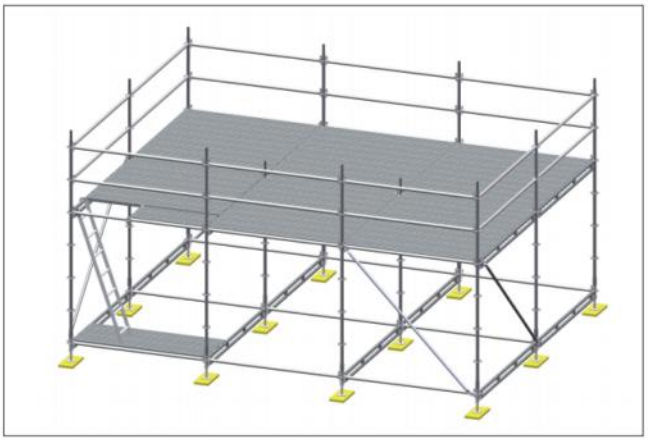
Step 4

- Ledgers can now be placed at the required levels for the first lift.
- Diagonal bracing should be fixed to at least every 5th bay along the length of the scaffold and from bottom to the top of the scaffold, or as required by design.
- Diagonal bracing helps to stiffen the scaffold and ensure it is square, keeping the Standards vertically aligned.



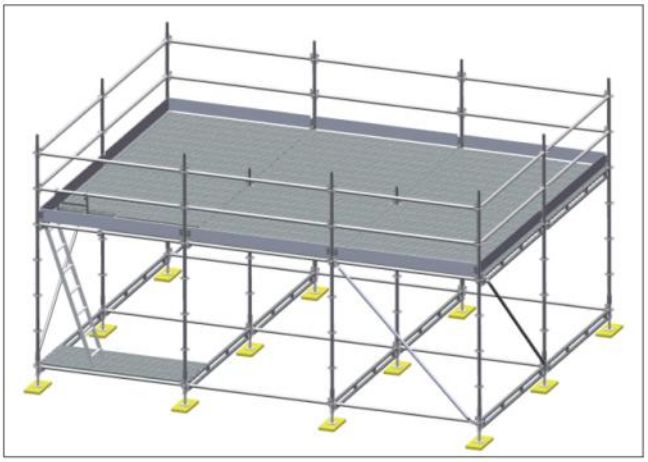
Step 5

- Install Side Bracket on the inside Standards.



Step 6

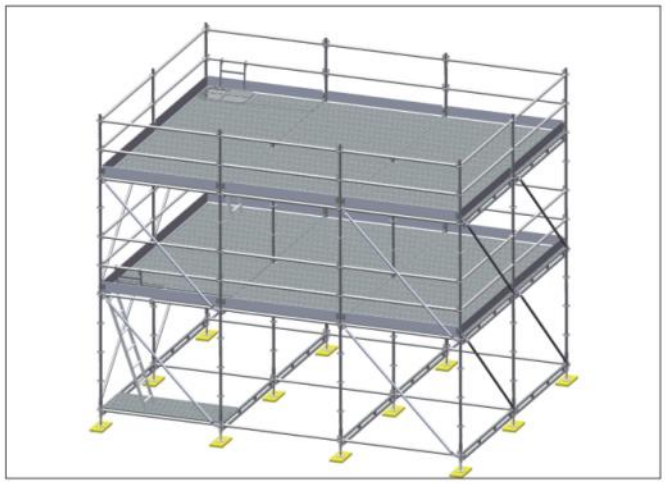
- Install the Vertical Standards and Horizontal Ledgers for the upper level from below, initially creating a preliminary guardrail system.
- It is recommended to utilize a proprietary Scaffolders Step, which enables the efficient and safe simultaneous installation of two layers of guardrails, enhancing work efficiency and safety.



Step 7

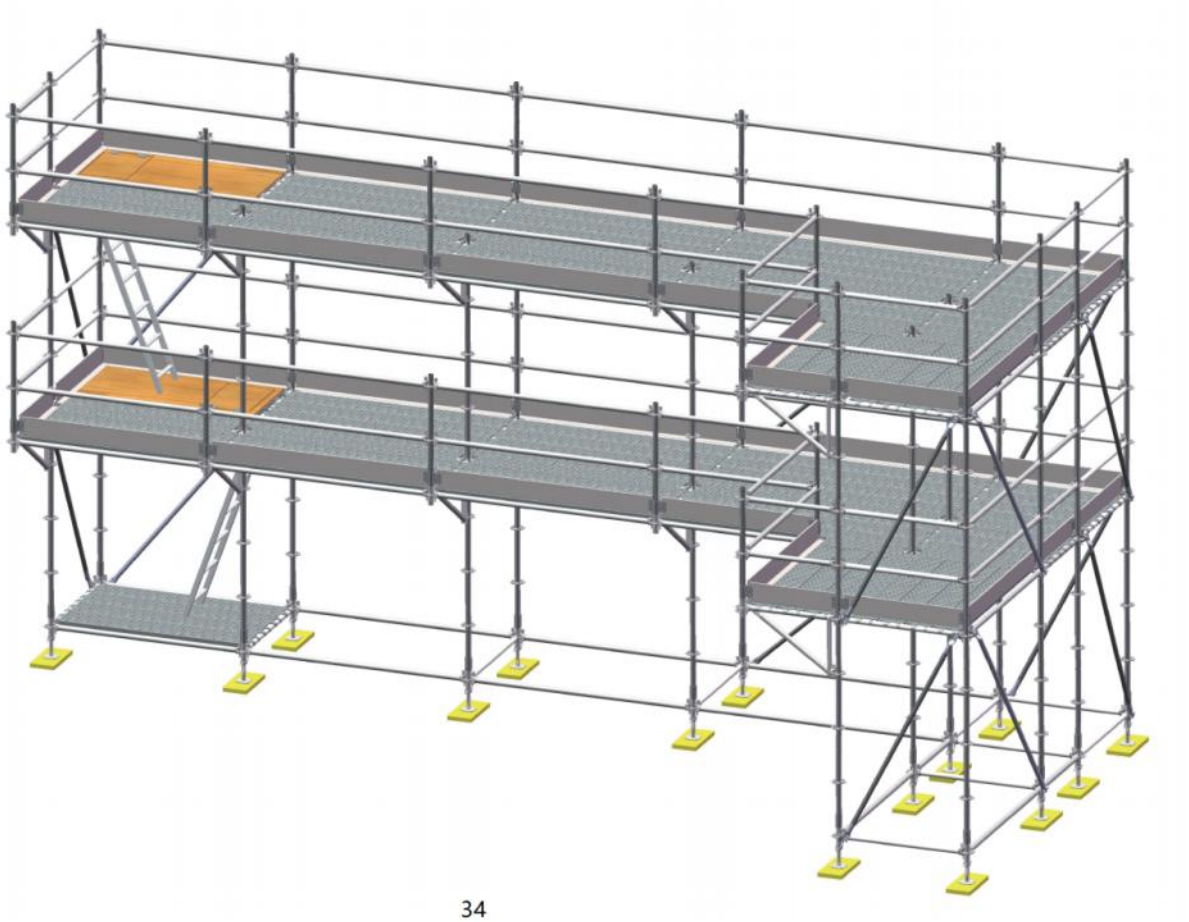
- Fit Access Ladder on the Steel Planks at the access area.
- Install Access Walkboard, Steel Planks and Transom (here used M48TLB50) on the upper level from below.

  The scaffolding operatives ascend to the upper level.
- Install Steel Planks evenly from the access area to spread out.
- Install Toeboards on all four sides of the outer edge of the scaffolding.



Step 8

- Repeat the above steps by adding more Standards , Ledgers, Braces, Ladders, Access Walkboards, Steel Planks and Toeboards as the lifts progress upwards.
- The further scaffolding levels must be assembled by taking into account of the risk assessment of the scaffolding erector.



03 Installation Steps Independent & Staircase

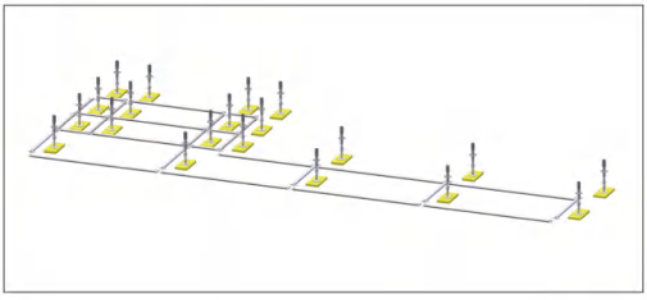
Independent & Staircase

An Independent Scaffold is a freestanding scaffold structure that is not dependent on or attached to the building or structure it is erected beside for support. It stands independently, with its own base and framework, providing a versatile and stable platform for various construction, maintenance, or renovation tasks. These scaffolds are typically assembled from tubular steel components, including Standards (vertical posts), Ledgers (horizontal cross-members), Transoms, Braces, and Platforms. They can be adapted to fit around obstacles and reach different heights and complexities of work sites.

A Staircase in the context of scaffolding refers to a specifically designed access system incorporated within the independent scaffold structure. It provides a safe and convenient means for workers to climb up and down between different levels of the scaffold. Staircases in scaffolding are usually made up of steps (formed by platforms at staggered heights) with handrails on both sides for added safety, ensuring that personnel can ascend or descend comfortably and securely. The staircase is an integral part of the overall safety measures in any scaffold setup, particularly in taller structures where ladder access would be less safe or practical.

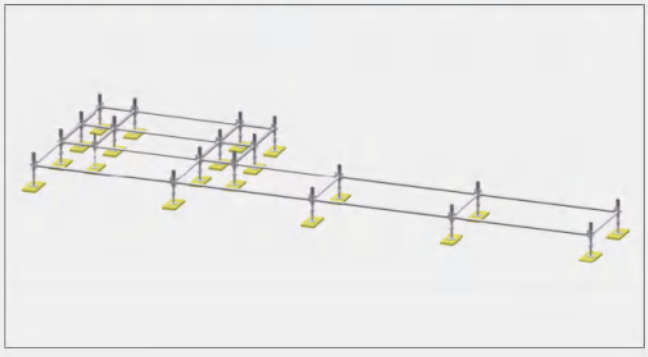
Step 1

- **Scaffold Foundation Preparation:**
  Ensure that the ground at the erection site has been properly prepared in accordance with requirements, providing a sturdy foundation for the scaffold.
- **Positioning Components:**
  Lay out the Ledgers and place the Adjustable Base Jacks at the proper locations as Scaffold Plan.
- **Insert Base Collar into Adjustable Base Jacks:**
  Fit the Base Collars onto the Adjustable Base Jacks, positioning the base plates of the Jacks onto load-spreading bases.
- **Central Placement of Adjustable Base Jacks on Sole Plates:**
  The Adjustable Base Jacks must be centered on the Sole Plates (Sole Plates can be omitted if the ground surface is concrete).



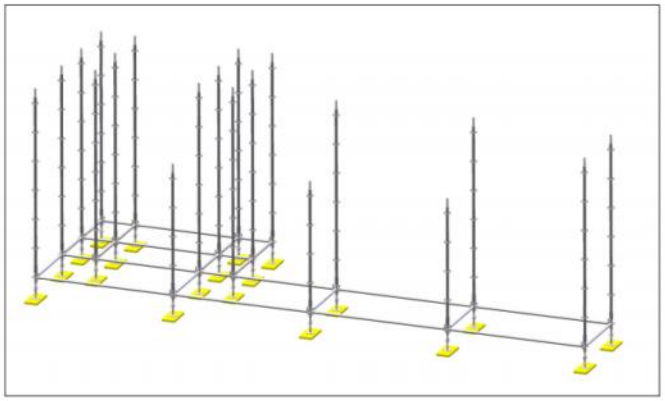
Step 2

- Align the Base Collar rosettes so that one of the small openings in the rosette points in the Ledger direction. The small openings at right angles to the first will automatically align the Transoms at 90 degrees. The larger openings are generally used for connecting the vertical bay braces.
- Connect the Ledgers to the rosette on the Base Collar. Do not hammer in the wedges at this stage. Using a spirit level, adjust the Jacks so that the Ledgers and Transoms are horizontal.
- Only a small amount of movement may be needed to ensure the bay is square enough to lock down the Planks with Deck Locks.
- When you are satisfied that the scaffold is fully squared and levelled, hammer in the wedges.



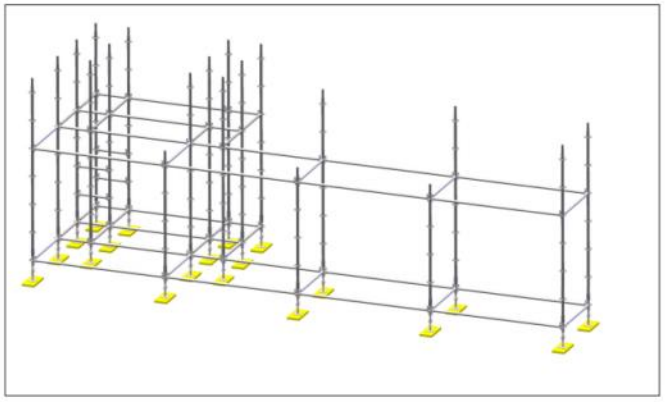
Step 3

- Fit Vertical Standards into Base Collars.
- It is recommended that the joints in inner and outer Standards of the scaffold be at different levels. Start with a longer Vertical on the outside. This will stagger the joints in the Verticals which and will also aid in its stability if the scaffold is above eight meters high. It will also provide the connections for the first level of Guardrails on the outside of the scaffold.



