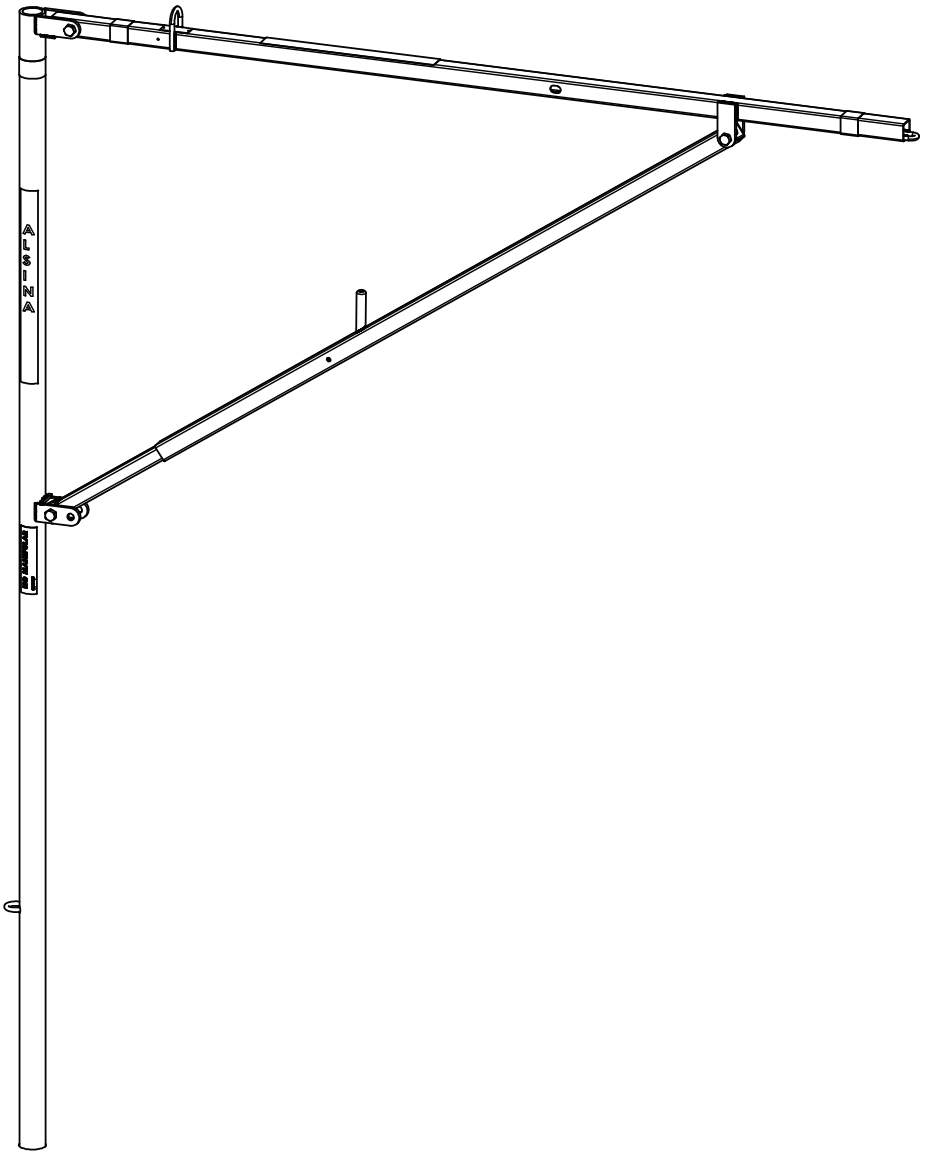
Alsína

# ALSIPERCHA SYSTEM

**CE 0158 - EN 795:2012 B / D / E**

## Assembly, Use and Safety Instruction Manual



# Introduction

Alsina's instructions for installation, use and safety are intended as a guide to the procedures required for safe and correct assembly, disassembly and use of formwork systems under normal conditions, in line with the standards commonly accepted on work sites. Any specific work circumstance falling outside these standards may require them to be adapted. When in doubt, do not hesitate to contact one of our technical departments, anywhere in the world.

The instructions in this document are intended to explain to users and technicians how the system works; they should ensure correct preparation and use of the equipment on site. Consequently, there will be references to general standards that any professional user should be familiar with. Thus, it is best not to reproduce them in this manual, since any modifications to these standards would lead to discrepancies between the standards and the manual and could cause confusion. Users should always refer to the latest version of the standards in force.

Therefore, the references in this manual in no way annul, replace or prevail over:

1- Standards and regulations on prevention of risks in the workplace specific to a country or region.
2- The instructions in the specific Health and Safety Plan for the works.
3- Safety instructions in the evaluations and plans applying to specific work functions in a company.
4- Technical orders and instructions specific to particular stages of the works, issued by the technical directors, the health and safety officer, the foremen and/or Prevention Resources.

Throughout the project, users shall respect, at all times, the specific laws, standards and regulations of the country or region related to prevention of risks in the workplace and any other legislation applicable to each case and, if necessary, supplement the instructions and adapt to other Work Safety Measures.

