











Engineering
Safety
Expertise
Service

# ALSINA

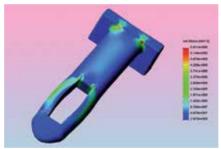
#### ► Alsina Mission

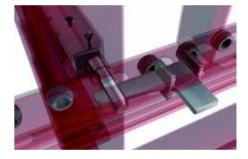
"To offer Solutions for Concrete Structures that help our customers improve efficiency and safety in their projects, through a committed service and proximity in the global market by innovating and investing in our workers as a key component of the business."



Alsina works under the quality standard ISO 9001:2008 certification. The scope covers the activities of: sales, rental and maintenance of formwork equipment, including the design, the manufacture, the assembly and the distribution of our systems.















### **▶** Engineering

In Alsina we invest heavily in R&D in order to add value to the industry. The Alsina engineering department has created more than 100 patents and utility models.

This has enabled the implementation and industrialization process of "cast in place" concrete structures, in addition to providing added value in security and ergonomics.

### **►** AlsiTec

We offer on site consultation and safety advice to help our customers work safely and improve productivity in each project.

The Alsina Technical Office combines its staff experience with advanced CAD systems and self-developed software to do this job.

#### Bench mark in building

One of the key factors for the succesfull international expansion of the company in recent years is the export of new building systems based on proven experience for over 40 years in Spain. Mecanoconcept: a mechanized slab formwork system that effectively enables saving time in the construction process. Alsina is currently endeavoring to introduce the Mecanoconcept system worldwide.



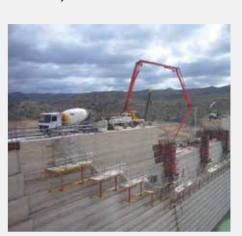
### ► Civil Engineering

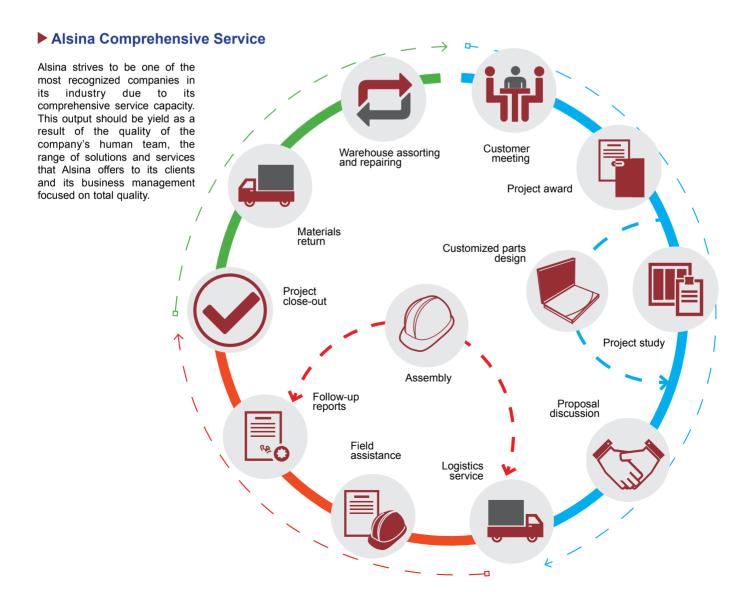
The Alsina Group is actively present in Civil Works and transportation projects. This includes the construction of roads, bridges, underpasses, overpasses, mine tunnels, etc., as well as Industrial Engineering (energy processing plants, processing plants, etc.). We have a partnership agreement with the Rúbrica firm regarding Marine Engineering (construction of ports, dikes, dams, etc.).



### ► Hydraulic Projects

Alsina is the leading company in supplying formwork systems for the implementation of hydraulic projects. Over 500 succesfully implemented projects in recent years validate our ability for constructing these types of projects: desalination, water treatment plants, reservoirs, etc. We also offer engineering and calculation processes in order to streamline formwork systems.



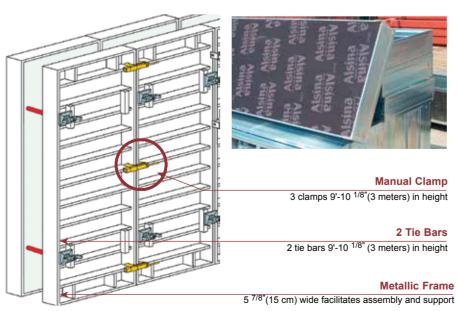




Flour tanks and factory in Salara, Italy

# **Alisply Walls**

A recoverable formwork system for concrete walls, designed to be crane-handled. Alisply Walls consist of a reinforced galvanized steel frame lined with 9/16" (15 mm) thick phenolic plywood.