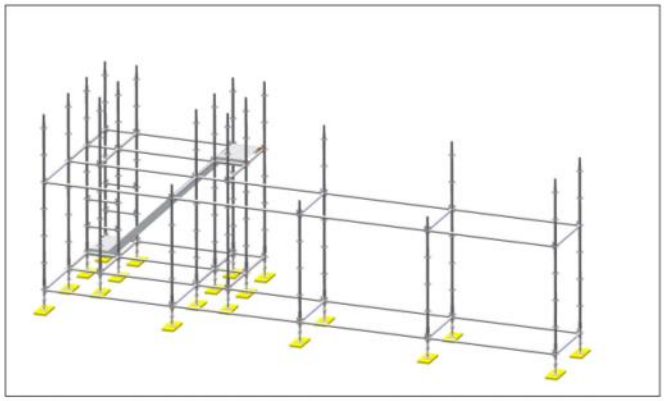
Step 4

- Ledgers can now be placed at the required levels for the first lift.



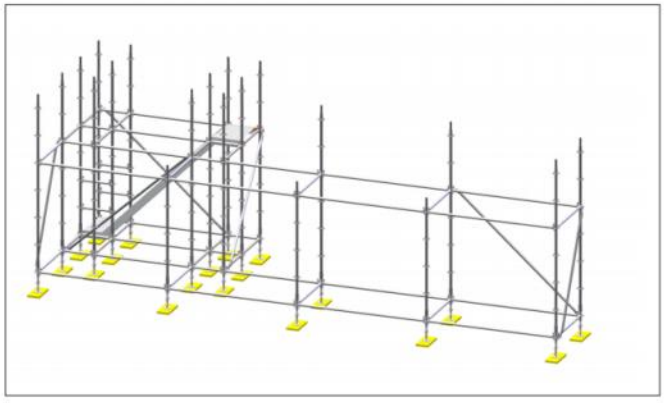
Step 5

- Assemble the Platform Stairway Aluminum onto the Ledgers at the top and the bottom of the bay shown as the drawing.



Step 6

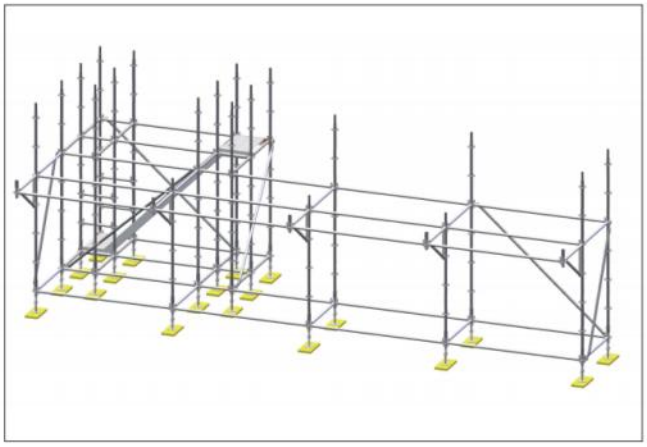
- Diagonal bracing should be fixed to at least every 5th bay along the length of the scaffold and from bottom to the top of the scaffold, or as required by design. Diagonal bracing helps to stiffen the scaffold and ensure it is square, keeping the Standards vertically aligned.



03 Installation Steps Independent & Staircase

Step 7

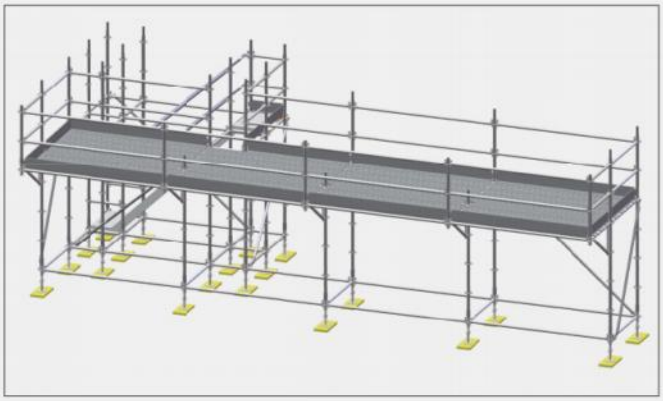
- Install Side Bracket on the inside Standards



Step 8

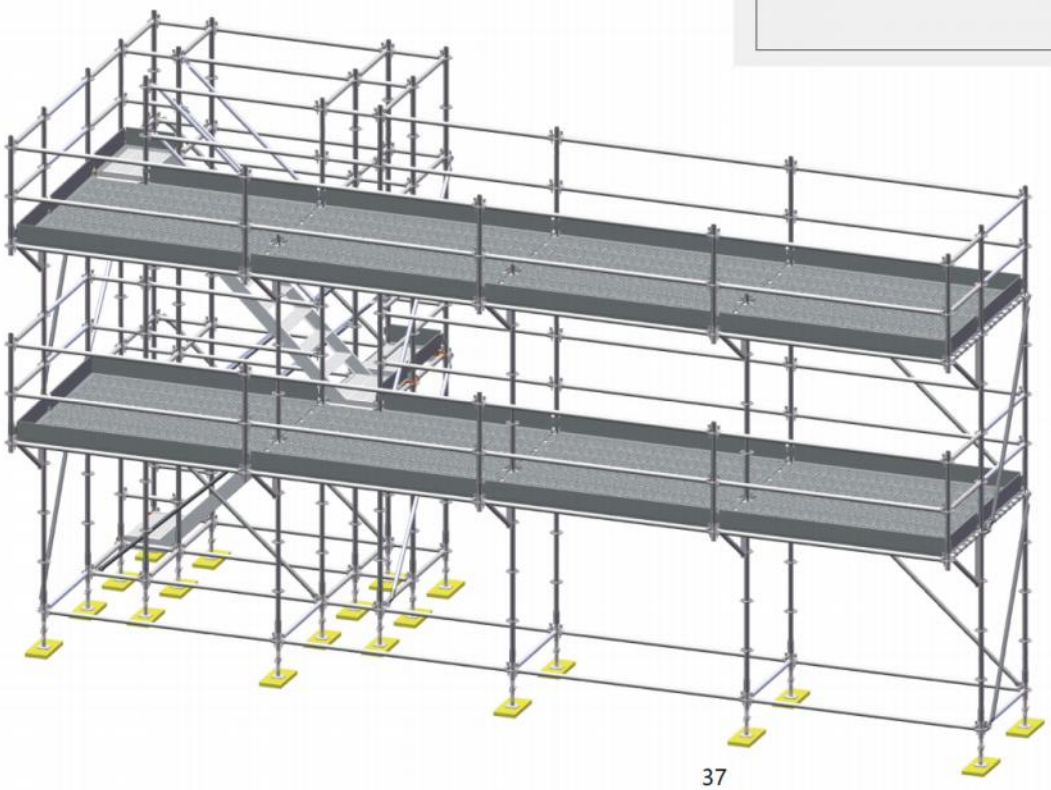
- Install the Vertical Standards and Horizontal Ledgers for the upper level from below, initially creating a preliminary guardrail system.
- It is recommended to utilize a proprietary Scaffolders Step, which enables the efficient and safe simultaneous installation of two layers of guardrails, enhancing work efficiency and safety.
- Install Platform Stairway Post and Braces along the star on to create a handrail protection system.
- The scaffolding operatives ascend to the upper level.

  Install Steel Planks evenly from the access area to spread out.
- Install Toeboards on all four sides of the outer edge of the scaffolding.



Step 9

- Repeat the above steps adding more Standards, Ledgers, Braces, Platform Stairway Aluminum, Platform Stairway Post, Steel Planks and Toeboards as the lifts progress upwards.
- The further scaffolding levels must be assembled by taking into account the risk of assessment of the scaffolding erector.



01 Facade Scaffolding

General

This section covers the requirements for basic Independent Tied Scaffolds for facade access or other typical applications.

This information in this section applies to unclad, debris netting or solid sheeted scaffolds (see Safe Height Tables). For other forms of cladding (e.g. hoarding, large signs etc.), please seek advice from Wenma Technical Support or a competent temporary works engineer.

If these basic configurations cannot be adhered to, then please contact Wenma for technical advice and support.

Brief Introduction of Facade Scaffolding

One significant application field of Finelock M48 System Scaffold is facade scaffolding.

Facade scaffolding, also known as external scaffolding or front scaffolding, is a specialized type of scaffolding system primarily designed for providing access and support during the construction, repair, cleaning, or maintenance of a building's exterior facade. It is typically erected along the outer walls of a structure, allowing workers to safely reach and operate at various heights.

Facade scaffolding often utilizes a modular system, making it easy to assemble, dismantle, and adapt to the unique shapes and sizes of different buildings. Components such as standards, ledgers, braces, and platforms can be quickly connected and adjusted to fit the project's requirements.

These systems are engineered to meet stringent safety standards, with robust frames and secure locking mechanisms to withstand wind loads and support the weight of workers, materials, and equipment. Guardrails, toe boards, and other safety features are integral parts of the design to prevent falls and ensure a secure working environment.

Facade scaffolding can be tailored for various types of projects, whether it's for low-rise or high-rise buildings, curved or straight walls, and even irregularly shaped structures. Its flexibility allows it to navigate around obstacles such as balconies, projections, and windows.

To enhance efficiency and safety, facade scaffolding may incorporate features like staircases, hoists, and loading platforms, enabling quick and safe movement of personnel and materials to and from the work area.

The working platforms can be easily adjusted in height and position, allowing workers to access every part of the facade they need to work on while maintaining a comfortable and safe working level.

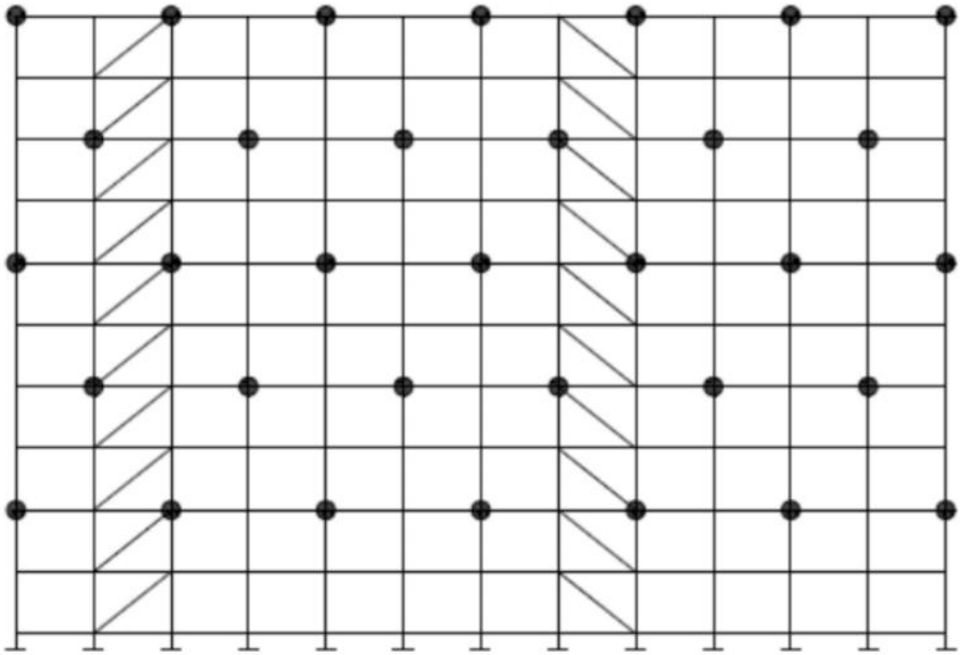
Facade scaffolding designs comply with local and international safety regulations and standards, such as OSHA in the United States, SG4 in the UK, or equivalent standards in other countries, ensuring that the structure is legally compliant and safe for use.

Overall, facade scaffolding plays a crucial role in enabling safe and efficient execution of external works on buildings, ensuring that construction, maintenance, or cleaning tasks can be carried out effectively while protecting the workers and the public.

Bracing

Scaffolding Bracing is an integral part of any scaffolding system, playing a crucial role in ensuring the stability, safety, and structural integrity of the setup. It involves the strategic placement of diagonal or cross braces to resist various forces acting upon the scaffold, including wind loads, the weight of workers and materials, and potential impacts. Scaffolding Bracing is a fundamental aspect of safe and efficient scaffolding, ensuring the stability and safety of workers and the public. A well-designed and maintained bracing system is vital for preventing accidents and ensuring the successful completion of projects that rely on scaffolding structures.

Face Bracing is required every 8th bay (max 20m). It must run from the base to the level of the top working platform. A minimum of 2 bays must be face braced for scaffolds greater than 4 bays (10m) in length. Face bracing to the end bays should be avoided if possible. The figure below gives an example of face bracing and tie patterns.



Ledger Bracing and **Plan Bracing** is NOT normally required for Finelock facade scaffolds unless otherwise stated by a Design or Design Engineer' s advice. This will ensure unimpeded access along working platforms, as required by the British and European Standards (BS EN 12811).

