

# Alsína



“We provide solutions  
for concrete structures.”

Together, we move forward.





**ALSINA INFORMS**

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The descriptions, properties and illustrations contained in this catalog are only to be considered as general warnings 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 a product of maximum quality.

We recommend consulting with Alsina's technical service to guarantee 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 therefore are not always complete regarding the technical side of safety.

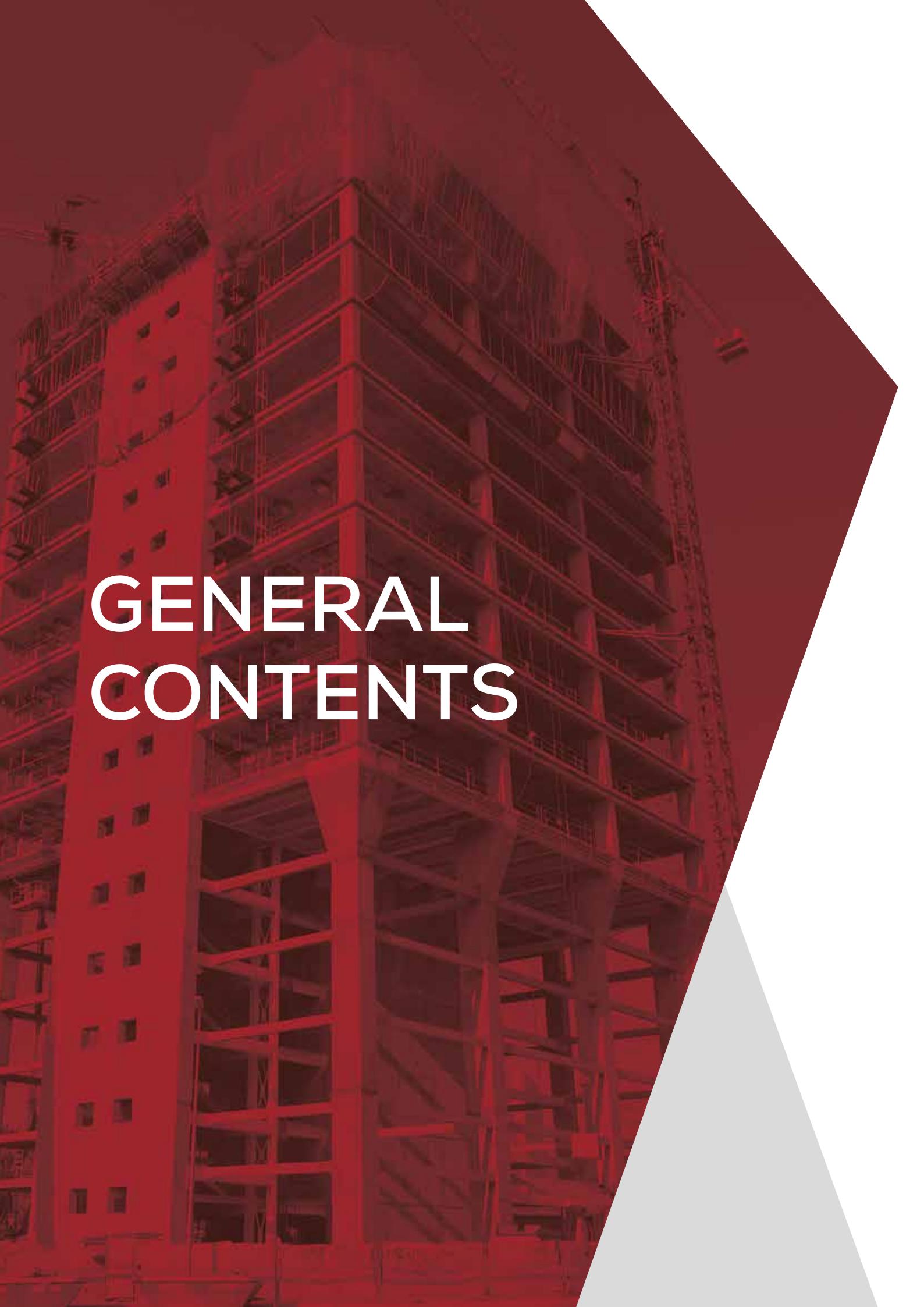
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For the safe use of our products, please follow the instructions of relevant manuals to the letter and comply with current regulations of each country. If necessary, the user will supplement or implement safety measures required under the specific 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 the same with other manufacturers' systems without making the appropriate verifications. We also provide all safety systems necessary for the safe installation of the equipment. Clients have the option of choosing between metal or wood guardrails.

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





# GENERAL CONTENTS

## A

- 4 Alsina in numbers + Core Values
- 6 Comprehensive service
- 8 Our goal: total quality
- 10 Alsitec
- 14 Global presence



### 16 Slabs and another horizontal formworks

- 18 Alumecano
- 22 Alucubetas
- 26 Alumecano Plywood
- 28 Mecanoflex
- 32 VCM
- 36 Aluflex
- 38 Multiform Table
- 40 Vistaform Table
- 42 Vistaform
- 44 Vistaflex
- 46 Multiform for bridge decks
- 50 Multiform BOB
- 52 H33 Truss
- 54 Successive cantilever carriages
- 56 Mine Tunnels
- 58 Alisply vault dome formwork
- 60 Box Culvert
- 62 Precast concrete beams



### 64 Shoring and props

- 66 CL shoring
- 68 AR shoring
- 70 TC360 heavy duty tower
- 74 G Europrop
- 76 A Europrop
- 78 M Europrop
- 80 Alisan Prop
- 82 Alisan Plus Prop
- 84 A-Lite Prop



### 86 Columns and walls

- 88 Alispilar
- 92 Alupilar
- 94 Springform
- 96 Alisply Universal
- 100 Steel round columns
- 104 Multiform Vertical
- 108 Alisply walls
- 116 Alisply Circular
- 122 Alisply Manual
- 128 One sided wall
- 132 Wallite
- 134 Self-Spanning
- 138 Special parts
- 140 Alsina Finish Plate
- 141 Alisan Side-Shutter



### 142 Climbing, support brackets and friction collars

- 144 C160 Climbing system
- 148 C240 Climbing system
- 152 Multiform Climbing system
- 154 T1C Climbing system
- 158 Interior Climbing system
- 162 160 KN Support bracket
- 163 300 KN Support bracket
- 164 500 KN Support bracket
- 165 750 KN Support bracket
- 166 SCAP
- 170 Friction collar



### 172 Alsina Safety - Safety and accesses

- 174 Life Screen
- 176 Safety Railings
- 177 Catchfan
- 178 Alsipercha
- 180 Alupercha
- 184 Site stair tower
- 185 Modular stair tower
- 186 Site stairway VX
- 188 Mobile work platform
- 189 Access paserelle
- 190 Zone access scissorgate
- 191 Reinforced scaffold



### 192 Alsina Basics - Components and plywood

- 194 Formwork surfaces
- 200 Concrete agent release
- 200 Concrete and PVC spacers
- 201 PVC pipes, and cones
- 202 Chamfer strip
- 202 Lid bovedilla
- 202 Markers
- 202 Safety consumables
- 202 Spikes and nails
- 203 Anchorages and cast-in items
- 203 Formwork fitting
- 203 Scaffolding hardware
- 203 Prop accessories

## I ALSINA IN NUMBERS



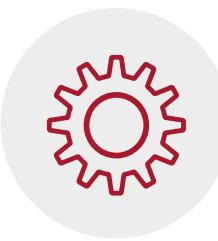
**4000**

Projects last year



**700**

People working in Alsina



**120**

Patents



**65**

Alsina systems



**75**

Own calculation  
programs



**33**

Work centers

## I CORE 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 way, far from arrogance and pride.



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



**Teamwork:** For us, teamwork involves coordination, trust, sharing and generosity; specially 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.



**Deep respect for the individual:** we show special consideration to others, especially to our employees who help create our family business spirit.



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



**Costumer focus:** All the above values are at the service of our clients. The client is our reason for existence as a company and the center of all of our activities. Our organization and processes are geared to anticipating and meeting their needs.



# ALSINA MISSION

**"Provide Solutions for Concrete Structures that help our Clients improve efficiency and safety in projects through dedicated service integrated within the Global Market, innovating and investing in People as a fundamental component of the business."**

# COMPREHENSIVE SERVICE

Alsina strives to be one of the most recognized companies in the industry due to its comprehensive service capacity. The foregoing is a result of the quality of the company's human team, the range of solutions and services that Alsina offers its clients and its 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 one of the most expert services in the market. Therefore all areas of Alsina 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 standing at our customer's side so that we can listen, advise and monitor the evolution of the works until completed.