#### **Features**

- The Manual Clamp can be connected to any point along the frame. It's unique shape joins and lines up forms, and allows off-setting panels in certain applications such as slopped walls.
- Alisply is available in 10 different widths for each of 2 different heights.
- Alisply's Lifting Bracket for crane operation is easy to place, and includes a safety lock.
- Due to tie locations in the Alisply forms, both sides of the wall may be off-set as well if required by jobsite conditions. Alisply ties are not allocated through the frame but through the plywood, allowing angle settings.
- Alisply walers allow big form sets to be moved together.
- 3 different brace sizes, 3m (9'-10"), 6m (6'-6") and 90 (29'-6") to accommodate any stack-up configuration.
- Phenolic plywood face provides an excellent concrete finish.











Thomas P. Smith Waste Water Treatment Plant, United States

# **Alisply Circular**

Formwork system for circular walls designed for crane handling. Alisply Circular consists of a galvanized steel frame and phenolic plywood formwork surface.



Alsina's Alisply-C forms ship flat, for best accommodation of truck loads and on-site storage.



Just a template and a common wrench are required for radius adjustment.



Alsiply-C forms adjust to any radius (min. 8ft) by an easy operation which can be performed on site and as many times as required by the project conditions.



Alisply manual clamp for panel connection makes Alisply straight walls and Alisply Circular walls totally compatible. The transition from straight to circular or viceversa does not require any additional equipment.



Built-in turnbuckles make changing radius an easy and quick operation.



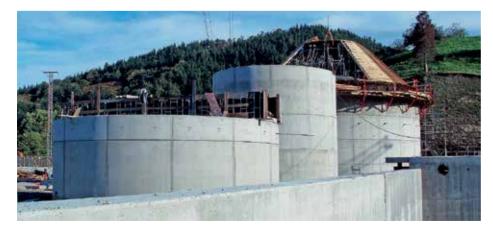
Reinforced system with end tensors ensures correct radius curving in the panel.



Alisply Circular makes it possible to build one-sided circular walls by using brace frames. Wall height from 8 to 30 feet.



Compatible with Alisply Walls due to the same frame profile and same connection clamp.



It offers the possibility of an class-B concrete finish thanks to the use of its phenolic plywood formwork surface and the design of the panel and accessories.



Compatible with climbing systems for an easy and fast execution of high circular walls, without the need to disassemble the walls.



Koontz Lake Waste Water Treatment Plant, United States

# **Alisply-M Walls (Handset)**

Recoverable formwork system for concrete walls, designed to be hand-set (weight: 6 lbs per sq.ft [30 kg/m $^2$ ]). The diversity of sizes and accessories, the surface of the phenolic plywood, its light weight and the fast clamping mechanism make the system manageable, effective and quick to assemble.











#### **Features**

- It is a very lightweight system, ideal for projects that do not include the use of a crane. Nevertheless, thanks to system accessories, large screens can be mounted, using a crane for lifting and positioning.
- The Alisply Manual system and its accessories are designed for fast and easy assembly.
- Due to the large variety of modules and accessories, any kind of wall can be erected.
- The Alisply Manual Clamp joins, aligns and strengthens the panels in one single operation, without needing any tools.
- The Walkway Bracket is an essential element for the operator's safety while pouring the concrete.
- The Alisply Manual System has a retractable corner with a design that facilitates stripping operations.





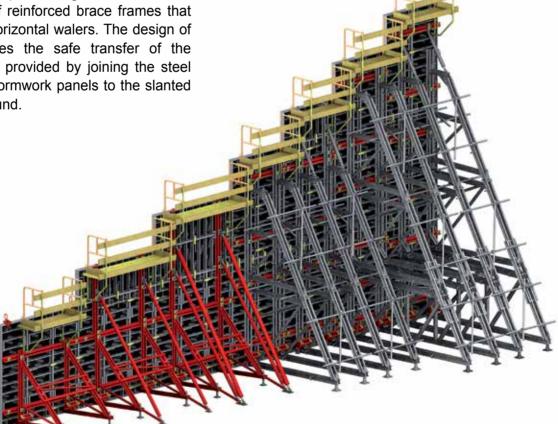




DeVos Children Hospital, United States

### **One-Sided Walls**

Support structure for implementing one-sided walls. The system consists of reinforced brace frames that are coupled with two horizontal walers. The design of its components ensures the safe transfer of the concrete loads. This is provided by joining the steel brace frames and the formwork panels to the slanted anchorages on the ground.





