



易之力



安装使用指南

460/500系列铝合金脚手架

易之力机械设备有限公司

铝合金塔架安装使用指南

Aluminium Tower Assembly and Use Instruction

本手册为用户提供铝塔架的安装方法，在搭架和使用前用户必须详细阅读本手册的内容，如将铝塔架交给第三方使用，必须复制一份本手册附送，以保证用户熟知并安全使用。如果需要更加详细的信息或者安装使用指南有不清楚的地方，请联系厂家（见1.3）。

同时还要指出，本手册的教学内容和使用不是先前的协议，承诺或具有法律约束力的关系的一部分。产生的所有义务的有关销售合同，其中还包含了保证完整和唯一有效的条件（也请参见第1.5节）。

本安装使用指南不具有法律效力和合同附件承诺。

This user guide provides you step by step instruction to ensure your system is assembled easily and safely. Please read this user guide carefully before assembly adjusting and using. Any person using this tower should have a copy of this guide. If you need further information or, in the case of special requirements not adequately described in this assembly and use Instruction, please contact the manufacturer (see Section 1.3).

We also would like to point out that the content of this assembly and use instruction are not part of an earlier agreement, promise or a legally binding relation. All obligations arise from the pertinent sales contract, which also contains the complete and only valid conditions of warranty (also see Section 1.5).

These contractual warranty conditions are neither expanded nor restricted by this assembly and use instructions.

目 录

Content

| Table of contents | Page |
|---|------|
| 1 概述 General | 4 |
| 1.1 产品概述 Description | 4 |
| 1.2 使用说明 Introduction..... | 4 |
| 1.3 认证 Certification..... | 4 |
| 1.4 保证 Warranty | 5 |
| 2 安全条款 Safety rules..... | 5 |
| 2.1 安全须知 Safety notes | 5 |
| 2.2 特殊安全条款 Special safety rules..... | 8 |
| 2.3 移动安全 Movement safety | 9 |
| 2.4 铝合金塔架使用中注意风力因素的影响 Attention to the wind effect | 10 |
| 2.5 维护 Maintenance | 11 |
| 3 产品技术性能 Technical data..... | 12 |
| 3.1 技术性能及技术参数 Technical data | 12 |
| 4 移动型铝合金塔架安装使用指南 Aluminium tower assembly instructions..... | 13 |
| 5 移动型铝合金塔架搭架图 Aluminium tower assemble photos..... | 14 |

1. 概述 General

1.1 产品概述 Description

铝合金塔架是一种组合型的移动式新型铝合金脚手架，广泛使用在各种建筑工程中室内、外的施工、装修及各种高空作业；其结构特点是：多样灵活组合，安装简便快捷，产品移动方便，性能安全可靠。铝合金塔架是在建筑和装修领域中的一种新型脚手架系统，其多样灵活的组合模式，能更容易满足工程的施工作业要求。

Aluminum mobile towers are light-weight scaffold towers. It can be used in building and construction industry for both indoor and outdoor use and is a solution where a stable and secure platform is required. Furthermore it is ideal for maintenance and installation work or short-term access and the highly versatile tower provide a strong working platform for a variety of heights.

1.2 使用说明 Introduction

指南上相关的安全指示适用于本文件是移动塔架，使用者必须做到如下几点：

- (1) 确保遵守本地、区域和国家的相关规定。
- (2) 遵守本指南中的安全操作规定。
- (3) 确保个人在使用过程中有该指南，同时要遵守各方面的内容。

The safety notes, rules and regulations in this assembly and use instruction related to the operation of standard mobile scaffold towers apply to the mobile scaffold towers in this documentation. It is the responsibility of the operator to:

- (1) Ensure that local, regional and national regulations are observed,
- (2) Observe the rules (legislation , regulations , guidelines, etc .) in this assembly and use instruction for safe handling,
- (3) Ensure that the assembly and use instruction is made available to personnel and that the information, notes, precautions and safety rules are observed in all aspects.

