GENERAL CATALOG
OF PROJECTS
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The descriptions, properties, and illustrations contained in this catalog should only be deemed as general indications and do not imply any guarantee whatsoever nor are they safety references to be applied to the company’s systems. We reserve the right to introduce possible improvements or modifications without prior notice in order to offer the highest quality products.

We recommend consulting with Alsina’s technical department to ensure the proper use of all our equipment, especially when it is used with products from other manufacturers.

The illustrations contained in this brochure refer, in part, to assembly stages and are therefore not always complete regarding technical safety aspects.

For the safe use of our products, please follow the instructions of relevant manuals to the letter and comply with current regulations of each country. If necessary, users may supplement or implement safety measures required under the specific labor laws, rules, and regulations of each country.

Our products are designed to work with our company’s accessories and components. Therefore, it can be dangerous to use our products with other manufacturers’ systems without making the appropriate verifications. We also offer all safety systems necessary for the safe assembly of the equipment. Clients can choose between metal or wood guardrails.

Prior to using the materials, it is important to verify their proper condition; defective or deformed parts weakened by wear, corrosion, or rot must not be used.

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MISSION AND VALUES

**Integrity:** We value integrity above all, and this means being sincere, honest, and true to our word.

**Simplicity:** We conduct business naturally, in a friendly and humble manner, far from arrogance and pride.

**Commitment:** All of us at Alsina are committed to and truly excited about our business plan.

**Teamwork:** For us, teamwork involves coordination, trust, sharing, and generosity; and above all, communication and participation regardless of the level of responsibility.

**Innovation:** We are engaged in constantly searching for new ideas and improvements in everything we do, both in products as well as business processes, in order to be useful to our clients.

**Profound respect for people:** We show special consideration to others, especially to our employees who help create our family business spirit.

**Productivity:** Productivity is the result of capable people who strive in the pursuit of simplicity in processes and decision-making.

**Customer focus:** Our customers are our reason for existing as a company and are at the very heart of everything we do. Our organization and processes are geared to anticipating and meeting their needs.
ALSINA MISSION

“We Offer Solutions for Concrete Structures that help our Customers improve efficiency and safety in their projects through dedicated and integrated service within the Global Market, innovating and investing in People as a fundamental component of the business.”
Alsina strives to be one of the most recognized companies in the industry due to its comprehensive service capacity. This is a result of the quality of the company’s human team, the range of solutions and services that Alsina offers our customers, and our business management focused on total quality.
EXPERIENCE IN COMPLEX PROJECTS
Alsina has 70 years of experience in the industry. Thousands of completed projects back us as one of the leading companies in the industry given our technology and management skills. We are a fundamental part of the business and therefore understand the complexity of carrying out major projects and assume the responsibility of advising and assisting our clients so they can achieve their goals.

Our goal is to offer the most expert services on the market. Therefore all Alsina departments are interconnected in order to offer the best solution in each case and earn our customers’ trust.

COMPREHENSIVE PROJECT MANAGEMENT
Alsina’s sales team consists of professionals who use their experience and professional knowledge to offer cost-effective and decisive solutions. We understand the complexity of projects and are present for our customers so we can listen, advise, and monitor the evolution of the project until it is completed.

We always offer the best alternative to handle your concrete project on site. Rely on Alsina as a strategic partner.

GLOBAL LOGISTICS SERVICE
The logistics service is key to ensuring that the work is carried out within the timeframe specified by the customer. To do this, Alsina has its own network with facilities that ensure the supply of equipment “just in time” to guarantee the formwork rental service.

All of our formwork complies with the same cycle worldwide: delivery on site, implementation of the concrete structure, management of returns, repair of equipment under the quality standards of ISO 9001:2015, and return to the rental warehouse ready for use in another project.
**DESIGN.** The process of designing new systems ensures an orderly procedure in accordance with the standard: Planning product realization consistent with other systems and client specifications. Compliance with product standards and future technology reviews. Control of product compliance pursuant to quality standards.

**MANUFACTURING.** Manufacturing new systems means having full control of: Planning the manufacturing of the product according to the applicable standard. Selection and ongoing evaluation of our suppliers in the supply chain. Quality control of the product in line with quality standards.

**MAINTENANCE.** Control allows us to ensure the homogeneity of processes, methods, and quality on a worldwide basis. Maintenance management systems through normalized and standardized processes. Quality compliance commensurate with product standards on the market. Review of regulations and processes to ensure the required quality at all times.

**ONSITE ASSEMBLY.** The assembly of formwork and scaffolding must be carried out pursuant to law, proper equipment management, and the applicable standard for each execution. Ensuring compliance with the specific standard for the systems used. Ensuring integration in the process of all the companies providing the service. Ensuring the quality of the executions and compliance with the deadlines.

**MARKETING.** Marketing of our services and systems in sales and rental arrangements requires the following: Ongoing validation of the services provided to our clients. Client complaint responses in accordance with the service provided. Measurement and analysis of client satisfaction on a regular basis.