### One-Sided Wall 9'-10 1/8" (3 m) in height

- Easy to assemble, versatile system.
- Light and easy to transport and move through the site.
- Allowed pressure: 1,250 psf (60 kN/m<sup>2</sup>).
- Maximum height 10'-9 15/16" (3.30 m).
- This element can be lipted together with the Alisply Wall formwork system.
- Accessories up yo 16.5 ft height.



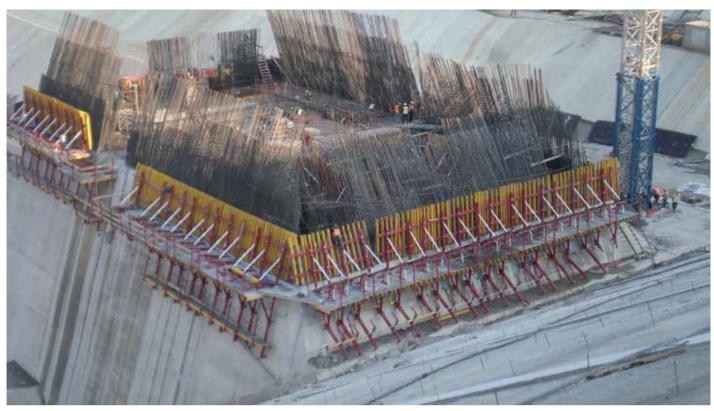
### One-Sided Wall 19'-8 1/4" (6 m) in height

- Allowed pressure of 60 kN/m $^2$  (up to 22'-11  $^{9/16}$ " [7 m] high).
- Adjustable front support: allows formwork adjusting to the ground, preventing concrete grout leakage.
- A variety of crane lifting points are available, depending on gravity loads.



### One-Sided Wall 29'-6 5/16" (9 m) height

- Allowed pressure of 40 kN/m<sup>2</sup>.
- Easy assembly between brace frames.
- Disassembly of the formwork from the Upper Brace Frames is not required when the brace frame is placed under 29'-6 5/16" (9 m).
- A variety of crane lifting points are available, depending on gravity loads.



Martil Dam in Tetouan, Morocco

### **Multiform Vertical Walls**

A reusable heavy duty formwork system for straight walls with all sorts of polygonal shapes and architectural concrete finishes.



Designed to adapt easily to complex and irregular shapes, while maintaining its capacity as reusable formwork.



Easily assembly on site using common tools. Multiform connector reduces transportation and saves time and storage costs.



Multiform Vertical makes panel joints nearly invisible since plywood are butted, it offers a fair faced concrete finish.



Residential complex in Spain

### **Alsipercha**

This is an individual protection system whereby installation procedures involving panels, guardrails, gallows-type safety nets, formwork risers and generally all formwork assembly activities that entail the risk of falling from heights can be carried out in an entirely safe manner.





#### Features of the system

- Inverted "L", allowing 360 degree rotation, providing full freedom to work.
- It is inserted into a conical tube pre-installed on the concrete structure (column / wall).
- Allows the worker to work safely covering an area of 1345.49 ft<sup>2</sup>, and moving within a radius of 21'-3 <sup>7/8</sup>" around the column.
- Built-in SHOCK-ABSORBER device that reduces the forces transmitted to the column / wall in case of an accidental fall.
- Structure weighing 176.37 lb, made of high quality steel (elastic limit 59,738 - 65,427 psi [42 - 46 kg/mm<sup>2</sup>]; breaking strength 86,762 - 108,097 psi [61 - 76 kg/mm<sup>2</sup>]).
- It is employed with a retractable device that locks whenever abrupt acceleration is generated.
- It is designed to be moved by a crane.
- It includes accessories that enable adjustment to any on-site situation that may arise, thus ensuring operator safety at all times.
- This system is designed for column heights up to 26'-2 15/16" and it does not require external assembly workers.
- Standards and certificates: OSHA 1926.502, ANSI Z359.6, CSA Z259.16, CE Certificate (DGUV-BG BAU), Applus, UPV. DIN EN:795.