It is the customer's responsibility to prepare, document, implement and review the risk evaluation for the construction work. This documentation provides the basis for the evaluation of specific risks in the works, and Alsina's Instruction Manuals may in no case be regarded as a substitute.

Sets of vertical formwork equipment, as systems, are made up by joining different components. As far as possible, drawings and diagrams have been included as an aid to understanding these instructions. All personnel working with these products should be familiar with the contents of this document and the safety instructions therein.

The illustrations in this manual refer, in part, to different phases of the assembly process. Customers should ensure that they have a copy of the assembly and operating instructions, supplied by Alsina, and that these are known to and available to users on site.

Apart from the assembly and operating instructions, each chapter includes a series of safety recommendations. It is important that these are observed. However, these recommendations are neither exhaustive nor definitive, and should they not coincide with the indications in the Health and Safety Plan or its equivalent according to local legislation, the latter shall prevail.

If there are persons who cannot read the documentation or have difficulty doing so, they must follow the customer's instructions and indications.
Should you have any questions regarding the contents of this manual or any suggestions as to how it can be improved, please address your comments to your Alsina Marketing Technician or through our website: www.alsina.com

**Info** In order to obtain the best performance from its formwork systems, Alsina continuously updates the assembly and operation instructions for its products. For further information, contact the Alsina Marketing Technician in your area. The locations of the Alsina Group's Sales Network are available at www.alsina.com, or you can e-mail us at alsinainfo@alsina.com

**Symbols used in this document:**

**Information**
Information on a section of the assembly and use instructions, or additional information on the system that users and works technicians should take into account.

**Warning/Precaution/Danger**
Essential information that the reader must be aware of; disregarding this information may lead to material damages or serious personal injuries.

**Advice**
Indicates recommendations and advice for use, assembly, and safety.

## ISO 9001:2015 Certification

**The Alsina Group is ISO 9001:2015 certified.**

The Alsina Group has been granted the ISO 9001:2015 certification for their sales and rental service of concrete formwork equipment.

The certificate was granted by BVQI, an institution of renowned prestige and worldwide experience, under UKAS accreditation. The scope of this certification confirms the maturity and efficiency of our Quality Management System for the design, manufacture, marketing (sales and rental) and maintenance of concrete formwork equipment, provision of scaffolding erection services and implementation of collective protection systems, while ratifying the company's commitment to continuous improvement.

Alsina is possibly the only company in the formwork business with the ISO 9001:2015 certification for: “Design, fabrication, engineering services, and commercialization (sale and leasing) of concrete formwork equipment. Provision of assembly services for scaffolding and formwork equipment. On-site implementation of collective protection elements”.

ISO 9001
BUREAU VERITAS
Certification
Encofrados J.Alsina, S.A.

Alsína

## Alsipercha (Alsina Fall Arrest System)

Safety system designed to prevent falls from a height during the formwork boarding process.

### Alsipercha

A safety system, especially useful for PERIMETERS, or during all work associated with decking for horizontal formwork operations. The system ensures completely safe conditions while installing: boards, safety handrails, gallows-type safety nets, formwork risers and all activities involved in formwork assembly where there is risk of falling from a height.
Easy to assemble and use, does not require outside installers.

### Features of the system

- Allows the worker to work safely covering an area of 125 $m^2$ and moving within a radius of 6.5 m around the column.
- Inverted “L” shaped steel structure measuring 2.5 m long and 4.3 m high (3.5 m when attached to the column).
- Metal structure weighing 80 Kg, made of high quality steel (elastic limit 42 - 46 Kg/$mm^2$; breaking strength 61 - 76 Kg/$mm^2$).
- Retractable fall arrest block measuring 4m (SRL+lanyard) maximum length, or optional with SRL 6.0 m or 6.5 m maximum length.
- Alsipercha housing steel tube measuring 85 cm long.
- To be moved by crane.
- With a wide range of accessories for use in any building site situation, ensuring safety at all times.
- A system designed for column heights up to 8.5 m (this requires use of the hook accessory).
- A built-in energy-absorber device reduces the impact forces transmitted to the structure and to the user.

**Info.** The system and its components must be used by competent, qualified personnel.

**Info.** The system and its accessories must be inspected by competent, qualified personnel:

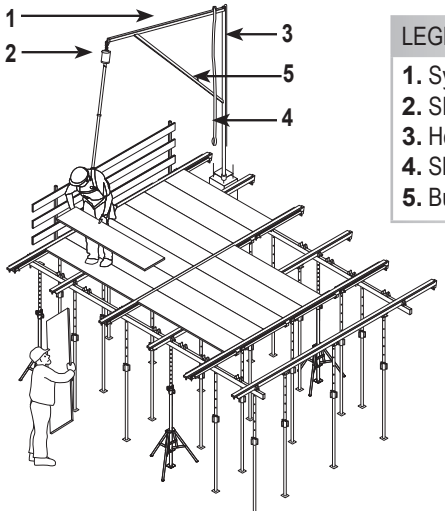
- Before first use and subsequent use.
- After the system is activated by a fall.
- At regular intervals (at least once a year). The inspection records may be called for. Certain individual components may require inspection at shorter intervals.
- Never use the equipment if wear, rust or unauthorized repair attempts are detected in any part of the system.
- Do not use the system for any use other than that which it was designed for.
- Use approved harnesses only.
- Do not use or fasten any components or accessories that have not been supplied by the manufacturer.
- The user must assess the risk involved before using the system

**Info.** The illustrations in this assembly and safety manual are guidelines and, at any event, they may not reflect all the possible assembly formats.