**COLLECTIVE PROTECTION.** This activity requires thorough monitoring of compliance with certifications, technical team management, and the applicable standards for each installation. We perform a study prior to implementation that is consistent with the project and existing regulations. Personnel trained in accordance with the required standards take action. Monitoring and control of the installations done to ensure their validity over time.
Our goal: total quality

Alsina works with the ISO 9001:2015 Certification at its sites dedicated to the sale and rental of equipment for concrete formwork. The scope of this certification includes the design, manufacturing, marketing (sales and rental), and maintenance of our concrete formwork equipment. It also includes the provision of formwork equipment and scaffolding assembly services and the implementation of collective protection at work sites.
Alsina relies on our internal technical office: AlsiTec. It is comprised of professionals with proven experience in studying projects and providing comprehensive and cost-effective solutions. All Alsina specialists are connected through a know-how network which allows them to be involved in ongoing training. Our clients benefit from their combined experience in handling projects worldwide.
ORIENTATION
AlsTec is committed to an efficient response to clients, always based on our extensive experience in the industry and the large number of systems and products available for each type of project.

Thanks to this, we can offer customers the best solution depending on the needs and requirements of the project, whether through our range of more than 65 systems or through different customized solutions.

SOLUTIONS STUDY
Thanks to the AlsiTec engineering department, Alsina offers tailor-made solutions for all types of projects and geometries. We use the most advanced finite element calculation software on the market, on calculation tools developed ad hoc for and by Alsina, and on the latest 3D design software to make these solutions the best.

In addition to the wide and varied number of systems available, Alsina also designs everything from small special parts to new integrated formwork systems, including molds for non-standard geometry. We have the capacity to shape whatever ideas and proposals customers can imagine and present.

In our day-to-day work, we carry out on-site training, accompany and supervise projects, and look for solutions to any problems that may arise.

DIGITAL TOOLS
We have recently incorporated the latest and most advanced technologies available on the market, with the intention of enhancing our digital tools to offer a more effective and personalized system for every need.

When demanded by circumstances, we can provide our services remotely and virtually. Thanks to tools such as Alsina InTouch or RA, we can show you the best solutions for your project virtually and interactively, remotely accompany you during their execution, make all the necessary checks, and place all available resources at your disposal to achieve an optimal result.
I. ORIENTATION

OUR KNOW-HOW
Knowledge built up over 75 years of experience.

PRIOR EXPERIENCE
More than 4,000 works reassessed yearly.

UNDERSTANDING CUSTOMERS
We listen to your proposals and needs to offer the best solution.

SHOWROOM360
Showcasing our systems with 360° virtual technology.

DIGITAL SHOWROOM
Interactive and virtual platform for our systems and solutions.
II. PROJECT STUDY AND SOLUTIONS

PROPOSALS
Thanks to our AlsiCAD design programs.

ON-SITE SERVICE
We are there for customers during the execution of their projects.

SPECIAL PARTS
Tailor-made solutions to adapt to any challenge or project.

TECHNICAL PLANNING
Using AlsiCAD and BIM technology.

CALCULATIONS
With our AlsitecTools, our own tools with finite elements.

III. ON-SITE ASSISTANCE

ASSISTANCE
Total proximity with clients.

DIGITAL TOOLS
Alsina InTouch and Alsina AR augmented reality technology.
GLOBAL PRESENCE

Alsina has its own network of 35 subsidiaries spread throughout the world. Around 700 people work at these sites. Alsina’s personnel are interconnected via an internal network that allows them to keep abreast of the latest innovations and company news worldwide. Contact your local office to learn more about the Alsina Group.
MIDDLE EAST & INDIA
United Arab Emirates
India

SOUTHEAST ASIA
Philippines
The training of Alsina’s technical team allows us to engage in projects as diverse as: overpasses, viaducts, road widening, columns, abutments, tunnels, cut-and-cover tunnels, etc.

Ongoing investment in providing civil engineering solutions allows us to offer one of the most comprehensive services on the market for executing transportation infrastructure.
The project is located in the municipality of Oliva, in the province of Valencia. It involves a new entrance to the AP7 highway from the south of the municipality, making it possible to access the highway without having to pass through the downtown, thus avoiding the current vehicle and truck traffic.

We used the H33 Beam and the TC360 Loading tower to build two structures, one of them saving a free span of 33 meters, which is the largest free span Alsina has made to date. For the other structures, AR shoring and a portal gantry were used.

Due to its great versatility, the Multiform system was used for the execution of the overpass panel formwork.
The **Alisply Walls** system was used for the screeds under parapets along with the **Metal Columns** to build the columns of the structures.

The client was highly satisfied with Alsina’s service and the visits of our technical department for support in the assembly and revisions of the structures, as well as the use of the engineering department to develop approved projects aimed of all the structures.
BRIDGE OVER THE GANGES RIVER
Patna, India

**Category**
Tunnels and bridges

**Systems used**
AR Shoring
Multiform

This prestigious project consisted of building a 6-lane bridge over the Ganges River, connecting the NH-30 near Kachhi Dargah (Patna) with the NH-103 near Bidupur (Vaishali).

Alsina supplied AR-65 Shoring and Multiform to execute three bridge spans. These spans are 11.5 meters high and 9,500 m² of shoring and 1,200 m² of Multiform system for bridges were used. A total of 600 tons of formwork was supplied and 33 sections will be built on this structure.

The Alsina high-strength shoring system has a bearing capacity of 80 kN per support. This formwork allows shoring for geometrically complex surfaces such as inclined slabs, domes, or adjusted surfaces.