Alsina always offers to its clients the best alternative to address their concrete project "in situ." Trust Alsina as a strategic partner.

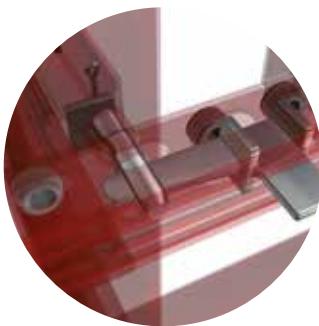
## GLOBAL LOGISTICS SERVICE

The logistics service is key to ensuring that the work is carried out within the time frame 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.

**MANUFACTURE.** Manufacturing new systems involving full control: Planning the manufacture 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. Compliance with quality commensurate with product standards on the market. Review of regulations and processes to ensure the required quality at all times.

**ON-SITE ASSEMBLY.** The assembly of formwork and scaffolding must be carried out pursuant to law, the equipment management and the applicable standard for each implementation. Ensure compliance with the specific standard for systems used. Ensure integration in the process of all the companies providing the service. Ensure the quality of execution 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 a thorough monitoring of compliance with certifications, technical team management and the applicable regulations for each installation. Perform a study prior to implementation consistent with the project and existing regulations. Involvement of trained personnel commensurate with required regulations. Monitoring and control of installations made to ensure their validity over time.

# OUR GOAL: TOTAL QUALITY

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. 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.

ISO 9001  
BUREAU VERITAS  
Certification

Encofrados J. Alsina, S.A.



# ALSITEC: THE ALSINA GROUP TECHNICAL OFFICE

Alsina has its own technical office: AlsiTec. It is comprised of professionals with proven experience in studying works and providing comprehensive and cost-effective solutions. All Alsina technicians are connected through a know-how network which allows them to be continuously involved in training. Our clients benefit from the accumulated experience in solving works worldwide.

EJERCIOS FORMAVER  
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## ORIENTATION

We are committed to an efficient response to the client, always based on our extensive experience in the sector and the large number of systems and products available for each type of project.

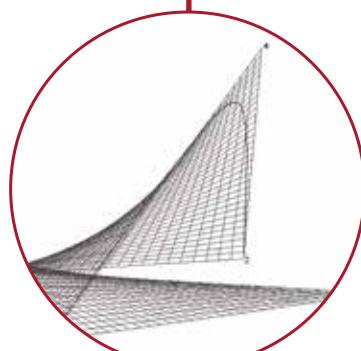
Thanks to this, we can offer the customer the best solution depending on the needs and requirements of the work, either through our range of more than 65 systems, or through different customized solutions.



## SOLUTIONS STUDY

Thanks to the AlsiTec engineering department, Alsina offers tailor-made solutions for all types of projects and geometries. We rely on 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 pieces to new integrated formwork systems, including molds for non-standard geometry. We have the capacity to give shape to whatever ideas and proposals the client can imagine and present.

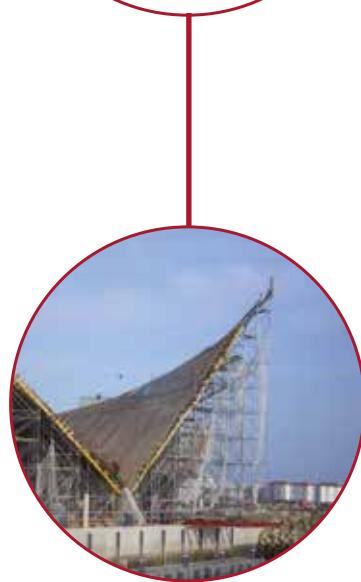


In our day-to-day work, we carry out on-site training, accompany and supervise projects and look for solutions to any problems that may arise.

## DIGITAL TOOLS

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

When required by circumstance, it is possible to render 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.



# | ALSITEC: THE ALSINA GROUP TECHNICAL OFFICE

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## I. ORIENTATION



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### OUR KNOW-HOW

Knowledge built up over 75 years of experience.

### PREVIOUS EXPERIENCE

More than 4000 jobs reassessed per year.

### UNDERSTAND THE CUSTOMER

Listen to their proposals and needs to offer the best solution.

### SHOWROOM360

Showcase for our systems with 360° virtual technology.

### DIGITAL SHOWROOM

Interactive and virtual platform for our systems and solutions.

aCeler

ShowRoom360

AlsinaVR

AlsinaAR

## II. SOLUTIONS AND PROJECTS STUDY



### PROPOSALS

Thanks to our Alsicad design programs.

### IN-SITU SERVICE

We accompany the client during the execution of the project.

### SPECIAL PARTS

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

### TECHNICAL DRAWING

Using Alsicad and BIM technology.

### CALCULATIONS

With our Alsitec Tools, our own tools and finite elements.

 **Alsicad**

 **AlsitecTools**

## III. ON-SITE ASSISTANCE



### ASSISTANCE

Total proximity with the client.

### DIGITAL TOOLS

Alsina InTouch and Alsina AR augmented reality technology.

 **InTouch**

 **AlsinaAR**

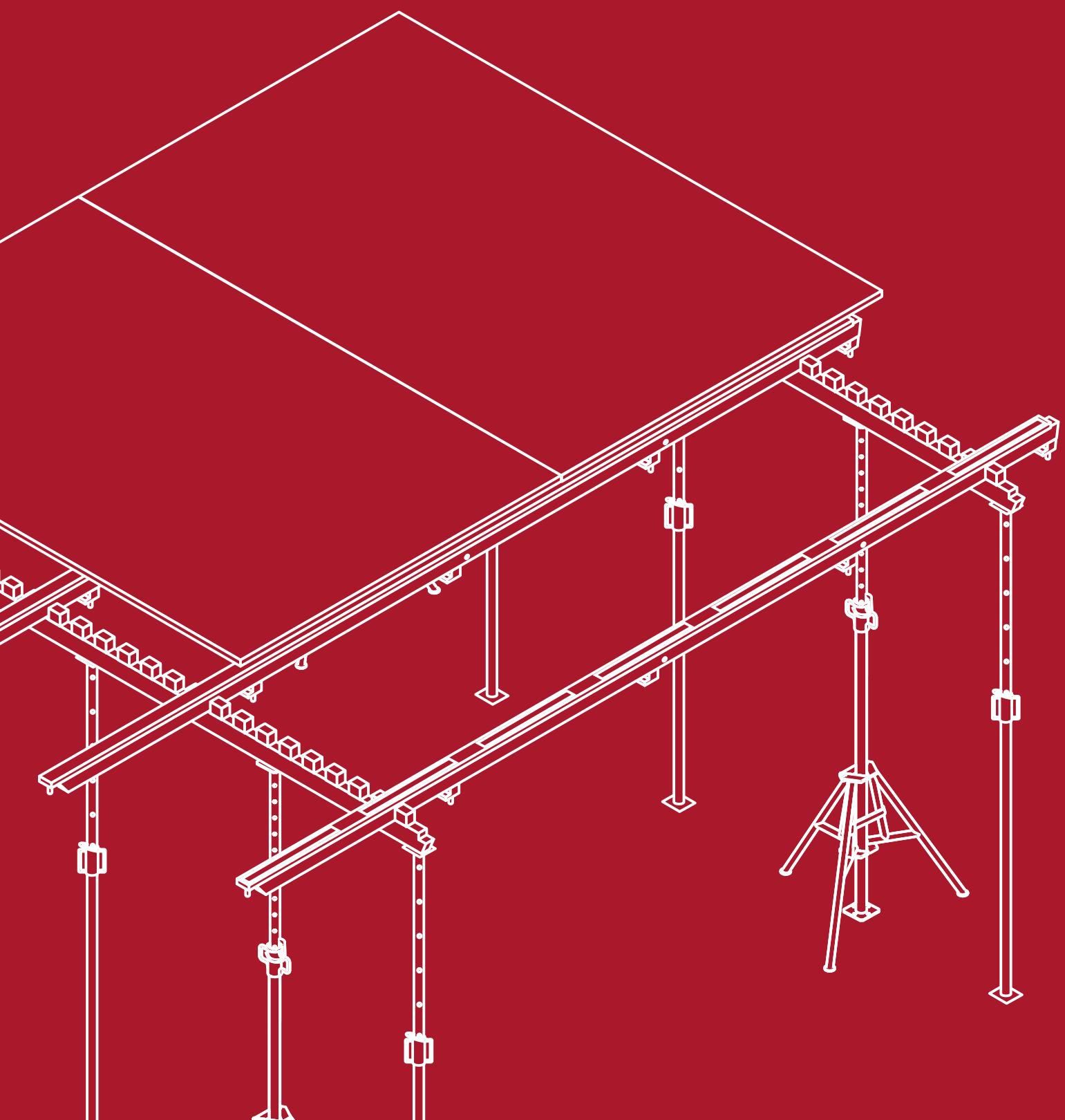
## | GLOBAL PRESENCE

Alsina has its own network of 35 subsidiaries spread throughout the world. About 700 people are working 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.