Museum Extension in Lugano, Switzerland

# C-160 Climbing Platform

With the C-160 Climbing Platform system, it is possible to build shearwalls and walls using climbing cycles with pouring heights up to 13'-1 <sup>1/2</sup>"(4 m) while ensuring total safety for workers. The assembly of the climbing platform and its safety platform can be carried out on the ground, before positioning it on the wall, or by placing the brackets onto the anchorage rings and assembling the platform later.



The platform is 5'-3" (160 cm) wide and safe. Clean space for moving and working freely without obstructions such as: beams, platforms, etc.



The C-160 Platform can implement formwork sets with lengths up to 9'-10  $^{1/8}$ " (3 meters) and formwork heights up to 13'-1  $^{1/2}$ " (4 meters). Compatible with all Alsina's wall formwork systems.



Waste Water Treatment Plant in Toledo, Spain

# C-240 Climbing Platform

With the C-240 Climbing Platform system, it is possible to build shearwalls and walls using climbing cycles with pouring heights up to 19'-8  $^{1/4}$ "(6 m) while ensuring total safety for workers. It can be positioned using M-24 tie bars or using Steel Cones.



Formwork operations are carried out using a rollback device that separates the formwork 2'-5 <sup>1/2"</sup> (75 cm) from the wall, allowing the joint movement of the platform and the formwork without having to remove the formwork



The platform is specially designed to provide safety and facilitate the work of the operator, keeping the floor space completely free of obstructions, such as: beams, platforms, etc.



The C-240 Climbing System allows joint movement without removing the formwork system from the platform.

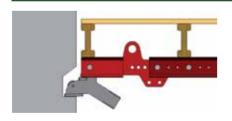


Lakepark Crescent Residential, United States

# **Interior Climbing System**

A system designed for safe performance of: interior climbing systems in hollow pier formwork, elevator shaft formwork moreover and all types of hollow structures with multiple sections.





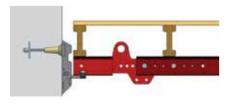
Interior Climbing Set with the Toggle Support embedded in the concrete wall.



Reusable Box



### **Cast-in Anchor Solution**

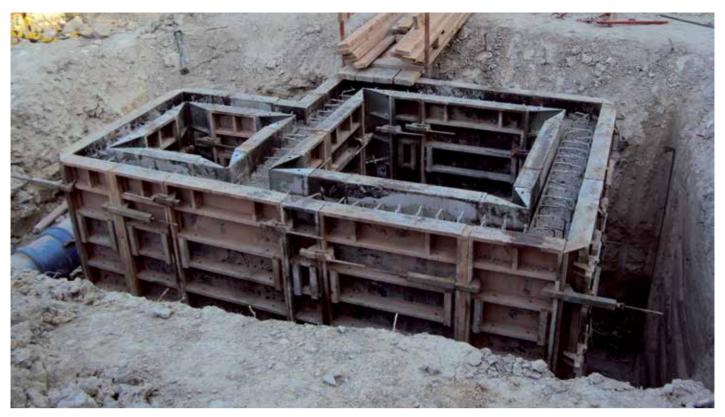


Interior Climbing System with the Cast-in Anchor anchored in the wall.



Cast-in Anchor





Hospital Extension in Barcelona, Spain

# **Triple-Hinged Corner**

The Triple-hinged corner developed by Alsina is the current and costeffective way to form elevator and staircase cores and shafts. With this part it is possible to form and strip shafts and move the complete set easily and quickly to the next stage.



The Triple-Hinged Corner system is easy to use and simplifies forming and stripping. Preassembled thread protected turnbuckles simplify the forming and stripping process.



The Triple-Hinged Corner is manufactured in heights of  $3'-3^{-3/8}$ " and  $9'-10^{-1/8}$ " (1 and 3 meters) and is entirely compatible with the Alisply Walls System.



Its simple design and efficiency optimizes budgets considerably in cases where the hinged corner is used.



Chicago South Project, United States

# **Alupilar**

Alupilar is a handset and adjustable column system. One single panel allows multiple size configurations in 2" increments. Each panels has a wedge and pin mechanism built-in to connect, allowing no loose parts during assembly and providing with a cost-effective performance.



- Light: 4 lbs/sq.ft (20 kg/m<sup>2</sup>).
- Quick; easy assembly, built in parts.
- Plywood face and PVC Chamfer provide a great finish.



Alupilar system includes the following accessories:

- Alsina aligners
- Alsina chamfer strip
- Three panel widths and three heights allow multiple configurations.



