

FORMWORK
ENGINEERING
SOLUTIONS
EXPERTISE
SERVICE

Alsina





Alsina is an international leading company specializing in the design, manufacture, sale and rental of formwork that is in charge of its own engineering systems development for the implementation of concrete structures.

With over 70 years of experience, Alsina is known for its customer-oriented service and its constant investment in research and development over the years, offering efficient solutions for concrete structures that help our customers to improve the efficiency and safety of their projects through a committed and proximity service in the global market, by innovating and investing in people as a fundamental component of the business.

From its headquarters in Barcelona, with ISO 9001:2015 Certification, the Alsina Group is expanding its working methodology at its centers all around the world, dedicated to the sale and rental of concrete formwork equipment.





REFERENCE IN HOUSING

One of the biggest keys to the company expansion in the recent years is the export of new building systems that have proven effective for over 40 years in Spain. Mecanoconcept: a mechanized slab formwork system that effectively enables saving time in construction process. Nowadays Alsina is working to introduce the Mecanoconcept system worldwide.



CIVIL ENGINEERING

The Alsina Group has a active presence in Civil Works and transportation projects. The construction of roads, bridges, underpasses, overpasses, tunnels in a mine, etc. Also in Industrial Engineering (energy processing plants, processing plants, etc.) and Maritime Engineering (construction of ports, dikes, dams, etc.).



HYDRAULIC PROJECTS

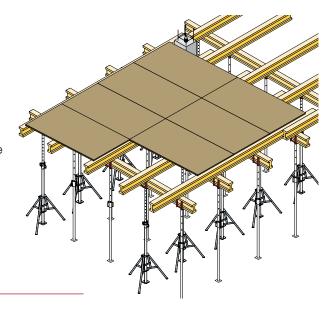
Alsina is the leading company in supplying formwork systems for the implementation of water projects. More than 500-implemented projects in the recent years support our ability to do this type of project: desalination, water treatment plants, reservoirs, etc. We also offer engineering and calculation processes in order to optimize our range of formwork systems.

"We provide solutions for concrete structures." Together, we move forward.

VISTAFORM

Perfect finish adapted to irregular shapes.

Traditional formwork system for exposed slabs composed of structural wood beams, supported by support elements such as props or shoring systems. Both systems are height adjustable. The system allows the distribution of the beams and the shoring in accordance with the weight of the slab to form. It also simplifies the interface with walls and hanging joists as it supports overlap of the wood beams with respect to each other.



- Vistaform is a fast, simple and easily-assembled system.
- A flexible system that adapts to various work configurations.
- Solid, manageable wooden beams; multiple uses possible.
- The HT Beam, made of solid wood, offers great strength and durability. It has stable levels and forms, high quality gluing, and a reduced weight (only 5 kg/m).
- Vistaform can be supported using the Alsina Prop family.
- The Vistaform system can also be supported using the Alsina Shoring System family as long as the height of the slab exceeds 6 metres or the load to be supported is very high.





VISTAFORM TABLE

Economy and simplicity for the assembly of large surfaces.

Highly versatile horizontal formwork system adaptable to a great variety of shapes for the execution of slabs. It is a modular system which, by combining the different measures of the wooden beams, allows a variety of dimensions. The possibilities of different shoring systems adapt the system to the vast majority of situations.

- Multiple uses available due to the HT-20 beam's variety of sizes.
- Easy and simple assembly due to the connection system.
- Different shoring possibilities depending on load and height: shoring system, prop with folding or fixed head, prop with brace frame.
- It incorporates safety elements to protect workers on site.
- Cantilever tables for the slab edge.
- Possibility to choose the quality of the lining based on need.







MECANOFLEX

Flexible formwork system, adaptable to any type of floor shape, no matter how complex. It uses two basic components: Multiple "U" support girder, and girder. Adapting to the work method used by Alsina's customers for over 30 years, the system takes a step further by facilitating the interface between walls and hanging beams by allowing overlap both in the direction of the girders and in the direction of the beams. Phenolic plywood is used for an exposed concrete finish, and it also allows the use of the Alisan family of panels.