### Limitations of the system

- The structure on which the system is mounted must be capable of bearing the weights indicated.
- The maximum working radius when the worker is anchored to the system with the safety harness is 6.5 m. Do not attempt to extend this working radius with ropes or other such methods.
- The maximum number of users connected simultaneously to one Alsipercha is 2 (two).
- During the use of Alsipercha with housing tube (during formwork stage), the maximum distance between the 2 users connected simultaneously to one Alsipercha will be: 1 (one) meter. Increasing this distance may cause injuries to users due to the "pull" effect.

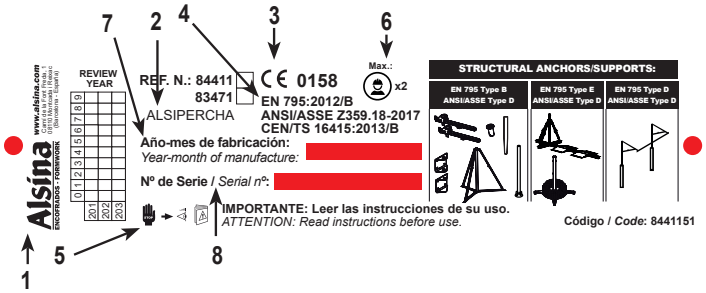
### System components




LEGEND

**1.** System body
**2.** SRL
**3.** Hook
**4.** Sling
**5.** Built-in energy-asborber

Alsipercha is CE certified in accordance with the DIN EN 795 type B / D / E, and compliance to ANSI/ASSE Z359.18-2017.




LEGEND

**1.** Manufacturer
**2.** Name of the product
**3.** Identification number of the notified body; DEKRA Testing and Certification
**4.** Compliance standard
**5.** Pictogram: read user instruction before use
**6.** Number of users allowed
**7.** Production year
**8.** Serial number

Read carefully through this user instruction before using the product. In case of questions and uncertainties, please contact Alsina for support

**Safety instructions**

The Alsipercha is only intended for the purpose stated in this user instruction, any other use is not recommended. The Alsipercha is a personal fall protection anchor device, used to protect workers operating at height and if used incorrectly, there is a potential risk of accidents to both the user and other people in the vicinity. Please read this manual carefully before any usage.

- Accidents and dangerous situations may arise by the use of combinations of equipment in which the safe fuction of one item is affected by, or interferes, with the safe function of another.
- Under no circumstances shall the product be used as a makeshift crane or lifting/lowering device.
- Under no circumstances shall any item other than those provided with the system be used either in replacement or through preference as this may affect the performance of the product.
- Care should be taken in the transportation of the product between uses and locations. If any damage occurs or is detected in any part, the item should be withdrawn from use, inspected by a trained person and replaced if required.
- Care should be taken in the installation of the product and if any damage occurs or is detected in any part, the item should be withdrawn from use, inspected by a trained person and replaced if required.
- The site location where the Alsipercha is being used should have a rescue plan in place, in the event of a fall arrest incident.
- The device is only intended for use by maximum 2 users at a time, under no circumstances shall multiple persons be attached to the device.
- If a crane is used as lifting device, be aware of the movements made by the crane and keep workers at a safe distance.
- The usage of the Alsipercha is intended to be used within a zero factor fall arrest system. Make sure that the anchorage is always overhead and the self-retracting lifeline is taut between the anchorage point and the worker.
- The maximum vertical deflection of the anchor point that can occur during service is 1 user = 0.49 m / 2 users = 0.86 m.
- In case that Alsipercha is re-sold outside the original country of destination, it is essential that the reseller provides user instructions in the language of the country in which the system is to be used.
- When referring to included components not produced by Alsina or official distributors, please refer to the specific user guide / manual for that specific item. When using a retractable fall arrest block, the certification of this product is only valid when the prescribed block is used, hence it is tested and approved in combination with the Alsipercha.
- PFPE that is used together with the Alsipercha must be CE-certified and approved in the specific country of use.
- It is not recommended to use the products stated in this user instruction if pregnant, suffering from cardiovascular disease, affected by alcohol or drugs or other health issues that might affect your mental or physical capacity.

**Always check products and equipment before use**

Check all component parts of the Alsipercha before assembly. Never use damaged or rusty materials, as this can affect safety. Refer to the check list in the Maintenance chapter which must be followed prior to use.

The system must be withdrawn from use inmediatelly, if any doubt arise about its condition for safe use.

**Never combine products**

It is not recommended to install, combine or interconnect products other than those supplied by Alsina or official distributors.

**Always use Personal Fall Protection Equipment**

Personal Fall Protection Equipment (PFPE) must always be worn during assembly and dismantling when a risk of falling exists. This also applies to work carried out from MEWPs (Mobile Elevating Working Platforms).

The worker must only use full body harnesses according to EN 361, with an arrest attachment point marked with (A).

