



FORMWORK
ENGINEERING
SOLUTIONS
EXPERTISE
SERVICE

Alsina



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.



| 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.





| VCM

The world's fastest hanging beam formwork and stripping system.

Versatile formwork system for hanging beams that adapts to any shape thanks to the lateral panels that can be adjusted. VCM has been designed to revolutionize beam formwork; easily combined at heights and depths, reusable and above all quick-to-assemble are just some of the features of this new system. Allows to rotating the beam formwork every three days, achieving the same concreting cycles with less equipment. Additionally, it facilitates reusing the bottoms without the need to move the beam support.



Unlike other panel systems, this system is based on resolving different drop measurements using the same side panel shared by multiple shapes.



The same panel solves all the typical decreasing hanging of beams in construction. For high-hanging beams, the same standard panel can be used, joining two of them.



Joining Clip is designed so that the operator can attach it using just a hammer without the need for any special tools.



- Lightweight: 22 kg/m² in weight.
- Strong: 25 kN/m² of pressure.
- Eliminates the expensive use of wood and hours of carpentry in beam formwork.
- 90% of formwork material can be recovered on the third day after concrete is poured.
- The finished beam does not need to be re-shored; with the removable bottom, the shoring support can be left.
- One prop every 1.57 metres, which represents considerable savings.
- High level of safety during assembly.
- High productivity during assembly and stripping.
- Optimal performance.
- Side panels have integrated wooden strip where the 18mm phenolic board can be attached.
- Phenolic finish.
- Logistics optimization.

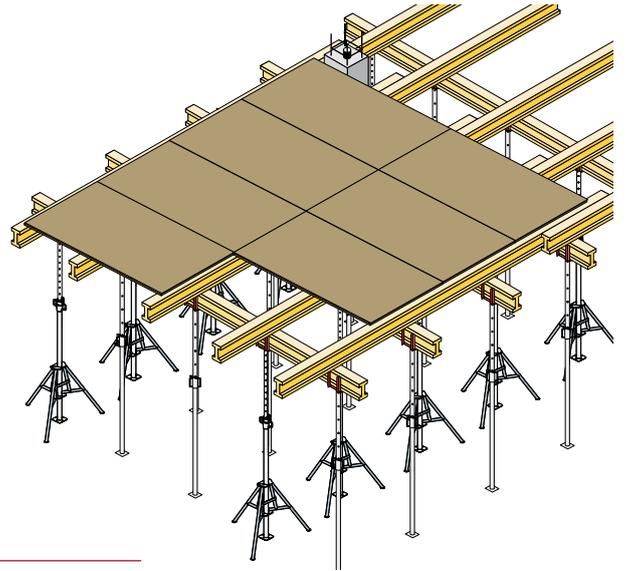
- Working prop brackets: Element that allows the operator to work safely at the same height as the beam formwork.
- Bottom panels assembly from the ground.



| 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.



| MULTIFORM TABLE

Pre-assembled table for higher speed and production.

Highly versatile horizontal formwork system adaptable to a great variety of shapes for the execution of slabs. It is a modular system which, through the combination of the metal beam and the wooden beam, provides a compact and stable table. The versatility in uses along with the shoring possibilities adapts the system to all situations.

- Availability of multiple measurements thanks to the sizes of its components.
- High productivity on site and with "in situ" assembly thanks to the ease of anchoring between the elements.
- 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.
- Long service life: The vast majority of its pieces are treated with epoxy paint, while the other parts are zinc plated.



| ALSIDECK

The Alsina's most lightweight and efficient panel system for slabs.

ALSIDECK-APS Is Alsina Panel System for slabs. It is a modular slab system designed with lightweight aluminum panels with plywood surface. Large panel area helps to optimize and reduce the number of props, increasing productivity and efficiency of construction at site. It is an absolutely recoverable system thanks to the innovative early stripping head.





| ALISPILAR

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.



The Alispilar System 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.