Flexible system to execute any concrete slab with maximum safety.

LIGHTWEIGHT SYSTEM

The system is light for manual handling while providing a much higher load capacity than traditional systems, generating a lower cost of labor and equipment.

FLEXIBLE AND PRODUCTIVE

The multiple U-shape joist bearer and the Joists have been designed to be overlapped in both directions, allowing the Mecanoflex system to adapt to all perimeters.

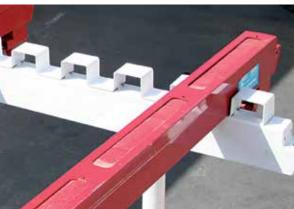
Produced in several length measurements in order to facilitate coverage between walls and to allow the overlap to be as minimum as possible in terms of material as well.

MECANOFLEX HANGING BEAM

Formwork system designed to implement hanging beams on site. The Alsina Mecanoflex Hanging Beam solution is formed by just two elements, which have been designed to ensure a safe and quick assembly. The use of this solution greatly increases productivity of works, making it possible to save in terms of labor and material costs.

- Braced system: when girders are secured in their corresponding housing, they cannot slip.
- The semi-rigid coupling system makes assembly easy and guarantees a highly-stable assembly.
- Allows the board/phenolic board to be nailed to the girder thanks to the wood incorporated inside it.
- Flexible and versatile: adaptable to different slab shapes.
- Facilitates the interface between walls and beams to be able to overlap each other both for girders and support girders.
- Just one system addresses the entire structure, thus increasing productivity. This factor translates into significant savings in materials and labour.
- Structural components made of high resistance steel.









| ALISPILAR

Formwork for columns in 15 minutes.

After many years working with column formwork systems, Alsina has developed a product that considerably improves the working method for the execution of standard columns in building. The system consists of a high-strength steel frame and a 12 mm phenolic plywood lining that gives it a higher quality concrete finish.

| Panel width of 50 cm | Panel width of 68 cm | Panel width of 70 cm | Panel supplements 10 cm |
|----------------------|----------------------|----------------------|-------------------------------|
| 3 x 0,50 m | 3 x 0,68 m | 3 x 0,70 m | 3 x 0,10 m |
| 1,40 x 0,50 m | 1,40 x 0,68 m | 1,40 x 0,70 m | 1,40 x 0,10 m |
| 0,80 x 0,50 m | 0,80 x 0,68 m | 0,80 x 0,70 m | 0,80 x 0,10 m |
| The 50 cm | The 68 cm | The 70 cm | |
| panel covers | panel covers | panel covers | |
| columns | columns | columns | |
| measuring | measuring | measuring | |
| between 20 to | between 25 to | between 20 to | |
| 40 cm usable | 60 cm usable | 60 cm usable | |
| surface 5 cm. | surface 5 cm. | surface 5 cm. | |







EASY ASSEMBLY

Alispilar means less manual labor during assembly and form removal of the columns. A quick and easy joining system; with only one hit of a hammer the wedge and the bolt included in the panel are easily secured, leaving the panel assembly fully assembled.



MANUAL, WITHOUT CRANE

Alispilar allows manual assembly without the need for a crane. Weight reduction, 50% less than other systems, but maintaining the admissible pressure $(80 \text{ kN}/\text{m}^2)$.



SMOOTH FINISH

The phenolic formwork surface has multiple advantages compared to metal surfaces; less weight, better finish of the concrete, better performance, greater resistance (does not rust or dent).



- Light, thanks to the light weight of the panels.
- Fast, thanks to its easy assembly.
- Cost-efficient, thanks to the finish offered by the phenolic surface.
- Panel made of high resistance steel.
- Weight of the Alispilar panel: 30 kg/m².
- Panel available painted or galvanized
- Maximum pressure: 80 kN/m^2 .
- Phenolic formwork surface 12 mm thick with protection of 220 gr/m² giving an optimum number of repetitions.
- Anchoring components incorporated in the panel.
- Execution of columns up to 60 x 60 cm without any connecting fittings or through threaded bars, which increases productivity on site and eliminates losses of accessories.