**Remember**

- Plan the fall prevention at an early stage, this will benefit everyone.
- Use only safety-checked products.
- Restrict access below and around the installation and working area to prevent injury to others from any fall hazard.
- Use tools designed for the type of work to be carried out.
- Keep the installation area in order.
- A safe workplace is a good workplace.
- Many fall accidents occur from a low height.

## Description

The engineered MOBILE BASE UNIT designed for the **Alsipercha**, protect workers from the risk of falling from heights, providing portability and high versatility of location with no need to anchor the system.
The system has been designed to provide overhead fall protection to users when there is no possibility to install permanent fall protection systems, or there is the need to provide fall protection in different places and areas frequently.
It consists of a main **Alsipercha** body, fastened to a **MOBILE BASE UNIT (MBU)**, that provides the stability of the whole system thanks to a set of counterweights (1000-1200 kg).
**Prepare and adapt the ground where the system is intended to be installed, in order to ensure a 0º % of unevenness.**

Certified according to CE (EN 795:2012 type E)
(Notified body DEKRA 0158)
Engineered according to ANSI/ASSE Z359. 18-2017
(Notified body DEKRA 0158)

## Safety warnings

The **Alsipercha** + **MBU** has been designed to protect workers when there is a risk to fall from heights.

- Under no circumstances shall the product be used as a makeshift crane or lifting/lowering device.
- Under no circumstances shall any items, other than those provided with the system be used either in replacement or through preference as this may affect the performance of the product.
- Care should be taken in the transportation of the product between uses and locations. If any damage occurs or is detected in any part, the item should be withdrawn from use, inspected by a trained person and replaced if required.
- Care should be taken in the installation of the product and if any damage occurs or is detected in any part, the item should be withdrawn from use, inspected by a trained person and replaced if required.
- The location where the **Alsipercha** + **MBU** is being used should have a rescue plan in place, in the event of a fall incident.
- The device is only intended for use by one person at a time. **Under no circumstances shall multiple persons be attached to the device.**
- When a crane is lifting the **Alsipercha** unit, be aware of the movements made by the crane and keep workers at a safe distance.
- The **Alsipercha** + **MBU** is intended to be used within a zero factor fall arrest system. Make sure that the anchorage is always overhead and the lifeline is taut between the anchorage point and the worker.
- In case that this product is re-sold outside the original country of destination, it is essential that the reseller provides user instructions in the language of the country in which the system is to be used.
- Under no circumstances shall any item other than those provided with the system be used either in replacement or through preference as this may affect the performance of the product.
- The equipment must be inspected before each use.
- Do not used damaged or rusty materials, as this may affect product performance.
- The surface/ground where the system is intended to be installed, must have **0º % of unevenness**.

Always remember:

- Plan fall prevention at an early stage, this will benefit everyone.
- Use only safety-checked products.
- Restrict access below and around installation and working area to prevent injury to others from any fall hazard.
- Use tools designed for the type of work to be carried out.
- Keep the installation area in order.
- A safe workplace is a good workplace.
- Many fall accidents occur from a low height.
- Parts might be slippery when wet, be cautious when handling.

## Check list prior to usage

Checking of the system shall be performed before each use, if any of the listed statements below are not satisfied make sure to correct any issue before using the product.

Checking includes the following steps (made by a qualified person):

- Ensure that there is no weld damage or deformation to any part of the system.
- Ensure that no corrosion that can affect the strength of the system has occurred.
- Ensure that the Feet are fully adjustable.
- Ensure that the base unit is level (uneaven not higher than 10º)
- Ensure there are no loose parts e.g. gravel, dirt, concrete etc. in any sleeves or tubes where another part shall be inserted.
- Ensure the correct insertion of the **Alsipercha** unit, and it rotates freely 360º.
- The surface/ground where the system is intended to be installed, must have **0º % of unevenness**.

## Components of the system

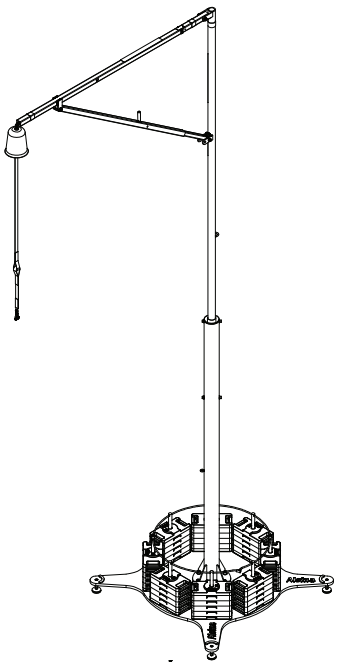
The system consists of a base, a post for housing the **Alsipercha** unit, and manual counterweights, that will provide the stability to the whole system in case of a fall.

The base is made by a circular steel plate with a 1320 mm diameter, with four star-shaped extensions to house the support levelling feet (maximum width 2240 mm).