1.3 生产厂家 Manufacturer

如下是生产厂家的联系信息：

广州市易之力机械设备有限公司 / 深圳市易之力机械设备有限公司

电话：13926401302 张生 电话：13678945945 尹生

邮箱：15889944004@126.com 邮箱：hna@vip.163.com

地址：广州市花都区炭步镇兴华路2号/深圳市宝安区新安街道新湖路华美居A区

Guangzhou huadu district carbon step town baoan district shenzhen city xinghua road no. 2 /
the xin street beauty in area A new road

Tel: +86 13926401302 Email: 15889944004@126.com

1.4 认证 Certification

带有以下标记的移动塔架表明已被测试通过，并获得SGS认证。

The standard mobile scaffold towers (EASIER Aluminium Mobile Scaffold System Type: A460/A500) have been tested and certified by SGS Rheinland



1.5 保证 Warranty

产品质量保证范围和期限在厂家相对应的销售和出货中标明。

若产品在下述情况中被破坏的，不能提供质量保证：

- (1) 没有按照使用指南操作。
- (2) 工作人员不够资格。
- (3) 用了其他配件或者不合格配件替换。

使用者必须注意：

- (1) 要遵守使用的安全条款。
- (2) 确认塔架是否通过测试认证，安装和使用是否符合要求。
- (3) 遵守合乎合同的操作指示。

The scope and period of warranty are stated in the sales and delivery conditions of the manufacturer.

The following applies beyond the scope of the sales and warranty conditions. No warranty shall be given for damage to the delivered standard mobile scaffold towers which may be due to one or more of the following reasons:

- Ignorance or non observance of this assembly and use instruction.
- Unqualified operating personnel.
- use of non-original replacement parts.

The operator/owner must ensure that

- the safety rules in Section 2 are observed,
- any applications for which the scaffold tower was not approved as well as an incorrect assembly and unauthorized use are excluded, and
- that an approved utilization is ensured and the standard mobile scaffold towers are used in accordance with the contractually agreed operating instructions.

2. 安全条款 Safety rules

2.1 安全须知 : safety notes

- (1) 铝合金塔架的安装至少有2名技术人员现场搭建，并确保使用正确的安装方法。

The aluminium tower should be erected by at least 2 competent persons and ensure that the correct erection procedure is used.

- (2) 检验搭建塔架的地面是否能承载塔架所需的最大承载力。

Check if the ground on which the mobile access tower is to be assembled and moved is level, even and capable for supporting the tower.

- (3) 搭建塔架之前检查所有零部件，确保所有零部件都合格；塔架安装完后要用水平仪测试塔架是否垂直，方可使用。

Check if you have the correct equipment and if it is in working condition before you assemble the tower. After assembly, use a spirit level to check whether the tower is upright or not.

- (4) 每块踏板的最大承载力为272kg。每块工作平台最大承载力为200公斤每平方米。平台最大水平横向力为300牛顿。

The maximum working load is 272 kg per platform unit. The maximum capacity of the working platform for an evenly distributed load is 2.0 kN / m² (according to EN 1004 : 2004 – Load class 3). The maximum horizontal force at platform is 300N.

- (5) 增加高度的踏板平台在没有装配好铝架(或护栏)的情况下不得使用；搭建或拆除塔架过程中，任何临时踏板的使用都应被看作是工作平台，并带有高于平台0.5m或1m的护栏。

Never work on, build or dismantle the tower from an unguarded platform. During erection or dismantling, every use of temporary platform should be considered as a working platform which must be consist of guardrails 0.5m or 1m above.

- (6) 塔架拆除顺序与搭建顺序相反。

The dismantling sequence is the reverse order of the erection process.

- (7) 铝塔架搭建前需有厂家专业技术人员进行现场测量出具设计图纸并进行受力分析计算，达到安全要求后方可进行现场搭建，如超过相关规定需咨询专家，采取相应的防护措施。

Aluminum tower before build, need to have factory professional and technical personnel on - site measurement issue the design drawings and stress analysis calculation, to reach safety requirements, Such as beyond rules should be consulting experts, take the corresponding protective measures.

(8)锁好脚轮,仅在移动塔架时才开锁。

Lock all castors by pushing down the brake levers. The brake levers may only be released for moving the mobile scaffold tower.

(9)在安装,拆卸,移动和安全工作期间,确保不存在任何障碍!在架设,拆卸,移动和安全工作期间,提防风况!

Make sure there is no any obstruction during erection, dismantling, moving and safe working!
Beware of wind conditions during erection, dismantling, moving and safe working!

(10)所有塔架使用时要有边保护物,如踢脚板、围栏等。

All mobile scaffold towers only are used with complete side protection, i.e. toe boards, principal guardrail and intermediate side protection.