ALSINA CHAMFER STRIP

For better finishing the edge of the column, use the Alsina chamfer strip. Also prevents the grout of the concrete from leaking out. This accessory adheres to the panel using a spring especially designed for this purpose. It does not have to be nailed in and therefore avoids damaging the phenolic surface.

| ALISPLY MANUAL WALLS (HANDSET)

Modular formwork system designed for use manually or with a crane for the production of exposed concrete walls and columns. Its strength and versatility, using standard components, make it a product capable of providing a solution in the majority of circumstances encountered in Construction and Civil Engineering.



- Weight of the panels 30 Kg/ m².
- Pressure rating: 60 and 80 kN/m² depending the panel.
- Complies with DIN 18202 Standard.
- Modules 3.00, 2.70 and 1.50 m high.
- The holes for the tie bars are not located in the frame, which improves the finish and allows production of sloping walls.
- Plywood drill protection with bonded PVC sleeves.

Light and reusable manual wall formwork.









LIGHTWEIGHT SYSTEM

Really lightweight system, ideal for projects that do not contemplate using a crane. Nevertheless, thanks to the wide range of system accessories, large screens can be mounted, using a crane for handling and positioning.

VERSATILE AND RESISTANT

Due to the great variety of modules and accessories, any kind of wall can be erected with panels and also allow for polygonal walls.

FAST ASSEMBLY

The Alisply Manual Clamp joins, aligns and strengthens the panels in one single operation, without the need for tools. It is not necessary that the clips coincide with the position of the ribs since a pressure regulator is provided.

PROFITABLE

Manufactured with a galvanized steel structure to protect it from corrosion. The formwork surface is a 12 mm thick phenolic plywood board, protected with 240 gr/m² melamine that provides a fairfaced concrete finish.

MULTI-HOLE

It has a multi-hole corner with a design that facilitates stripping at the corners. This corner has a fully perforated slide, which helps to solve multiple widths with the same element, thus increasing performance and productivity.

- The metal frames have a galvanized finish, and the accessories have an electrolyte zinc finish that protects against corrosion.
- Minimal use of accessories improves productivity and minimizes the risk of losses on site.
- The quality of the phenolic plywood ensures a quality finish for the maximum number of repetitions.

ALISPLY WALLS

Removable formwork system for concrete walls, designed to be handled by crane. Large surface areas (3 and 6 m2) can be created with minimal space between the panels due to its carefully researched reinforced steel structure. This allows the wall to have a finish without excessive imperfections.



- Pressure rating: 60 kN/m².
- Only two ties at 3 m in height.
- The holes for the tie bars are not in the frame, which improves the finish and allows production of sloping walls.
- Plywood drill protection with bonded PVC sleeves.
- The metal frames have a galvanized finish, and the accessories have an electrolyte zinc finish that protects against corrosion.
- Unique system for panel connection with manual clamps: Quick and tool-free installation.
- No need for aligning bars.
- Allows vertical and horizontal panels to be combined.

System with a manual clamp, no need for a hammer.

GR-2 CLAMP

The Alisply GR-2 clamp joins, aligns and braces the panels in one step without having to use tools. It is not necessary to have the clamps coincide with the position of the cross beams. It has a presure regulator.

LIFTING BRACKET

Essential element for the movement of the wall modules with crane. Quick, easy and manual positioning; has a safety device that prevents accidental opening.

BATTERED WALLS AND STEPPED FOOTINGS

Alisply Panels have been designed so that when the Dywidag tie bars are inserted, the steel frame is not touched, This facilitates the construction of sloping walls. The Clamp can be attached to any part of the steel frame, enabling the construction of stepped walls.

QUICK SYSTEM

The Alisply Wall System, along with its accessories, is designed for quick and easy assembly. The support of the 15 cm framework facilitates assembly and alignment of the panels.

SMOOTH FINISH

With a phenolic resin-coated plywood formwork surface of 15 mm, it provides a fair-faced concrete finish and allows for the defining of the texture of the concrete through the positioning of chamfer strips or other components that easily adhere to the lining.