# SLABS AND ANOTHER HORIZONTAL FORMWORKS



# Alsina



Alumecano	18
Alucubetas	22
Alumecano Plywood	26
Mecanoflex	28
VCM	32
Aluflex	36
Multiform Table	38
Vistaform Table	40
Vistaform	42
Vistaflex	44
Bridge Deck Multiform	46
Multiform BOB	50
H33 Truss	52
Successive Cantilever Carriages	54
Mine Tunnels	56
Alisply vault dome formwork	58
Box Culvert	60
Modular System for on-site Precast Beams	62





## | ALUMECANO

Simple, lightweight and versatile.  
Provides safety and high performance on site.

Reusable formwork system to execute flat reinforced concrete slabs, optimising concreting cycles with maximum safety guarantees. Whether unidirectional slabs, cast-in waffle slabs or solid slabs, the Alumecano system is adaptable to any floor shape. The revolutionary Alsina Drop Head, made of structural aluminium (duraluminium), is incorporated into the Girder and Support Girder which lightens the system's weight in supporting the formwork surface, but without diminishing overall resistance.





- The 4 m (13'-1 1/2") girder with its drop heads has a weight of 25 kg (77.4 lb) (approximately 50 % less than other similar systems on the market).
- Drop head made with structural aluminium alloy giving resistance and lightness to use on site.
- Structural elements designed for daily use on site, made of high-strength steel and painted with polyester paint that protects them from the elements.
- Elements with closed ends to protect them from concrete debris.
- The design of the T-girder facilitates the removal of the board formwork.
- Slurry does not accumulate on the girder or on the drop head, ensuring perfect support for the board on it.
- Can be used with solid slabs with an 80 cm (2'-8") edge.
- It has an accessory to handle the girders easily, tilt means an important reduction of the assembly time.

#### **MORE SECURITY**

The wood lined Cantilevered Drophead adds support of 4 cm (1 5/8") to the Alisan Panel. The wood inlay can then be easily nailed and unnailed to the panel, preventing it from moving. This is especially useful for the panels on the edge , and in other risk areas.

#### **CANTILEVERED DROPHEAD WITH DOUBLE SUPPORT**

Our way of attaching the Cantilevered Drophead, with two support points, is not dependent on dangerous solderings exposed to traction, thus increasing safety.

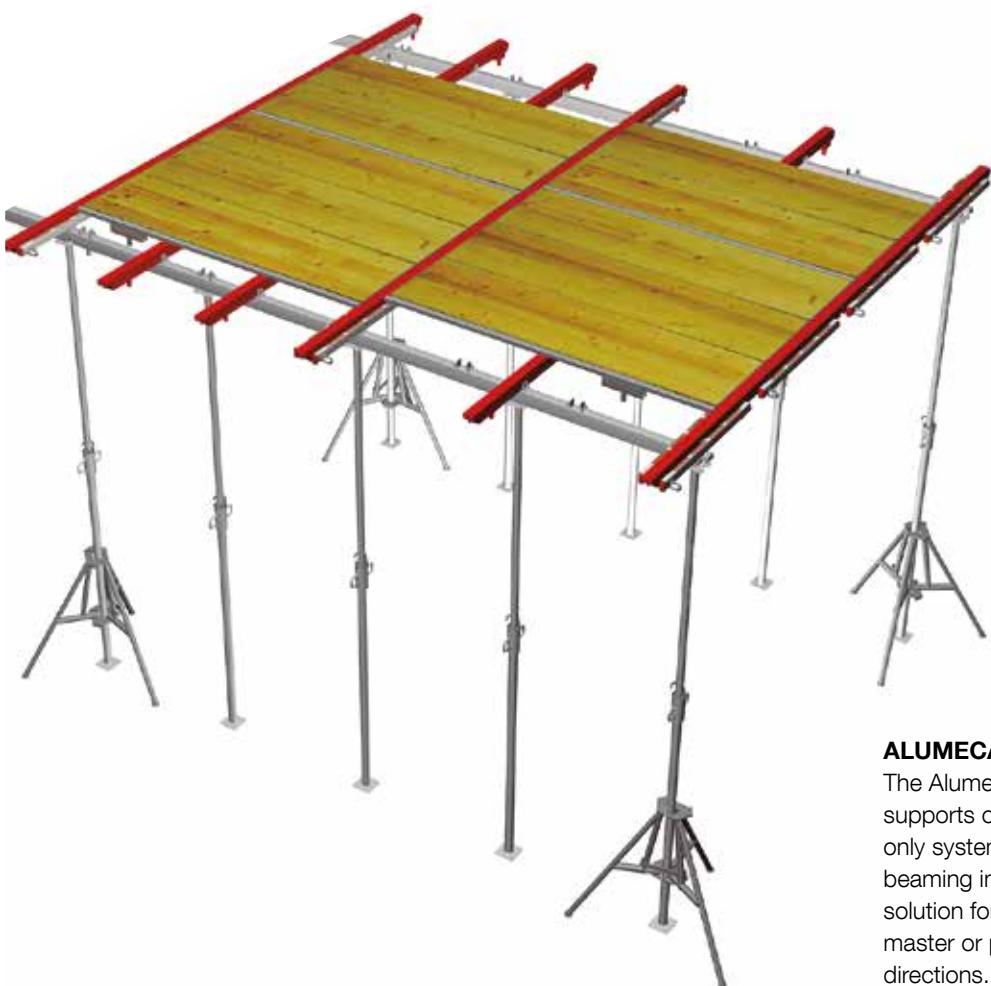
#### **SAFE STRIPPING**

The Cantilevered Drophead is fitted with a system that cushions the fall (rubber plugs), and a standard, predictable drop direction, making the form release process much safer.

#### **FEWER COLUMN MEETING POINTS**

Working with 2 m (6'-6 3/4") wide corridors avoids the typical problems that other fixed 2 m x 2 m (6'-6 3/4" x 6'-6 3/4") grid systems have, when finishing off meeting points with columns and walls.





#### **ALUMECANO WITH SUPPORTS**

The Alumecano System is used with supports of 1.97 m (6'-5 1/2); it is the only system that allows the secondary beaming in two directions. It is a good solution for those one-way slabs with master or primary beams in both directions.



The Alumecano System with an intermediate Girder allows the pouring of solid slabs up to 25 cm (9 7/8") thick.



The standard Support Girders of the Alumecano System are ready for the positioning of two intermediate Girders, necessary in solid slabs of 25 cm (9 7/8") or more.



Three days after concreting, the System allows for a significant part of the Alumecano kit, Panels and Props, to be recovered and reused elsewhere on the build, without the need for replacing all of the original Props.



#### DOUBLE-SUPPORTED DROPHED

Our Dropheads works always supported on 2 sides: a Post-shore on one side and a perforated Girder by the pin of the Drop Head on the other.



#### SEMI-RIGID JOINT

The joining of the Main Girders and the Support Girders is semi-rigid, which helps in the assembly of the system and its later removal.

#### GIRDERS IN T-SHAPE

The design of the main girder in a T shaped profile, greatly facilitates panel form release. In this system the concrete residue doesn't fall directly on the main girder, thus minimizing its presence on the girder.



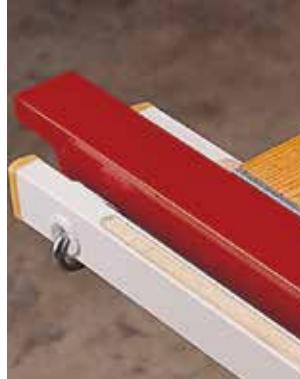
#### MANUFACTURING

The Cantilevered Drophead is made from reinforced aluminium, with the dual benefits of making it lighter, and more resistant to the exposure of the build.



#### SMART DESIGN

The parts are sealed off at both ends to protect them from residual concrete.



#### SAFER CANTILEVERS

Guarantees a better functioning of the system in the cantilevers, distributing and ensuring the transmission of the loads. This cantilever will allow the creation of safe working platforms, which are necessary for the partitioning of the slab.