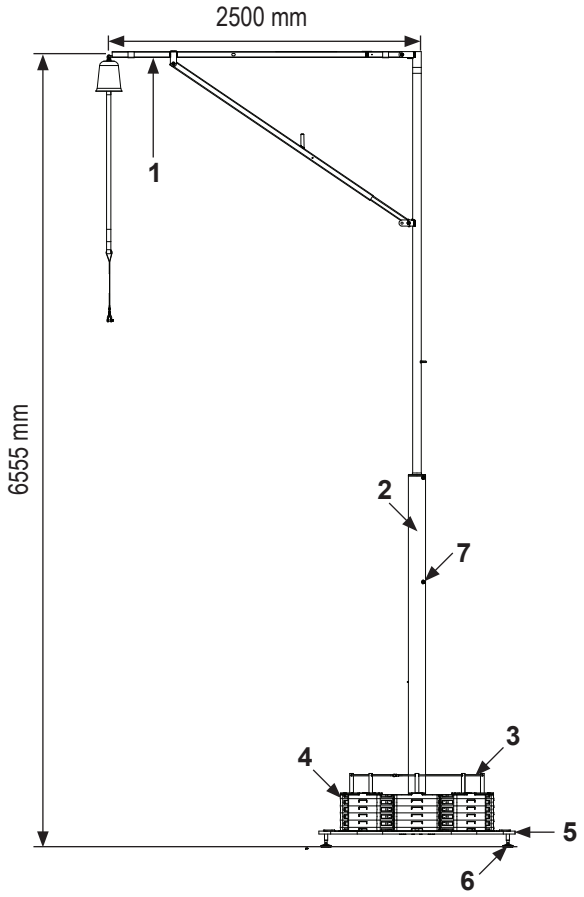
The base also includes a built-in level, rubber stickers for the location of the manual counterweights, 6 M20 bolts and bars to fit the counterweights.

In the center are the holes to install the main post that will House the **Alsipercha**, by using 6 M20 bolts.

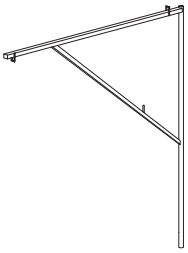
The 40 counterweight blocks weighing 25 kg each (supplied with the system), must be placed over the base rods. This weight will provide the system stability in case of activation due to a fall of a user.



Dimensions with Alsipercha




| Reference | Units | Description |
|---|---|---|
| 1 | 1 | Alsipercha unit |
| 2 | 1 | Post |
| 3 | 1 | Safety lock |
| 4 | 40-48 | Counterweights (25kg) |
| 5 | 1 | Base (including level, rubber stickers, adhesives, M20 bolts and counterweight rods) |
| 6 | 4 | Leveling feet |
| 7 | 2 | Rotation locking system (handles) |



### ALSIPERCHA CE / ANSI

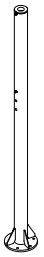
Description: Overhead anchor point with built-in energy absorber, to combine with the Mobile Base Unit.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 84411 | 2,500 x 4,300 | 80 |

### ALSIPERCHA HOOK

Description: Component used to reach the subsequent Alsipercha, if required, to change the anchor point.

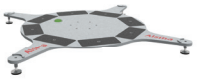
| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 83418 | 140 x 2,850 | 2 |



### 3M POST FOR REDUCED SPACES

Description: Alsipercha support component.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 83061 | 3,000 x 350 | 81 |



### ALSIPERCHA MOBILE BASE UNIT

Description: Base that stabilizes the Alsipercha system.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 84849 | 1,100 x 500 | 350 |



### ALSIPERCHA MBU ROD

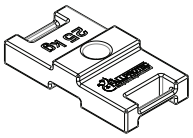
Description: Threaded rod through which the counterweights will be installed.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 83848 | 460 | 1.1 |

### MBU COUNTERWEIGHT LOCK

Description: Lock that prevents the counterweights from being handled after their installation.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 84859 | 350 | 1.2 |



### MBU COUNTERWEIGHTS (25KG)

Description: Individual counterweights to guarantee the stability of the system.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 84832 | 370 x 80 x 18 | 25 |

### 5.5M RETRACTABLE DEVICE EN360

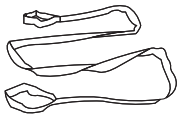
Description: Retractable component that locks on a sudden acceleration.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 83056 | 5,500 | 1.5 |

### HARNESS

Description: Device anchoring the operator to the Alsipercha fall prevention system.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 84415 | 500 x 150 | 1 |



### SLING (3M)

Description: An essential component used to move the system with a crane or remove it once the work is complete.

| Code | Dimensions (mm) | Weight (kg) |
|---|---|---|
| 84414 | 3,000 | 0.62 |

## Assembly process

The following sequence of steps must be taken in order to correctly assembly the anchoring system:

**1.-** Ensure that the level of the surface where the System is intended to be installed is = 0º. Then position the base in the place chosen for its location. The leveling feet are capable of absorbing unevenness up to 10º.