ALISPLY CIRCULAR

Circular wall formwork system, to be handled by crane, consisting of a galvanized steel frame and a phenolic plywood surface. The modules are pre-assembled from the factory and only need to be given the radius on site. The panel incorporates the necessary elements, and does not require any special tool to bend the phenolic board.



PREASSEMBLED

The Alisply Circular modules are preassembled at the warehouse, and only require to give it the correct radius at the job site.



EASY ASSEMBLY

The panel includes the necessary elements to change the radius and special tools are not required.



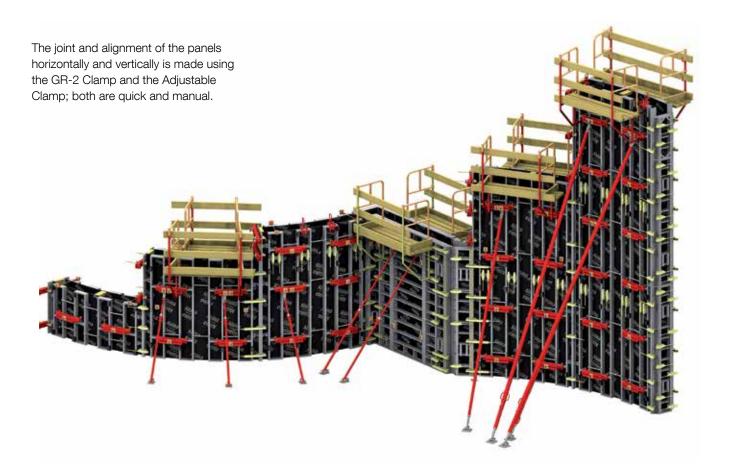
VERSATILE

The modules adapts to each radius on site, so they are useful to implementing differents kinds of circular walls.



Pre-assembled circular wall can be connected to the straight wall with a clamp.

- Metal frames and phenolic board formwork surface. Formwork of up to 250 cm minimum inner radius with pressures of 60 kN/m².
- Plywood thickness of 1.8 cm
- Pre-assembled and extra flat module.
- Vertical and horizontal connection with clamps.
- Threads protected from knocks and concrete.
- Accessories and joints compatible with Alisply Walls.
- Unique reinforcement system for the end jamb.
- Radius change without the need to disassemble the wall.
- Template does not require trestles.
- Optional supplemental offsetting components integrated with the panel.



STEEL ROUND COLUMN

Connectable circular panel with straight panel clamp.

The Steel Round Columns allow for the creation of round columns or shielded columns with semicircular ends. Likewise, when the Alisply profile is on the ends, the joints are made with the GR-2 Clamp. This characteristic makes it totally compatible with the Alisply product range and offers quick and easy assembly.







GR-2 CLAMP

Designed with the same profile as the Alsina Alisply systems, are ideal for quick and easy joining between panels with the Alsina GR-2 Clamp.



COMPATIBLE

Steel round columns are very versatile on site because of their compatibility with other formwork systems such as Alisply Walls or Alisply Universal.



ELIPTICAL COLUMNS

The half pillars are designed with the Alisply profile, allowing quick and easy joining when setting up eliptical columns.



- The metal panels support a maximum pressure of 100 kN/m².
- Made of sheet metal with reinforcing cross beams.
- Alisply Steel Columns Piles from Alsina are manufactured from highly resistant,
 3 mm thick steel, a quality that provides greater resistance and better efficiency on site
- The design of the panel stops the components from sliding, making their transport and stacking on site easier.
- Available sizes: Diameters from 20 cm to 200 cm, with intervals of 5 cm up to 100 cm in diameter; and with intervals of 10 cm up to 200 cm in diameter.
- Lifting bracket: Hook used for moving the panels with a crane.
- Concrete finish with smooth surface.
- Speed and ease in assembling and dismantling formwork.

INTERIOR CLIMBING SYSTEM

System for joint movement of climbing and formwork systems.

System designed for safely carrying out: interior climbing systems in hollow column formwork, elevator shaft formwork and all types of hollow structures with multiple sections. The Interior Climbing System has simplicity as a design principle: it is very easy to assemble, without the need for tools and movement is quick and simple.