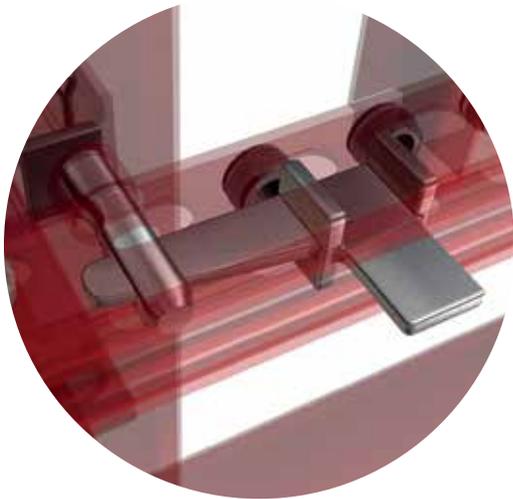


Significant time and labour savings are achieved thanks to Alupilar's attachment system: a simple hammer tap will easily lock the wedge and bolt build into the panels.



The Alispilar panel is made of high resistance steel 6 lbs/sqft (30 kg/m²) and finished with red polyes-ter paint, providing resistance and durability on site, with a design pressure of 1670 psf (80 kN/m²).

- 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/m².
- 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.



| AR SHORING

Speed and versatility 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.

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- 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 that can be handled by a single worker.
 - Connections with wedges minimizing the use of nuts and bolts.
-

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.





| 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 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.

BOX CULVERT

Formwork system for false tunnels, which allows easy stripping and movement between fillings, increasing the concreting cycle rate. Special pieces that allow stripping using just bolts.



MULTIFORM TUNNELS

Reusable formwork solutions to build cut-and-cover tunnels and boreholes safely, profitably, and effectively. It's based on a combination of the Multiform System, straight wall and radius wall systems, and Alsina scaffolding used to support the set is offered. All these solutions are compatible as they have been designed to provide the greatest performance.



SCAP SYSTEM

Provides a solution for bridge column construction, providing productivity and complete safety. The use of SCAP avoids the need for shoring support and is therefore especially useful in bridge columns placed on uneven terrain. This feature also greatly facilitates formwork dismantling using sliding wedges and reduces multiple repetition of movements.



| 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.



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- 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 fair-faced 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 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.



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



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



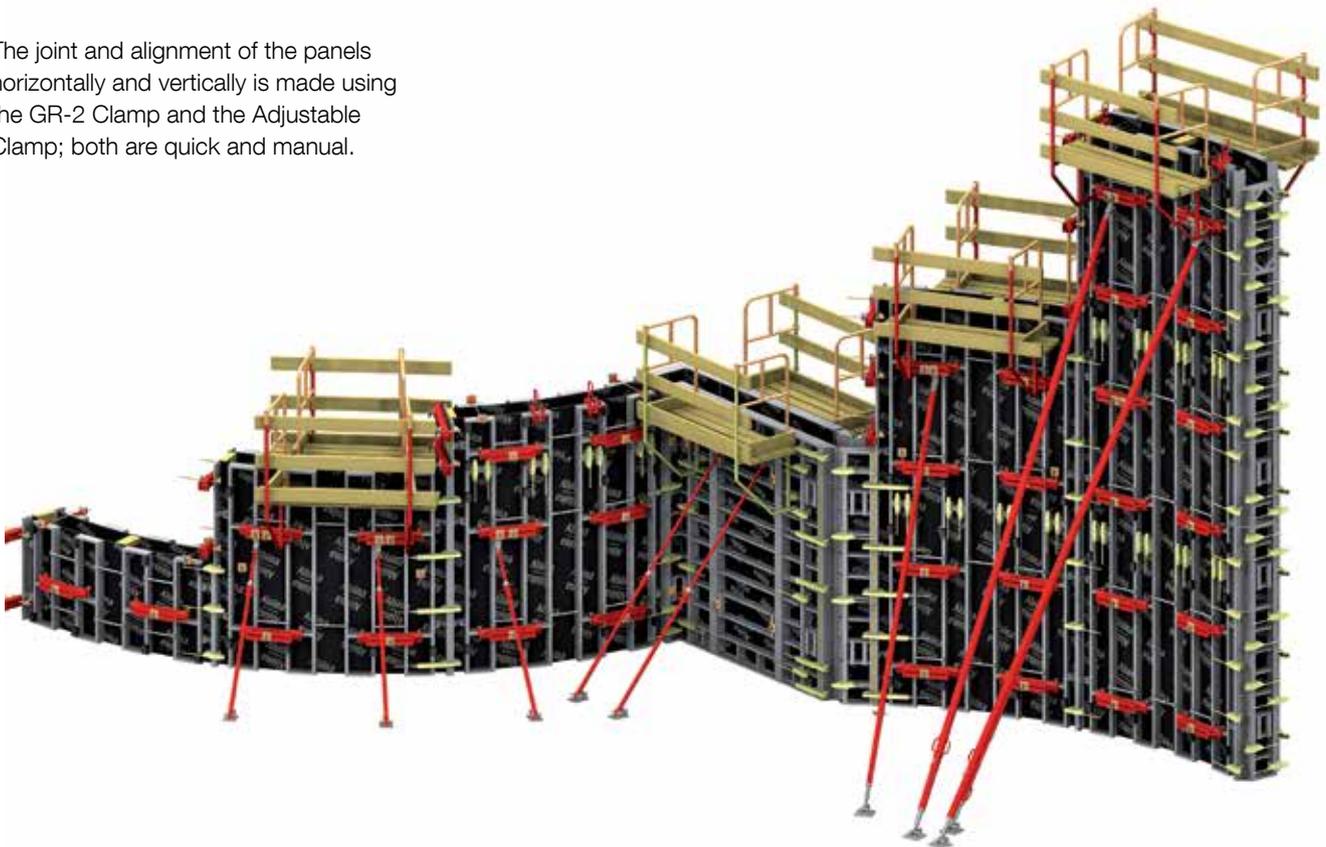
The modules adapt to each radius on site, so they are useful to implementing different kinds of circular walls.