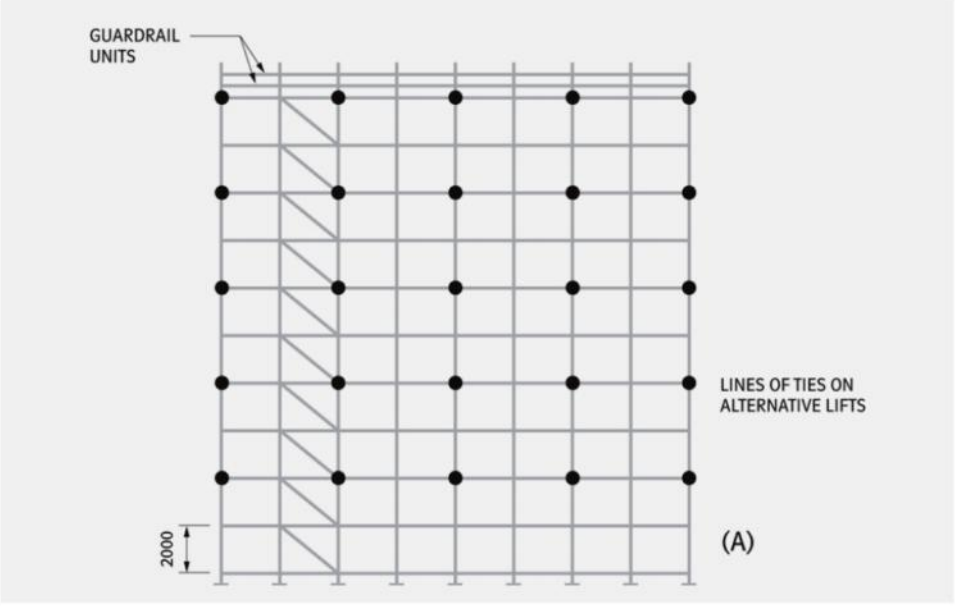
Where ledger bracing is required it is acceptable to use EN39 tubes and EN74 fittings to form the ledger bracing. Scaffold tubes of the appropriate length can be fixed to the ledgers with right-angle couplers (ideal) or standards with swivel couplers so not to obstruct the decking and toeboards. Ledger bracing must be fixed within 300mm of the node point (the intersection of the ledger, transom and standard).

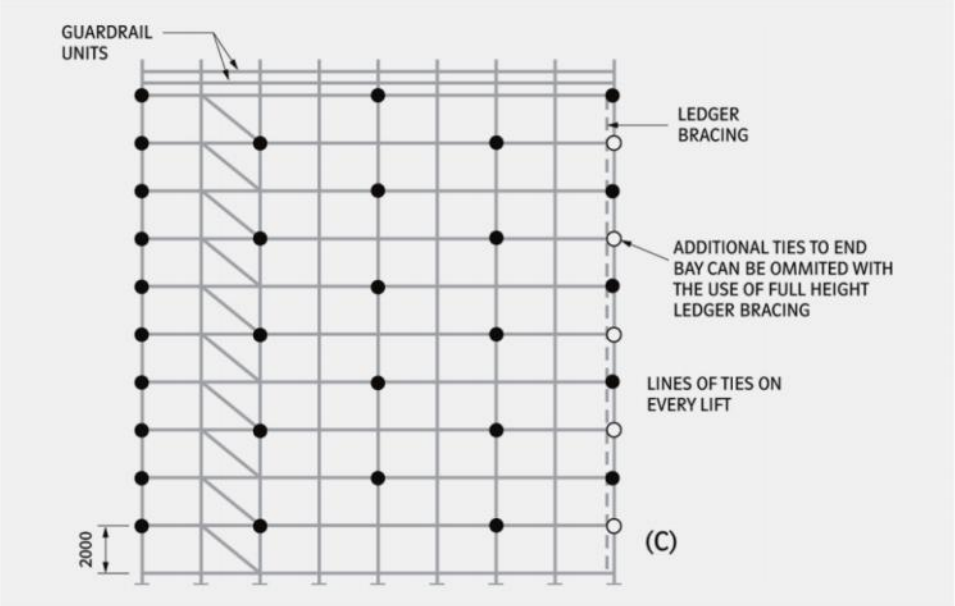
If Plan Bracing is required it is also acceptable to use EN39 tubes and EN74 fittings to form the plan bracing. Scaffold tubes of the appropriate length can be fixed to the standards with right-angle couplers. Plan bracing must be fixed within 300mm of the node point (the intersection of the ledger, transom and standard), but may restrict head clearance on working platforms.

Tie Patterns

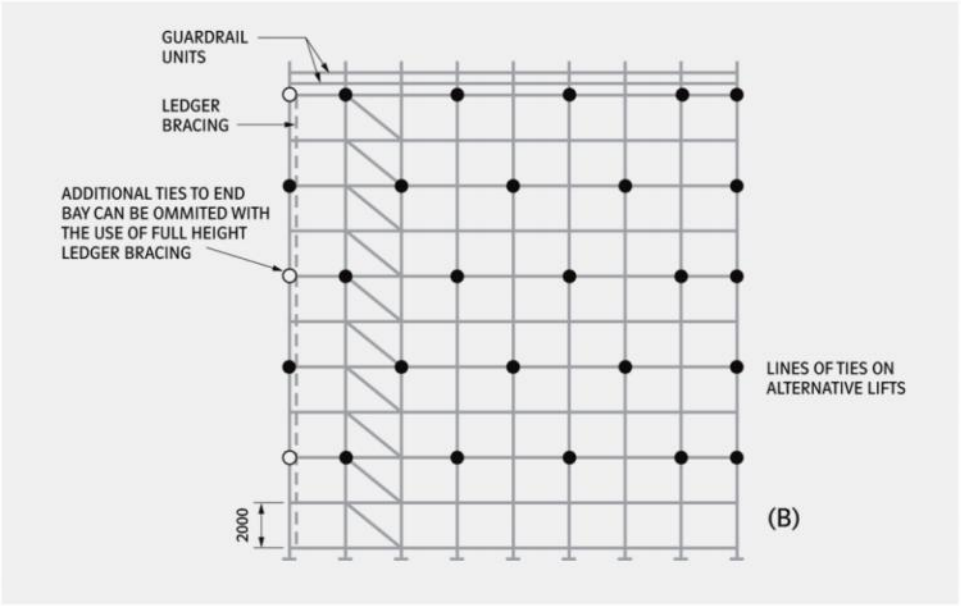
A Scaffolding Tie Pattern refers to the systematic arrangement and attachment of ties or anchors that secure a scaffold to a building or structure. These ties play a crucial role in transferring the load from the scaffold to the supporting structure, ensuring stability and safety. The design and implementation of a tie pattern are guided by industry standards, engineering principles, and specific project requirements. A well-planned and executed Scaffolding Tie Pattern is fundamental to the safety and stability of any scaffolding setup. It's essential to follow established guidelines, perform thorough planning, and conduct regular inspections to guarantee the integrity of the tie system throughout the duration of the project.

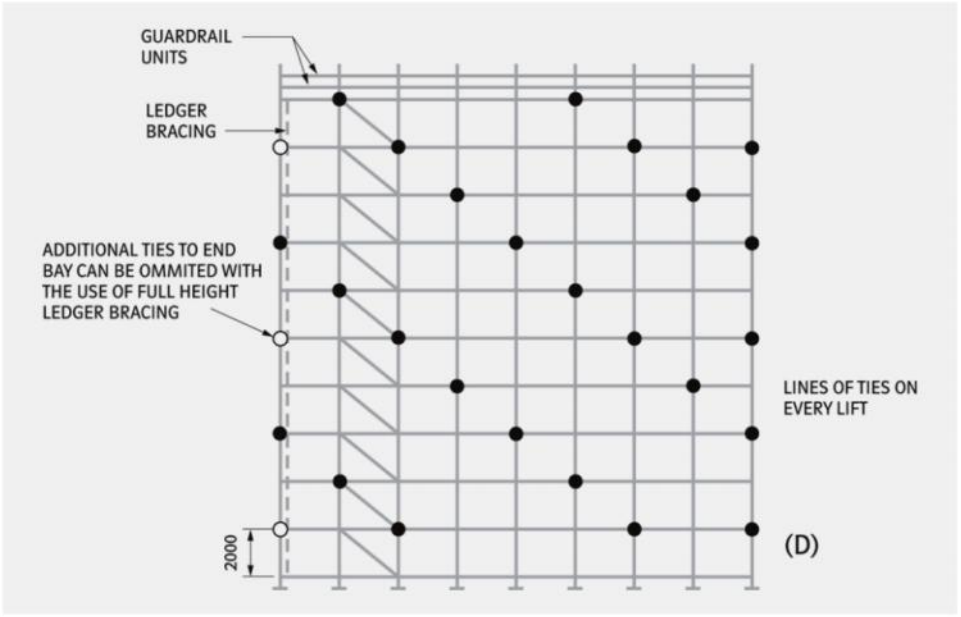
The following standard tie pattern should be used for Finelock M48 facade access scaffolds, using a maximum lift height of 2m.





04 Application Instruction





Loading

Scaffolding loading refers to the weight or force that a scaffold structure is designed to safely bear, including the self-weight of the scaffold itself, the weight of workers and their tools, and any materials stored or transported on it, also including Environmental Loads such as wind loads, snow loads (in applicable regions), and in some cases, seismic loads. Understanding and correctly applying loading considerations is crucial for ensuring the stability, safety, and compliance of a scaffolding system.

Measures must be in place to prevent overloading, such as regular load monitoring, clear signage indicating maximum allowed loads, and training for workers on safe loading practices. Our professional engineers conduct detailed calculations to determine the exact loading capacity for each component and the overall structure. These calculations take into account all relevant factors and ensure that the scaffold can safely withstand the expected loads without failure.

In Europe, BS EN12811 specifies different load classes for scaffolding. For instance, Load Class 4 corresponds to a maximum loading of 3kN/m². Different applications may require different load classes, and the scaffold must be designed and constructed accordingly. Adhering to industry standards, conducting thorough planning, and implementing rigorous inspection and maintenance regimes are all critical to ensuring that scaffolding systems can safely accommodate their intended loads.

Below is presented the typical assembly method and allowable load scenarios for Finelock M48 façade scaffolding. Should you have any queries or specific structural requirements, please promptly contact our engineering team.

The maximum loading for Finelock M48 facade scaffolding is 3kN/m2 (BS EN12811 Load Class 4), based on 2.4m bay length and 1.5m transom (5 boards wide).

For scaffolds with more than 1 boarded lift the maximum loading is:

1 Platform @ 3kN/m2 + 1 Adjacent Platform @ 1.5kN/m2

For progressive brick and blockwork scaffolds using 1.5m lift heights only 1 working platform is assumed @ 3kN/m2

Maximum Lift Heights

The maximum loading for Finelock M48 facade scaffolding is 3kN/m2 (BS EN12811 Load Class 4), based on 2.4m bay length and 1.5m transom (5 boards wide).

For scaffolds with more than 1 boarded lift the maximum loading is:

1 Platform @ 3kN/m2 + 1 Adjacent Platform @ 1.5kN/m2

For progressive brick and blockwork scaffolds using 1.5m lift heights only 1 working platform is assumed @ 3kN/m2.

04 Application Instruction

Safety Heights

The Safe Working Height tables, which delineate the maximum permissible heights for scaffolding and similar structures under various conditions, are fundamentally grounded in areas characterized by a basic wind speed of 24 meters per second. These guidelines are deemed applicable and accurate for sites devoid of prominent geographical features that could significantly alter wind patterns, such as precipitous cliffs, steep inclines, ridges, or elevations exceeding 100 meters above sea level. The stipulation extends to locations situated within 100 kilometers from the nearest coastline, where the prevailing winds originate from the sea.

When categorizing a site, if it meets the following criteria:

- It is located at least 2 kilometers within an urban landscape,
- Is shielded by structures within a radius of 100 meters, and
- The mean height of the neighboring buildings is 5 meters or greater,

Such a site is designated as a "Town" site. Conversely, all other locations that do not fulfill these conditions are classified as "Country" sites. This classification plays a pivotal role in determining the safe working heights, as urban environments can offer natural windbreaks due to the presence of buildings, whereas rural or open country areas lack such barriers and thus may necessitate stricter height limitations to account for potentially higher wind speeds and turbulence.

Safe Height Tables

SCAFFOLD DESIGNATION				Max Height in Metres (m) FULLY LOADED INSIDE BOARDS (BS EN 12811)							
				COUNTRY				TOWN			
LOAD CLASS	BAY LENGTH	BAY WIDTH	CLADDING	TIES AT ALTERNATE LIFTS		TIES AT EVERY LIFT		TIES AT ALTERNATE LIFTS		TIES AT EVERY LIFT	
				A	B	C	D	A	B	C	D
3	2.4m	1.2m	NONE	10	24.5	12	24.5	10	24.5	12	24.5
			DEBRIS	\	14	\	16	4	14	4	16
			SHEET	\	\	\	\	\	4	\	4
3	1.8m	1.2m	NONE	18	24.5	18	24.5	18	24.5	18	24.5
			DEBRIS	6	24.5	8	24.5	8	24.5	8	24.5
			SHEET	\	8	\	8	\	10	\	10
4	2.4m	1.2m	NONE	6	18	6	16	8	18	6	16
			DEBRIS	\	10	\	10	\	10	\	12
			SHEET	\	\	\	\	\	\	\	4
4	1.8m	1.2m	NONE	14	24.5	16	24.5	14	24.5	16	24.5
			DEBRIS	4	24	6	24	6	24	8	24
			SHEET	\	6	\	6	\	8	\	8

Requirements for Wind Loads

Compliance with Industry Standards

Adherence to American Standards

To ensure your scaffolding is safe and compliant with wind load requirements, it is imperative to adhere to several key American standards:

- ANSI A10.14 Standard for Scaffolds - This standard provides comprehensive guidelines for the design, construction, and use of scaffolding. It includes specific sections on wind loads, detailing how scaffolding should be engineered to withstand expected wind pressures.
- OSHA Regulations (Occupational Safety and Health Administration) - OSHA sets federal safety standards for scaffolding in the workplace. Their regulations cover all aspects of scaffolding use, including setup, use, and teardown, with provisions for dealing with wind conditions.
- ASCE 7 Standard for Minimum Design Loads and Building Codes - This standard provides criteria for minimum design loads, including wind loads, snow loads, rain loads, flood loads, earthquake loads, and fire effects. It is widely recognized as a benchmark for structural engineering and is referenced in many building codes across the United States.