- Enables carrying out a wide variety of regular interior sections.
- Versatile system: The use of Multiform beams makes it possible to offer an
 optimum solution for each section without the need to manufacture customised
 elements.
- Simple System: Fast and easy pin-based assembly that does not require tools.
- The anchoring systems allow the platform to be automatically raised and secured at a higher level by simply pulling the platform with the crane. Neither the climbing platform nor the support need to be disassembled.
- Climbing on the inside of hollow structures means that formworking material is supported from within without a need for using ground-based scaffolding or bracing elements.
- This saves considerable amounts of material and labour.





MULTIFORM CLIMBING SYSTEM

Highly versatile climbing system.

System designed to anchor different types of structures to a wall using the Multiform system. Its most frequent use is as a climbing platform. Given the versatility of the Multiform system, it can be adapted to both standard shapes and special solutions. Makes it possible to safely climb walls to formwork heights of up to 6 m.

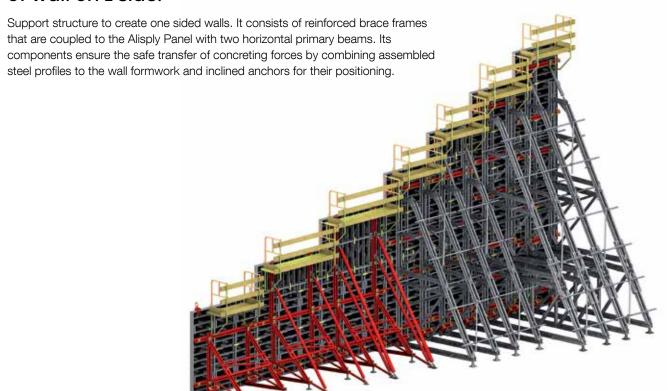
- Offers a large number of on-site solutions using standard material.
- Possibility of using the MF climbing bracket in a tilted position, either forward or backward, with all the work platforms in a horizontal position.
- Easily addresses both tilted and broken walls.
- Adjusts the position of the formwork before pouring the concrete with precision.
- Maximum formwork height up to 6 m.
- Maximum width of the frame spacing up to 6 m.
- Worker safety when moving between platforms, and during all stages.





ONE SIDED WALL

System for reaching up to 9 m of wall on 1 side.



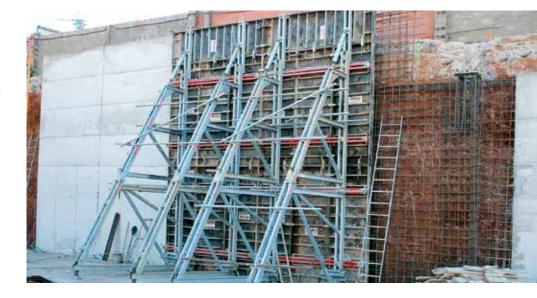
• 3-5 M HEIGHT

- Easy to assemble, versatile system.
- Low bulk and easy to transport and move through the site.
- Permissible pressure: 60 kN/m².
- Maximum height 3.30 m.
- This element can be moved together with the Alisply Wall formwork system.



6-8 M HEIGHT

- Permissible pressure of 60 kN/m² (up to 7 m high).
- Adjustable front support: allows formwork adjusting to the ground, preventing concrete grout leak.
- A variety of crane lifting points are available, depending on gravity loads.



9 M HEIGHT

- Permissible pressure: 40 kN/m².
- Easy assembly between brace frames.
- Does not require disassembly of the formwork from the Upper Brace Frames when the brace frame is placed under 9 m.
- A variety of crane lifting points are available.





BRIDGE DECK MULTIFORM

Easy to assemble and versatile system

Multiform is a formwork system used for: Bridge decks, large thickness slabs and headers or platforms, bridges, underpasses and overpasses. This is a modular system consisting of elements that are easy to assemble and adapt to a variety of geometrical shapes due to their flexible configuration according to the corresponding technical study. All the elements of the Multiform Horizontal System have been designed to resist site conditions and provide a long service life.



