Assembly guide
Model 300 and 400.

More than 25 years of experience.
This manual provides the necessary instructions for the correct assembly and safe use of **ALUFASE Scaffolding Systems (300 and 400 models)**.

The difference between the models (300 and 400) is that for the 400 model it is necessary to supply each level with an access ladder, in order to ascend to the different levels of the scaffold by ladder through the platform trapdoors. This is because the distance between the rungs of the frame is 400 mm (1.3’), and the current regulations allow a maximum distance of 300 mm (1’) to use it as a ladder.

In model 300 users are allow to use frames as a ladder, always by inside of the scaffold. (UNE-HD-1004).

The company contracting the scaffolding has the responsibility to inform the workers who will use the scaffolding about the information contained in this **“Guide of Assembly and Use”**. They must also guarantee that all users who assemble or use the tower are trained according to current regulations.

This document is compliment with UNE 1298.
DEFINITION AND USE
Mobile towers are scaffolding structures assembled by components, which are able to be moved by hand over a flat surface. These towers are a safe solution for jobs such as cleaning, painting, covering, constructing, etc., if these operations do not need heavy quantities of materials to be on the platforms.

Maximum permitted loads.
- Maximum load by tower: **1,500 lb**
- Maximum load by level: **790 lb**
- Maximum load by platform: **550 lb**
- Load class 3: **42 psf**

Maximum permitted height.
<table>
<thead>
<tr>
<th>Type</th>
<th>Indoor placed systems</th>
<th>Outdoor placed systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single width Standard Outrigger</td>
<td>26'</td>
<td>20'</td>
</tr>
<tr>
<td>Single width Reinforced Outrigger</td>
<td>26'</td>
<td>26'</td>
</tr>
<tr>
<td>Double width Standard stabilizer</td>
<td>33'</td>
<td>26'</td>
</tr>
<tr>
<td>Double width Reinforced stabilizer</td>
<td>40'</td>
<td>26'</td>
</tr>
</tbody>
</table>

Attention.
*If more than the maximum permitted heights are required, please ask for technical assistance.*
When the scaffolds is placed in windy environments, such as outdoors or indoors with wind draughts, special precautions are required according to “Wind Forces”.

**Recommendations**

For forces higher than FORCE 4 Beauford (moderate breeze), **Do not use the scaffolding.**

For forces higher than FORCE 6 (strong breeze), **Tie the tower to a rigid structure.**

For forces higher than FORCE 8 (strong wind), **Dismantle the scaffolding or move it to a protected place.**

**Attention.**

- Always assemble the outriggers and the support arms in towers higher than 6’.
- Tie the towers to fixed structures when there is danger of instability or bad weather.
- Assemble guardrails and toe boards on all the work platforms.
Components

**Single width (2'5'')**
1. Locking Casters
2. Adjustable Legs
3. Diagonal Braces
4. Frames
5. Horizontal Braces
6. Platform w/ trapdoor

**Double width (4'5'')**
7. Guardrail frame
8. Guardrail Bracing Frames
9. Toe Boards
10. Outriggers
FRAMES
In order to reach the desired height, there are frames with different number of rungs available:

<table>
<thead>
<tr>
<th>300 System</th>
<th>400 System</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 rungs: 6’</td>
<td>5 rungs: 7’</td>
</tr>
<tr>
<td>4 rungs: 3’</td>
<td>4 rungs: 5’</td>
</tr>
<tr>
<td>3 rungs: 4’</td>
<td></td>
</tr>
</tbody>
</table>

At the top of the tower, a GUARDRAIL FRAME and GUARDRAIL BRACING FRAME must be assembled. The guardrail bracing frame can be replaced by four horizontal braces.

LEGGS / LOCKING CASTERS / BASE PLATES
Adjustable legs have to be fixed in the cavities at the bottom part of the frames. Adjustable legs consist of a threaded bar and a leg adjuster.

For quicker adjustment, press the leg adjuster and slide it along the thread until reaching the desired height. To achieve a more accurate adjustment, spin the leg adjuster around the thread bar. The leg is automatically blocked when the leg adjuster is released.