Compliance with European Standards

For scaffolding projects in Europe, compliance with European standards is equally important. Key European standards include:

- EN 12811-1:2003 - Specifies requirements for the design and dimensions of scaffold structures. It covers the general principles of scaffold design and the criteria for determining the maximum allowable height based on wind loads.
- EN 12811-2:2003 - Focuses on safety and quality requirements for materials used in scaffolding, ensuring they can withstand expected wind loads without failure.
- EN 1991-1-4 - This standard covers the actions of wind on structures, providing methodologies for calculating wind loads and designing structures, including scaffolding, to resist these loads.
- EN 1990:2002 - Basis of structural design, which includes principles and requirements for the safety, serviceability, and durability of structures, including considerations for wind loads.

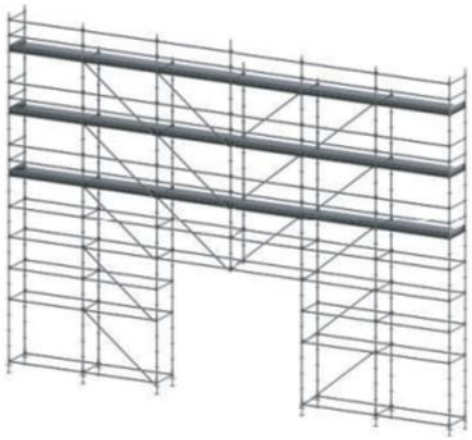
Cross-Referencing International Standards

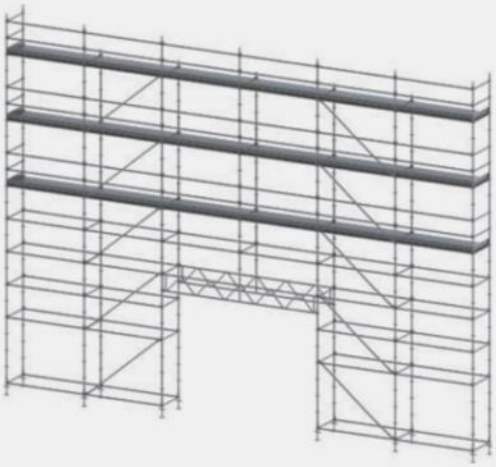
When working on projects that span multiple countries or involve international contractors, it is important to cross-reference standards from different regions. For instance, if your project involves American and European standards, you should ensure that the scaffolding design satisfies both ANSI/OSHA and EN standards.

This may require additional calculations or design modifications to account for differences in wind load classification, exposure categories, and basic wind speeds as defined by each standard. Consulting with a structural engineer who is familiar with both sets of standards can be invaluable in achieving compliance.

Bridging Solutions

By using the common components (Standards, Ledgers, Braces, Collar and Planks) you can easily create a bridge. The most common requirement for a bridge is to provide access under the scaffold for exits, door openings or underpasses for the construction works. To create a bridge, diagonal bay braces must be used to support the bridge section and stiff en the surrounding scaffold. Design advice is generally required for this type of arrangement.

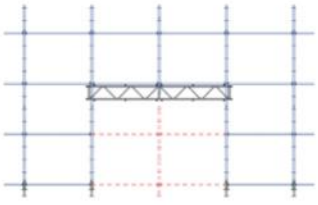




For larger spans, higher loads and additional lifts above the opening, truss beam can be used. It is acceptable to construct bridging using appropriate EN39 tubes and E74 couplers for connecting truss beams with Vertical standards.

To ensure the correct bay dimensions are maintained it is recommended that, wherever possible, the base lift should be erected temporarily for spacing purposes. Once the bridge section is complete the temporary base lift can be removed. For example:

● Temporary base erected to maintain bay dimensions.



● Temporary base erected to maintain bay dimensions.

SG4 Scaffolders guardrails and bracing omitted for

02 Static Tower

General

Towers for access to other structures or as working platforms can be easily achieved with Finelock M48 system scaffolding. Tower can incorporate ladder access or stairways .

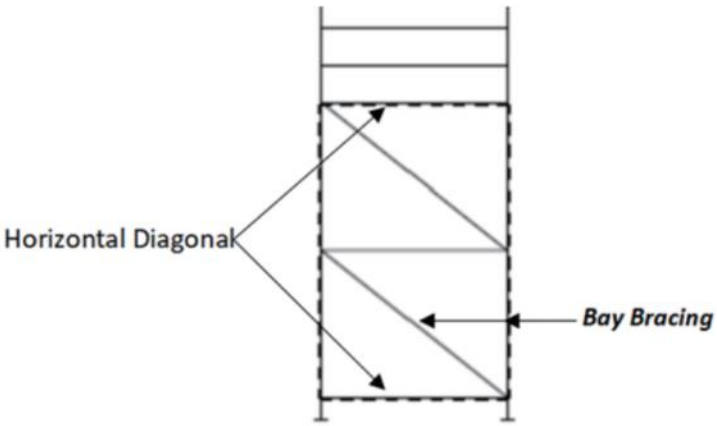
Towers can be static or mobile, free-standing or tied in depending upon the application.

Bracing

Static towers must be fitted with Vertical bay Braces on all faces from the base to the top working platform level.

Horizontal Diagonal are required at the base lift, below the top working platform and at alternate lifts thereafter. It is acceptable to use EN39 tubes and EN74 fittings to form the horizontal diagonal. Scaffold tubes of the appropriate length can be fixed to the standards with right-angle couplers. Horizontal diagonal must be fixed within 300mm of the node point (the intersection of the ledger, transom and standard), but may restrict head clearance on working platforms.

Note: Steel WalkBoard may be substituted for horizontal diagonal at the top level.



Note: SG4 Scaffolders guardrails and access omitted for clarity!

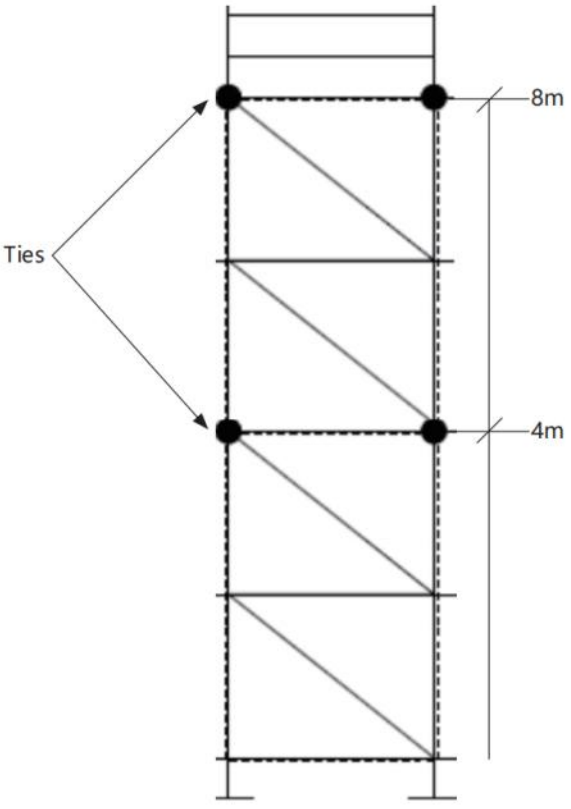
Loading & Safe Heights

Base Dimension (m)	Max No. Load Platforms	Uniformly Distributed Load (kN/m2)	Safe Height (m)			
			Freestanding Static		Mobile	
			Indoor	Outdoor	Indoor	Outdoor
1.2 x 1.2	1.5	3.00	4.8	4.2	4.2	3.6
1.2 x 1.8	1.5	3.00	4.8	4.2	4.2	3.6
1.2 x 2.5	1.5	3.00	4.8	4.2	4.2	3.6
1.8 x 1.8	1.5	2.00	7.2	6.3	6.3	5.4
1.8 x 2.4	1.5	1.50	7.2	6.3	6.3	5.4
2.4 x 2.4	1.5	0.75	9.6	8.4	8.4	7.2

Note: sheeting, netting or other cladding should not used unless advice has been sought from a competent temporary works engineer. Foot ties must be used on all static and mobile Finelock towers.

Tied Static Towers

Finelock static access towers can be erected to a maximum height up to 30m, providing they are tied in every 4m vertically to both lines of standards. Finelock towers can be erected to heights in excess of 50m but will need to be designed and calculated by a competent temporary works engineer.



Note: SG4 Scaffolders guardrails and access omitted for clarity!

03 Stairways

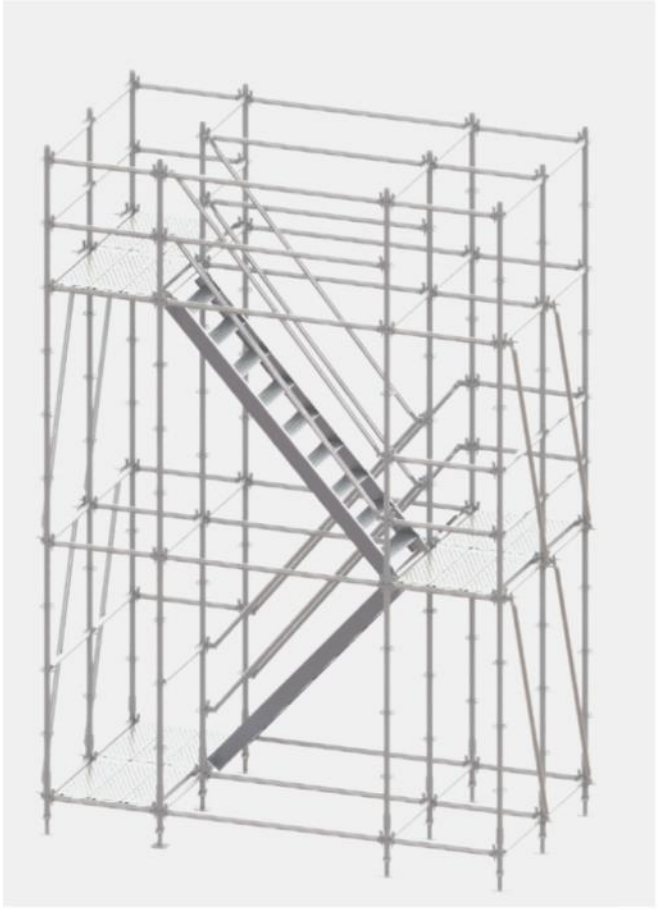
General

Stairways provide safe and practical access solutions for many site applications. The Finelock Stairway is designed specifically for use in construction and maintenance applications. This tower can be used as a standalone stairway or abutted and tied in to a scaffold.

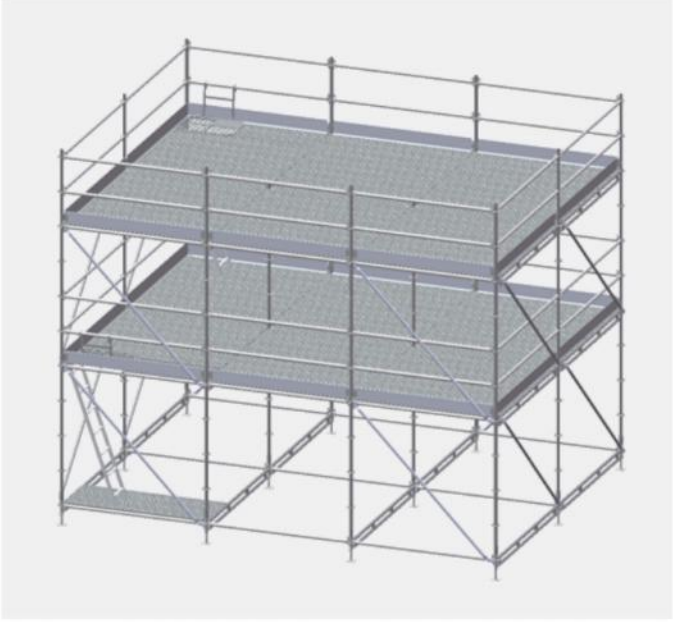
It is available with flights of 1.5m or 2m high.

Standalone towers must be tied every 4m vertically to both pairs of standards and braced on all sides from the base to the top. Braces can be omitted to allow access and egress at the base and each landing position.

Finelock stairway can be erected up to 30m. Stairways taller than 30m must be designed by a competent temporary works engineer.



04 Birdcage Scaffolds

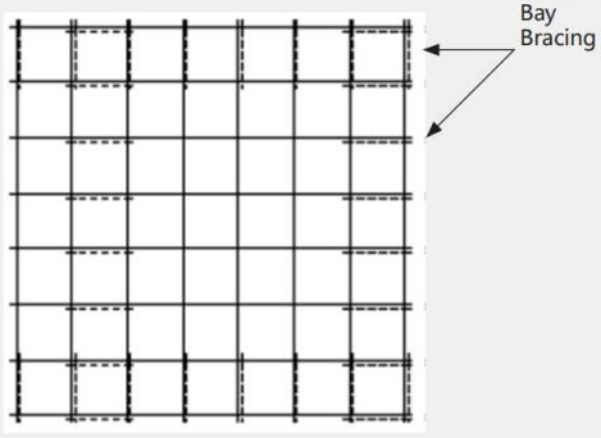


General

Finelock Birdcage Scaffolds are used to provide access to large surface areas such as ceilings, light-wells and atriums.