In addition, the Multiform system for bridges is a highly versatile modular system which, through the use of standard parts and the union between them, adapts to very diverse geometries thanks to its capacity for flexible configuration guided by the corresponding technical study.
**A57 HIGHWAY**  
Pontevedra, Spain

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Alsina was in charge of the execution of the Vilaboa - A Ermida section of the A57 highway, with a length of 6.5 km plus another two kilometers connecting with the AP-9 and the N-550 in Vilaboa. Thanks to this high-capacity road, mobility in the metropolitan area of Pontevedra will be enhanced, representing a significant improvement in the connections of its different industrial areas.

The challenge presented in this project was the complexity of the changes in the camber of the deck, which considerably complicated the layout and erection, since each section was different for each installation.
To execute the column, the systems used were Alisply Walls for the straight areas, along with the C240 Climbing System, which is ideal for positions at these heights. For the curved part of this project, circular half columns were used.

With respect to the execution of the deck, we relied on the H33 beam, which is ideal for handling large spans for bridge solutions, together with the TC360 Loading tower for its high load capacity as it is highly suitable for shoring structures in civil works. Finally, we also made use of the Multiform system.
The project consists of a 612-meter cable-stayed bridge as the central structure, with a main span of almost 400 meters between columns. It also includes two approach viaducts to be built with prefabricated beams for a total of 2,185 meters. To build these viaducts, 440 prefabricated beams are required at a total length of 15,762 meters.

The main benefit of this new infrastructure is that it will provide a new connection between the industrial area of Cebu and the Mactan International Airport, connecting with the urban developments of Cordova, located on the same island, thus constituting a structuring channel and a dynamizing element for the local economy.

The special solution provided by Alsina has made it possible to produce 440 units of post-tensioned concrete beams on site. The length of the beams varies between 19 and 53 meters, with edges of 1.50 and 2.00 meters. The beam section has a double T-shape in the central sections, and is solid at the ends with a transition section joining the two zones.

Alsina’s engineering department designed a modular metallic mold system with integrated mechanical plumbing and stripping systems, as well as working platforms with built-in safety systems.

Four sets of modular solution were delivered to realize in parallel up to 200 linear meters of precast beams on site, meeting the customer’s production targets (producing four beams per day).

The results achieved involve locally prefabricated beams together with their final location, thus avoiding large heavy and special transportation with ships or polluting vehicles. Therefore, it is a sustainable and economical solution aligned with the standards of the environmental agendas of countries and of the construction industry in particular.
NORTH TARRANT EXPRESS
Texas, United States

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In this transportation infrastructure located in Fort Worth, Texas, Alsina has collaborated with formwork solutions for columns and capitals. It is worth highlighting that three different types of solutions were used for the execution of these capitals:

First of all, for the monocolumns and hammer heads, brackets with connectors were used, on which two W beams were supported. Multiform tables tables and Alisply Walls were placed on them.

In addition, the Self Spanning system was used, supported on 70 kips brackets. These panels are also being used for the columns.
Finally, for the construction of gantries, we used the H33 beam supported on column brackets similar to the monocolumns, or supported on the TC360 Loading tower. Multiform tables and Alisply Walls were placed on the truss beam.
Alsina has executed this cut-and-cover tunnel in the city of Rzeszów to create a pedestrian walkway for the local community just below the highway that crosses the area.

The construction was carried out on a site with a 4% slope and was performed in a process of only five placements of the Alisply Circular system, which had a very positive impact on the client’s impressions and experience with the system and the services provided by Alsina.
To carry out the project, the following formwork systems were supplied: **Alisply Vault, Multiform and AR Shoring.**

The Multiform system enables the perfect adjustment to the vault's geometry. Formed using strong circular walls, this system is versatile and Multiform compatible.
WATER TREATMENT

Alsina is one of the leading international companies in tackling water infrastructure projects, with an accumulated experience of over 500 projects worldwide.

The development of new engineering solutions has enabled us to expand our cooperation in many water projects, the concrete structures of which have been addressed effectively with our formwork solutions and systems.
EL POZO WWTP
Alhama de Murcia, Spain

The project, which consists of the expansion of the WWTP for the El Pozo industry, consists of several buildings and facilities including, due to its size, a new sludge reception tank and a biomethanization digester. Both facilities are circular in shape and have a significant height, 9 meters for the former and 18 meters for the latter.

To provide solutions for the different parts of the project, the following systems have been used: Alisply Walls and Circular for walls, together with others such as Multiform, AR and CL Shoring, and the C240 Climbing system.
A highlight of this expansion project is the large number of C240 climbing systems and Alisply Circular panels that were used in its execution, as well as the volume of *shoring*, which amounted to 8,000 m³.
WWTP VALENZUELA
Valenzuela, Philippines

**Category**  
Water treatment

**Systems used**  
Alisply Walls  
Alisply-C Walls  
C160 Climbing System

This water infrastructure project, which will provide drinking water to the entire town of Valenzuela, consists of the construction of a large circular watertight tank, with radial walls and three floors and a solid finish on its walls and joints.

To carry out the project, Alsina supplied its Alisply Walls, Alisply Circular, and the C-160 climbing system formwork systems, without the need to design any element due to the versatility of these formwork systems.

The **Alisply Walls** modular formwork system is a resistant, versatile, and compatible system in its accessories with each of the systems in the range as it greatly capitalizes on the use of the equipment on site. The formwork surface of the Alisply system is phenolic and therefore offers multiple advantages compared to metal surfaces, such as a lower weight, greater quality finish of the concrete, increased performance, and greater resistance to inclement weather.