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 Alispaly 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.

The joint and alignment of the panels horizontally and vertically is made using the GR-2 Clamp and the Adjustable Clamp; both are quick and manual.





| WALLITE

Simple manual assembly system.

Lightweight wall formwork that provides great versatility and adaptability to any shape. The system connects quickly, which gives it high assembly productivity. With only 4 panel widths, a single corner and a few accessories that are easy to install, any shape can be addressed.

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- Light and manageable: The panel modules can be transported and assembled by a single person thanks to their low weight.
 - Modular: They allow a wide range of construction possibilities and adapt to any shape.
 - Simple: Very easy to assemble and disassemble, boosting productivity.
 - Strong: The panels can withstand pressures of up to 40 kN/m².
 - Economical: The advantages of the panel system translates into significant cost savings compared to other formwork systems.
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| SPRINGFORM ROUND COLUMNS

Reusable circular column with manual handling

A system for the formwork of cylindrical columns consisting of a fibreglass mould with a single vertical joint. The closing system is made with wedges and bolts, one hit with a hammer closes the column. The Springform Round Column System is cost-effective on site; it is an ideal product for making a large number of columns with the same mould without the need of a crane.

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- Made of polyester and fibreglass, it withstands a maximum radial pressure of 11,500 Kg/m².
 - The thickness of the fibreglass material increases as the diameter of the formwork increases, from approximately 3 mm to 6 mm. All sizes are reinforced with additional thickness in the brace area.
 - Concrete finish with smooth surface.
 - A single vertical joint in the column.
 - Speed and ease in assembling and dismantling formwork.
 - High performance on site: 100 uses, far superior to other systems made of wood, cardboard, steel, etc.
 - Lightweight, no crane required for handling.
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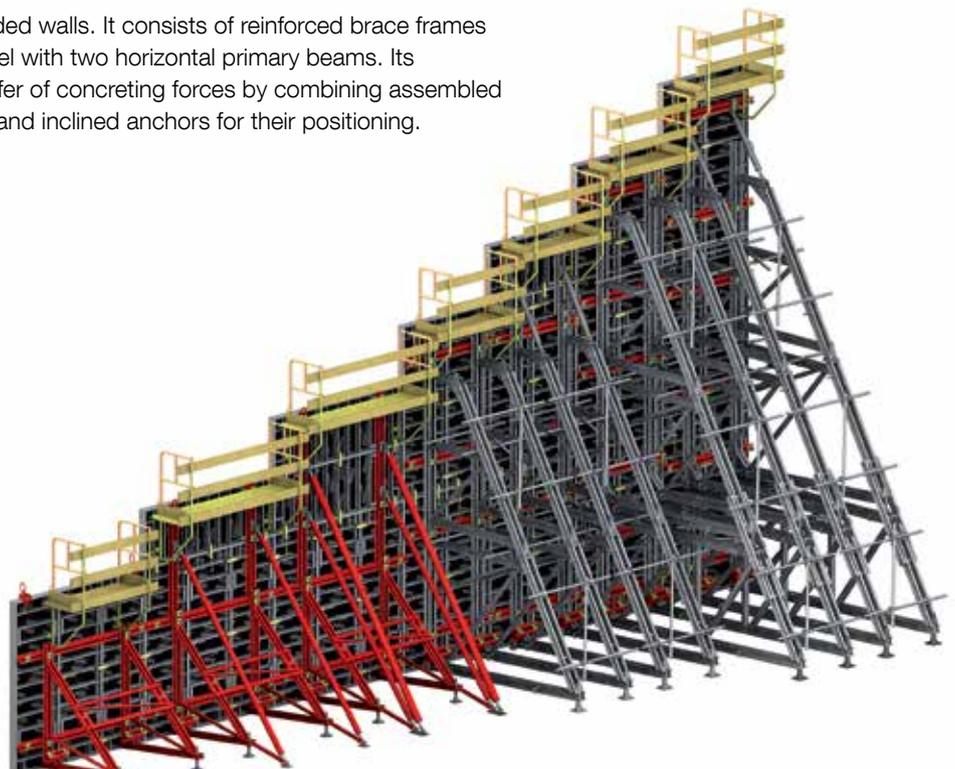