**2.-** Adjust the leveling feet using the level installed on the base, as a guide.

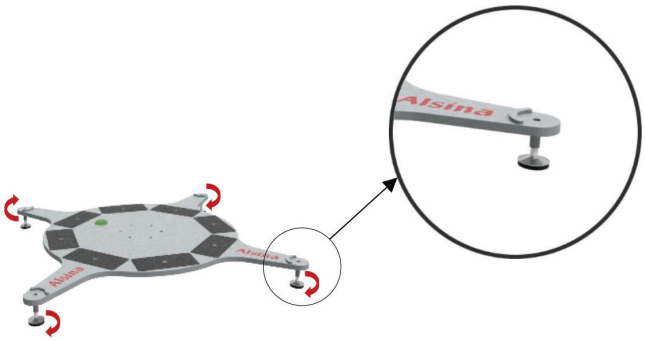




*Fig. 4. Leveling feet adjustment*

**3.-** Position and fasten the post unit to the base, by using the M20 bolts provided.

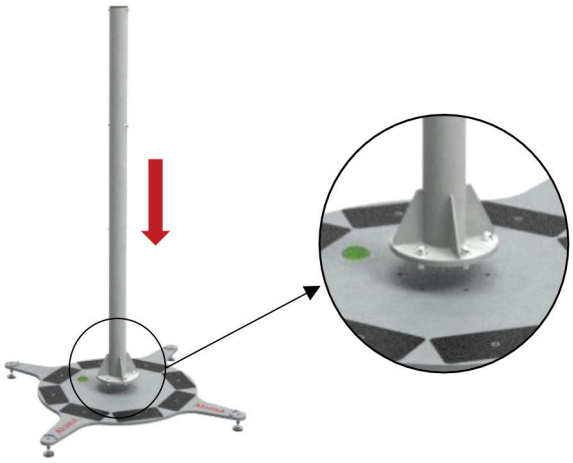


*Fig. 5. Positioning and fastening of the post.*

**4.-** Position and fasten the **Alsipercha** to the MBU, by using an auxiliar equipment.

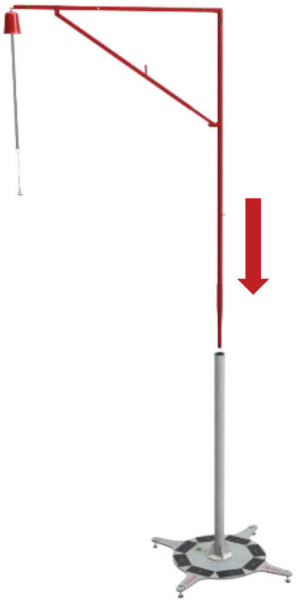


*Fig. 6. Positioning and fastening the **Alsipercha***

**5.-** Thread the rods by using the specific wholes on the base, placing the upper holes so that the safety lock can pass through them correctly.

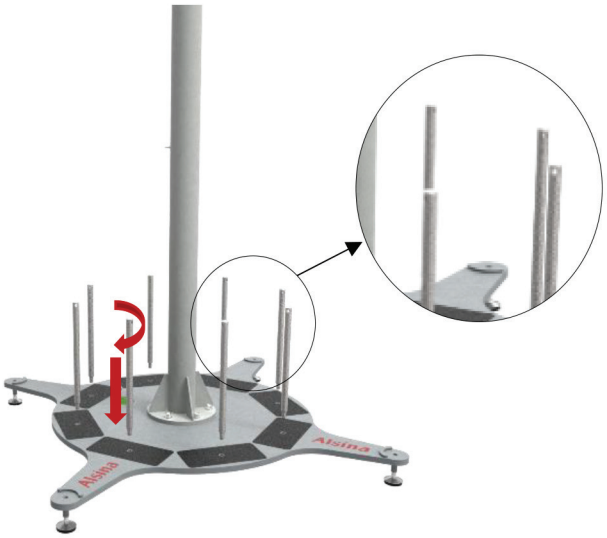



*Fig. 7. Fastening the counterweight rods*

**6.-** Place the 40 manual counterweights in their positions (total 1000 kg.)..

*Fig. 8. Positioning the counterweights*

**7.-** Fit the safety lock to prevent the counterweights from being handled.

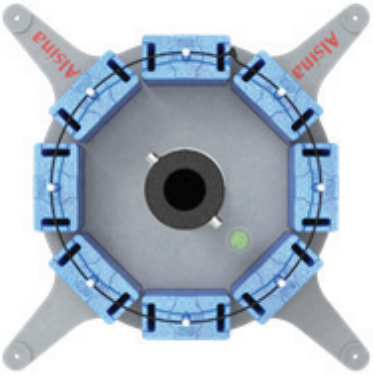


*Fig. 9. Base with safety lock installed*

**8.-** Finally, check the level of the base again and correct if necessary, and ensure the correct instalation and free rotation of the **Alsipercha** (360º).

## Relocation and locking system

It is possible to move the entire system without having to dismantle the components, bearing in mind the following aspects:

**1.-** Adjust the 2 handles on the locking system until they are fully closed (1 on each side):

**2.-** In all cases in which the **Alsipercha** + **MBU** system is to be moved, the locking system must be activated - **always before it is moved** - to prevent the **Alsipercha** from being able to rotate accidentally during transport.

**3.-** Once located in the required position and ensuring the system is correctly level, the locking system can be disabled and the system will be ready for use. If you prefer, it can also be used with the locking system activated, without the **Alsipercha** rotating.

Assembly material

- No other material apart from that supplied is required.