The locking casters or base plates have to be attached to the legs by pressure. The locking casters have brakes that must be activated before using the tower.
BRACES
There are 3 different types of braces: HORIZONTAL, DIAGONAL AND HORIZONTAL W/COUPLINGS.

HORIZONTAL BRACE: Required on the base frames. These braces are the same length as the platforms and usually have the tube colored blue (anodized). Horizontal braces can be used as guardrails too.

HORIZONTAL BRACE WITH COUPLINGS: They are used as guardrails in double width towers when only one platform is used. These braces have the same characteristics as the horizontal braces, but they have couplings instead of hooks (to avoid slipping).

DIAGONAL BRACE: They are larger than the horizontal braces and usually have no color. They are used in all the module frames, as required.

INTERLOCK CLIPS
Interlock clips are used to join the upper part of a frame with the lower part of the next one. The interlock clip has an interlock pin and once this it is introduced in the lower cavity of the frame, it blocks both frames.

In order to dismantle the frames, pull the interlock clip out and place it in the upper cavity of the frame.

SNAP-ON CLAWS
All horizontal and diagonal braces have a snap-on claw. In order to anchor the claw, push it gently into the frame. Retract the latch of the claws with the thumb for releasing (see picture). Always make sure that the claws are fully connected and the latch has clicked.
Assembly guide

System components

OUTRIGGERS
In towers higher than 6' outriggers must be assembled. There are two types of outriggers: telescopic and reinforced. In the area of contact with the ground, there is a revolving brake shoe which allows contact with irregular surfaces. The joint with the tower has wing nuts, in order to allow manual adjustments.

The outriggers are assembled as shown in picture B. When the scaffold has been erected against a wall, that is at least 2/3 the height of the scaffold, it is possible to assemble the outriggers as shown in picture A.

PLATFORM WINDLOCKS
Every platform has a safety hook underneath called “windlock”. These are used to prevent movement of the platform or even platform lifting in case of strong winds. These must always be left in a locked position. To remove the platforms, just push the windlock back.

locked
unlocked
BEFORE ASSEMBLY

1. People who are going to assemble the scaffold must be trained; they also must follow all safety notes.

2. In towers higher than 6’ two people are required to erect and dismantle the scaffold.

3. Access to the area where the scaffolding is going to be assembled must be restricted only to trained workers. Never use the scaffold until the assembly is completely finished. If the assembly has not been completed and must be unattended leave a note indicating that the scaffold cannot be used and restrict the access to it.

4. Safety devices: before assembly or dismantling of the scaffold, these safety devices must be used:

   Hard hat, Safety boots, Safety harness, Safety glasses and Work clothes.

   Any other additional protection devices will depend on the type of work, on the place where the scaffold is going to be assembled or the conditions set by the safety plan. All people who work over 6’ high must use safety harness, unless there is another safety device as a guardrail.

5. Before erecting a tower, always inspect all the material. Never use damaged material. All tools and safety devices must be inspected and replaced if necessary.

BEFORE LIFTING THE SCAFFOLDING

Make sure that the workplace prepared for assembly is safe and adequate according to these guidelines.

1. Ensure ground is firm and leveled.

   The tower with locking casters must not be assembled on an incline which makes it difficult to control. Do not set the tower bases (locking casters or base plates) over sewers or similar objects.

2. Ensure area is clear of obstacles.

3. Ensure the wind conditions are acceptable as per paragraph on wind effects on scaffolding.

   Make sure that all components are available in the place where the scaffold is going to be erected: tools and individual protection equipment (i.e. gloves, glasses, security shoes, helmet, etc.).
Classify the different braces as **horizontal** or **diagonal**.

**Horizontal:** anodized color and shorter than the diagonal.  
**Diagonal:** aluminum color.

1. Put the locking casters or base plate inside the adjustable leg and fix those legs into the end of a frame. (Advice: Leave a 3” protrusion of the adjustable leg in each frame, this will help you in the following steps to level the tower easier).

2. Snap de claw on the horizontal brace in the vertical tube of the frame as low as possible and lean the other side of the brace on the ground. The claw must be attached to the frame from the inside to ensure that the brace is not accidentally removed.