| ONE SIDED WALL

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

Support structure to create one sided walls. It consists of reinforced brace frames that are coupled to the Alisply Panel with two horizontal primary beams. Its components ensure the safe transfer of concreting forces by combining assembled steel profiles to the wall formwork and inclined anchors for their positioning.



- **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.



C160 CLIMBING SYSTEM

Element designed to climb the wall formwork for concrete fillings up to a height of 4 m 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 walkway bracket in the anchoring rings and mounting the platform later.



C240 CLIMBING SYSTEM

Element designed to climb the wall formwork for concrete fillings up to heights of 6 m ensuring total safety for workers. It can be positioned with either of two anchoring systems: using M-24 tie bars or using metal cones with ties set in the concrete.



ONE SIDED CLIMBING SYSTEM

System designed for implementing large slabs of concrete where it is not possible to transfer the loads via bars to the formwork on the opposite side. Therefore, the structure diverts the stresses towards the concrete already in place. The One sided Climbing system offers a versatile range of on-site solutions, using standard material, and all the elements needed to guarantee worker safety during each stage of the project.



INTERIOR CLIMBING SYSTEM

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.





| 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.
	$a_1 = 15 \text{ mm}$ $a_2 = 17 \text{ mm}$ $L = \text{Variable up to max. 15 m}$ $L = \text{galvanized max. 6 m}$		Material: St 900/1100 Weight: 1,44 kg/m Working load: 90 kN
	53302	Wing nut	Nut used to attach the tie bars.
	$a = 95 \text{ mm}$ $h = \text{ø}36 \text{ mm}$ $h = 54 \text{ mm}$ $SW = 27 \text{ mm}$		Material: GE 300 - EN-GJMW-400-5 Weight: 0,32 kg Working load: 90 kN
	53303	Plate for wing nut	Wing nut support plate.
	$a = \text{ø}120 \text{ mm}$ $c = 10 \text{ mm}$ $h = 21 \text{ mm}$ $d = 20 \text{ mm}$		Material: S235JR Weight: 1,05 kg Working load: 90 kN
	44001	Wing nut w/ plate fix union)	Wingnut and plate with fix union.
	$a = \text{ø}100 \text{ mm}$ $h = 55 \text{ mm}$ $SW27$		Material: EN-GJMW-400-5 Weight: 0,59 kg Working load: 100 kN Girder spacing: 35 mm