Tools

- 17 mm. fixed wrench.
- 17 mm. hexagonal wrench (Allen).

Lifting methods

- Crane truck or according lifting equipment.

## Appendix 1: Conditions of use on site

Below are the guidelines for reviewing each component of the Alsipercha system. Reviews should be performed regularly, once per year at the very least.

As explained in Alsina's Alsipercha Assembly and Safety Manual, this review does not replace the visual inspection that the user should perform each time he or she uses the Fall Arrest System.

**Retractable Review Procedure**

| Control guidelines | Procedure |
|---|---|
| Check that the belt **winds automatically** and unwinds normally along its whole length. | If it does not work, **remove from service since it is faulty**. |
| Check that the locking function is, by pulling the belt sharply and observing that it locks. | If it does not work, **remove from service since it is faulty**. |
| That the textile is in perfect condition, **without tears or loose ends.** | If it does not work, **remove from service since it is faulty**. |
| That the metallic parts **are not oxidised** and that the karabiners work and **block correctly**. | |
| It is important to check that the continuous energy absorber protected by the plastic and the fibres **forming it, have not broken**. | If it does not work, **remove from service since it is faulty**. |

**Inspection procedure for main items (Alsipercha, column clamps, tripod, counterweight MF, wall bracket, post for reduced spaces, MBU and RAIL), as well as for the connection/supports/accesories.**

| Control guidelines | Procedure |
|---|---|
| Place the item on an stable surface, to:<br><br>- Check that the bolts, pins, and nuts of the various extensions are in good condition and that they can move freely.<br><br>- Check that the extensions are neither askew nor misshapen (maximum tolerance in both directions is 5 mm). Pay special attention to ensuring that the diagonal tube with spring is straight.<br><br>- Clean the concrete and particularly some areas between the two lugs, as this is the area where various hanger accessories are housed. If these are closed, open them with a hammer, until the beam can enter.<br><br>- Inspect the welds, especially on the ring to which the hood is attached. | If problems are identified with any of the above, contact the Alsina Service Department. |

**Warning - Never remove the Alsipercha Body's diagonal tube. Handling the tube may be dangerous. If any problem is observed in this diagonal, contact the Alsina Commercial Technician.**

**Hook Review Procedure**

| Control guidelines | Procedure |
|---|---|
| - Check that the hook is neither askew nor misshapen. | If the deformation is minor, it can be fixed provided that the tube structure is not misshapen. |
| - Clean the concrete. | |
| - Check that there are no fractures. | |

**Leveller Review Procedure**

| Control guidelines | Procedure |
|---|---|
| - Check that the leveller is in its original condition. Verify that it enters and exits a housing tube that is in good condition.<br>- Check that there is no washer. Verify the level. Check that the leveller is not broken. | If problems are identified with any of the above, contact the Alsina Service Department. |

**Textile Components review procedure: Sling, Harness, HARNESS EXTENSION with Jacket**

| Control guidelines | Procedure |
|---|---|
| - Check that all textile elements are present. Check that there are no tears (especially along the edges) or loose threads.<br>- The textile material must be kept in a clean, dry place. | Otherwise reject |

## General usage considerations

These considerations complement those described in the system's assembly and disassembly process.

The system has been designed and calculated for the specific uses and applications described in this manual. Therefore, Alsina accepts no responsibility for the use of the equipment in situations other than those described in this manual.

The Alsina Group does not participate in the management or execution of the project, and the client is solely responsible for the proper use of the materials supplied.

All the components have sufficient strength and stability to support the loads and stresses described in these instructions. It is essential to place all the system's components with all the accessories mounted and properly assembled.

The technical operating instructions, safety indications and data on loading conditions must be scrupulously observed and followed. Failure to respect these indications may lead to accidents and severe injuries (or death) and to considerable material damage.

Systems should not be mixed as they may be incompatible and are neither designed for nor adapted to the system. Alsina rejects all liability if the system components are replaced with similar components supplied by another company.

Before starting assembly, the person in charge must plan for loading and unloading, material storage, and laying out and marking the areas where the work is to take place, in accordance with the general organization of the construction work.

The following PPE must be used in the assembly/disassembly: Gloves, boots, goggles, helmet, reflective vest, etc.

For heights greater than 3.5 m, a safety harness must be used.

The equipment must be assembled by specialized personnel.

Work areas must be kept clean and orderly.

The largest possible number of operations must be carried out on the floor.

Formwork must be interrupted in the event of heavy rain, snow, lightning storms, or winds over 65 km/h (service wind pressure of 0.2 kN/m²), removing any materials or tools that may be loose.

Sources of fire are not allowed near the formwork area.

Workers must always access the work area through the areas made available for this purpose.

## Storage

Having an area designated for compiling and controlling all the elements supplied is recommended.

Areas must be delimited for the storage of materials or accessory items for formwork, assembly, use and disassembly of formwork elements. Personnel not involved in assembly or disassembly shall not be allowed inside these delimited areas.

Storage shall be properly organized in suitable locations, away from passageways.

All material must be properly stacked, without exceeding safe heights, to avoid the risk of toppling or causing difficulties when roping it for lifting or transport. Work materials and tools must be placed or stored so that they cannot collapse, fall or turn over.