The Multiform System has been designed to adapt easily to complex geometrical shapes in the construction of bridges, underpasses and overpasses, while maintaining its reusable formwork feature.



The structure formed by the steel primary beams and the wood secondary beams allows the configuration of the wall depending on the load it has to bear, thus optimizing formwork elements and costs.



One of the its design premises has been to ensure high levels of rigidity once it has been assembled. This greatly facilitates the formwork removal and the later use in a new pouring site, providing high productivity at the site.

AR SHORING

Fast and versatile shoring system, ideal for heavy loads.

AR Shoring is a support structure for slab formwork. Its most outstanding feature is its high bearing capacity: 80 kN per support. It is based on a Shoring system with multidirectional connections. Easy to assemble and used by a vast number of construction professionals, it provides support for both independent towers and fixed shoring, depending on application requirements.

- Load capacity of 80 kN per support.
- Allows shoring for surfaces with complex shapes, such as inclined slabs, semi-spherical domes or adjusted surfaces.
- Allows adapting the distribution of the support structure to each specific application, thus optimizing resources and costs.
- It can use phenolic boards for exposed finishes or the Alisan Board for standard finishes.
- Easy assembly with components, can be handled by a single worker.
- Connections with wedges minimizing the use of nuts and bolts.





H33 TRUSS

Perfect system to solve large spans for bridges solutions.

The H33 Truss it is a reliable system designed to solve large spans for bridges solutions. It also allows to develop different applications as gangways and pier cap and other structural solutions.

The assembling is very fast to do it, bracing normally in pairs two trusses with elements that ensure the distance between then in some widths. Thanks to their extraordinal rigidity, the assembling can be moved from one to another position.

- Modular system with different lengths up to 30m of spans.
- Different bracing widths to the fit to the required solution (0.4 0.7 -0.92 -1.65).
- Counter bow system for ensuring flats results.
- Up to 2,4m height pieces easy to be packed and shipped.
- Easy and fast assembling with few components.
- Bending moment of 150Tn/m of capacity.
- Complete and integrated safety system.
- Galvanized to ensure a large life span and worst place conditions.





TC360 HEAVY DUTY TOWER

High load capacity system for shoring civil works structures.

MF shoring system is a modular shoring system with a high load capacity designed mainly for shoring civil works structures. The main advantage of the system is that it shares many pieces from the MF system that makes the system extremely versatile. It can solve almost any solution without especial pieces only sharing standard pieces. All the solutions contains the MF beam. Combining the different lengths with all the accessories, allows the system the capacity to solve as mentioned previously.

- Few parts allows different shoring configurations.
- Quick and safe one-site erection.
- Heights up to 30m.
- Jacks extensions for any Camber and Inclination.
- Fine height adjustment.
- Up to 1400KN of capacity.
- Integrated safety system.
- Hydraulic stripping system.
- Complete bracing system for high capacity assemblings.





ALISAN PLUS PROP

The Alsina Alisan Plus are post-shores with an extension device according to the standard UNE180201 with integrated safety system. They serve as vertical props for temporary structures.

3 M PROP

Height: 3,00 / 1,80 m.Capacity: 15,0 / 22,5 kN.

4 M PROP

Height: 4,00 / 2,30 m.Capacity: 15,0 / 22,5 kN.



G EUROPROP

The Alsina Europrop G are props with an extension device according to the standard EN 1065 with integrated safety system. They serve as vertical prop for temporary structures. They also come with a quick release system which reduces their removal time.

G30 PROP

Height: 1,80 / 3,00 m.Capacity: 30,0 / 20,0 kN.

• G40 PROP

Height: 2,30 / 4,00 m.Capacity: 30,0 / 20,0 kN.

• G50 PROP

Height: 2,80 / 5,00 m.Capacity: 30,0 / 20,0 kN.



SITE STAIRS TOWERS

Auxiliary element that facilitates safe access and movement of employees in the work site. The Alsina access ladder, with 1.57 x 2.57 m base, has various sections allowing access to even and uneven height ranges, braced to structural elements.