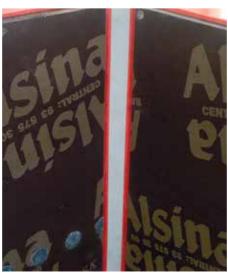




### **Features**

- Panel made of aluminium.
- Weight of the Alupilar panel: 4 psf (20 kg/m<sup>2</sup>)
- Painted in white polyester.
- Maximum pressure allowance: 1,660 psf (80 kN/m²)
- Plywood formwork surface 1/2" (12 mm) thick.
- Inter-panel connecting elements integrated in the frame.





### **Alsina Chamfer Strip**

Element used to chamfer the column edges. Made with a plastic body and rubber lips that seal the concrete grout and improve column edge finishes.

Designed to adhere to the columns by a special spring that eliminates the need to nail it to the frame and the plywood surface.



Miami Ballpark-Marlins Stadium, United States

# **Alisply Multipurpose**

Alisply Multipurpose is based on the Alisply Panel, but with the following modifications: it uses reinforced cross beams with 15 holes for adjustment and allows the system to solve multiple configurations on site, such as columns or bulkheads.



Easy connection by common parts to adjust required column size.



The design of the steel frame makes Alisply Multipurpose one of the most resistant column systems in the market.



The Alisply Multipurpose System is also compatible with Alisply Walls to solve construction elements like bulkheads, beginnings, corners and others on site.



### **Finish**

The phenolic plywood formwork surface provides multiple advantages compared to metal surfaces: lower weight, higher concrete finish quality, an increase in its endurance and greater resistance to the passing of time (it does not rust or dent).



#### **Bulkheads**

Designed for adjusting the formwork to exact dimensions. Allows greater adaptability, with less parts in wall bulkheads, beginnings and overlaps.



The Alisply Multipurpose panel is designed from the basis of the Alisply Wall panel with a steel frame painted with polyester paint, properly reinforced in order to obtain adjustment on all four sides.

The development and design of its metal structure makes the Alisply Multipurpose panel one of the most resistant panels on the market, able to withstand pressures up to 2100 psf (10,250 kg/m<sup>2</sup>).



Baptist Hospital, Miami, United States

### **Mecanoflex**

The most versatile shoring system





The metal joist is the element that is used most frequently, therefore it is lightweight and resistant.



The system consists of two basic elements: Multiple notch stringer and Joist.



The system's structural elements, the stringer and the Joists can be overlapped in both directions or butted instead (built-in secure connection).



Joists with inner wood allow nailing plywood when required.



The Joist includes an inlaid wooden slat which allows the board to be attached and detached easily. Mecanoflex adapts to multiple grids and accomodates to project geometry and slab types, such as post-tensioned, pan-deck, drop-bears, etc.



Mecanoconcept combines Alsina's broad experience in formwork systems for cast in place concrete with value added in safety, productivity and cost-effectiveness.



Miami University, United States

### **Aluflex**

### Ideal mix for high and thick slabs

Innovative slab formwork system that includes a mechanized aluminum beam which increases productivity as compared to traditional systems.









The Aluminum stringer is designed to support and reposition the HT-20 wood beams. It is available in different lengths so that it can be adapted to any dimension.





The wood beam U-head allows the stringers to overlap for best accomodation to existing conditions.





Aluflex system may include safety handrails in both directions. The same guardrail bracket is compatible with aluminium stringer and wood joist.





Rollingwood office building, United States

### **Multiform Table**

Especially indicated for large projects and regular geometry.



Alsina's multiform table includes a swivel post-shore head allowing a collapsed lift and move when required by project conditions.



The hydraulic trolley is designed to facilitate table stripping as well as rolling to the next stage within the same level.



Alsina's self-balanced C-hook allows table crane-lifts in a safe way.









### Design

Alsina's Multiform Table is built with two components, a steel waler and a wood joist.

Alsina's joist connector is unique and fast to set up and provides a cost effective initial assembly.

Different waler and joist lengths allow multiple table sizes to accommodate all project geometries.



### **Versatile**

Several support systems are compatible with Alsina's table. From steel post-shore to aluminum post-shore or scaffold systems. It allows multiple height configurations for best results and maximum utilization.



Comprehensive sales, logistics and technical service



Climbing systems, safe and reliable



Mecano Alsina: Cost-effective and safe shoring solutions



Civil works systems and solutions



Resistant and safe post-shore, shoring and scaffolding systems



Tunnel, harbors, and self-travelers



Columns, pilasters and shear wall solutions



Safety accessories and systems



Straight and curved wall solutions, both crane-set and hand-set



Wide range of accessories for all our systems





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