Bracing

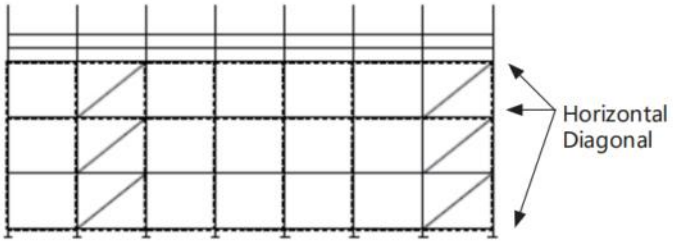
Vertical bay bracing is required every 5th bay throughout the birdcage scaffold, as shown below.



BIRDCAGE ON PLAN

It is acceptable to use EN39 tubes and EN74 fittings to form the bay bracing. Scaffold tubes of the appropriate length can be fixed to the ledgers with right-angle couplers (ideal) or standards with swivel couplers so not to obstruct the decking and toeboards. Bay bracing must be fixed within 300mm of the node point (the intersection of the ledger, transom and standard).

Horizontal Diagonal is required every 5th bay horizontally to the top, bottom and every 2nd lift. Horizontal Diagonal should be fixed in the same bays as the bay bracing.



Safe Heights

The maximum height should not exceed the smallest base dimension if free-standing. The birdcage should be butted up to walls and other structures or tied in where possible. Finelock birdcage scaffolds taller than those specified seek advice from a competent temporary works engineer.

Loading

Grid Dimension (m)	Max No. Load Platforms	Uniformly Distributed Load (kN/m2)
1.2 x 1.2	1	3.00
1.2 x 1.8	1	3.00
1.2 x 2.4	1	3.00
1.8 x 1.8	1	2.00
1.8 x 2.4	1	1.50
2.4 x 2.4	1	0.75

Note: A foot tie is required on all Birdcage Scaffolds, although 1 bay can be omitted to allow access through the birdcage.

05 Loading Bay Tower

General

The Finelock Loading Bay is a specially design and strengthened to allow mechanically handled palletised materials to be loaded directly on the platform.

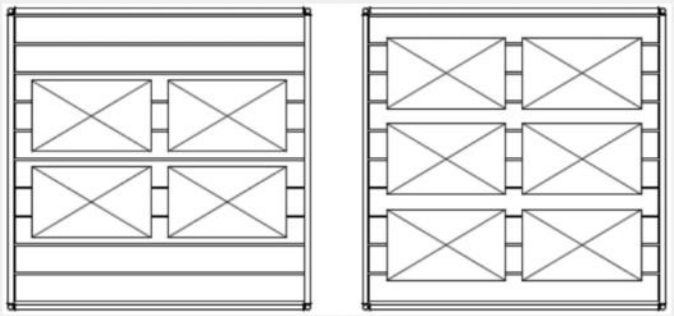
Standard Configurations

The standard dimension is 2.4m x 2.4m and can be constructed as a freestanding unit (up to 6m), integrated with a Finelock scaffold or tied in to other types of system scaffolds or tube and fitting scaffolds. It can also be used as a standalone loading bay tower above 6m providing it is tied to a suitable structure at the loading platform level and every 4m vertically, to both pairs of standards.

Loading

The standard Finelock loading bay tower has been designed with 1 loaded platform. Loading towers can be constructed with multiple loading platforms; however advice must be sought from a competent temporary works engineer.

LOADING BAY TOWERS ON PLAN



Four No. 10kN (1 Tonne) Pallets Six No. 8.25kN (825Kg) Pallets

Bracing

Finelock loading bay towers must be braced vertically on all faces of the tower.
Horizontal Diagonal is required at the base, alternate lifts and below the loading platform.

06 Circular Scaffolding

General

Circular Scaffolding refers to a specialized scaffolding system designed to encircle round or curved structures, such as chimneys, tanks, domes, or circular architectural features. It requires a tailored approach compared to conventional linear scaffolding, given the unique challenges posed by curved surfaces.

Essentially, the information for facade scaffold designs also apply here. Round areas can easily be scaffolded due to the 8 possible connections to the discs using the large and small holes. A basic distinction is made between the "small" and "large" diameters. Bridge piers or chimneys, for example, may have "small" diameter (≤ 3:00 m). Rectangular scaffolding is the most useful type to use in this case . Oil tanks, for example, have a "large" diameter. In this case, the scaffolding should follow the curvature in the ground view.

Objects With a Small Diameter

(As an example: Scaffolding a round bridge pier) For the described scenario involving a round structure surrounded by a square lattice scaffolding system, here's a detailed interpretation and guidance:

04 Application Instruction Circular Scaffolding

Overview:

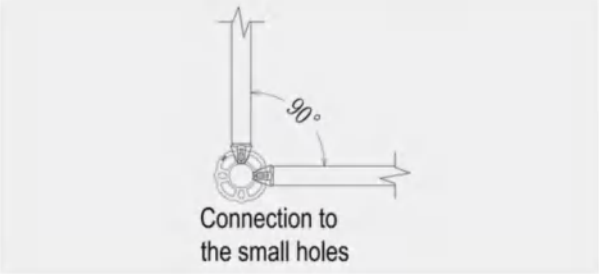
The objective is to erect a stable and secure scaffolding system around a circular structure, ensuring that the main working platforms are positioned as close as 30 centimeters from the outer surface. This setup involves integrating square lattice frames to conform to the curvature of the round structure, necessitating careful alignment and reinforcement measures.

Key Points for Implementation:

Square Lattice Adaptation: To accommodate the circular form, the square lattice frames will be arranged with slight adjustments at each level to follow the curvature. This may involve cutting or bending ledgers and transoms to fit the curve, maintaining the ≤ 30 cm distance from the structure's surface.

Connection Detail:

Ledger connections to the structure should be through specifically designed brackets or couplers that fix into small holes drilled or pre-existing in the structure. These connections must maintain a right angle to ensure structural stability and distribute loads effectively.



CONNECTION DETAI

Inner Corner Coverage:

The open inner corners created by the square frames on the circular structure will be covered with free-standing steel decks. These decks should be securely fastened to prevent uplift or displacement, potentially using clamps, brackets, or adjustable couplers that attach to the vertical posts or adjacent ledgers.

Vertical Diagonal Reinforcement:

In instances where fire protection is not a requirement, wooden braces can be an alternative to reinforce the structure. These braces would be strategically placed to enhance stability, although careful consideration of load-bearing capacities and potential fire hazards is crucial.

Vertical Diagonal Reinforcement:

All four levels of the scaffolding must be reinforced with vertical diagonals. These diagonals act as bracing, increasing the overall stability and rigidity of the structure against lateral forces such as wind loads. They should be installed at appropriate intervals, following engineering guidelines or as per the designed layout, to form a triangulated system that resists deformation.

Safety Considerations:

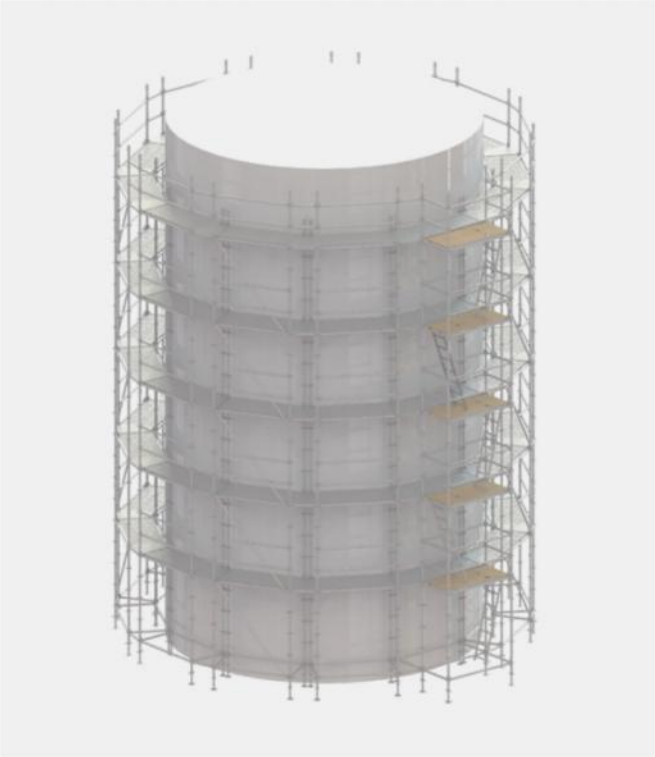
•Regular inspections must be conducted to verify the integrity of all connections, especially those securing the inner corner decks and vertical diagonals.

•Proper anchorage of the scaffolding to the structure is critical to prevent slippage or collapse.

•Compliance with local safety regulations and industry best practices is paramount, including the use of personal protective equipment (PPE) during assembly and use. By meticulously following these guidelines, a safe and efficient scaffolding system can be achieved around a round structure, ensuring both worker safety and the protection of the structure during construction or maintenance activities.

Objects With a Large Diameter

(As an example: scaffolding an oil tank) If the building has larger dimensions, the scaffolding should follow the curve. Rectangular cells are constructed for this purpose and arranged at distances which allow the outer layers to be connected to standard horizontal ledgers . As the connector ledgers do not form a right angle with the scaffold sections, the uprights should be turned so that all ledgers are connected to the large holes. This allows an angle of up to 30° to be created between the scaffold section and connector ledgers (see connection detail).



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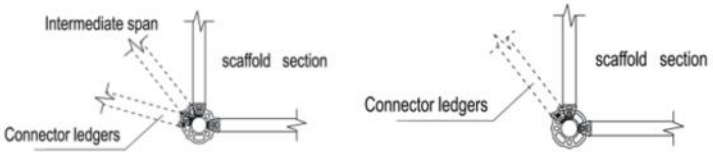


CONNECTION DETAIL

Depending on the radius, it is an advantage to insert all ledgers into the large holes (see solution 1) or only the ledgers of the intermediate bays (see solution 2).

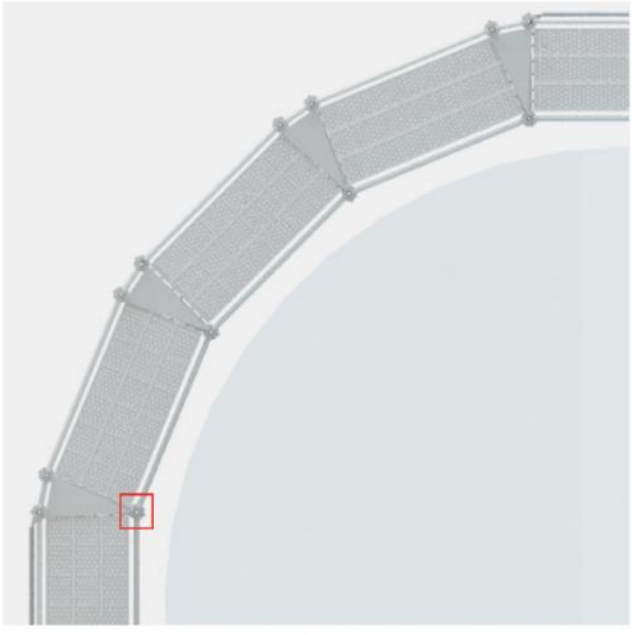
When connecting the ledgers to the large holes, angles deviating from 90° can also be created between the ledgers milestones. As the scaffolding sections are no longer automatic aligned, the rectangularity needs to be ensured using alternative measures, e.g. by aligning the diagonal dimensions. Walkboards can be advantageous for right-angled alignment of the basic structure.

Vertical Standards Configurations

Two distinct configurations can be employed in circular scaffolding, depending on whether the inside standards are shared or not.

Shared Inside Standard:

In this configuration, the inner ring of vertical standards (standards placed closest to the center of the circle) is shared among adjacent bays or segments of the scaffolding. This means that each standard serves as a support for more than one section of the circular platform, creating a more economical use of materials. However, this setup can be more complex to erect and may require additional bracing to maintain stability, especially in larger diameters or taller structures, as sharing loads across fewer supports can increase stress on these components.

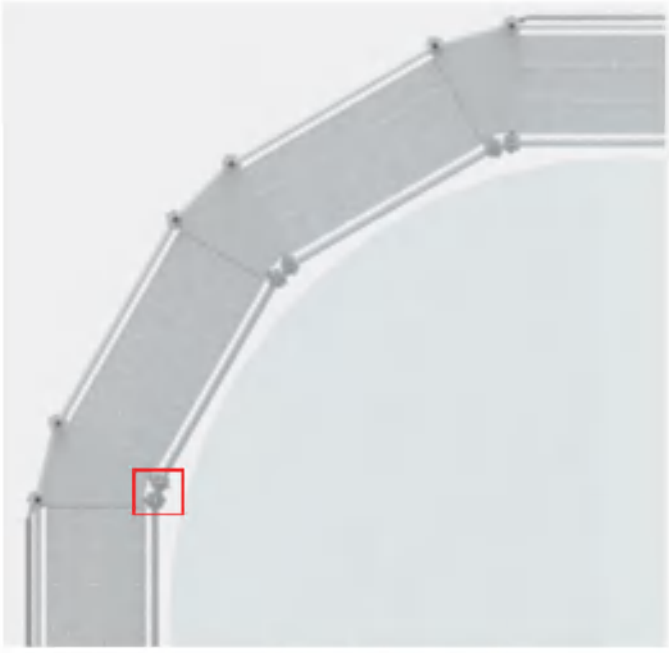


SHARED INSIDE STANDARD

Not Shared Inside Standard:

Alternatively, when the inside standards are not shared, each bay of the circular scaffolding has its dedicated set of vertical supports. This configuration ensures maximum stability and load-bearing capacity for each segment, as the load is distributed evenly without relying on shared points. While this method tends to use more materials and can be more expensive, it simplifies the construction process and can be quicker to assemble since each section is independent. It also provides enhanced safety, especially in high wind conditions or heavy-duty applications with special requirements for bearing capacity.