3. If a double wide scaffold (4’ 5”) is being erected then two horizontal braces are required. The additional horizontal brace has to be placed on the opposite side at the same height (in the same rung), use two horizontal braces instead of one.
Assembly 

Assembly process

5

Place two diagonal crossbraces. The height difference from one side of the diagonal brace to the other has to be three rungs (usually between 2\textsuperscript{nd} and 5\textsuperscript{th} rungs), the diagonal braces must be placed as close as possible to the vertical tubes of the frame. For double width scaffolding (4’ 5’’), each frame has to be fixed with 4 diagonal braces, two on each side.

- **Simple wide (2’ 5’’)**: 2 diagonal braces per module.
- **Double wide (4’ 5’’)**: 4 diagonal braces per module.

6

The next step is to check the level of the scaffolding base. Any correction must be made with the adjustable legs.

7

In 400 system scaffolding, a ladder on each level is required to give access to the other levels.

8

Place a platform over the rungs of the frame. If another level is not going to be erected, go directly to point 12, for additional levels extra help is needed.
Assemble the outrigger. These must be tied to each corner of the tower, in the same tube were the legs have been inserted. The outrigger must be fixed to the frame by adjusting the couplings to the tubes of the frame. The upper coupling hast to be to be placed just under a frame rung, in order to avoid any movement. Make sure that the revolving brake shoes are in 100% contact with the ground.

To acces the next level, climb the erected structure through the inside by using the trapdor of the platform, insert the frame spigots in the holes of the previous frame and then lock both by using the clips. Place the corresponging horizontal and diagonal braces.

**Single Width**: Two diagonals (2\(^{nd}\) and 5\(^{th}\) rung). Alufase recommends using 4 horizontals for for additonal safety measures (2\(^{nd}\) and 4\(^{th}\) rungs) used as guardrail in every level.

**Double Width**: Two diagonals (2\(^{nd}\) and 5\(^{th}\) rung) always. Alufase recommends using double platform every level and two horizontals in first rung. A single platform can be used with one horizontal in the first rung on external side and two horizontal with couplings (2\(^{nd}\) and 4\(^{th}\) rung) on internal side.

Place an access ladder for the 400 system, if place an access ladder for the 400 system if there is NOT a built-in ladder built-in ladder on the frame. Place a platform a platform over the top and repeat step 10 for every additional module. Certain platforms and braces can be changed (the maximum distance between platforms is 24\(\text{'}\). To increase the safety measures Alufase recommends keeping 6\(\text{'}\) as the maximum distance between platforms).
Once that the final level has been erected, place the platforms in order to cover the total scaffolding width, then assemble the guardrail system and put all the interlocking clips.

A complete guardrail is necessary to be assembled in the top level, with two guardrail bracing frames over the scaffold frames and two guardrail bracing frames joining these guardrail frames (or two horizontal braces on each side instead of the guardrail frames). Remember to assemble the guardrail bracing frames correctly (hook opening at outside)

Place the wooden toe board in all working levels.

Finally, make sure that all locking caster brakes are locked and the revolving brakes shoes of the outriggers in contact with the ground.
A. SCAFFOLD BASE MUST BE SET ON BASE PLATES OR LOCKING CASTERS AND AN ADEQUATE SILL OR PAD to prevent slipping or sinking and fixed thereto where required. Any part of a building or structure used to support the scaffold shall be capable of supporting the maximum intended load to be applied.

B. USE ADJUSTING SCREWS or other approved methods to adjust to uneven grade conditions.

C. BRACING, LEVELING & PLUMBING OF FRAME SCAFFOLDS
   1. Plumb and level all scaffolds as erection proceeds. Do not force frames or braces to fit. Level the scaffold until proper fit can be easily made.
   2. Each frame or panel shall be braced by horizontal bracing, cross bracing, diagonal bracing or any combination thereof for securing vertical members together laterally. All brace connections shall be made secure.

D. WHEN FREE STANDING SCAFFOLD TOWERS exceed a height of four (3) times their minimum base dimension, they must be restrained from tipping.