(11)塔架在室外使用时,风速若超过6级,将塔架移进掩蔽处或增加固定(如加锚)防止倾倒。

When using the mobile scaffold tower outside or in open buildings at a wind force over 6 (on the Beaufort scale), move it to an area sheltered from the wind or secure it against tipping over with other suitable means (e.g. anchors).

(12)不要将自己靠在侧边护栏上。

Do not lean yourself against the side guards when working.

(13)不要在平台踏板上跳动。

Do not jump on the platform.

(14)不要产生水平拉力,例如在靠近建筑物工作时,塔架顶部产生水平力而倾倒。

Do not create horizontal loads, for example, by working on close constructions, which could cause the mobile scaffold tower to tilt over.

(15)在中空、未封顶或边角的建筑物上使用塔架时,注意考虑风力的影响。

When using the mobile scaffold tower in through-buildings, on uncovered buildings or on the corners of buildings, pay particular attention to the wind conditions to prevent the mobile scaffold tower from tilting over.

(16)使用塔架之前要检查塔架的垂直度及因环境引起的安全变化,并修改完善(调节脚轮使整个塔架平衡垂直)。

Before using the mobile scaffold tower, check the perpendicularity of the scaffold tower, correcting it if necessary (adjust the caster). Furthermore, inspect the mobile scaffold tower for proper and complete assembly. Also check there are no environmental changes influencing the safety of the mobile scaffold tower.

(17) 注意周围环境的电力因素影响，如高压电等。

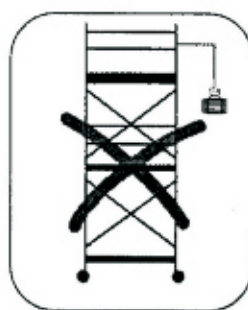
Identify any electrical risks in the work area, such as overhead lines or other exposed electrical equipment.

(18) 特别或者专用的塔架安装请联系供应商或咨询专家意见。

For special or unusual applications, contact your supplier for further technical data sheets and expert advice.

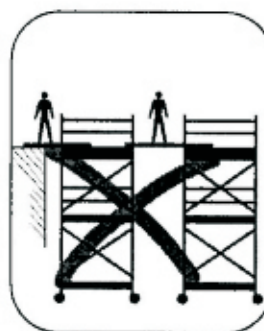
(19) 塔架上不能附有升降设备。

Do not attach hoists or similar devices to the mobile scaffold tower to lift loads.



(20) 工作人员只能从塔架中梯子的内侧上落，不得从塔架的外侧上落。

Always climb onto the tower from inside.

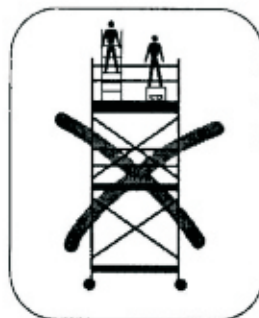


(21) 不要用踏板来连接塔架和建筑物，塔架不能作为楼梯来攀登其他建筑。

Do not connect mobile scaffold towers to buildings with planks, etc. The mobile scaffold tower can not be used as a staircase for ascending to other constructions.

(22) 不能用梯、盒或其他装备在塔架上作为升高工作平台；工具及材料等只能用手拿，不能从地面往塔架上抛，要考虑相应的重量对塔架的影响。

Do not use ladders, boxes or other devices to increase the height of the platform. Tools and materials may only be handed up. Always taking the weight of the tools and materials into consideration so as not to overload the working platform. Only release the load when the recipient of the load is secure in hands.



2.2 特殊安全条款 Special safety rules

a) 安装 Erection

- ◇ 工作人员在安装/拆卸塔架时一定要绑安全带。

Under no circumstances safety harnesses shall be attached to the towers during erecting or dismantling.

- ◇ 检查所有配件是否齐全、合格。

Check that all components are on site and that they work correctly.

- ◇ 检查地面情况是否能足够承受塔架安装使用。

Check that the ground on which the mobile access tower will be assembled and moved is fairly level, even and capable of supporting the tower

- ◇ 调节脚轮支架使塔架平衡。Adjustable legs should only be used for leveling.

b) 升降设备 Lifting equipment

- ◇ 塔部分应使用牢固可靠的提升材料（如绳），使用可靠的结，以确保安全紧固。

Tower components should be firmly secured by a reliable lifting material (e.g. rope), employing a reliable knot, to ensure safe fastening.

c) 提高和降低物件，工具和/或材料应利用绳在塔基内部进行。

- ◇ 确保支持踏板和塔结构的安全操作负荷不被超过。

Raising and lowering components, tools, and / or materials by rope should be conducted within the tower base. Ensure that the safe working load of the supporting decks and the tower structure is not exceeded.

d) 斜撑/负重 Stabilizers/ Ballast

- ◇ 斜撑始终安装在指定位置。

Stabilizers should always be fitted when specified.