Materials stored must be stable, arranged horizontally and wedged in place.

Materials must not be stored on insecure slopes, unstable or loose ground, or loose or unstable elements.

If the material is strapped, the straps should not be removed while there are workers in its path.

## Transporting Materials

There must be proper coordination between the crane worker and the worker who hooks or guides the load. The crane worker must have a clear view of the trajectory of the load or, failing this, must be assisted by a guide, communicating with each other using a pre-agreed set of signals.

Before starting load hoisting, the worker must move away from the sweep area of the load. When the load is moving, no worker shall be on it, and movements above or near people should be avoided. The presence or passage of people under suspended loads must be avoided.

The load must be well balanced and must be raised and lowered slowly, avoiding abrupt acceleration and deceleration.

Loads must be lifted vertically, never diagonally, avoiding rocking and horizontal dragging movements. When necessary, guide ropes or cables adequate for the load being supported must be used for this purpose.

When lifting heavy or bulky loads, the use of rocker arms is recommended.

If the loads could collide with the structure, other on-site elements or personnel, retention or load-guiding cables should be used.

To prevent objects falling onto people and/or materials during hoisting, loading or unloading operations, using trays or transport containers, always following the manufacturer's instructions, is recommended. Alsina provides the ALSINA CONTAINER item. Alternatively, they can be lifted using slings, distribution beams, rocker arms, etc. in packages strapped at both ends, hanging the load, thus avoiding horizontal displacement of the stable assembly. Lifting systems must be with closed hooks. The crane worker, who will have received the proper training, shall always be responsible for final review of the attachment of the load.

Stacking the ALSINA CONTAINER more than three high is not recommended. They must be stacked on a stable, flat area.

Simultaneous movements shall not be carried out with the crane.

Loads must be hoisted using mechanical equipment, with a load capacity sufficient for the load being lifted.

## Equipment Maintenance

A pre-established expiration date cannot be established for formwork, but improper use of equipment that could cause damage to it must be avoided.

Alsina, S.A. supplies the formwork material and is responsible for delivering the equipment in good working condition, in accordance with the criteria in our quality manual. When assembly is not carried out by Alsina, the user must accept responsibility for proper use and maintenance of the equipment.

The users are always responsible for maintaining all equipment, whether rented or the customer's own property.

When assembling, the material must always be checked by a qualified individual who will verify that the equipment is apt for use or reject it, especially in the event of a person falling. There are specific control guidelines for using the main components of the system on site. These are detailed in the appendix at the end of this section (Appendix 1). In accordance with these criteria, when a part that is not fit for use is identified, it must be rejected, avoiding the use of defective or damaged parts.

The condition of the material must be checked before the start of a day after strong winds, rains, snow, etc. since it is possible that a part could have been dropped, displaced, loosened or damaged.

## Annex: Regulationsin Spain

Spanish legislation requires that assembly and dismantling of the system must be performed by personnel duly trained, as described in Law 31/1995 and the modifications to this law contained in Law 54/2003, for work of this type, and must have the information and tools required for the proper performance of the task.

Also, the contents of Royal Decree 1627/1997, on minimum health and safety provisions applicable to construction work, as well as in Royal Decree 2177/2004, which modifies Royal Decree 1215/1997, which establishes the Minimum Health and Safety Provisions for Use of Work Equipment by Workers, on the subject of temporary work at heights.

Regulations also require mandatory use of personal protective equipment adequate for the work to be performed, as described in Law 31/1995 and its further development in Royal Decree 773/1997.

In cases where workers from multiple companies are active concurrently, there must be coordination on the subject of prevention, as defined in article 24 of Law 31/1995 and its further development in Royal Decree 171/2004.

| A | DEVICE IDENTIFICATION SHEET |
|---|---|
| **(A)** Distributor / Reseller / Details | |
| **(B)** Manufacturer | **Encofrados J. Alsina S.A.**<br>Pol. Ind. Pla d'en Coll<br>Camí de la Font Freda, 1<br>08110 - Montcada i Reixac (Barcelona - Spain) |
| **(C)** Product (type, model, code) | |
| **(D)** User (company, name and address) | |
| **(E)** Serial number / batch | |
| **(F)** Year of manufacturer | |
| **(G)** Purchase date | |
| **(H)** Date of first use | |
| **(M)** Notified Body that performed the CE certification / check | **DEKRA Testing and Certification GmbH**<br>Dinnendahlstrasse 9 - D-44809 BOCHUM<br>Phone : +49 (0) 234 3696 105<br>Website : www.dekra-testing-and-certification.de |

| B | DEVICE PERIODIC | | CHECK SHEET | | | |
|---|---|---|---|---|---|---|
| **No.** | **(O)** Date | **(P)** Reason for check | **(Q)** Name and signature of the person responsible for checking | **(R)** Notes (defects found or other relevant information) | **(S)** Check results | **(T)** Date of next check |
| **1** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **2** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **3** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **4** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **5** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **6** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **7** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **8** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **9** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |
| **10** | | □ Periodic check<br>□ Additional check | | | □ Device fit for use<br>□ Device unfit for use<br>□ Device to be checked | |