REINFORCED SCAFFOLD

Thanks to its multidirectional rosette, the Reinforced Scaffold provides a series of platforms and accesses for work at heights in complete safety, such as the placement of ironwork or formwork or the pouring of concrete on walls, as well as painting tasks on facades or related to the final finish of vertical structures.

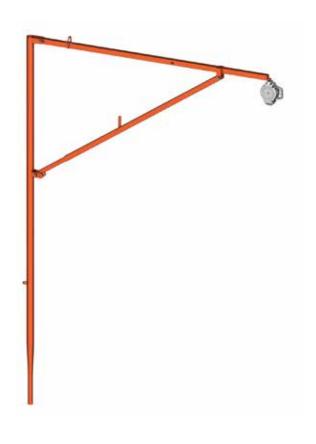


| ALSIPERCHA

Fall protection system

www.alsipercha.com

Individual protection system which provides an anchoring point above workers, enabling them to safely carry out tasks to place: boards, guardrails, safety netting, formwork risers and all situations in general related to formwork assembly entailing the risk of falls from heights. Significantly increases the protection of workers on site, acting as a complement to collective protection.











PREVENTIVE - FALL FACTOR "0"

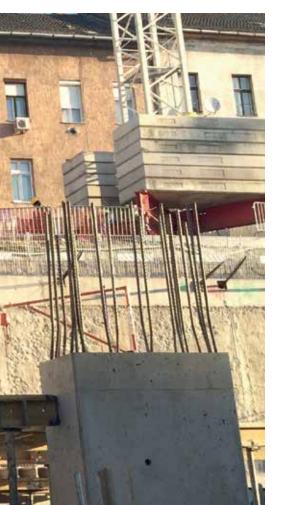
The SRL connected to the upper tube of the Alsipercha, stops the descent of the worker in case of fall.

PRODUCTIVIVTY

The confidence of the user that feels that is fully protected against falls when using the Alsipercha, contributes to increase the productivity. In case of fall, the user can recover the original position and continue working in just a few minutes.

PERIMETERS AND HIGH FLOORS

Highly efficiency protecting workers against fall from heights at the most critical situations in jobsites: perimeters and high floors. Perfect to protect workers during the installation of guardrails, wooden panels or edge protection systems.



- Provides a fall factor "0"
- Structure made of high-quality elastic steel, providing a 360° free rotation, maximizing the freedom of the worker.
- To be inserted into a housing tube pre-installed on the concrete structure (column / wall).
- Built-in energy absorber that reduces the impact forces transmitted to the user and the structure, in case of fall.
- Provides a safe area up to 125m² (aprox), and a working radius of 6,5 m.
- Combined with the use of a SRL.
- Steel structure of 80kgs, made of high-quality and elastic steel (elastic limits 42 46 Kg/mm², breaking limit 61 76 Kg/mm²)
- Designed to be moved and handled by crane.
- Wide range of accesories, for multiple applications on jobsites.
- Up to 2 users connected simultaneously.

ALSINA PHENOLIC PLYWOOD

Resistant and quality finish.

Traditional formwork system for exposed slabs composed of structural wood beams, supported by support elements such as props or shoring systems. Both systems are height adjustable. The system allows the distribution of the beams and the shoring in accordance with the weight of the slab to form. It also simplifies the interface with walls and hanging joists as it supports overlap of the wood beams with respect to each other.











VERSATILE

For the manufacture, we took advantage of the fact that wood is a renewable resource, biodegradable, recyclable and does not pollute the environment. The birch wood, which is used for the sheets that make up the phenolic resin-coated plywood board, comes from forests with controlled logging.

RESISTANT

The plywood board is formed by a series of wood counterlaid layers, glued and pressed together. This type of manufacturing, together with the phenolic layer on their outside faces, makes the phenolic board resistant, light and insulated against humidity. The number of internal layers will increase according to the thickness of the board.

PROFITABLE

The phenolic board, unlike sheet metal, does not dent, rust or leave marks on the concrete; it produces an excellent fair-faced concrete finish. Depending on it is treated by the workers on site, the number of times it can be reused can be increased considerably and with this, its cost-effectiveness is increased.