- ◇ 负重用于稳定塔架，防止塔架倾覆。它必须是固体物质（即不是水或松散砂），而不应定位于重载个别腿。负重应设有防意外卸除，并支持以最低的底部框架梯级安装。

Ballast is used at the base to stabilize towers against overturning. It must be of solid materials (i.e. not water or loose sand) and should not be positioned to overload individual legs. Ballast should be secured against accidental removal where practicable and should be supported on the lowest rung of the bottom frame.

e) 时常留意并遵守当地的有关地方当局公布的规定。

Always observe and comply with the concerning local regulation published by the local authorities

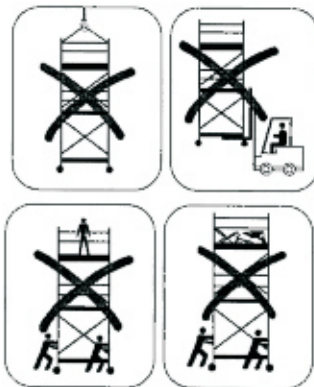
2.3 移动安全 Movement safety

- 1) 移动前先检查在移动的过程中，地面有无障碍物，如建筑屋顶结构、电缆电线等高空障碍物。

Before moving the tower, beware of soft or uneven ground, rains or pot holes and overhead obstructions, especially power cables. The ground shall be level, hard and generally level enough.

- 2) 塔架的移动只能依照程序人工移动，决不可以采用机械的方式移动，如拖车或铲车移动；塔架移动后马上制刹并检查塔架垂直稳定。

The tower should only be moved by manual effort! Do not move the mobile scaffold tower with vehicles (e.g. lift trucks). Do not lift, pull or push the mobile scaffold tower with a lift truck. Immediately after moving, brake all castors by pushing down the brake lever, then check whether the tower is upright and stable or not.



- 3) 移动塔架时不得有人或其他东西物体滞留在踏板上。

No personnel or material is allowed on the tower during movement.

- 4) 在高低不平的地面移动塔架时一定要小心，移动前要清除地面上高12mm的障碍物，且不能在有坡度的地面上移动、使用。

Caution should be exercised when moving a tower over rough, uneven or sloping ground, clear ground obstruction which is over 12mm above the ground

- 5) 移动时要注意保证塔架的稳定和安全，支撑三角斜撑要与地面保持 $12\text{mm} \leq H \leq 20\text{mm}$ 的距离，以起到扶持的作用。

Be aware of tower is stable and secure during movement. Stabilizers should keep the distance $12\text{mm} \leq H \leq 20\text{mm}$ to the ground to support the tower.

- 6) 移动塔架时脚轮不得制动，确保脚轮能转动自如。

Ensure the brakes are unapplied during movement in order that the caster can be rolling with no break.

- 7) 检查现场环境，以确保没有影响铝合金塔架移动的其他因素存在。

Inspect the circumstance, ensure there is no factor which will effect the movement of the tower.

- 8) 不能以行车速度移动塔架，只要慢慢移动。

Do not roll the tower at running speed. Just walk slowly.

- 9) 通过调整脚轮上的可调脚确保移动塔架的水平和垂直。

Level and plumb the mobile scaffold tower by adjusting the base jacks on the castors.

- 10) 请记住，塔架移动后，锁好所有的脚轮和加强外支撑与地面的接触。

Remember to lock all brakes and tighten the stabilizers against the ground after the tower is relocated.

- 11) 始终遵守及履行有关地方由地方当局公布的规定。

Always observe and comply with the concerning local regulation published by the local authorities

2.4 铝合金塔架使用中注意风力因素的影响

Attention to the wind effect

铝合金塔架在高空中使用，风的因素起到很大的作用，在适当的风力环境下，注意有保护的条件下进行安全工作，而风力较大时和没有有效的固定和稳定的保护条件下，风的因素成为铝塔架最危险的条件之一，必须考虑并关注风的因素：在风速>7.7m每秒时,停止塔架工作；如果风速达到11.3m每秒时，将塔架绑在建筑物上；如达到18m每秒时,需拆除塔架。