Finally, Alsina’s **C160 climbing system** is an element designed to climb the formwork on concrete slabs up to 4 meters high with 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 column, or by placing the walkway bracket in the anchoring rings and mounting the platform later. The system is compatible with Alisply Walls, Alisply Circular, Vistaform Walls, and the Multiform Vertical system, making it very versatile and safe.
BELLO WWTP
Medellín, Colombia

Category
Water treatment

Systems used
Alisply-C Walls
Multiform Climbing System
Alispilar
Alisply Manual
Mecanoflex
AR Shoring
Springform Columns

One of the most important parts of this type of installation are the digester tanks. During the execution of the project, the client requested a solution to support the sludge stabilization tanks. In order to carry out this support, several Alsina systems were chosen.

In this case, the digester tank is metallic and is supported by a concrete structure forming a capping beam. The wall shaft was built with the Alisply Circular system (its height was 7.40 meters) and the capping beam part with the Multiform Climbing System, Multiform Vertical, and Alisply Circular.
It is the second of its kind in the metropolitan area of the city of Medellín, and will have a greater reach than the first as its capacity is considerably higher.

For this purpose, we have supplied all of our systems and equipment for horizontal, vertical, and special formwork, in addition to our safety systems, as well as design and structuring advice.
JUAN DÍAZ WWTP
Panama City, Panama

Category
Water treatment

Systems used
Alisply Walls
Alisply-C Walls
Mecanoflex
Alispilar
Multiform
CL & AR Shoring
Vistaform

The project will increase the city’s water treatment by 2.8 m³ per second, thus improving the condition of the city’s rivers and coasts.

For the project, Alsina provided all the formwork necessary to build the wall of the biological reactor, which consists of two tanks with a rectangular geometry of 101.8 m x 36 m and a total height of 8.00 m, as well as the pedestrian walkways, light installations, and four sludge recirculation channels of the reactor itself, where two tanks were built with dimensions of 100.00 m x 70.00 m each and a total wall height of 4.50 m.
Similarly, the sand channel, with Multiform system formwork, the disinfection tank in a "labyrinth" shape, and pre-treatment, sludge, and digestion buildings were also implemented.
The new treatment plant will replace the old Trento Sud treatment plant, serving communities far from the capital with a total of 150,000 inhabitants and a treatment capacity of 6,000 m$^3$/hour.

It is a state-of-the-art plant with pollutant reduction, energy savings, and an environmental impact, with a subterranean structure to avoid any danger of emission into the air, thus reducing pollutants by up to 95%.

Alsina participated in the structural concreting of the two digesters and the four sludge tanks, providing its own formwork systems. In terms of energy savings, the purification process itself results in biogas, which is also used to reduce the energy needs of the structure. In addition, the installation of solar panels and a turbine were envisaged in order to take advantage of the significant flow of water that, once cleaned, will return to the Adige River.

Cogeneration with biogas, the hydraulic turbine in the treated water discharge, and the solar panels produce 4 million kWh per year, which will cover about 30% of the plant’s energy needs.

The digesters consist of two circular tanks 24 m in diameter and about 13 m high, with a concrete truncated cone-shaped slab and an external perimeter retaining wall. For this purpose, the Alisply Circular system was used, which allowed the concreting of the curved walls, while the slab was formed using the CL shoring system.

As to the four sludge tanks, they have a diameter of 14.5 m and a height of 5 m, done once again with the Alisply Circular system in a single height formwork.
Together we move forward.
DAMS AND CHANNELS

We currently offer comprehensive service and have the capacity to collaborate on projects such as: dams, dikes, desalination plants, water treatment plants, water channels, collectors, and reservoirs in an efficient, safe, and profitable manner.
SANTOLEA DAM
Teruel, Spain

Category
Dams and channels

Systems used
Alisply Walls & Alisply Circular
Multiform Vertical
C240 Climbing System
C160 Climbing System
Metal Columns
CL Shoring
Vistaform

Overall, the project represents the enlargement of the Santolea reservoir dam on the Guadalope River in the municipality of Castellote. The heightening includes two dam projects, the heightening of the main dam and the construction of a new tailings dam in the reservoir, which is what Alsina carried out.

The greatest complexity of the project was to address the problem of how to form the upstream and downstream faces of the dam. Alsina had never made this type of formwork before, so it was a risky bet with satisfactory results.

The Alisply Walls system was used at different points of the construction site to build one-sided walls, as it is typically used. But on this occasion, we also chose to combine it with the Multiform system, which, taking advantage of its enormous versatility, made it possible to create a customized formwork that could be adapted to the requirements of the project and its complex geometry.

The formwork made with Alisply Walls and Multiform was used to form the upstream and downstream faces and thus raise the body of the dam with roller-compacted concrete based on 1.20 m high steps and footprints of 72 and 24 cm.

Due to the high work rates and the impossibility of making any stops due to the uniqueness of roller-compacted concrete, it was necessary to design the formwork in such a way that two sets of formwork could be carried at the same time, one after the other, so that concreting would never stop.
GUÍSTOLAS DAM
Orense, Spain

**Category**
Dams and channels

**Systems used**
Multiform vertical
Single face climbing system

Encofrados Alsina was chosen as the company to supply formwork material and technical support for the project, which consisted of a new covering for the dam spillway. This structure was covered by stone, which had to be removed and replaced by a new concrete covering.