44002	Wing nut w/ plate (articulated union)	Wing nut and plate with articulated union.
a= \varnothing 130 mm h= 65 mm SW27		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 \varnothing mm= 14-32 Outside \varnothing 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.
Weight: 0,004 kg For tube \varnothing mm= 20-32 Fitting length mm= 10 Packaging: free of halogen-containing compounds, azo dyes, flame retardants.		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= \varnothing 26 mm b= \varnothing 65 mm L= 112 mm		Material: GS - 20 Mn 5 Material EN-GJMW-400-5 Weight: 0.51 Kg Working load: 100 kN



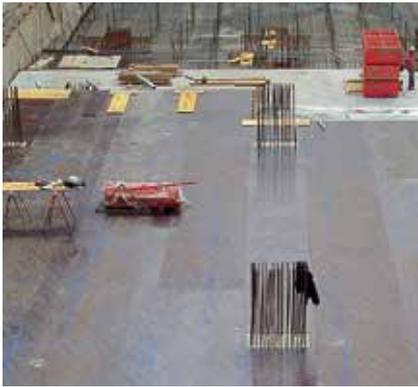
44081	PVC Tube D/26-30	Protective component of the dywidag bar.
Inside \varnothing mm= 14-40 Outside \varnothing mm= 19-46 Length= 2m Weight: 0,27 kg Packaging: Free of halogen-containing compounds, azo dyes, flame retardants.		Material: Polyvinyl chloride (PVC) Free of CFC, HFC Without substances of very high concern according to the candidate list of ECHA (REACH Regulation)

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.



| ALISPLY QUICK CORE

The perfect complement for complete stripping and a single movement of interior formwork.

Quick core formwork for hollow shapes offers the versatility required to address shapes such as elevator shafts or columns. Complements the Alisply system accessory set to handle stripping of hollow shapes with a crane. The system offers great productivity thanks to its automatic operation by means of the vertical effort of the crane.



The retractable formwork has the needed internal mechanisms that allow the vertical crane operation to translate into a horizontal movement of the formwork retraction.



Set-up by using a Manual Staple, without the need of any tools. The system improves safety in the working process of this type of structural elements.



With only one change of the lifting bracket clasp, the system is able to be stripped reducing its interior measurements and return to its pouring position and re-expanding.

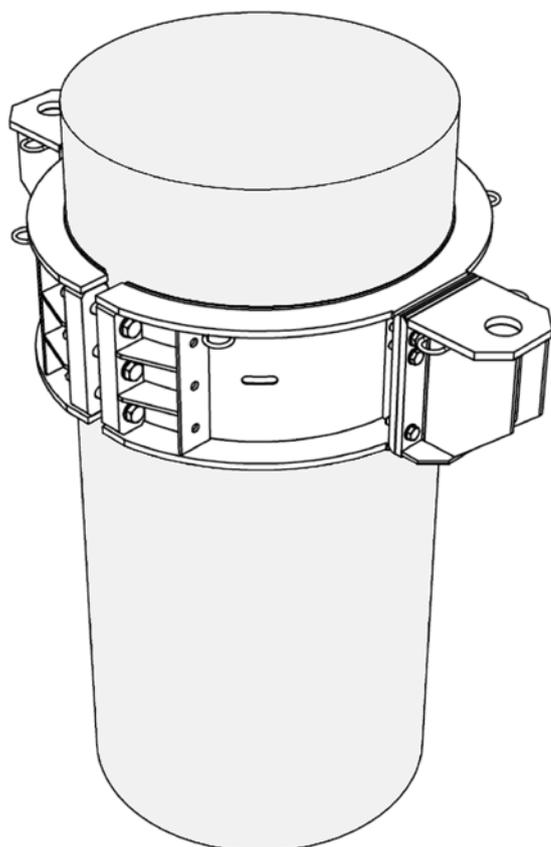


| FRICTION COLLAR

Fast, easy and does not require anchors.

System used with prefabricated columns or columns in which anchors are not intended to be left within them. Thanks to its design, it can support high loads transferred by the slab system, working in friction with the column.