E. DO NOT ERECT SCAFFOLDS NEAR ELECTRICAL POWER LINES. Consult a qualified person for advice.

F. ACCESS SHALL BE PROVIDED TO ALL PLATFORMS. Do not climb crossbraces or diagonal braces.

G. PROVIDE A GUARDRAIL SYSTEM, FALL PROTECTION AND TOEBOARDS WHERE REQUIRED BY THE PREVAILING CODE.

H. ALL SCAFFOLDING COMPONENTS shall not be altered. Scaffold frames and their components manufactured by different companies shall not be intermixed, unless the component parts readily fit together and the resulting scaffold’s structural integrity is maintained by the user.

I. DO NOT RIDE A ROLLING SCAFFOLD. ALUFASE do not recommend nor encourage this practice.
WHEN ERECTING

1. Before assembly, all pieces have to be checked in order to verify that they are in good conditions. Pay special attention to the legs. Never use barrels, bricks, boxes or similar to prop the scaffolding.

2. All scaffolding has to be clear of the movement of cranes or other moving machinery.

3. Never begin a new level if the previous level has not been completed with all stabilizing elements, and ladders in model 400 as required.

4. When a platform is placed, it has to be immediately fixed with windlock clips.

5. Check that clips are fixed on the bottom hole of the following frame. Never raise a tower without fixing all clips. Replace damaged clips if necessary.

6. Before starting a new level, finish the previous level completely, in order to have a place to fix a harness.

7. Tie the scaffolding to a fixed structure every 12’ when an instability risk exists due to weather conditions.

8. When erecting towers higher than 6’, the use of harness is mandatory.
   It must be fixed to:
   - Fixed structures in the building.
   - Scaffolding structure that has been finished.

9. As a standard, scaffold must be assembled leaving a distance of 8” or less from the wall where working. (If the distance is 6” or less, the use of a guardrail is not necessary).

10. Use ropes to raise the scaffold parts using a safe knot. It is forbidden to stand immediately below where parts are being raised.

11. Dropping any object from the platforms is strictly forbidden.

12. Never place the platforms on guardrail frames. These pieces are not structural elements, they are for protection.

13. Damaged parts or in bad condition must be dismantled immediately and replaced (or repaired if possible).
WHEN DISMANTLING
1. Remove all materials and tools from the platform in order to prevent an accidental fall.
2. Clean the platform.
3. The workplace where the scaffolding is to be dismantled must be properly indicated and access to the area, restricted.
4. Dismantling must be done in reverse order than assembly.
5. Materials must be lowered with ropes.

WHEN DISMANTLING SCAFFOLDING THE FOLLOWING ADDITIONAL GUIDELINES APPLY:
A. Check to assure scaffolding has not been structurally altered in a way which would make it unsafe and, if it has, reconstruct and/or stabilize where necessary before commencing with dismantling procedures. This includes all scaffold ties.
B. Visually inspect planks prior to dismantling to be sure they are safe.
C. Do not remove a scaffold component without considering the effect of that removal.
D. Do not accumulate excess components or equipment on the level being dismantled.
E. Do not remove ties until scaffold above has been dismantled to that level.
F. Lower dismantled components in an orderly manner. Do not throw off of scaffold.
G. Dismantled equipment should be stockpiled in an orderly manner.
Safety notes

**DURING USE**

1. Always block the locking casters with the brakes before using the tower.

2. If the tower needs to be moved:
   
   A. Make sure that the path is totally free of obstacles or aerial wires.
   
   B. The platforms have to be totally cleared and with no people on them.
   
   C. When the scaffolding has outriggers, they have to be raised as little as possible and moved slowly with the structure. If the outriggers need to be removed, dismantle the tower to a height of 8’, move and then assemble again.
   
   D. Once the movement has been completed, make sure that the tower is completely vertical, the outriggers in contact with the ground and the locking caster brakes working.
   
   E. Make sure that the movement path is resistant enough to support the scaffolding weight.
   
   F. Never move the tower faster than a person’s normal walking speed. Towers must be pushed by manpower; never use machinery to push it.

**BEFORE USE**

- The scaffolding has to be totally leveled.
- Make sure the scaffolding is assembled on a firm surface, with all safety devices, hooks and locks working.
- Make sure that the locking caster brakes are working.
- Never use any damaged or uncompleted towers.
3. The tower has to be totally vertical and leveled.
   NEVER increase the tower height by using the adjustable legs.
   NEVER adjust the legs while workers, tools or other materials are on the platforms.