# | ALUCUBETAS

The best finish for any type of bi-directional slab.

Formwork system for lightweight reinforced concrete slabs with reusable coffer made of injected polypropylene. It allows both bidirectional and unidirectional slabs to be executed thanks to the unidirectional plate element, as well as the great variety of ribs demanded by the market, in compliance with fire prevention regulations.



## ALISAN DOMES

In keeping with our policy of innovation and continual product improvement, we have built aluminium supports into our domes, producing straighter ribs, preventing breakages, whilst maintaining sufficient flexibility for simple form release. The structural metallic accessories used are "long" (a 4 m (13'-1 1/2") Main Girder).



## COMPATIBILITY

The majority of the components used by the Alucubetas System, are the same as those of the Alumecano System, enabling us to offer lower prices, whilst at the same time optimising use and profitability of the purchased equipment.

## FINISH

Thanks to the design, manufacture, and perfect fit of the components, concrete leakages are avoided, and the finish is improved.

The Alisan II-T Dome Panel in both its forms (standard and reinforced), minimises the deflection in the columnheads and shearheads, and results in minimal deformity.



- Compliance with fire prevention regulations.
- Wide range of edge protection elements, which are connected to the formwork, and which have been tested in an accredited laboratory in accordance with UNE-EN 13374.
- A single system addresses ribs of 12, 14, 15, 16, 18 and 20.
- Wide range slab thicknesses: tray heights of 20, 25, 30, 35 and 40 cm (7 7/8", 9 13/16", 11 13/16", 1'-1 3/4", 1'-3 3/4").
- Adaptation to irregular floor shapes with 2, 3 and 4 m (6'6- 3/4", 9'-10 1/8) girders.
- Recovery of 80% of the system's elements within 3 days of concreting.
- Variety of heights: from 1 to 6 m (3'-3 3/8" to 19'-8 1/4").
- Seamless joints thanks to the tight fit between the system's elements.
- Tray boards with greater edges to avoid excessive deflections in fillings.
- Aluminium reinforced trays to obtain straighter ribs.
- 4 m (13'-1 1/2") girders allow minimizing misalignment of the ribs.
- Structural elements closed at their ends to protect them from possible corrosion caused by concrete residues.

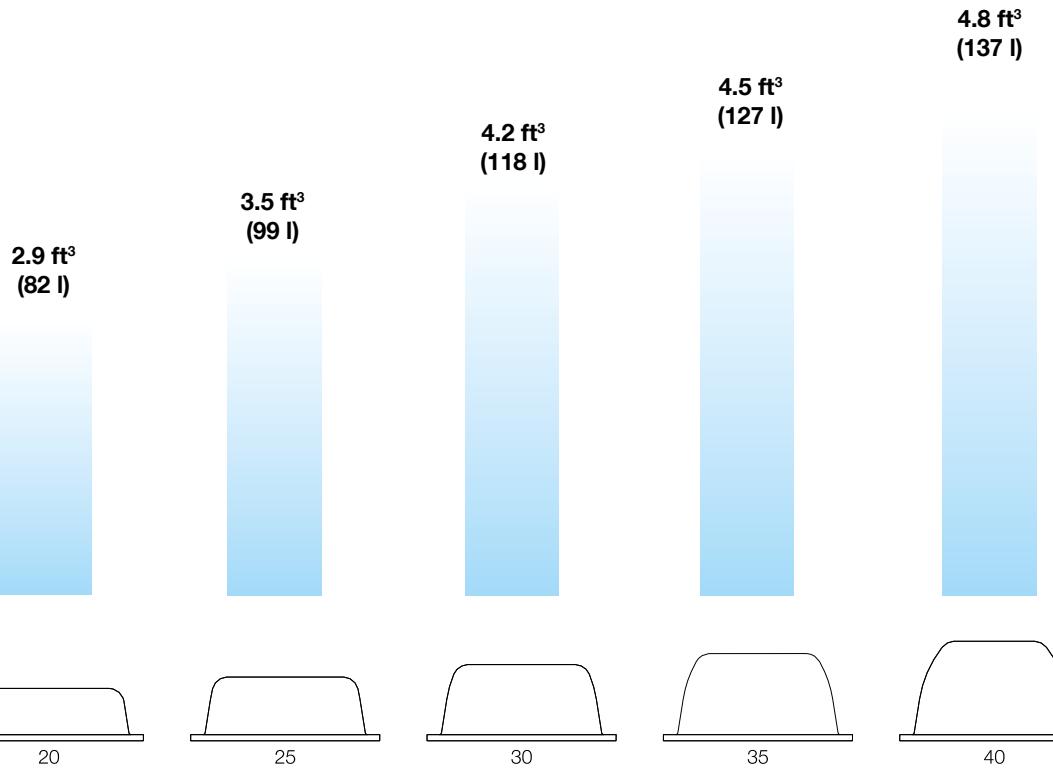


The standard Secondary Beams of the Alucubetas System are designed for the support of the dome, its profile and manufacturing provide a safe, stable and resistant support for the Alisan Dome and the Alisan reinforced board.

The Alisan Dome of injected polypropylene is designed to prevent breakage and deformations. Its design provides quick and easy form removal, saving concrete and ending up with straighter ribs.

The Alsina Group maintains strict quality control over all their products. The mass productions of our products means that we can offer maximum quality at very competitive prices.

#### REMOVAL EMPTY SPACE VOLUMES





### RESISTANT DOMES AND STRAIGHTER RIBS

A new design of the Alisan Dome has been developed, with the aid of advanced computer programmes and simulations, that avoids breakages and deformities. In addition to quicker form release, it is more resistant and has longer durability.



### DESIGN AND MANUFACTURE

Thanks to the design, manufacture, and perfect fit of the components, concrete leakages are avoided, and the finish is improved.



### HIGH VERSATILITY

The system can make the standard market waffle slab ribs: 12 cm and 16 cm ( 3/4" and 6 1/4" ), as well as the special ones 14, 15, 18 and 20 (5 1/2", 5 7/8", 7 1/8" and 7 7/8").

The 2, 3 and 4 m ( 6'-6 3/4", 9'-10 1/8" and 13'-1 1/2" ) Main Girders make the system adaptable to all types of perimeter.



### STRIPPING

Three days after pouring concrete, the Primary Beams, Alucubetas Secondary Beams, Drop Heads, the Domes, the Boards and the proportional part of the Post-shores are removed for reuse.

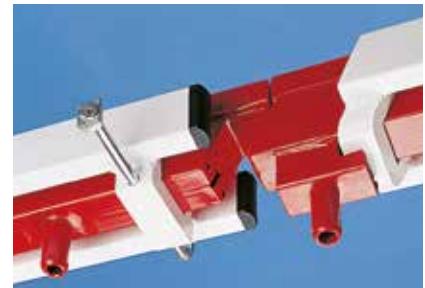
Only one continuous line of Secondary Beams every 1.6 m (5'-2") is kept until 21 or 28 days later when the concrete reaches the proper strength. In special cases, the shoring will be left every 2.4 m (7'-10 1/2" ).

# **ALUMECANO PLYWOOD**

**Simple, light and versatile system  
for exposed finishing with phenolic surface.**

Alumecano Plywood is a highly mechanized formwork system with only three basic components: Girder, Support Girder and Drop Head. The design of the elements optimizes the dimensions of the components, achieving the most rational and effective use. Alumecano Plywood is also noted for its great lightness and resistance that allows a longer use and better handling for the workers.