Alsina Spain supplied 60m² of Multiform vertical and single face climbing with a slump. The slope of the formwork was variable and the width was 23.50 m.

To execute the entire project, an initial setting and seven climbing settings were carried out.
Located in Vila Pouca de Aguiar (Portugal), the Alto Tâmega Dam is part of an impressive Hydraulic Project consisting of three dams and three hydroelectric power plants (Gouvães, Daivões, and Alto Tâmega), which will be commissioned between 2022 and 2024.

They will generate a combined capacity of 1,766 gigawatt hours (GWh) of electricity each year and will supply clean energy to the equivalent consumption of 440,000 Portuguese households, avoiding the emission of 1.2 million tons of CO2 into the atmosphere, making it unnecessary to import 160,000 tons of oil per year.
For the execution of this impressive hydraulic project, which will undoubtedly be one of the most important in Europe, Alsina Portugal supplied more than 160,000 m² of formwork.

Among the formwork systems used, the following stand out: MF Climbing, Alisply Walls, Alisply Circular, AR Shoring, CL Shoring, Alisply Universal, VistaForm Slabs, Single Face Wall, and several special parts.
POLAVARAM DAM
Andhra Pradesh, India

**Category**
Dams and channels

**Systems used**
- Alisply Manual
- Multiform Vertical
- C240 Climbing System
- C160 Climbing System
- Alisply-C Walls

It involves the execution of a series of dams along the Godavari River (district of Westavavari). For this project, approximately 30,000 m² of formwork equipment was used.

To carry out the project, Alsina supplied its Alisply Manual, Alisply Circular, C160 and C240 Climbing, and Multiform formwork systems.
Alisply Manual is a modular formwork system to execute finished concrete walls, designed for use by hand or with a crane. On the other hand, Alisply Circular is a reusable modular formwork system for circular walls made of finished concrete. It is a fast and cost-effective system designed to be handled by crane.
MARTIL DAM
Tetouan, Morocco

Category
Dams and channels

Systems used
Multiform vertical
Single face climbing system
50-Ton Bracket
Interior climbing system

The project consists of the formwork of the exterior part of the tower with the Single Face Climbing System while for the interior shafts we used the Interior Climbing System. Two of these openings, however, were made with the Single Face Climbing System due to their greater technical complexity, since they were inclined walls, both forwards and backwards, and curved.

To address this type of complexity, Alsina’s technical team made a polygonal shape and detailed the wood cuts so that the surface would be curved by means of cams.

The special solution is used in these openings, at the +71.00 elevation (at about 20 m from the ground), since there is a kind of beam that cannot be made with falsework because there is a water channel, so the 50TN brackets are used to support the entire Multiform system. This system was designed using this method because it was not possible to reach that height due to the curved faces of the wall that prevented the placement of the brackets.

Thanks to this dam, the water supply of the city of Tetouan and its coastal area is ensured, as well as benefiting rural areas such as Souk Laqdim, Ben Karrich, and more than 700 farms. In addition, it represents a reserve of 120 million cubic meters to regulate an annual volume of 70 million cubic meters and allows meeting the drinking water and irrigation needs of nearly 1,000 hectares of lowland areas.
Alsina is an international leader in executing housing construction.

Our experience in engineering innovation and services enables us to offer a variety of formwork solutions to successfully handle various concrete structures worldwide.

We offer systems that provide safe solutions adapted to each particular need, which our clients also value due to their high profitability and project safety.
196 HOMES
BENIDORM BEACH
Benidorm, Spain

**Category**
Residential

**Systems used**
Alisply Walls
Self-guided climbing system

This project, located on the Poniente beach in the city of Benidorm, represents a new skyscraper in the skyline of the area, which is undergoing a constant process of expansion over recent years.

In order to carry out the construction of this building, we used the Alisply Walls system, together with the Self-guided Climbing System for all the exterior and interior wall modules to complete the 156 meters in height that this construction reached.

The client was extremely satisfied with the technical solutions Alsina provided to carry out the project, as well as all the on-site service and support provided directly by the company’s technical department.
**EL ENCANTO HOUSING COMPLEX**
Cancun, Mexico

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The project consists of the construction of an apartment building on the beachfront of the Caribbean Sea in Cancun’s hotel area. The building has nine stories covering 1,220 m² of floor space each, distributed in two apartments.

It is worth highlighting that the adaptation of the recoverable formwork to the concrete structure of the building has resulted in considerable savings in material rental, thus avoiding the waste of wood while simultaneously making it possible to meet the construction deadlines.
The client specifically requested the slabs to be made with the recoverable Alumecano formwork system because the recovery of the material without re-shoring is essential to meet the expected performance on site.

In addition, the Alumecano system had to be adapted to recoverable fiberglass cases supplied by the customer. These molds are necessary to avoid the use of wood and, above all, to comply with the formwork recovery schedule: on the third day after pouring the concrete, the case is recovered with the support girders and the intermediate girders.
MODERA
Coral Springs
Florida, United States

Category
Residential

Systems used
Aluflex
Alisply Walls
Alisply Universal
Alupilar
C160 Climbing System
Vistaform

The project, located in the Coral Springs area of Florida, consists of a more than 7,000 m² residential area with 800 apartments and a seven-level parking area. It features nine structural walls across the building with an average height of 3 meters, except for the first level, at nearly 5 meters.