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- High quality prestressed bolts that allow the system to exert pressure on the column.
 - Adjustable head system that allows adapting to the height and releasing the system following execution.
 - Adapters are included to separate the head from the column when there are beams that exceed the width of the column.
 - System positioning bolts that allow safe and quick assembly.
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| TC360 HEAVY DUTY TOWER

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.



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- 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.
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Efficient and versatile system for shoring civil works structures.



HIGH LOAD CAPACITY

Up to 1400KN depending of the height and the configuration according to the horizontal loads. The MF beams can be work as a prop, as a frame or as a heavy-duty tower. It can be used for a lot of applications combining their different standard components.

ACCESSORIES

Thanks to several multi-hole double channels, accessories can be connected anywhere, as needed. Multiform aligner waler, walkway brackets, hinged corners.

HYDRAULIC STRIPPING SYSTEM

Thanks to the Hydraulic stripping system, the stripping for can be done easy and fast. The equipment is lightweight and easy to use. Only one hydraulic equipment is needed. The release of all the load is always controlled and can be made in a safety way.

- Up to 1400KN of capacity.
- Integrated safety system
- Hydraulic stripping system
- Complete bracing system for high capacity assemblings

| SELF-SPANNING

Modular formwork system for the execution of caps. Designed for maximum versatility using standard parts. It can fit to most of the structures found in the execution of bridges and roads. It can be used for the execution of columns, walls, or caps.



-
- Universal rail makes it possible to place a many accessories during the execution of the project.
 - Easy connection between panels thanks to its conical bolts, which also allow self-aligning of the panels.
 - During the execution of the caps, it is not necessary to pass bars through.
 - The panels can work with section reduction, and it is possible to carry out a multitude of sections without needing to add any additional part.
 - Hinged system enables fast soffit stripping and interchange between structures without having to dismantle the system.
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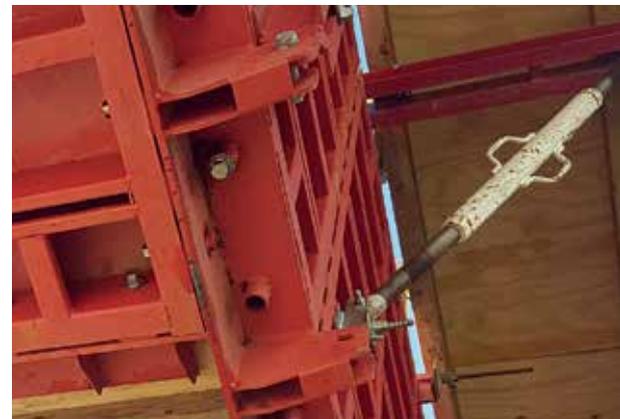
Universal solution for the construction of road structures.

Multi-hole double channels that allows for one single panel size to fit in different cap widths (soffit and bulkhead).

Thanks to several multi-hole double channels, accessories can be connected anywhere, as needed. Multifunction aligner waler, walkway brackets, hinged corners.

The Self-Spanning system can be used as a heavy gang wall form system by crossing some ties. Alsina can provide all accessories making this a great solution for walls at your heavy civil projects.

Panels have been designed to work as column panels as well. Even panels can be cycled from column forms to pier cap forms.



BRACKET PLACEMENT

Placing brackets is easy and quick with our thru-bolts system. Alsina Engineering Department will provide the torque needed on the anchor bolts.

FORM PLACING ON TOP OF BRACKETS

With one single crane movement, form is placed on top of the brackets.

ALIGNMENT, SOFFIT CLOSING AND POURING

Once the form is on top of the brackets it is time to align side forms and close soffit panels. After working on final adjustments it is time to pour concrete.

STRIPPING

Once concrete strength has been reached, soffit needs to be opened and stripping can be made in one single crane movement.

| OUTSTANDING PROJECTS

Data Byte Centre
(Navi Mumbai, India)



Navayuga Polavaram
Dam Project
(Polavaram, India)



Precast Girder
(Phillipines)





Mumbai Metro (Mumbai, India)



Phoenix Mall (Pune, India)



MHTL Mumbai Transharbour sea link (Mumbai, India)



Mumbai Metro (Mumbai, India)



BIAL, Bangalore International Airport (Bangalore, India)



MHTL Mumbai Transharbour sea link (Mumbai, India)

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