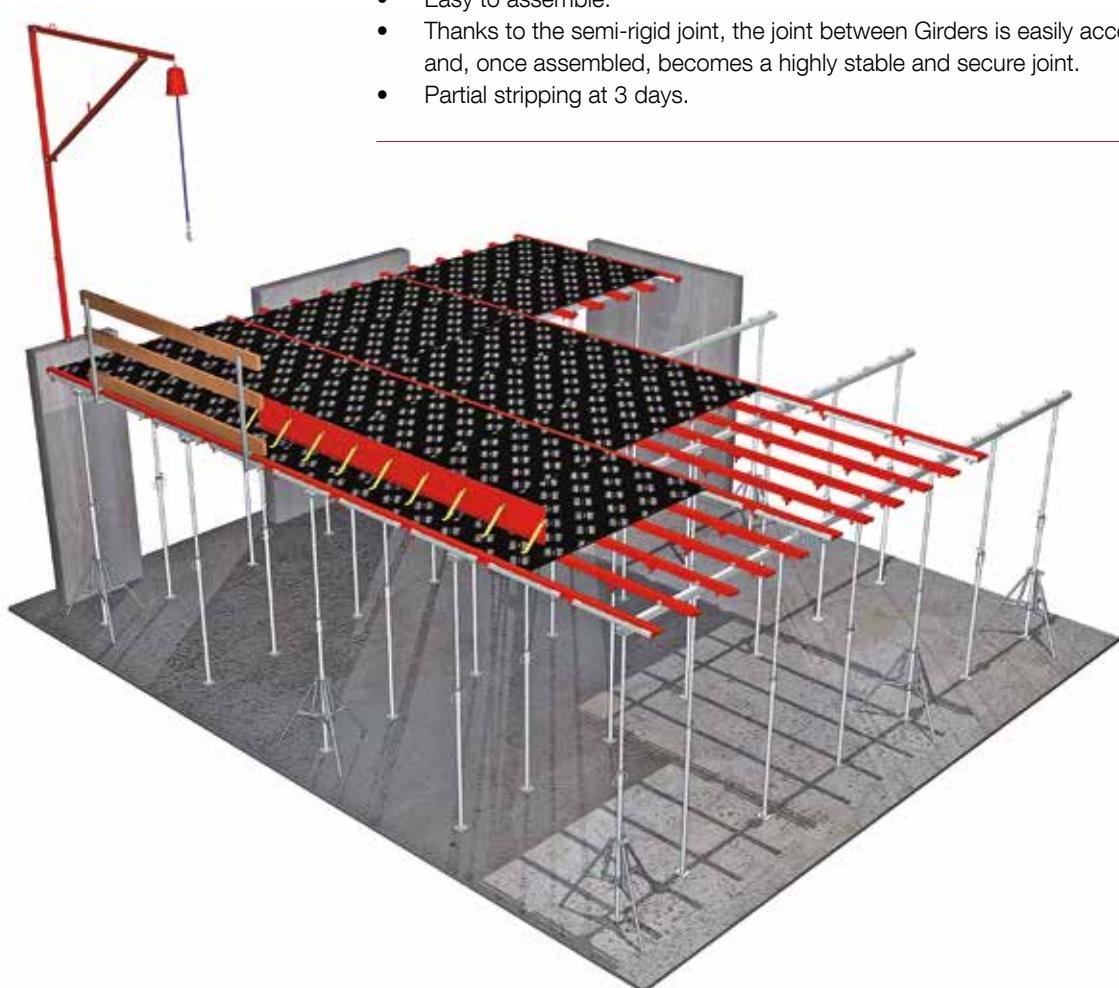


It's a very light system. The main girder with dropheads approximately weights 50% less than other similar systems of the market.

Structural elements incorporating "U" guiding the structure. The Drophead with double support provides a stable and safe support for the formwork surface. It doesn't rely on dangerous welding traction moments.

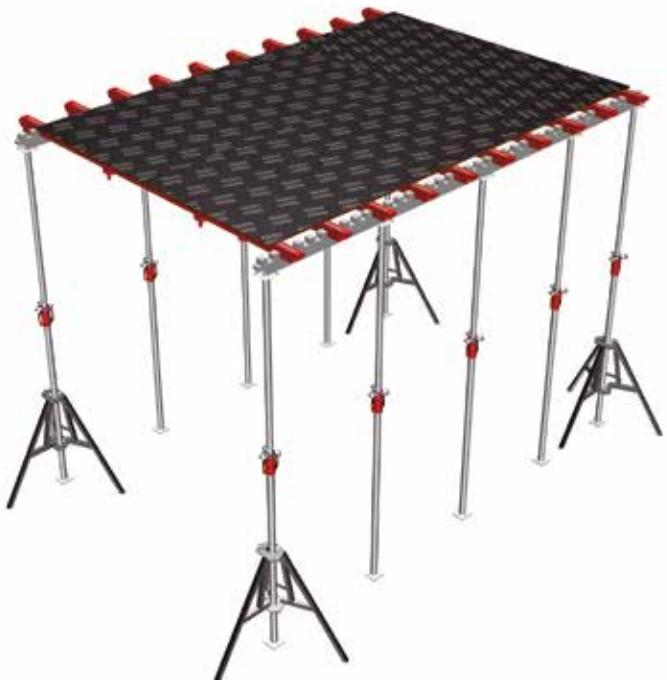
Joins between support girders are easy to rich and, once they are joined. safely attached.

- Very light system. The girder with drop heads is approximately 50% lighter in weight than other similar systems on the market.
- Safe system: Girder and support girder braced grid.
- The dual-supported drop head gives stability as it does not rely on dangerous traction welds.
- Easy to assemble.
- Thanks to the semi-rigid joint, the joint between Girders is easily accessible and, once assembled, becomes a highly stable and secure joint.
- Partial stripping at 3 days.



# | 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.

### **LIGHT AND RESISTANT**

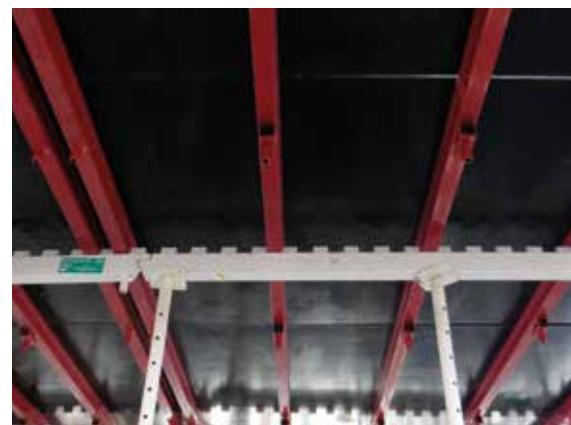
The metal joist and joist bearer have a smaller weight compared to the wood joists. Its industrialized manufacturing and mechanization guarantee its benefits.

### **FLEXIBLE SYSTEM**

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.

### **SAFE**

The joists are housed in the Multiple U-shape joist bearer. Both elements are fixed and fastened during assembly to ensure the formwork process, what means a safe assembly.



- 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 both materials and labour.
- Structural components made of high resistance steel.



### SAFER CANTILEVERS

The cantilever accessory guarantees a better functioning of the system in the cantilevers, distributing and ensuring the transmission of the loads. This cantilever will allow the creation of safe working platforms, which are necessary for the partitioning of the slab.



### PLACEMENT OF THE GIRDERS AND POST SHORES

By counting the number of U's, the girders can be placed at the correct distance without using the tape measure.

Additionally, it is no longer necessary to take measurements to determine the location of the post shores, as these are always positioned in the tips of the support girders.



### BEAMS WITH "MALE-FEMALE"

Thanks to this characteristic of the beams, we can considerably optimize the material and avoid adding extra to make the overlap.



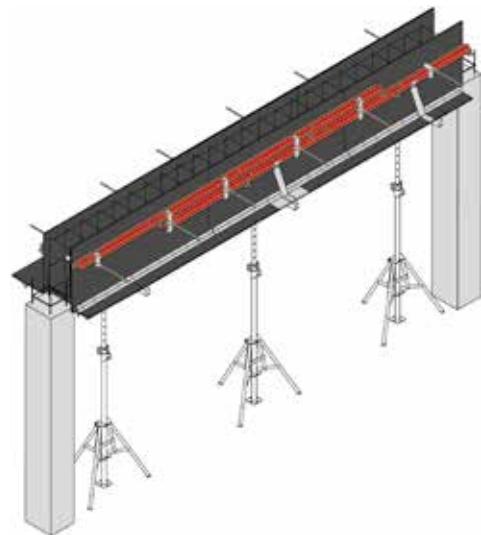
### GIRDER-FITTING ACCESSORY

Thanks to this accessory we can handle the girders more easily, which translates into a significant saving in assembly time.

**HANGING BEAM SYSTEM WITH MECANOFLEX AND JOIST BRACE**

The Alsina Mecanoflex system also offers a solution for Hanging Beam System 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.

- Any conventional post shore can be adapted to the system.
- The lateral girders are standard elements of the system and are reusable.
- The beams are placed quickly, simply and safely.
- Formed by two simple elements that fix all types of beams.
- Fast: the system design ensures safe assembly on site.
- Economical: all elements are reused, which saves the contractor a lot in terms of material, labor and implementation time.
- System designed to fix all types of beam bottoms.
- It takes care of all the tasks of finishing elements and beam risers efficiently.
- The use of the plywood liner and very few thru elements give the beam an exposed finish.