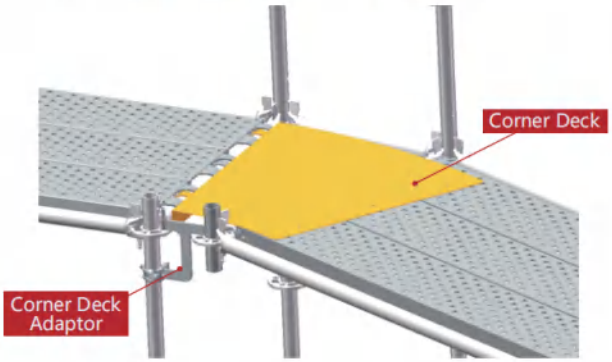
Both configurations have their advantages and are chosen based on factors such as the complexity of the circular structure, load requirements, accessibility, cost considerations, and the duration of the project. The decision to use a shared or non-shared inside standard setup in circular scaffolding ultimately depends on a careful assessment of these variables to ensure the safety, efficiency, and economic feasibility of the scaffolding system.



NOT SHARED INSIDE STANDARD

Corner Connection

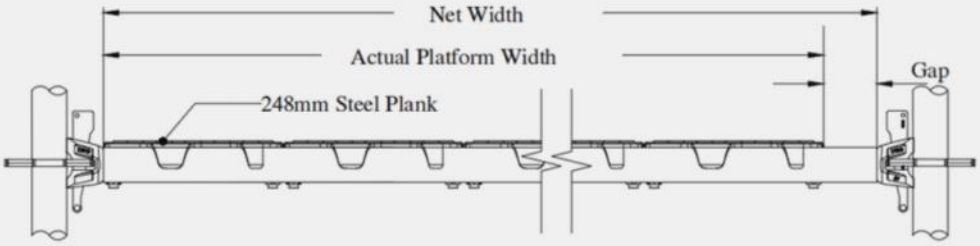
The corner position in a scaffolding or structural context plays a crucial role in maintaining stability and functionality, especially in complex layouts or confined spaces. When referring to a "Corner Deck Adaptor" and "Corner Deck," these components are specifically designed to facilitate the seamless integration of working platforms at corners where standard components might not fit appropriately. Corner Deck Adaptor: This is a specialized connector or adapter piece designed to interface between the main framework of the scaffolding and the corner deck. It typically features a configuration that allows it to attach securely to the vertical and horizontal members (standards and ledgers) at a 90° angle, effectively transferring the load from the corner platform to the rest of the structure. The adapter often includes adjustment capabilities to accommodate variations in frame dimensions or to ensure a level working surface despite any angular irregularities in the structure. Corner Deck: The corner deck itself is a specially shaped platform board or decking panel designed to fit snugly into the corner formed by the adaptation of two perpendicular scaffold bays. It is usually slightly smaller or uniquely contoured to fit around the corner adaptor, providing a continuous and stable working surface at the corner junction. Made from materials like plywood, aluminum, or composite materials, corner decks are selected for their durability, slip resistance, and ability to withstand the expected loads on the working platform. Together the corner deck adaptor and corner deck enable workers to safely and efficiently utilize every part of the workspace, even in the trickiest corner areas, ensuring that the entire structure is utilized to its fullest potential.



The Corner position is connected to the frame body and the working surface through Corner Deck Adaptor and Corner Deck.

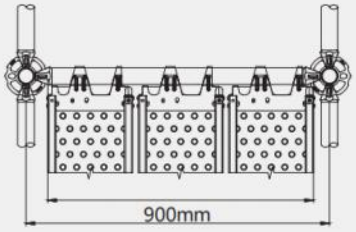
07 Design with Series Steel Planks

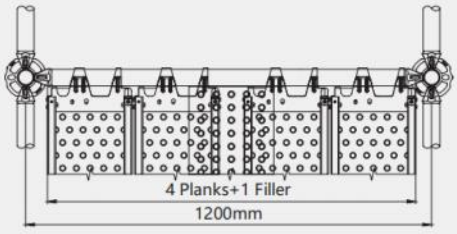
Assembly Details

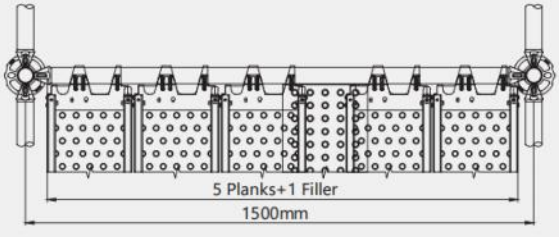


Gap indicates the difference between net width and actual platform width. Fill the gap through the steel Walkboard filler.

Horizontal Ledger		
Part No.	Effective Length	Assembly Details
M60HL09	0.9m	3 Planks
M60HL12	1.2m	4 Planks+1 Filler
M60HL15	1.5m	5 Planks+1 Filler







04 Application Instruction

Gap indicates the difference between net width and actual platform width. When installing Walkboards, it is essential to ensure that the gap is centered within the platform. To address this, utilize a steel Walkboard filler to bridge the gap, and implement reinforcement measures to securely attach the filler to the already fixed components.

1. Identify and Measure: Accurately determine the location and dimensions of any gaps present on the platform. Precise measurement is critical for even and secure placement of the filler material.

2. Central Alignment: Position the Walkboard so that it is centered over the gap, ensuring equal distribution of load and preventing any tilting or instability.

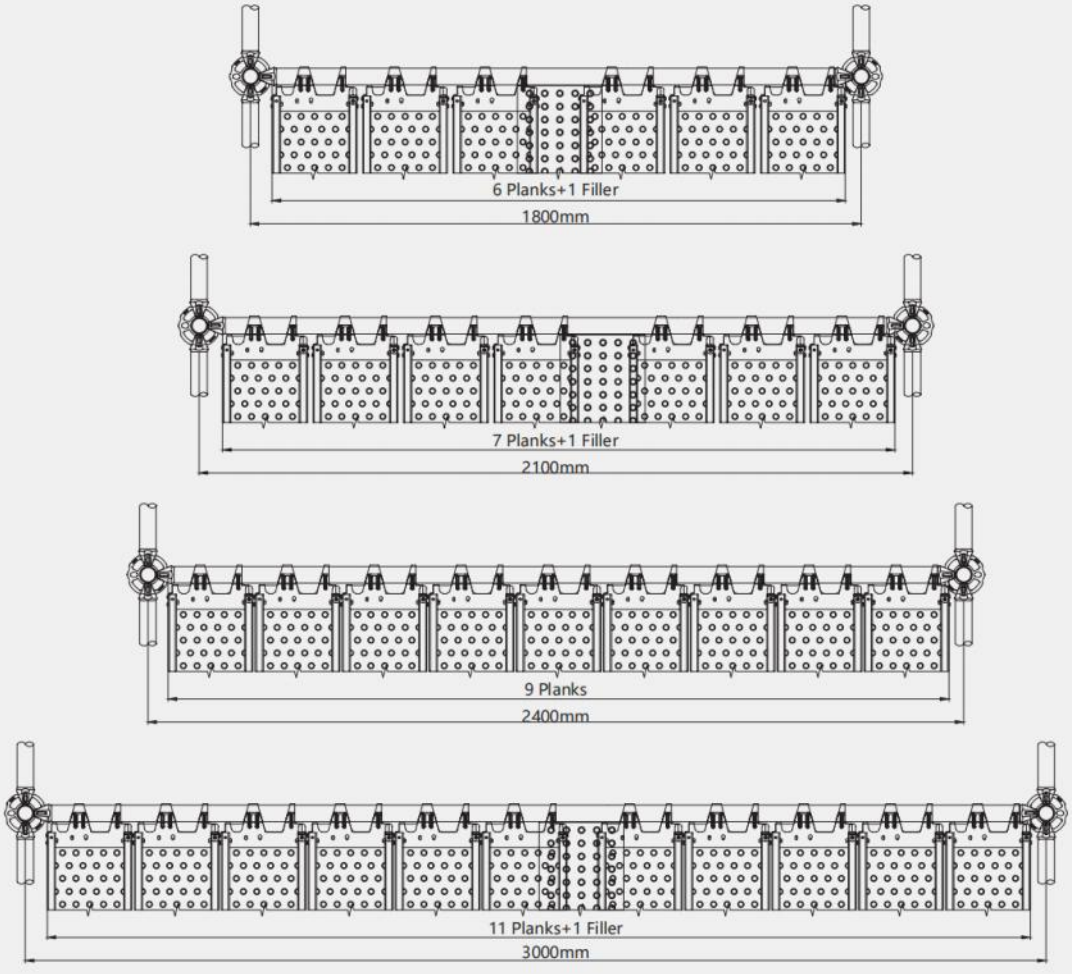
3. Use Steel Filler: Select and install a suitable steel Walkboard filler to close the gap. These fillers are specifically designed to integrate seamlessly with the walkway planks and the platform structure, enhancing overall stability.

4. Secure Reinforcement: Once the filler is in place, reinforce its attachment to both the existing platform structure and the Walkboard. This may involve using screws, pins, or specific fasteners to create a firm connection. It's imperative to follow the manufacturer's recommended torque or tightening specifications for all connections to achieve optimal security.

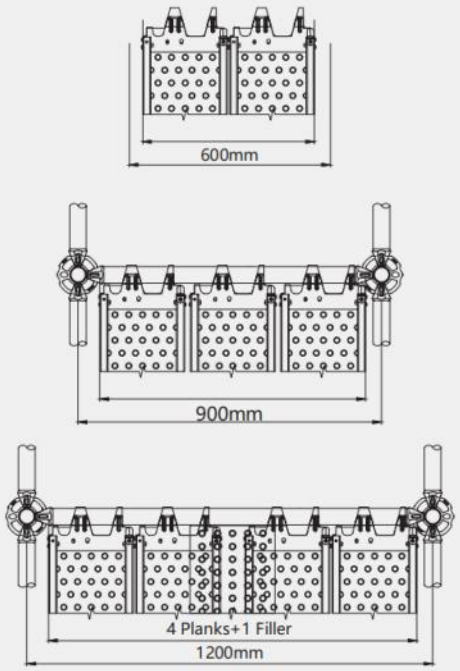
5. Safety Inspection: After filling and reinforcing, conduct a thorough safety check of the Walkboard and its connections. Verify that there is no looseness, wobbling, or any unsecured parts. Pay particular attention to the junction between the filler and the Walkboard, ensuring steadfastness.

By following these steps, the platform gap issue can be efficiently and safely managed, providing workers with a stable and secure working environment

Double Ledger		
Part No.	Effective Length	Assembly Details
M48DL18	1.8m	6 Planks+1 Filler
M48DL21	2.1m	7 Planks+1 Filler
M48DL24	2.4m	9 Planks
M48DL30	3.0m	11 Planks+1 Filler



Side Bracket		
Part No.	Effective Length	Assembly Details
M48SB06	0.6m	2 Planks
M48SB09	0.9m	3 Planks
M48SB12	1.2m	4 Planks+1 Filler



Truss Beam		
Part No.	Effective Length	Assembly Details
TRB42	4.0m	15 Planks
TRB52	5.0m	19 Planks
TRB62	6.0m	23 Planks

Loading

Safe loading of Horizontal Ledgers & Steel Planks

Load Class		Ledger Length			
		0.6m	0.9m	1.2m	1.5m
Plank Length	0.6m	LC6	LC6	LC6	LC6
	0.9m	LC6	LC6	LC6	LC5
	1.2m	LC6	LC6	LC5	LC4
	1.5m	LC6	LC6	LC5	LC4
	1.8m	LC6	LC6	LC4	LC3
	2.1m	LC6	LC5	LC4	LC2
	2.4m	LC5	LC5	LC4	LC2
	3.0m	LC3	LC3	LC3	LC2

Safe loading of Double Ledger & Steel Plank

Load Class		Double Ledger Length			
		1.8m	2.1m	2.4m	3.0m
Plank Length	0.6m	LC6	LC6	LC6	LC6
	0.9m	LC6	LC6	LC6	LC5
	1.2m	LC6	LC6	LC6	LC4
	1.5m	LC6	LC6	LC6	LC3
	1.8m	LC6	LC6	LC5	LC3
	2.1m	LC6	LC5	LC5	LC2
	2.4m	LC5	LC5	LC4	LC2
	3.0m	LC3	LC3	LC3	LC2

Safe loading of Truss Beam & Steel Planks

Load Class		Truss Beam Length		
		4.2m	5.2m	6.2m
Plank Length	0.6m	LC6	LC6	LC6
	0.9m	LC6	LC6	LC5
	1.2m	LC6	LC5	LC5
	1.5m	LC6	LC5	LC4
	1.8m	LC6	LC4	LC4
	2.1m	LC5	LC4	LC3
	2.4m	LC5	LC4	LC3
	3.0m	LC3	LC3	LC2

Safe loading of Cantilever Assembly Components & Steel Plank

Load Class		Side Bracket Length		
		0.6m	0.9m	1.2m
Plank Length	0.6m	LC6	LC6	LC6
	0.9m	LC6	LC6	LC6
	1.2m	LC5	LC5	LC5
	1.5m	LC5	LC5	LC5
	1.8m	LC4	LC4	LC4
	2.1m	LC4	LC4	LC4
	2.4m	LC4	LC4	LC4
	3.0m	LC3	LC3	LC3