During use, wind takes a great part in effect. In suitable wind environment, the tower can be safely used under protection. When the tower is positioned in high wind and without any effective protection, wind is one of the most dangerous factor and should be aware of. We recommend to pause work on the tower in wind speeds over 7.7 metres per second (17m.p.h.). If the wind becomes a strong breeze, expected to reach 11.3metres per second (25 m.p.h.), tie the tower to a rigid structure. If the wind is likely to reach storm force, over 18 metres per second (40 m.p.h.), the tower should be dismantled.

| 蒲福风级度标 | | | | |
|--------|----|---------|----------------|----------|
| 风速描述 | 级数 | 每mph的速度 | 影响 | 保护措施 |
| 和风 | 4 | 21-29 | 风、树叶、纸可吹起 | 安全工作 |
| 微风 | 5 | 30-39 | 小树摆 | 停止工作 |
| 疾风 | 6 | 40-50 | 小树枝摇摆、电话线发出声音等 | 采取措施保护塔架 |
| 暴风 | 8 | 63-74 | 小树枝折断、难行 | 拆除塔架 |

| BEAUFORT WIND SCALE | | | | |
|---------------------|-------|--------------|---|--------------------------------|
| FORCE | GRADE | SPEED IN MPH | GENERAL EFFECT | PROTECTION |
| Moderate | 4 | 21-29 | Small branches move, Dust raised | Safety Working |
| Breeze | 5 | 30-39 | Small trees sway | Pause Working |
| Fresh Breeze | 6 | 40-50 | Large trees sway Walking becomes difficult | Taking action to protect tower |
| Moderate Storm | 8 | 63-74 | Branches broken | Dismantling Tower |

2.5 维护 Maintenance and Storage

所有零部件应当定期检查，以标识损坏，特别是焊接、丢失或者破裂的部件应当替换，而且任何缺口超过5mm的管件应当放到一边以进行生产维修；可调支撑腿螺纹应当清洁干净，并加润滑油以保持运作顺畅。部件必须存放在安全的地方，在存放期间，注意包装好部件以防受天气影响，最好是平放在地上。在工地使用完转移到存放的地方，必须检查是否会有松动，受外力影响而倾倒的可能性。在操作时，不能随手乱扔部件而造成损坏，必须轻拿轻放。

- (1) All components and their parts should be regularly inspected to identify damage.
- (2) Any damaged parts or components found shall be replaced.
- (3) Repair of scaffold material is only allowed after consultation with the manufacturer or supplier.
- (4) Lubricate all moving parts with a standard commercial oil.
- (5) The scaffold tower components must be stored in such a way that they are not damaged. During storage, the scaffold tower components must be protected against the effects of weather. Store them lying down if it is possible. During transport to or from the place of storage, the scaffold tower components must be secured against sliding, impacting and falling off. Do not throw scaffold tower components during handling.

3. 产品技术性能：Technical data

3.1 技术性能及技术参数 Technical data

- (1) 顶层的工作平台最大承载200Kg/m²。

The safe working load on the top platform is 2kN/m². (EN 1004 class 3)

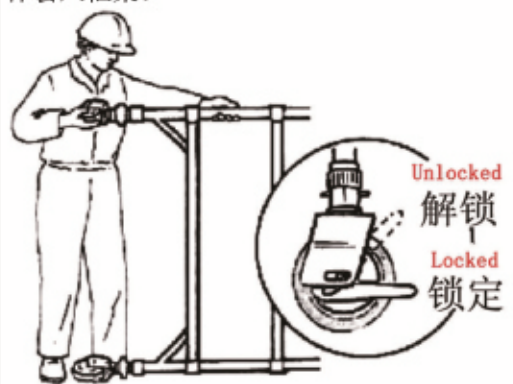
- (2) 高度的不同组合形式：室内标准架允许最高搭建高度在12米内，户外标准架最高搭建高度为8米内。设如是特殊设计请联系厂家或专业工程人员提供相关解决方案，以保证安全范围内使用。

Different kinds of combination of height: the maximum platform height for indoor use is 12 meter, for outdoor use it is 8 meter. If it is special requirement, please refer to manufacturer or qualify Engineer for professional solutions, which guarantee for safety usage.

4. 移动型铝合金塔架安装使用指南

Aluminium tower assembly instructions

1. 锁定脚轮后先将脚轮插入可调脚，然后整体套入框架。



After locked the caster, insert the caster into the adjustable leg, and then connect the overall set to the bottom of the frame. We recommended two persons to install together.