## | 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.





- Lightweight: 22 kg/m<sup>2</sup> (4.50 psf) in weight.
- Strong: 25 kN/m<sup>2</sup> (0.26 ton/sqf) 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.
- It needs just one prop every 1.57 metres (5'-2"), 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.





### REVOLUTIONARY CONCEPT

Alsina has extensive experience in panel formwork, especially in vertical wall systems and columns. When designing beam formwork, the panel vertical adjustment was applied in a horizontal direction.

This resulted in a modular system for hanging beam formwork comprised of side form panels and bottom panels.



### CONSIDERABLE SAVINGS

Traditional formwork beams use lots of wood and operator man-hours. This work cannot be used on other beams and is quite costly. For this reason VCM is reusable up to 90%.

The operator can perform beam formwork much faster by not having to measure, cut wood and nail it.



### VERTICAL ADJUSTMENT

Alsina engineers have studied the traditional procedure extensively. This has led them to design a vertical adjustment system which makes it possible to easily recover material at the work site.

VCM enables the construction of all kinds of hanging beams guaranteeing it to be the most cost-effective system in the world.



### TRIANGLE LEVELER

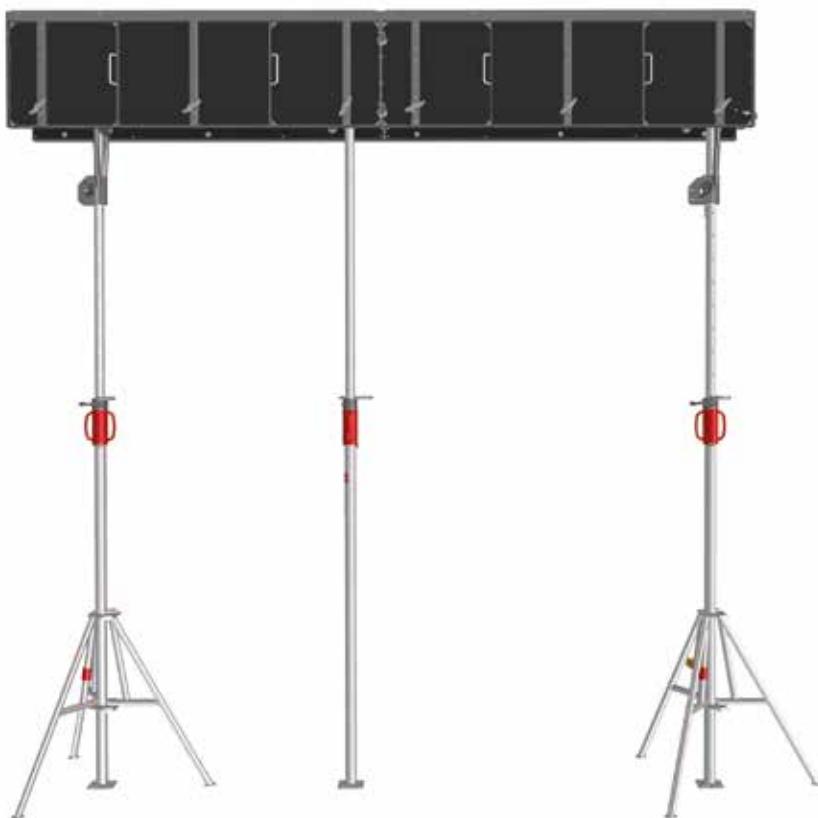
This element is fastened to the bottom panel and ensures the perpendicularity between the bottom and the prop, stabilizing the system and facilitating its assembly. This part should be assembled immediately after the installation of the bottom panels.



It is composed of 2 elements, the bottom panel and the side form panel, both supplement each other and can be joined to solve any shape of beam.

Bottom panels assembly from the ground. The working post-shore brackets allows the operator to work safely at the same height as the beam formwork.

Recovery of 90% of formwork material on the third day after concrete is poured without touching a single prop on the finished hanging beam.

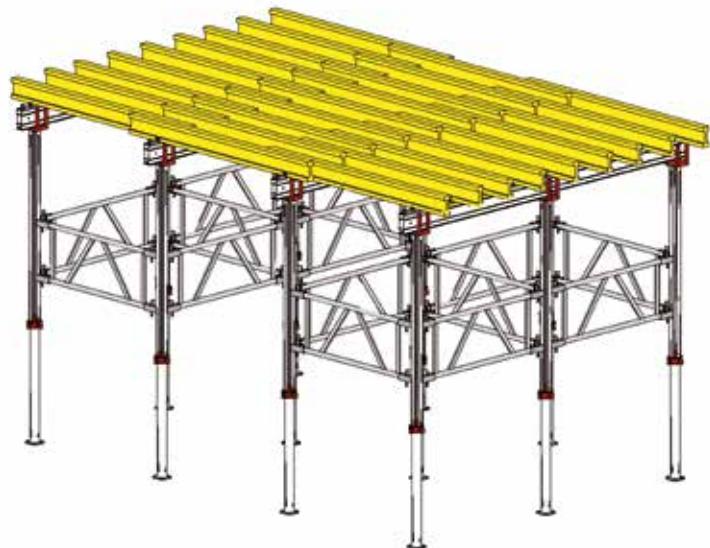


- The side form panels are 109 and 157 cm (3'-6 15/16" and 5'-1 13/16") in length.
- Universal panel to resolve the sides of the hanging beams at a reduction of 5 by 5 cm (1 15/16" by 1 15/16").
- 109 and 157 cm (3'-6 15/16" and 5'-1 13/16") long bottom panels that together with the partition panels allow to solve the box formwork of the hanging beams.
- The combination of the different bottom panels together with the metallic inserts define the width and depth of the beam. It allows a wide range of solutions and important wood savings.

# | ALUFLEX

Flexible and lightweight slab system.

Innovative slab formwork system with a mixed structure of wooden and aluminium beams. It incorporates mechanized elements to increase productivity in this type of systems. The Aluflex system only uses three basic elements (Aluminium support girder with multiple U sections, HT-20 wood beam and prop) Aluflex is the ideal solution for the most cost-effective production of concrete slabs.



### **LIGHT AND SIMPLE**

The 13 feet (4 m) aluminium beam weighs 34.17 lb (15.5 Kg). This element has to be laid the most times, and therefore it has to be lightweight and strong.

### **FAST AND RESISTANT**

The aluminium girder is designed to support and reposition the wood beams according to the slab load. This feature saves having to measure distances and fix the wood beam, and therefore a assembly is much quicker than with traditional wooden prop systems.

### **SAFE**

The Aluminium beam and the HT-20 wood beam, are provided with the Guardrail accessory to protect the formworker when assembling the system. This way the Alsipercha system can be used to board the structure level in optimum safety conditions.

### **ALUMINIUM GIRDER**

Element made from aluminium, designed to support and reposition the HT-20 wood beams. Available in different lengths so that it can be adapted to any perimeter.

### **TC BEAM SUPPORT**

This accessory can overlap two beams and adjust to all geometries.

### **A-LITE PROP**

With Aluflex, aluminum A-Lite Props are usually used as a support system. This means that great heights of slabs can be made safely, since they can be joined and make upright towers.