Safe loading of Cantilever Assembly Components & Steel Plank

Load Class		Cantilevered Length(Single Bay Brace)			
		1.2m	1.5m	1.8m	2.1m
Plank Length	0.6m	LC5	LC5	LC5	LC5
	0.9m	LC4	LC4	LC4	LC4
	1.2m	LC3	LC3	LC3	LC3
	1.5m	LC3	LC3	LC3	LC3
	1.8m	LC2	LC2	LC2	LC2
	2.1m	LC2	LC2	LC2	LC2
	2.4m	LC2	LC2	LC2	LC2
	3.0m	LC2	LC1	LC1	LC1

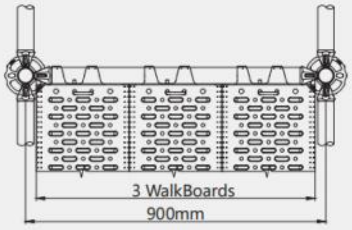
Load Class		Cantilevered Length(Double Bay Brace)			
		1.2m	1.5m	1.8m	2.1m
Plank Length	0.6m	LC6	LC6	LC6	LC5
	0.9m	LC6	LC5	LC5	LC4
	1.2m	LC5	LC4	LC4	LC4
	1.5m	LC5	LC4	LC3	LC3
	1.8m	LC4	LC3	LC3	LC2
	2.1m	LC4	LC3	LC2	LC2
	2.4m	LC3	LC2	LC2	LC2
	3.0m	LC3	LC2	LC2	LC2

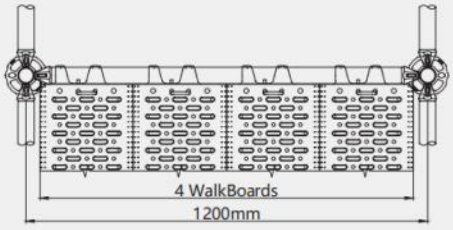
"Load Class" in table is form
Load class 1: max. 0.75 kN/m^2
Load class 2: max. 1.50 kN/m^2
Load class 3: max. 2.00 kN/m^2
Load class 4: max. 3.00 kN/m^2
Load class 5: max. 4.50 kN/m^2
Load class 6: max. 6.00 kN/m^2

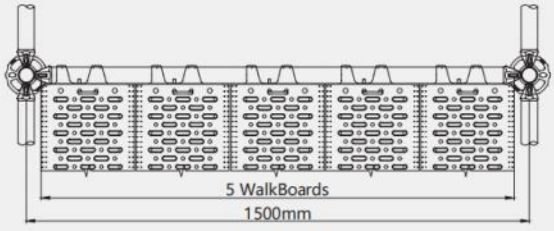
08 Design with Series Steel WalkBoard

Assembly Details

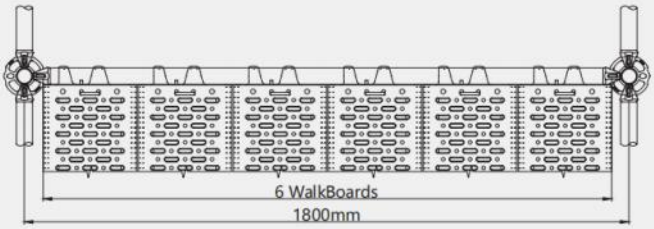
Horizontal Ledger		
Part No.	Effective Length	Assembly Details
M60HL09	0.9m	3 WalkBoards
M60HL12	1.2m	4 WalkBoards
M60HL15	1.5m	5 WalkBoards

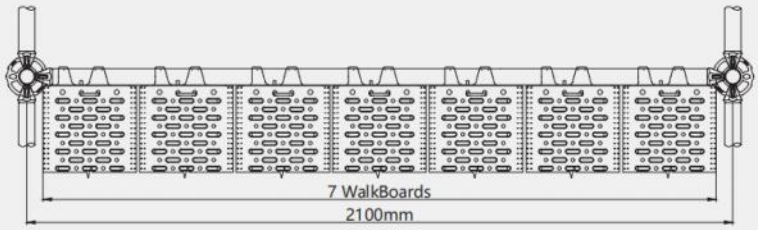


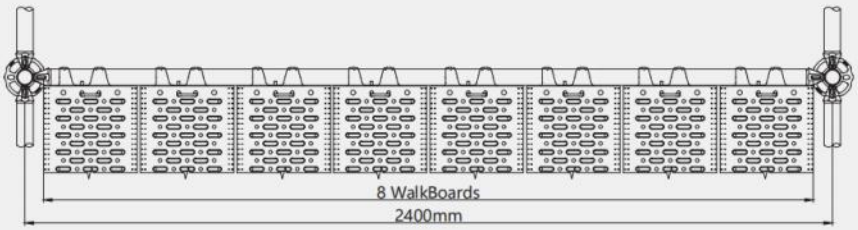


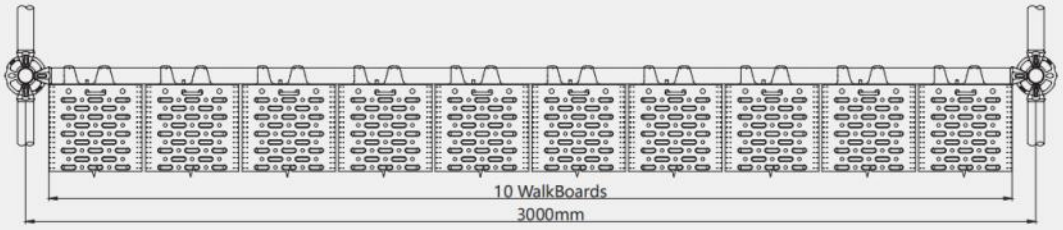


Double Ledger		
Part No.	Effective Length	Assembly Details
M48DL18	1.8m	6 WalkBoards
M48DL21	2.1m	7 WalkBoards
M48DL24	2.4m	8 WalkBoards
M48DL30	3.0m	10 WalkBoards

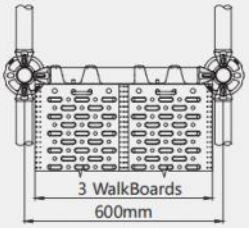


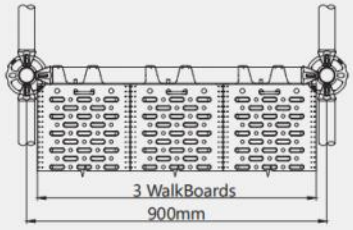


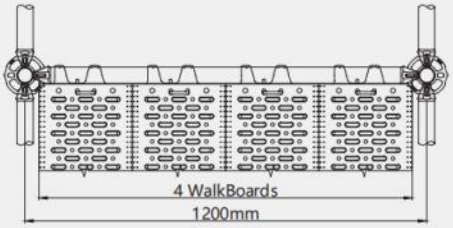




Side Bracket		
Part No.	Effective Length	Assembly Details
M48SB06	0.6m	2 WalkBoards
M48SB09	0.9m	3 Walkboards
M48SB12	1.2m	4 Walkboards







Truss Beam		
Part No.	Effective Length	Assembly Details
TRB42	4.0m	14 WalkBoards
TRB52	5.0m	17 WalkBoards
TRB62	6.0m	21 WalkBoards

Loading

Safe Loading of Horizontal Ledgers & Steel WalkBoard

Load Class		Ledger Length			
		0.6m	0.9m	1.2m	1.5m
Walkboard Length	0.6m	LC6	LC6	LC6	LC6
	0.9m	LC6	LC6	LC6	LC5
	1.2m	LC6	LC6	LC5	LC4
	1.5m	LC6	LC6	LC5	LC4
	1.8m	LC6	LC6	LC4	LC3
	2.1m	LC6	LC5	LC4	LC2
	2.4m	LC5	LC5	LC4	LC2
	3.0m	LC4	LC4	LC3	LC2

Safe Loading of Double Ledger & Steel Walkboard

Load Class		Double Ledger Length			
		1.8m	2.1m	2.4m	3.0m
Walkboard Length	0.6m	LC6	LC6	LC6	LC6
	0.9m	LC6	LC6	LC6	LC5
	1.2m	LC6	LC6	LC6	LC4
	1.5m	LC6	LC6	LC6	LC3
	1.8m	LC6	LC6	LC5	LC3
	2.1m	LC6	LC5	LC5	LC2
	2.4m	LC5	LC5	LC4	LC2
	3.0m	LC4	LC4	LC4	LC2

Safe Loading of Truss Beam & Steel WalkBoard

Load Class		Truss Beam Length		
		4.2m	5.2m	6.2m
Walkboard Length	0.6m	LC6	LC6	LC6
	0.9m	LC6	LC6	LC5
	1.2m	LC6	LC5	LC5
	1.5m	LC6	LC5	LC4
	1.8m	LC6	LC4	LC4
	2.1m	LC5	LC4	LC3
	2.4m	LC5	LC4	LC3
	3.0m	LC4	LC3	LC2

Safe Loading of Side Bracket & Steel WalkBoard

Load Class		Side Bracket Length		
		0.6m	0.9m	1.2m
Walkboard Length	0.6m	LC6	LC6	LC6
	0.9m	LC6	LC6	LC6
	1.2m	LC5	LC5	LC5
	1.5m	LC5	LC5	LC5
	1.8m	LC4	LC4	LC4
	2.1m	LC4	LC4	LC4
	2.4m	LC4	LC4	LC4
	3.0m	LC3	LC3	LC3

Safe Loading of Cantilever Assembly Components & Steel Walkboard

Load Class		Cantilevered Length(Single Bay Brace)			
		1.2m	1.5m	1.8m	2.1m
Walkboard Length	0.6m	LC5	LC5	LC5	LC5
	0.9m	LC4	LC4	LC4	LC4
	1.2m	LC3	LC3	LC3	LC3
	1.5m	LC3	LC2	LC2	LC2
	1.8m	LC2	LC2	LC2	LC2
	2.1m	LC2	LC2	LC2	LC2
	2.4m	LC2	LC2	LC2	LC2
	3.0m	LC2	LC1	LC1	LC1

Load Class		Cantilevered Length(Double Bay Brace)			
		1.2m	1.5m	1.8m	2.1m
Walkboard Length	0.6m	LC6	LC6	LC6	LC5
	0.9m	LC6	LC5	LC5	LC4
	1.2m	LC5	LC4	LC4	LC4
	1.5m	LC5	LC4	LC3	LC3
	1.8m	LC4	LC3	LC3	LC2
	2.1m	LC4	LC3	LC2	LC2
	2.4m	LC3	LC2	LC2	LC2
	3.0m	LC3	LC2	LC2	LC2

Load class 1: max. 0.75 kN/m^2
Load class 2: max. 1.50 kN/m^2
Load class 3: max. 2.00 kN/m^2
Load class 4: max. 3.00 kN/m^2
Load class 5: max. 4.50 kN/m^2
Load class 6: max. 6.00 kN/m^2

09 Load Class

This standard specifies the performance requirements and general design principles for scaffolding systems to ensure safety and appropriateness for various tasks. Here's a recap of the load classes with their corresponding maximum allowable loads in kilonewtons per square meter (kN/m²):

Load Class 1: This class is for lighter loads, with a maximum of 0.75 kN/m². It covers basic loads such as the self-weight of the scaffold and light duty usage.

Load Class 2: With a maximum of 1.5 kN/m², this class is suitable for additional variable loads during normal operations, including slightly heavier materials and equipment.

Load Class 3: At 2.0 kN/m² maximum, this class accommodates more substantial loads, including heavier stored materials or equipment on the scaffolding platform.

Load Class 4: This class allows for loads up to 3.0 kN/m², intended for situations involving concentrated loads or heavier working conditions.

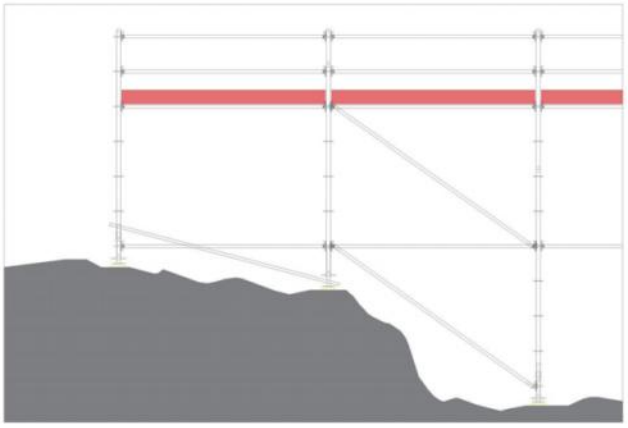
Load Class 5: Designed for exceptional loads, Load Class 5 has a maximum of 4.5 kN/m², covering scenarios where unusually high loads might be temporarily present.

Load Class 6: The highest load class, with a maximum of 6.0 kN/m², is reserved for extraordinary loads, such as those that might be encountered in specific heavy-duty applications or in unique circumstances.

10 Ground Adjustment

For uneven ground, it is recommended that the scaffolding assembly starts at the highest point of the assembly surface. The adjustment to ground irregularities and height differences in the ground is achieved using Adjustable Base Jacks.

Caution: The maximum loading of the Adjustable Base Jack must not be exceeded when adjusting it, and if necessary it must be stiffened with a tube connected to the Adjustable Base Jack by a wedged swivel Coupler with spindle insert.
Major height differences can be balanced out by additional vertical standards. Additional standards must be stiffened with diagonal bracing to the base point.