The Aluflex system, thanks to its cost-effectiveness and productivity, was chosen for the shoring over 4 meters and for the transfer slab at the front of the building. For the rest of the walls we used Alisply Walls, and for all columns greater than 9 meters, the Alisply Universal system was used, while for those of lower height, Alupilar was used.

Thanks to its ease of assembly and efficiency, the C160 Climbing System was used for work and safety on all exterior walls.

The customer was extremely satisfied with the solutions provided and the support and service from Alsina, which visited the site on a weekly basis to provide technical support and keep up to date with the needs that could arise during daily work.
NOWA DĄBROWA HOUSING COMPLEX
Dąbrowa Górnicza, Poland

Category
Residential

Systems used
Alisply Walls
Alispilar
Alumecano
CL Shoring
Multiform

The concrete structure of the first two blocks consisted of a ceramic-filled plate and column system. Each floor was different and not repeatable. On the upper floors, the structure widened from 40 cm to 200 cm, with no possibility of support from the floor below.

Alsina Poland supplied 4 formwork systems: Alumecano (for the ceilings), Alisply (for the walls), Alispilar (for the columns), and CL + Multiform for ceilings at heights over 6 m.

The Alumecano ceiling formwork system made it possible to concrete two, and up to 3 ceilings per month. This significantly accelerated construction times and reduced the cost of formwork rental.

For the cantilevers of the building, the CL shoring towers with Multiform were used, which allowed for safe work at height. Thanks to the versatility of the system, it was possible to easily fit the different geometries.

The Alispilar system made it possible to carry out the column formwork work without the use of a crane, which also greatly expedited the work.
The Well Lagos housing complex is located in Parque Miramar, Canelones. The project comprises three residential buildings plus a variety of amenities, all set around a small private lake located right in the center of the block. In addition, the buildings have more than 1,500 square meters of ceramic ventilated facade.

Alsina was in charge of supplying the necessary equipment to carry out the execution of this unique project. For the slabs, Alulosas were chosen, a very light and easy to assemble system that ensures longer use and greater handling for workers.

For the walls, we used the Alisply Walls system (with a crane) and the Alisply Manual system (portable), which allows us to make large surfaces with minimal joints between panels, resulting in an optimal finish without excessive marks. In addition, the Alsipercha system was used to ensure the safety of the employees who took part in the execution of the project.

The customer was very satisfied at all times with Alsina thanks to the service and technical solutions received from the technical department.
Equipment projects usually have a certain degree of complexity in their structures.

Many of these projects are designed by the most renowned architects and include addressing both simple and complex structures. Alsina is a leader in the implementation of these facilities, and we feature a wide range of formwork solutions that meet their structural needs.

In addition, Alsina’s clients value the experience, profitability, and safety of our solutions that are adapted to their needs and projects.
CURICÓ HOSPITAL
Curicó, Chile

Category
Equipment

Systems used
Mecanoflex
MHB
Alisply Walls
Alisply Universal

This new hospital will replace the previous one, which collapsed in the 2010 earthquake, and will therefore have better facilities, greater capacity, and a more modern construction with an anti-seismic system.

This facility is built on a 102,930 m² site and has 400 beds for patients, distributed in 12 pavilions with 7 floors and 2 basements, in addition to other specialized medical facilities, as well as a parking area with a capacity of 800 spaces and a heliport.
For this important project, Alsina Chile is supplying its Mecanoflex formwork systems as well as the MHB system for the horizontal structures and the Alisply Walls and Alisply Universal systems for the formwork of walls and columns.

Approximately 110,000 m² of slabs, 40,000 m² of walls and columns, and 30,000 linear meters of formwork for hanging beams have been completed.
Alsina provided comprehensive engineering, formwork, and shoring solutions for the execution of the complex structure of the new BBVA bank headquarters in the Las Tablas neighborhood of Madrid. The project known as La Vela was designed by the architects Jacques Herzog and Pierre de Meuron and is intended to accommodate 6,000 of the bank’s employees.

The execution phase of “La Vela” was the most unique of the entire complex, since it has the shape of a vertical coin and its structure involves a complex technical execution. Properly executing the curved and climbing wall required a great deal of dedication by Alsina’s engineering team, which chose to use Alsina’s Single Face Climbing System. Despite being a standard product, the large dimensions and the characteristics required to meet the performance and safety specifications of the project involved adapting the system and therefore creating a solution with unique characteristics for one of the greatest engineering challenges in which Alsina has collaborated.

In order to carry out the execution of such a unique project, 4,000 m² of Multiform Table with A-Lite Post-shore were used as shoring.

The Alumecano system was chosen to carry out the floor slabs, for which 25,000 m² of recoverable system and more than 200,000 m² of structures were supplied.

As to the Single Face Climbing System, two independent units of 7 modules each were supplied. The dimensions achieved were remarkable, including 14 m of total height in each climb, 4.5 meters of concrete slab per climb, and 4 platform levels per module in each climb.
HOTEL AND PARKING
PASEO LA RIVIERA
Miami, United States

Category
Equipment

Systems used
Alupilar
Alisply Universal
Interior Climbing System
Vistaflex
Vistaform
Aluflex
Alisply Walls

This spectacular project, located in Coral Galbes (Miami), includes a large commercial area, apartments, parking, and a luxury hotel, for which Alsina has been responsible for supplying a large amount of equipment to perform its execution.