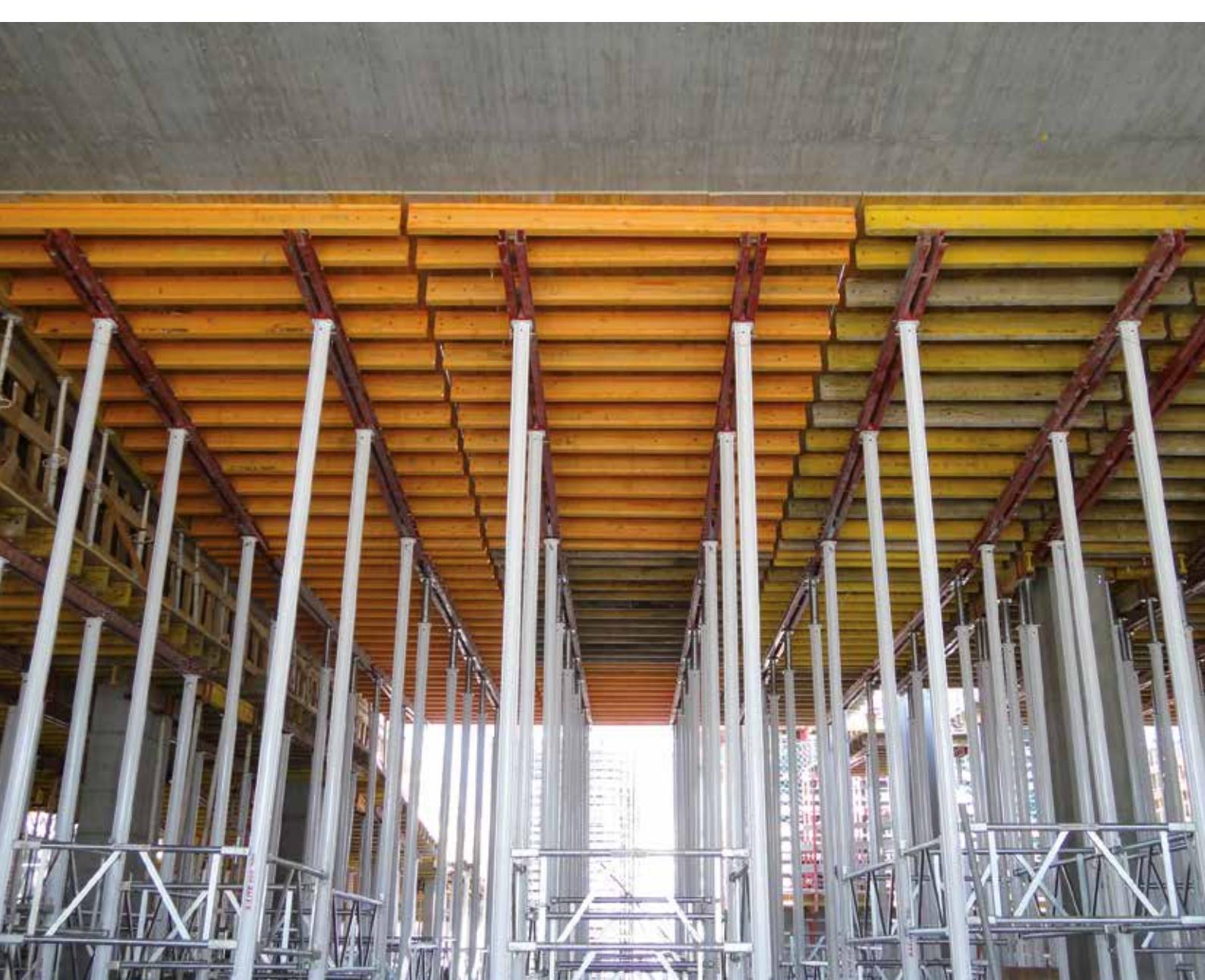


- Easy, fast and simple mechanical assembly system optimizes performance.
- Flexible and versatile system adapts to various work configurations.
- Braced system, when beams are secured in their corresponding housing, they cannot slip.
- Gaps / positioners in the aluminium beam for housing secondary wood, avoiding tipping.
- Sturdy components: Support girder made of high resistance aluminium.
- Compatible with any formworking surface- wood or phenolic panels.
- Allows the board/phenolic board to be nailed to the beam.
- Ideal system for large slabs and for heights greater than one floor, minimising the number of props.

# 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.



**MODULAR**

The Multiform Table is a system that can be pre-assembled on site, or with the possibility of being shipped from the warehouse.

**STRONG**

The metal primary beam allows the system to absorb large loads. The connector between primary and secondary beams ensures a rigid connection of the system.

**VERSATILE**

Given the number of beam dimensions and the use of the Multiform system as a primary beam allowing the use of a large number of components, the system can be adapted to any geometry or surface.

**PRODUCTIVITY**

Once assembled, it can be used as many times as you like. The system has transfer systems that allow these movements to be fast, safe and precise.



- 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.
- Efficient for all kinds of construction.

# 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.



#### **LIGHTWEIGHT SYSTEM**

Table designed for the most common slab thicknesses, which is formed by wooden primary and secondary beams.

#### **EASE OF ASSEMBLY**

Thanks to the design of the accessories for joining the beams together and the heads that connect the various shoring systems to the table, the assembly of the system is quick and intuitive.

#### **RIGIDITY**

Thanks to the designed head, the structure is totally stable and behaves as if it were a single piece.

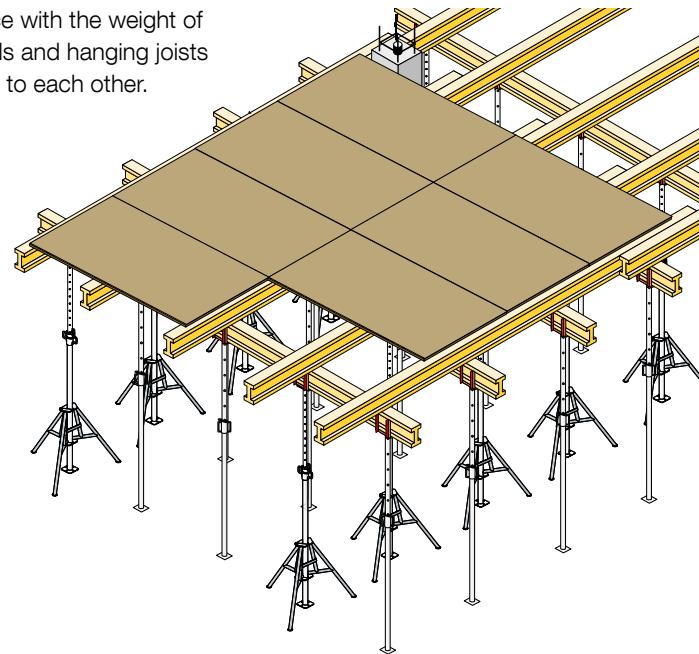
#### **PRODUCTIVE**

Once assembled, it can be used as many times as you like. The system has transfer systems that allow these movements to be fast, safe and precise.

# | 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.





### SIMPLE

In the Vistaform system, thanks to the use of the same profile both as a primary beam and as a secondary beam, a significant improvement in assembly times is obtained, thus reducing possible unforeseen events that may occur on site.

### QUICK AND VERSATILE

Allows the distribution of the beams and the shoring in accordance with the weight of the slab to form. The use of the formwork beam brings versatility to the project, facilitating the meeting with walls and hanging joists, because of the possibility of overlapping the wooden beams with each other.

### FINISH

The Vistaform system can use different forming surfaces, depending on the concrete finish requirements of the project. For an architectural finish, use phenolic resin-coated plywood boards, a surface that provides excellent quality, with the minimum amount of joints and large surfaces without marking the concrete.



- 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.
- The Vistaform system 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.

# | VISTAFLEX

Combining simplicity  
with durability.

Traditional formwork system for exposed slabs, comprising metal structural beams with wooden strips on the upper face and an ancillary framework, wooden props of the principal framework resting on steel props such as Alisan/A/G class props. CL or AR metal braces can also be used as a support. Both support systems offer easy height adjustment.



- Quick and easy assembly.
- Versatility of use, can be used in various configurations.
- Lightweight, resistant metal beams in ancillary shoring (20% lighter than HT-20 beams).
- All kinds of formwork surfaces can be used (phenolic plywood boards and panels).
- Lightweight solid wood beams for various purposes.
- With a special finish to protect against deterioration.



### FLEXIBLE

By combining girders as secondary beams and HT20 beams as primary beams, greater flexibility is achieved in the position of the secondary beams, being able to place them at the exact point required for different sizes of formwork surface.

### OPTIMIZED

The system allows the use of the resistant characteristics of each element according to their arrangement in the formwork: primary beams with greater inertia and secondary beams with greater durability.

### SAFE

The possibility of using accessories for positioning and fixing the secondary beams to the primary beams.

### USES

The Vistaflex system is mainly used for the execution of building projects with solid slabs.

# MULTIFORM FOR BRIDGE DECKS

Easy to assemble  
and high versatile system

Multiform is a highly versatile modular system which, through the use and connection of standard parts, adapts to vastly different shapes thanks to its flexible configuration capacity guided by the corresponding technical study. Its components have all been designed to withstand on-site conditions and ensure a long service life.



### **VERSATILE SYSTEM**

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.

### **MODULABLE**

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

### **SIMPLE ASSEMBLY**

The components of the Multiform system are easily assembled on the job using traditional tools. Assembly time is significantly reduced thanks to the Multiform-specific connector. This characteristic greatly reduces transportation and storage costs.