04 Application Instruction Use Of The Scaffolding/Dismantling The Scaffolding

13 Use Of The Scaffolding

1. After completion of the assembly the scaffold must be inspected and tagged by the scaffolding erector .
2. The scaffolding may only be entered via its accesses; climbing up the scaffolding is prohibited.
3. No heavy objects may be thrown onto scaffolding decks, which may only be subjected to the maximum loads listed for the specified load classes.
4. Jumping onto scaffolding decks is prohibited.
5. No ladders, boxes etc. may be used at the top scaffolding level to increase the working height.
6. When storing material or components on working platforms, minimum 20 cm of clear space must be maintained.
7. Only decks that are complete may be walked on.
8. Hatches in access decks must be closed when not in use.

12 Dismantling The Scaffolding

To dismantle scaffolding, the sequence of working steps described for assembly must be reversed. The stability of the scaffolding must be verified prior to dismantling. The following must be noted in addition:

1. The scaffolding contractor must ensure that all reasonably foreseeable hazards to health and safety associated with the dismantling are identified before and during dismantling of the scaffolding.
2. Any hazard identified must be assessed in terms of risk and must be controlled by the scaffolding contractor.
3. Anchoring must not be released until the scaffolding levels above it have been completely dismantled.
4. Components of which the connectors have been released must be removed immediately.
5. Removed scaffolding components must not be thrown off the scaffolding.
6. Scaffolding components must be stored properly.
7. Only decking surfaces that are complete may be walked on.
8. Scaffolding may only be entered via its accesses.
9. Climbing up the scaffolding is prohibited.

Scaffolding Operations

Please note that this guidance is offered to you as a minimum requirement for scaffolder' s to work safely. If you work on a site with more stringent Company procedures (i.e. continuous attachment policy, inertial reels, etc.) then this will take precedence.

1. It is recommended that Scaffolders wear safety harnesses and maintain 100% hook up all times when erecting dismantling or altering scaffolding. Working at height PPE should be worn as dictated by procedure and/or site requirements. Your fall arrest equipment should be thoroughly checked each shift before starting work. Report any suspected defects to your Company management.
2. Measures to prevent falls should always be considered before resorting to fall arrest equipment. Scaffolders should therefore install as a minimum, a single guardrail to each lift at all locations in accordance with SG4 (latest edition). Advanced guardrail systems, Scaffolders step or other propriety equipment may be employed to erect the edge protection.
3. Additional methods may be employed including safety nets, inertia reel blocks, and horizontal line systems. These should be considered when planning your job and if necessary be included in your Risk Assessment. Specialist training or guidance will be required to use this proprietary equipment.
4. Scaffolders must erect the full width of the platform by using the appropriate number of WalkBoard.
5. It is recommended the Scaffolder clips to a suitable anchorage point and remain attached at all times when at risk of a fall. This will include when:

- Working outside the protected area (i.e. decked platform and single guardrail).
- Climbing up or down the structure.
- Raising and lowering scaffolding components.
- Fixing/dismantling scaffolding components.
- Moving the working platform (e.g. when raising or lowering steel WalkBoard).

6. Ladders should be fitted as early as possible during erection and removed as late as possible during dismantling to eliminate the need to climb the scaffold structure. Refer to "Safety Guideline—Use of Ladders".
7. A suitable rescue procedure should be considered to be put in place to urgently retrieve an individual in the event of an arrested fall. This should be part of your Risk Assessment and understood by all involved before starting any job.
8. The erection of Finelock system scaffolding is a skilled task and must only be carried out by trained personnel. By the very nature of the work, the hazards are severe and accidents frequently result in serious injuries or fatalities.
9. Before commencing work, check that all necessary clearances or permits have been obtained and always check the Risk Assessment and sign to signify your understanding.
10. It is recommended that you check your scaffold tools each day before work, to ensure that all parts are in good condition, if you discover or suspect any defects, report them immediately to your Company management. Do not use faulty equipment.
11. Be aware, and make your workmates aware of any potential hazards near your place of work, i.e. noxious fumes, acids, electrical plant, overhead conductors, excessive heat, working machinery etc.
12. Obtain and use any required safety equipment, e.g. inertia reel blocks, running lines respirator, goggles, etc., and always wear a safety helmet, safety boots, overalls, gloves, eye protection and a safety harness.
13. Where there is a possibility of other persons passing through or near the work zone,ensure that suitable barriers or signs are erected to warn and exclude them from the danger area.
14. During scaffold erection, ensure that you and all other members of the scaffolding gang, do the following:
15. Use gin wheel and rope for raising and lowering scaffolding components, DO NOT throw scaffolding components up or down.

05 Finelock M48 Safety Guidelines

16. When at height ensure that at all times you take the necessary precautions to ensure a safe method of work and prevent a fall, (refer to item 2 above).
17. Erect advanced guardrails wherever possible and as soon as practicable.
18. Ensure that all members of the scaffolding gang have sufficient experience of erecting 'Advanced' or 'Special' structures. Do not take unnecessary risks.
19. Check all components are serviceable before use. Reject and report to your Company management any defective components.
20. Always ensure that the foundations or structure from which a scaffold is to be built are adequate:

- Use Adjustable Base Jacks and timber sole boards under every standard. On soft ground or where there is any likelihood of surface penetration ensure an adequate base is provided for each standard.
- If the scaffold is to be erected on a roof or over a basement or upper fl oor, check with the Client, that the foundation is suitable or if back propping or shoring is required.
- Inform your Company management if excavations are taking place in the immediate vicinity of the scaffold base.
- Ensure that the scaffold is erected with appropriate bay length and lift height to suit the specified loading. Safe Axial Loads are available for each possible lift height .
- Ensure that the scaffold is adequately tied to the building or structure in accordance with the tie patterns in this Technical Manual. During erection, fit ties progressively as soon as the specified height is reached. When dismantling each tie should be removed as late as possible and if necessary fit alternative means to maintain stability.
- Ensure that all guardrails and toeboards are fitted to all edges of platforms (including return ends) where a fall could occur, to comply with statutory regulations.

- Ensure that all incomplete structures are fitted with "DO NOT USE" or "SCAFFOLD INCOMPLETE" signs as soon as possible after erection and before dismantling has commenced.

- A system should be in place to communicate (such as a scaffolding tag procedure) whether the scaffold is safe for use, its duty rating/suitability i.e. access, general purpose or heavy duty.

- Ensure that all spare scaffolding components are safely and securely stowed or returned to a rack or compound. No scaffold is 'Complete' until this task has been performed.
- Before dismantling is commenced, check that all ties are in position and that the scaffold is safe to access.
- Ensure that during dismantling operations a safe method of work is maintained and that a sequence of operations is adopted to ensure that the scaffold is stable and secure at each stage.
- Do not overload the scaffold with stored scaffolding components or other materials, when dismantling or re-erecting.

Handling and Storage of Finelock Components

The following basic rules should be adhered to when manually handling the Finelock system and associated components.

1. Plan lay down/storage areas in advance to reduce the distance materials have to be manually handled. Ensure the area is clear of any tripping hazards
2. Only tackle loads that can be reasonably handled by the individuals involved – i.e. consider personal physical capabilities.
3. Manual handling operations should be eliminated where possible by using mechanical handling equipment and manual handling aids whenever possible. These include light-lines, gin wheel , forklifts and cranes etc.
4. Always use the correct kinetic handling technique:
5. Feet on a firm level base a comfortable distance apart. (Approx. 300mm) Use your legs and not your back to bend.
6. Raise your head slightly and tuck in your chin to keep your spine straight. Avoid twisting with the trunk of the body.
7. Always check the transit route before manual handling to ensure that it is suitable and free from obstructions.
8. When handling long materials beware of damage to property, overhead electric lines, other people and moving vehicles.
9. Use the correct knots and hitches if using rope to lift equipment (refer to "Gin Wheels and Ropes").
10. Wear the appropriate type of gloves to protect your hands, whenever necessary. Take extra care when handing sharp-edged metal components.
11. Always pass scaffolding components by hand, or use a Gin Wheel and rope. Never bomb, throw or allow scaffolding components to fall.
12. Do not carry scaffold components up or down a ladder.
13. Ensure all your Finelock components and equipment are neatly stored in scaffolding storage rack. Stack neatly to no more than five lifts high (local site/ regional rules and regulations apply)
14. Ensure scaffolding storage rack are loaded to the approved Safe Working Load and not overloaded.
15. Scaffolding storage racks should be fork lifted or craned onto a flatbed truck for transport. Individual or loose items should be stacked into scaffolding storage racks and wrapped/ strapped prior to loading and transport
16. Where possible store all equipment in a dry and secure environment.
17. Visually inspect all scaffolding after use and arrival back into storage area. Refer to Technical Information and Maintenance Manual for inspection and quarantine of components.
18. Inspect scaffolding equipment at regular intervals not greater than 30 days to inspect for general wear and tear. All scaffold components should be checked prior to erection and use.
19. If stored in an outdoor environment be careful to ensure ground stability when stacking and moving Finelock scaffolding components.

05 Finelock M48 Safety Guidelines

Use Of Ladders

Accidents involving ladders frequently occur within our industry and account for many
serious injuries. Because the ladder is regarded as one of the most basic forms of
access, the dangers are not always anticipated.

1. Inspect ladders each time before they are used and report defects to your management. Ensure they are straight with no obvious defects. Do not use defective ladders.
2. Set ladders on a firm and level base. Ensure, before climbing, that they are securely tied at the top and footed such that it cannot slip outwards or sideways. Ladder access points should be without obstructions, so that no one has to climb over a toeboard or under a guardrail.
3. Wherever possible use the "one in four rule" i.e. the ladder should slope one metre out at the base for every four metres of height.
4. Ensure that the ladder is long enough, i.e. it must project at least 1.0m (usually 5 rungs) above the landing place.
5. Ensure that the Ladder is fastened to Finelock with an appropriate Ladder attachment coupler or 18mm polypropylene rope.
6. Work safely from ladders at all times. Use both hands to climb and do not overreach when working from a ladder, you must maintain 3 points of contact at all times.
7. Use a safety harness and lanyard connected to a suitable independent anchorage point, if you need to have your hands free for working.

Gin Wheels and Ropes

There are special instructions for dealing with Gin Wheels and ropes. Make sure you are familiar with the instructions provided by your Company before starting work.

1. Gin wheels and ropes used to lift and lower scaffolding components have to be properly examined and these records should be kept for future use. Gin Wheel registers, instructions for use and inspection and rope quality should be kept with the Gin wheel. Ensure the Safe Working Load is stamped to the Gin Wheel frame. Any rope and wheel MUST have current certification of inspection to ensure they are fi t for purpose.
2. Remember the MAXIMUM recommended loading on a rope and wheel should be restricted to 25kg for a one man lift, but should definitely not exceed the Safe Working Load of a Fittings Bag. Loads to be lifted should wherever possible be broken down into manageable weights which can be easily handled by one person.
3. Finelock system Davit arms should be used where necessary. Gin Wheel rings must be connected to the Davit arm with a 'D' shackle with a minimum Safe Working Load of 30kN minimum.
4. Ropes used on Gin Wheels must be of the correct size (usually 18mm diameter polypropylene rope).
5. All loads must be properly secured using the correct knots, lifting containers, bags or nets. Test by raising the load slightly from the ground or platform and make certain that it is secure before raising or lowering further.
6. Erect signs to indicate that hoisting activities are taking place around the safe area. Before any lifting or lowering operations commence, the work area MUST be cordoned off to prevent the access of unauthorized personnel.

7. ALWAYS keep yourself clear when hoisting scaffolding components. Never stand directly under the load.

8. Faults to look for in a Gin Wheel

- No certification
- No Safe Working Load stamped on the wheel
- Split pin missing
- Dents in the main body which will prevent smooth operation of the rope
- Only ring type gin wheels are permitted

9. Faults to look for in a Rope

- No certification
- Rope is sleeved with an identification tag at each end.
- At least one of these tags is an original identification label.
- Abrasions, flaws, wear, thinning or rotting.
- Usually only 18mm polypropylene rope is permitted.

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鼎维固
Wenma

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Headquarter
Wenma Forming and Shoring Co., Ltd.
E2-16, Binhai International Business Park
199 Haiyuan Road, Binhai New Area,
Tianjin 300451, P.R. of China
+86-22-25646163
info@iwenma.cn
www.iwenma.cn

Wenma Scaffolding Solutions Co., Ltd.
E2-16, Binhai International Business Park,
199 Haiyuan Road, Binhai New Area, Tianjin
300451, P.R. of China
+86-22-25646163
info@iwenma.com
www.iwenma.com

Hong Kong
Wenma Scaffolding Solutions Hong Kong Limited
Room 06, 13A/F., South Tower, World Finance Centre,
Harbor City, 17 Canton Road, Tsim Sha Tsui, Kowloon,
Hong Kong
info@iwenma.com
www.iwenma.com

Hong Kong
Wenma Forming & Scaffolding (H.K.) Limited
Room 1027, 10/F, Tower A , Southmark,
11 Yip Hing Street, Wong Chuk Hang, Hong Kong
+852-2856-1234
+852-9199-9158
info@iwenma.com
www.iwenma.com

Qatar
Wenma Scaffolding Solutions and Services W.L.L.
Regus, Doha Bank Street, Office 201,
Blue Tower, Sword Signal, Bank Street
PO Box 55918, Doha, Qatar
info@iwenma.com www.iwenma.com

Saudi Arabia
Wenma Scaffolding Co., Ltd.
Building 4294, Al khalij Rd, 7943 Az Zhuhur Dist.,
32423 Office 12 Dammam city , Saudi Arabia
info@iwenma.com www.iwenma.com

Malaysia
Wenma Scaffolding Solutions And Services (M) SDN BHD
A-23-12,The MET Corporate Towers, 20 Jalan
Dutamas 250480 Kuala Lumpur, Malaysia
info@iwenma.com www.iwenma.com