4. NEVER lean ladders or other objects against the scaffolding.
   NEVER place ladders or other objects on the platforms in order to gain extra height.
   NEVER lean a tower on a wall unless it is perfectly tied to a building.

5. Be careful with horizontal forces that can increase instability of the scaffolding.
   Maximum horizontal force: 44 lb.

6. NEVER climb using diagonal braces. Always climb using ladders or the integrated vertical ladder
   in model 400, or use the frame as a ladder in 300 system, go through the platforms using trapdoors.
   NEVER jump over the platforms.
   ALWAYS work inside the tower. Never climb outside the tower. Never swing on the tower.

7. NEVER use the scaffolding close to non-insulated electrical devices.

8. NEVER use the scaffolding with winds higher than force 4.
   Remove ice or snow in order to avoid any slipping. If necessary spread salt.
   Be careful with wind draughts between buildings.
   Tie the scaffolding to structural points in case of dangerous weather conditions.

9. NEVER cover the scaffolding with meshes, canvas or similar.

10. NEVER store tools, materials or rubbish on the platforms.
DURING USE

11. Inorganic acids or caustic products are corrosive, reducing aluminum resistance.

12. NEVER assemble pulleys or raise heavy materials from the outer side of the scaffolding.

13. When the scaffolding is not being used, always tie the tower to a fixed point.

14. The workplace where the scaffolding is going to be dismantled must be indicated properly and with access restricted. Put signage at the base of the scaffold to avoid use when it is not ready to use.

15. NEVER exceed the maximum permitted loads: 550 lb / platform; 790 lb / level; 1,500 lb / tower.

16. Working on a platform placed under another platform where people are working is strictly forbidden.

17. Towers are not designed to be lifted, if you need to do it, please contact your supplier.

SAFE USE OF SCAFFOLD

1. Prior to use, inspect scaffold to insure it has not been altered and is in safe working condition.

2. Erected scaffolds and platforms should be inspected continuously by those using them.

3. Exercise caution when entering or leaving a work platform.

4. Do not overload scaffold.

5. Do not jump onto planks or platforms.

6. DO NOT USE ladders or makeshift devices to increase the working height of a scaffold.
   Do not plank guardrails to increase the height of a scaffold.

7. Climb in access areas only and use both hands.
CARE AND MAINTENANCE, SAFETY REGULATIONS, RESPONSIBILITY OF SCAFFOLDING USER

- It is the user’s responsibility to have safety systems adapted to the work.

- Scaffolding must be assembled, dismantled, or modified only by workers with specific training for this.

- When any safety system needs to be dismantled (for access or working), harnesses must be used. When finished, the safety system must be replaced.

- Working at a height must be done only when light and weather conditions do not risk safety.

- The spigots must be kept clean. Use oil or grease to lubricate if necessary.

- Do not hit or damage any component. Alufase recommends store and transport all material in an upright position.

- Damaged parts must be changed or repaired.

- Clean dirt from legs.

- Lubricate with oil brake locking casters if necessary.

- Keep platforms and windlock clean, also braces hooks, lubricate if necessary.
ROLLING TOWERS AND MOBILE SCAFFOLD:
Inspection, Maintenance, and Use Tip Sheet

The most common type of rolling tower/mobile scaffold is simply a single bay supported scaffold tower with casters. Mobile scaffolds may be constructed using tube and coupler scaffold, fabricated frame scaffold or modular type scaffold. As with any supported scaffold, however, it can be configured in many different ways. This tip sheet highlights some of the key items to keep in mind when inspecting, erecting, maintaining, and using mobile scaffold.

WORKSITE INSPECTION
Users of rolling tower scaffold must walk around the area in which they will work to remove any materials that may be a hazard to workers as the scaffolds are introduced onto the site.