The systems chosen to carry out the slabs for the project were Vistaflex, Vistaform, and Aluflex taking advantage of the A-Lite Shoring range which is characterized by its high load-bearing capacity. In addition, the Alispliar and Alisply Universal systems were used to carry out the execution of the columns.
To address the stairwells and elevator cores, we chose to use the **Interior Climbing System**, as well as the **Alisply Walls** system with both biconical and tri-articulated corners.

The client was very satisfied with the outcome of the project, as well as with the technical and engineering service received from Alsina.
The shopping center expansion project involved the construction of a total area of 49,000 m², of which 30,000 m² forms part of the shopping center and 19,000 m² is underground parking, making Shopping Del Sol the largest shopping center in the Paraguayan capital.

The shopping center’s executives estimate that the mall will receive some 600,000 visits per month thanks to this expansion, which would generate an increase in direct employees from 1,200 to 2,000 people throughout the shopping center.
The Alulosas system, used in the execution of the slabs for the project, was chosen thanks to its ease and speed of assembly, which, together with its strength, make it a perfect system for the execution of this type of structure.
Alsina Portugal has collaborated in the construction of this support building for the Hotel Tivoli, which is used for conventions and other activities. This new building has an excellent location, in the town of Vilamoura in the Algarve region.

To carry out this construction, the Shoring system was used to support pre-fabricated beams with 32 ml of opening between spans, at a free height of 12 meters and taking advantage of the versatility offered by the Multiform system and its great capacity to adapt to the different characteristics that a construction site may present.
The **AR Shoring System** has a high load capacity, capable of handling 8 Tn/foot, and allows multiple modulations that permit the execution of independent towers or chained towers. This system was used together with the **CL Shoring System**, and a total of 6,000 m³ were used for this project.

The Vistaform system, together with the Multiform system, was used for the execution of the project’s slabs. In this case it was shored with CL Shoring. In addition to the Multiform system, a total of 2,000 m² were used.
Alsina has its own logistics centers whose primary mission is to provide the highest level of service in equipment supplied to projects under construction, thus ensuring that we offer one of the best services on the market.
COMPREHENSIVE WATER TREATMENT PLANT
Marseilles, France

Category
Industry and energy

Systems used
Alisply-C Walls
Alisply Walls
C240 Climbing System
C160 Climbing System
Vistaform
CL Shoring
Metal Columns

It consists of several large buildings and facilities, including waste collection pits, a three-line treatment plant, two biomethanization digesters, an incinerator, and a shredding turbine.

An interesting fact is that it was the first plant in Europe to integrate the incineration and biomethanization processes in the same facility, located in an area of 180,000 m² near the port of Marseilles. This plant treats around 600,000 tons of waste per year for the city that is home to a total of 1 million inhabitants.

One of the highlights of the project, the two biomethanization digesters, were done with the Alisply Circular system at a maximum height of 25 m, which was performed with the C240 Climbing System.

The straight walls of this project were built with the Alisply Walls system and topped with Circular Metal Columns with the purpose of rounding the edges. In addition, the waiting areas were left free to connect the straight wall to the circular wall, executed with the Alisply Circular system.

The layout of the circular wall made with Alisply Circular was made in accordance with the radius of the tank, with the importance of maintaining the watertightness of the execution to prevent fluid leaks.
Together we move **forward**
This biomethanization plant located in Zaragoza is mainly based on the construction of four concrete digesters with a height and diameter of 17 and 18 meters respectively. The walls of the digesters required the construction of four post-tensioned caissons put in place every 90 degrees.

For the construction of the four digesters, the Alisply Walls system was used primarily, together with the Alisply Circular system. The walls of each of the digesters were a post-tensioned concrete structure, with four caissons put in place every 90 degrees.

Materials were used to execute two digesters at a time in 5.4-meter high positions. Meanwhile, Alisply Walls were used for the central wall that diametrically separates the digester up to its top part, thus covering the entire height.

The C240 Climbing System was used in conjunction with the roller-rack carriage. This permitted the formwork to be moved and the panels to be cleaned without having to move the assembly.

We used the C240 Climbing System with a rack, which enabled the formwork to be moved so that panel cleaning activities could be carried out without having to move the assembly.

The four digesters were supported on a base formed by 47 columns made of different sections, built using the Alisply Universal system. A concrete slab was placed on top of these columns, made with Vistaform, to become the base of the digester.
FLOUR TANKS
Salara, Italy

Category
Industry and energy

Systems used
- CL Shoring
- Alumecano
- Alisply Walls
- Multiform Climbing
- Interior Climbing System

Located in the town of Rovigo, in the north-east of Italy, the project consists of two main buildings (a grain storage tank and a grain cleaning tank), and some secondary buildings (another tank and a grain storage building).

The two main buildings, which are adjacent, are 35 meters high, with a surface area of 750 m² each. The two start with an 8 m high area, then go up with a singular structure formed by 30 square cells.

Due to the necessity of concreting all the cells at the same time, with 3 m high concreted walls, Alsina supplied a large quantity of Alisply Walls, Multiform Climbing Walls for the exterior of the entire building, and Interior Climbing in each cell.