2. 将横杆水平固定在框架上，使框架能够站立，横杆两端扣锁的开口必须向外。



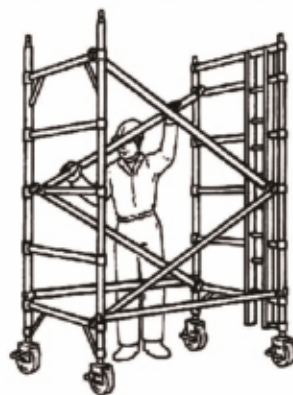
Fixed the cross bar on ladders horizontally, make ladders can stand automatically, the opening of lock at both ends of the cross bar must be outward.

3. 将另一根横杆如图所示连接到框架底部位置



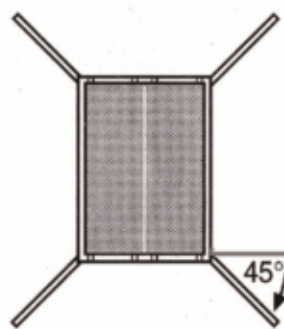
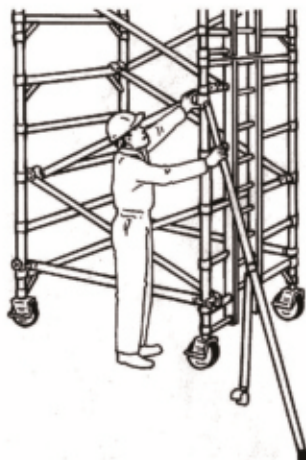
As shown in the figure, connect another cross bar to the bottom of the frame.

4. 将斜杆成“之”型交叉连接，同时用水平仪检查并调整好水平，使塔架保持垂直方正。



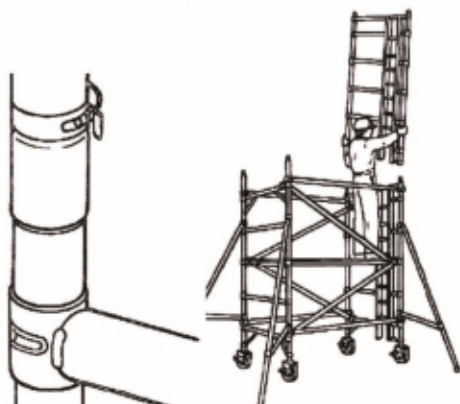
Clip diagonal braces in opposite directions as shown to form a zigzag pattern. Adjust legs to ensure tower is vertical and square and that horizontal braces are level, using a spirit level.

5. 在塔架的每个角上约45度安装外支撑，外支撑底部橡胶与地面接触，螺母锁定好后，左右摇摆支撑不会存在移动方才稳妥。



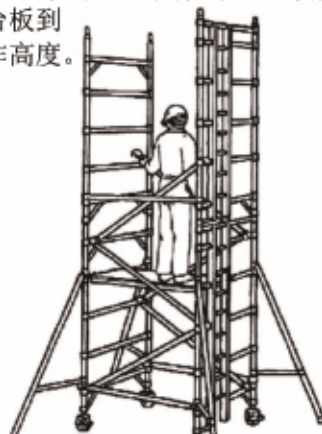
Install external support in each corner (around 45 degree) of the tower, make the bottom rubber of external support connected with ground. Locked all the nuts, vacillate the support to the left and right to ensure there is no move.

6. 临时放置工作平台，方便安装上一层框架，并对孔锁定弹簧销。



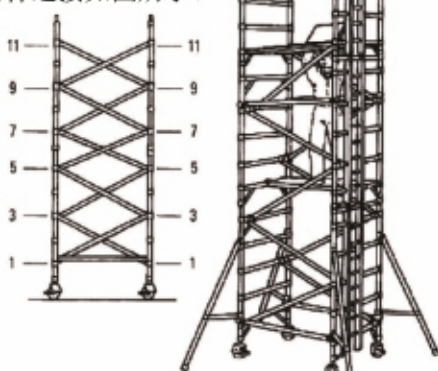
Place the temporary work platforms to install upper frame, after proper alignment of the holes and locked ladders' spring pin.

7. 参照3. 4. 6步骤安装上一层框架的连接横杆，斜杆，及平台板到所需要的工作高度。



Refer the step: No.3,4,6 instruction to install upper frames with horizontal brace/diagonal brace and platform to the certain height in need.