ALSINA CONCRETE AGENT RELEASE

Chemical agent for the maintenance and protection of the formwork surface in wall and column formwork systems. Free from mineral oil and chlorine, it is a non-toxic product that prevents the adhesion of concrete and mortar of all types of formwork, protecting their useful life and offering great advantages. Alsina release agent is an ideal accessory for the preservation of wall systems.



CONSUMABLES AND ANCHOR PARTS

Accessories for wall and climbing formwork.

Alsina consumables are dependable and of the highest quality—they make reliable formwork a reality. They are also cost-effective because of their ease of assembly and use on-site.



| 40040 | Tie bar | Tie bar that passes through the concrete and secures the panels with the plate and the nut. |
|-----------------------------|---------|---|
| a ₁ = 15 mm | | Material: St 900/1100 |
| $a_2 = 17 \text{ mm}$ | | Weight: 1,44 kg/m |
| L= Variable up to max. 15 m | | Working load: 90 kN |
| L= galvanized max. 6 m | | |



| 53302 | Wing nut | Nut used to attach the tie bars. |
|---|----------|--|
| a= 95 mm h= ø36 mm h = 54 mm SW= 27 mm | | Material: GE 300 - EN-GJMW-400-5 Weight: 0,32 kg Working load: 90 kN |



| 53303 | | Plate for wing nut | Wing nut support plate. |
|----------------|----------|--------------------|--|
| c= 10 h= 21 | c= 10 mm | | Material: S235JR Weight: 1,05 kg Working load: 90 kN |



| 44001 | Wing nut w/ plate fix union) | Wingnut and plate with fix union. |
|------------|------------------------------|-----------------------------------|
| a= Ø100 mm | | Material: EN-GJMW-400-5 |
| h= 55 mm | | Weight: 0,59 kg |
| SW27 | | Working load: 100 kN |
| | | Girder spacing: 35 mm |



| 44002 | Wing nut w/ plate (articulated union) | Wing nut and plate with articulated union. |
|----------|---------------------------------------|--|
| h= 65 mm | | Material: EN-GJMW-400-5 Weight: 1,05 kg Working load: 100 kN |



| 44060 PVC Tube D/22-26 | Tube that protects the Dywidag tie bar so that it can be removed and reused. |
|--|--|
| Inside ø mm= 14-32 Outside ø mm= 19-36 Length= 2m Weight: 0,12 kg Packaging: Free of halogen-containing compounds, azo dyes, flame retardants. | Material: Polyvinyl chloride (PVC) Free of CFC, HFC Without substances of very high concern according to the candidate list of ECHA (REACH Regulation) |



| 44061 | End Cone PVC 22/26 | PVC Cone used to seal the tube, which protects the tie bar. |
|----------------------|--------------------|---|
| For tube ø mm= 20-32 | | Material: Polyolefin (PO) - Free of CFC, HFC Without substances of very high concern according to the candidate list of ECHA (REACH Regulation) |



| 84036 | Water stop element A-P2 | Waterproof component. |
|-------------------------------------|-------------------------|--|
| a= Ø26 mm b= Ø65 mm L= 112 mm | | Material: GS - 20 Mn 5 Material EN-GJMW-400-5 Weight: 0.51 Kg Working load: 100 kN |



| 44081 | PVC Tube D/26-30 | Protective component of the dywidag bar. |
|-------|------------------|--|
| " | nm= 19-46 n | Material: Polyvinyl chloride (PVC) Free of CFC, HFC Without substances of very high concern according to the candidate list of ECHA (REACH Regulation) |

| OUTSTANDING PROJECTS

Riyadh Metro (Riyadh, UAE)



Navayuga Polavaram Dam Project (Polavaram, India)



Commercial and residential building BD46 (Dubai, UAE)





Mumbai Metro (Mumbai, India)



Farjan project (Dubai, UAE)



MHTL Mumbai Transharbour sea link (Mumbai, India)



Akoya 4 Towers (Dubai, UAE)



Intercontinental Hotel & Resort (Ras Al Khaimah, UAE)



Residential building in Health Care City (Dubai, UAE)