A special piece has been designed to form the corners of the cells (120 corners), which had a blunt shape. For the other buildings, Alsina supplied CL Shoring for the top slabs, and Alumecano for the other slabs.
FIT WWTP
Marateca, Portugal

Category
Industry and energy

Systems used
Alisply-C Walls
Alisply Walls
C160 Climbing System

The FIT (Fomento da Indústria do Tomate) WWTP project in Marateca is based on a major expansion of their facilities in order to significantly increase their large-scale production capacity.

One of the unique features of this project was based on the client’s request to carry out the work in a fairly tight time frame. Thanks to the studies and technical solutions developed by the Alsina technical department, we were able to overcome the challenge and finish its construction in only three months.

The systems used to implement these solutions were mainly Alisply Circular for the execution of the different curved walls that the project required, in addition to the Alisply Walls system and the C160 Climbing System to carry out work at heights.

After the completion of the work on time, the client was very satisfied with the technical solutions and the service provided by Alsina.
HYDROELECTRIC PLANT
TIDONG
Himal Pradesh, India

The Tidong hydroelectric power plant uses water from the Tidong Khad, a major tributary of the Sutlej River, and produces approximately 414 GWh per year. The plant uses the 8 km long main tunnel, a 100 m high compensation shaft, a 1200 m long pressure shaft, and the powerhouse. The plant will have a storage capacity with a peak of 3 to 4 hours.

The Alisply Manual, Single Face Wall, AR Shoring, and Multiform Climbing systems were used for the intake tower, which captures water from the reservoirs and delivers it to the plant.
Regarding the building that houses the generators and turbines in the facility, we used Alisply Manual and the C160 Climbing System to build the walls. The same systems were used for the de-silting zone, formed by the construction of an embankment to temporarily detain and settle the sediment-laden runoff before it is discharged.

Finally, the regulator, supplied with a headworks whose purpose is to regulate the supplies entering the canal and control its sediments, was executed using the Alisply Manual, C160 Climbing, AR Shoring, Multiform Horizontal, and Alisply Circular systems.
Alsina has executed various projects related to the maritime environment: Port silos, dock expansions, maritime barriers, port lights, capping beams, dam walls, and the construction of dikes to cope with the force of the sea.

We have contributed our engineering capabilities in all these projects, whether realizing solutions that complement our formwork systems or adapting existing ones to the needs of each project and client.
KHALIFA PORT
Abu Dhabi, United Arab Emirates

Category
Maritime works

Systems used
Alisply Walls
Multiform
Brackets

For this project, Alsina has carried out the construction of a bridge located in the port of Khalifa in the city of Abu Dhabi in the United Arab Emirates.

The main challenge of this project was the execution of the columns, which were located in the water. The rods could not pass through the columns because they were formed by a permanent metal casing. Finally, brackets were used, joined to it by welding. A series of calculations were carried out to keep the position of the weld as far away from sea level as possible.
Thanks to the ease of assembly and the great versatility offered by the Multiform system, it was chosen to carry out the dolphin structures, as well as the Bracket whose function was to support the load and hold the formwork to carry out its execution.
### COASTAL DEFENSE
Ciudad del Pilar, Paraguay

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This spectacular Civil Works project supported by the Government of Paraguay includes 22 pumping stations and reservoirs, 9 km of diversion channels for the San Lorenzo Creek, 6,000 meters of storm drain channels, and 2,700 meters of sewers and effluent pre-treatment.

The Costera de Pilar Defense consists of a set of structures that aim to provide a final solution to the floods that afflict the city, and its execution is planned over three phases.
For Phase A, currently awarded to Alsina, 1,000 m² of Alisply formwork for the walls, **C160 Climbing Platforms**, and Wallite portable formwork have been supplied for the foundations, bases, and footings.
SHOUGANG MINING PROJECT
Marcona, Peru

Category
Maritime

Systems used
Alisply Walls
Multiform

Alsina collaborated in the construction of two offshore platforms belonging to the Shougang Mining Project in the mining and port town of Marcona, Peru.

This port civil works project consists of the execution of the formwork of two concrete offshore slabs on metal piles, which will connect to the underwater pumps of a desalination plant that forms part of the Shoushang iron ore mine expansion project.

For this purpose, Alsina has provided the necessary solutions to handle the formwork for the platforms, with the first one measuring 22 meters by 12.8 meters, and the second one 6.3 meters by 3 meters, over a body of water 2 meters above sea level.

To carry out this project, the Alisply Walls and Multiform Horizontal systems were provided, in addition to the design of 100 Tn lowering wedges adapted to the specific needs of the project, specifically a metal support compatible with the metal piles to support the 1.6 m thick concrete slabs. In this way, the lowering wedges were used on the metal brackets which at the same time supported the W girders on which the Multiform system was placed on to form the bottom of the platform formwork.
Alsina participated in the expansion of the port of Blanes, a large-scale project with a length of 595 meters that made it possible to restructure the fishing industry so fishermen can do their work in the best possible manner.

Another activity that will benefit from this project is the traffic of local tourist cruise ships, now offered a docking area. In addition, it facilitates the integration between the port facility and the municipality through a new walkway for pedestrians.
The system chosen for the implementation of the project’s breakwater walls is the Alisply Walls system, together with a special part that made it possible to leave a fixed angle on the articulated corners of the wall. This part was delivered unassembled and welded on site.

The client was very satisfied with the service and technical solutions provided by Alsina.