8. 当搭建到最高工作平台面时，开口平台板应放置在带梯框架的正上方，方便上落。斜杆连接如图所示。



After installation of top working platform, ensure the open platform be placed right above ladder frame to convenient up and down ladders. The diagonal brace should be connected as showed in figure.

9. 在最高工作平台面上安装护栏横杆。



Install guardrail on top of the working platform..

10. 最后放置踢脚板完成搭建。



Finally place the skirting board to complete the construction.



★★警告！：永远都不能在没有护栏的平台上工作或者搭建/拆除塔架；每次从开窗踏板爬上塔架后都要马上关好窗板。

★★Caution!: Working on platform without guard-rail is prohibited. Remember to always close trapdoor immediately after climbing through. 拆除 DISMANTLING

注意 移动脚手架塔的拆除是按照安装的相反顺序进行。

NOTE The dismantling of the mobile scaffold tower is in the reverse order of assembly.

5. 移动型铝合金搭架图 Aluminium Tower List

开口平台板 Trapdoor platform

横杆 Horizontal Brace

护栏 Guardrail

五级架 5 Rung Frame

斜杆 Diagonal Brace

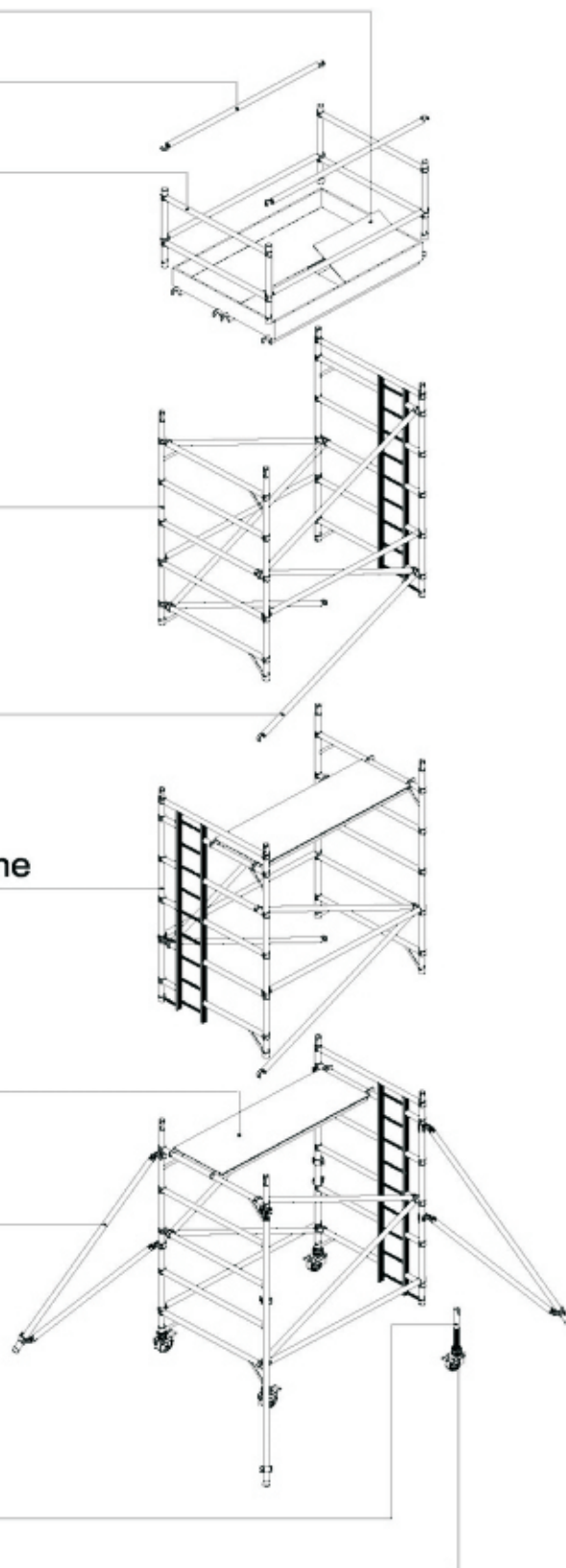
五级梯架 5 Rung Ladder Frame

平台板 Plain Platform

外支撑 Stabilizer

可调脚 Adjustable Leg

脚轮 Castor



**满足客户要求
是企业的唯一宗旨，
满足客户期望
是企业的永远追求。**

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