Particular care must be made to note floor hazards such construction debris, holes in the floor, etc. Debris should be removed. Holes should be repaired or workers must work in areas free of such hazards. Rolling tower scaffold must only be used on solid (concrete, etc.), flat floor surfaces.
The user of rolling tower/mobile scaffold must thoroughly inspect the scaffold prior to use. All components must be complete, functioning properly and correctly assembled. Any incomplete part, missing part, or ill-fitting part should be replaced prior to use. Never use rolling tower scaffold without first completely inspecting the unit. Do not intermix components from different manufacturers.

- Wheels or casters shall be locked to prevent caster rotation and scaffold movement when scaffold is in use.
- No more than 12 inches of the screw jack shall extend between the bottom of the adjusting nut and the top of the caster.
- Joints shall be restrained from separation.
- Do not use brackets or other platform extensions without compensating for the overturning effect.
- The top platform height as measured from the rolling surface of a rolling scaffold must not exceed four (4) times the smallest base dimension (Some government agencies require a stricter ratio of 3:1).
- Secure all platforms.

- The scaffold must be erected with cross, horizontal, or diagonal braces, or a combination of these to prevent racking and provide a rigid structure.
- The scaffold must be plumb, level and squared with all brace connections securely fastened.
- The scaffold casters must have positive wheel and swivel locks to prevent movement of the scaffold when it is in use.
- The manual force used to move the scaffold must be applied as close to the base as possible, but not more than 5 feet above the supporting surface.
- Platforms shall not extend outward beyond the base supports of the scaffold unless outrigger frames or equivalent devices are used to ensure stability.
Platforms must be checked for loose or missing edge banding, holes or thin spots where plywood has been worn. Worn or damaged boards must be discarded and replaced. A platform exposed to excessive heat, as in the case of fire, should be immediately removed from service, destroyed and replaced. Do not use acids or other corrosive substances on platform boards.

Pin, spring, and nipple must be lubricated whenever equipment is returned from use. Do not hammer lock pins. If lock sticks, clean then grease lightly. Move the pin back and forth to free movement. If the problem persists, replace the lock.

Casters with plain stems shall be attached to the frames or adjustment screws by pins or other suitable means. Casters and wheel stems must be checked for worn or damaged wheels, and missing or damaged snap rings. Wheels should spin freely and bearing races should turn freely and smoothly. Axle, bearing race and stem must be lubricated whenever returned from jobsite. Damaged casters and wheel stems must be discarded.

Trusses and guardrail sides must be checked to make sure locking pins are straight and locks are working. Any bent parts should not be used. Pin, spring and nipple must be lubricated whenever returned from job.

End frame access ladders and guardrail end frames must be inspected for loose or missing caster bushings and stack pins. Any bent parts should not be used. Caster bushings and stack pins must be lubricated whenever returned from the job site. Damaged ladders and guard rails must be discarded.

Do not mix manufacturer platforms, casters, trusses, end frame access ladders, or other components.
During Use

- Keep the platform free from trip hazards.

- Do not overreach. Keep your body within the boundaries of the guardrail and scaffold section.

- Do not allow loose objects and debris to accumulate on the platform.

- Do not stand on guardrail or use any components of the guardrails to gain additional standing height.

- Do not jump onto planks or platforms.

- Do not use ladders, chairs, boxes or makeshift devices to increase the working height.

- Make sure the unit is free from paint, mud, grease or other slippery or hazardous materials.

- Never leave the scaffold unattended. If you do leave the scaffold unattended, re-inspect the scaffold prior to using the unit again.

- Do not over load.

- Exercise caution when entering or leaving a work platform.

Through the OSHA and Scaffold & Access Industry Association (SAIA) Alliance, SAIA developed this Tip Sheet for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Department of Labor. 2014.
Current regulations

HD 1004 (UNE-HD 1004). “Mobile access and working towers made of prefabricated elements”.

AFS 1990:12 STÄLLNINGAR. Type Kontrollintyg Nr498301.


GOST-R NºPOCC RV.0001.11MM04.000 Russian Safety Norm.

This document is compliant with UNE 1298.
This assembly guide for scaffolding models 300 and 400 has been given to the person who signed this document. It indicates all of the specifications, components, procedures, and safety regulations that must be taken into account when assembling and disassembling the scaffolding. Likewise the company contracting the scaffolding is responsible for making the information contained in this manual known to the workers who will use the scaffolding and the person supervising the work.

Date

Signature