### **HIGH PRODUCTIVITY**

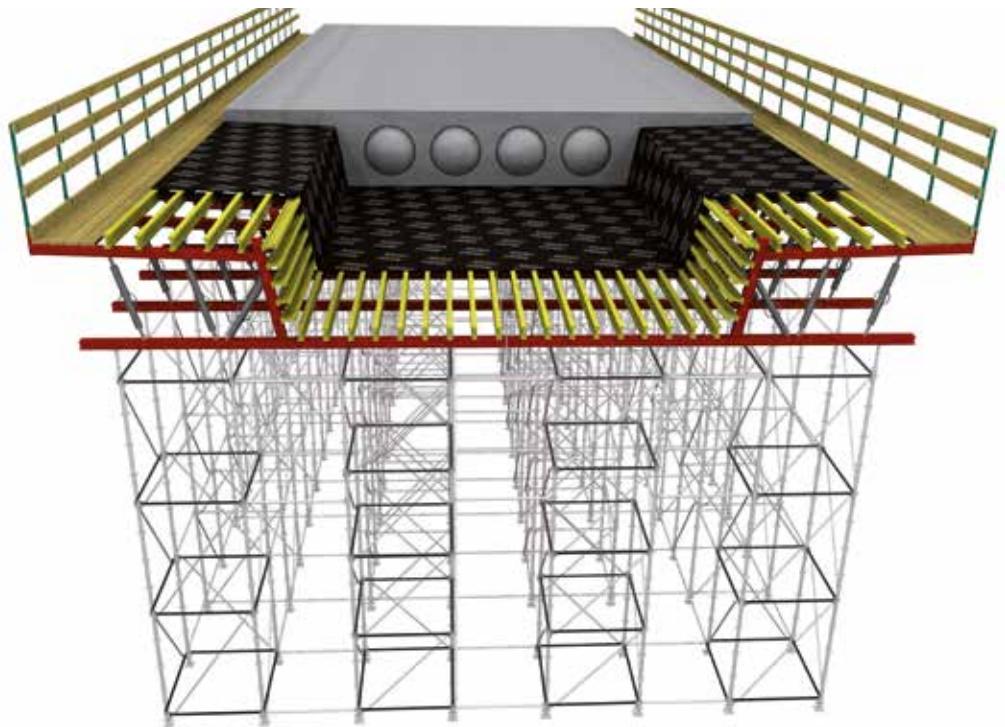
One of the design premises of the Multiform system has been to ensure high levels of rigidity once it has been assembled. This greatly enhances removal of formwork and later transferal to a new pouring site, providing high job productivity.



- Primary beams composed of DUPN-120 with holes in the core.
- HT-20 secondary beam made of wood.
- There is a range of connection gibs to make connections between DUPN-120.
- Connecting systems between DUPN-120 based on gibs use pins for adjustment. Slower joints such as bolted joints are avoided.
- The system makes it possible to assemble formwork modules and then move them to subsequent uses.
- Possibility of choosing the quality of the lining as lining is done on site.
- Wide range of aligners, from 0.35 m to 5 m (1 1/4' to 16 1/2').
- Easily transported system as it is sent to the site disassembled.
- Highly modulable to address a wide array of shapes.
- Joints are strong enough so formwork vessels can be moved with a crane.
- System built-in security.

### FREQUENT USES

Very used in viaducts, underpasses, overpasses and lintels.



### ASSEMBLY WITH PINS

The Multiform system is designed for fast assembly. The elements can be connected with pins to eliminate screw placing tasks.

### CONNECTION GIBS

These Multiform system elements connect the various components that are manufactured in various sizes so they adapt to any kind of project.

### SUPPORT STRUCTURES

AR Shoring is the most used support structure for Multiform. It allows both scaffolding and independent tower. It is also possible the use of solutions with H33 and TC360 systems.



#### **MF ALIGNER**

This element transmits the loads between primary sections and achieves the desired angle between them. The ends are connected by two pins.



#### **MF CONNECTOR**

This element connects the primary beam with the wood beam. It can be screwed with an electric drill, which facilitates the connection with a single piece and movement.

#### **AR ARTICULATED HEAD**

An adjustable steel element that receives the loads and supports the primary beams. It includes a joint to absorb deviations.



#### **HT20 WOODEN BEAM**

A structural wood element that supports the formwork surface. The layout and placement of the distribution beams will depend on the thickness of the slab to be carried out.



#### **DUPN-120**

#### **PRIMARY BEAM**

A primary steel element that supports the structure and transmits the loads to the support system. Its design allows horizontal connection between beams and support of the elements that make up the shape of the board.



#### **BRACING BAR**

This element ensures the strength of the Multiform system by connecting the bracing frames with the primary beams.





## | **MULTIFORM BOB**

Option for the construction of bridge slabs on pre-fabricated beams.

System for the execution of in situ slabs on pre-fabricated beam bridges. Thanks to its hanger system, it is possible to suspend the Multiform system both in the central spans of the deck and in the overhangs.





- 
- Hanger parts enable the Multiform system to be suspended directly through Dywidag tie bars.
  - Multiform system to carry out different spans; thanks to its versatility, dimensions and sizes, it can be adapted to any shape.
  - Formwork descent system from the executed deck is one of the safest on the market.
  - Compatible with Multiform system and Vistaform system.
  - Very used in the execution of in situ slabs on prefabricated beam bridges.
- 

#### ADAPTABILITY

Both the Hanger system and the Multiform system can be adapted to any geometry found on the construction site.

#### STRENGTH

System capable of supporting up to 4000 Kg (8818,49 lb) for each of the anchorages, placing very few Multiform consoles and reducing movements.

#### SAFETY

The Multiform BOB system allows assembly on the ground and lifting with auxiliary elements.

#### PRODUCTIVITY

Once the system has been assembled, it can be used as many times as you like by simply connecting and disconnecting it from the Hanger system.



# | H33 TRUSS

Perfect system to solve large spans for bridges solutions.

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

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



### HIGH LOAD CAPACITY

With a bending moment, up to 150Tn/m, the system can reach large spans up to 30 m (98 1/2'). There are some intermediate supports that can carry with the sharing forces making the system very flexible to solve many distributions.

### COUNTER BOW SYSTEM

The Counter Bow system, easy and fast to do it thanks to the bolts of the bottom part of the structure. It allows to reach large spans with no permanent deformations in the superstructures achieving great results.

### SAFETY SYSTEM

Internal integrated safety solution for 0.92 and 1.65 (3'-1/4" and 5'-4 15/16") widths. It is possible to outfit the system with external platform with MF components.

### RELIABLE

During the assembly stage just must follow the instructions noted in the previous study done by our Technical staff. Besides this Alsina always offer advisory service to its customers at all times.



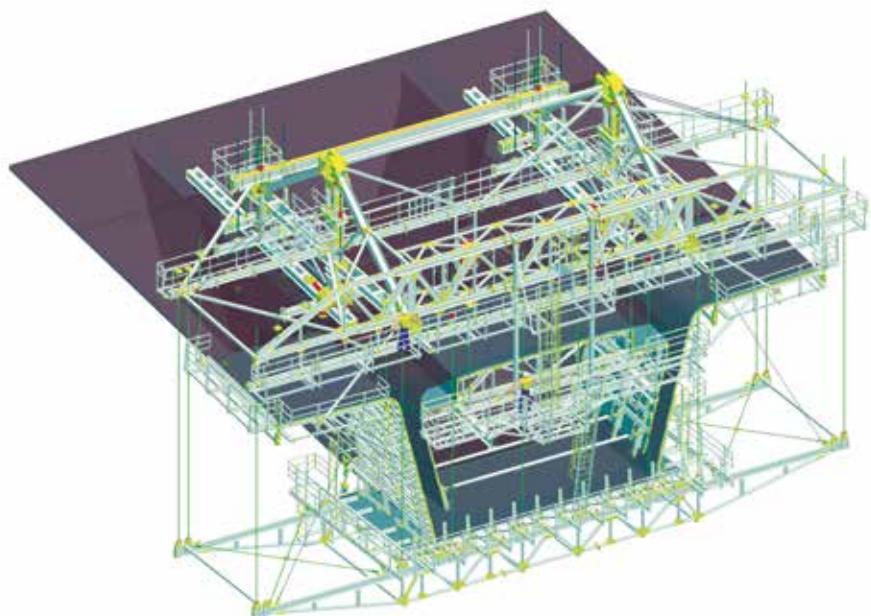
- Modular system with different lengths up to 30 m (98 1/2') of spans.
- Different bracing widths to fit the required solution 0.4 – 0.7 -0.92 -1.65 (1 1/4' – 2 1/4' – 3' – 5 1/2').
- Counter bow system for ensuring flat results.
- Up to 2,4 m (7 3/4') height pieces easy to be packed and shipped.
- Easy and fast assembling with few components.
- Bending moment of 150Tn/m (14 t/sq) of capacity.
- Complete and integrated safety system.
- Galvanized to ensure a large life span and worst place conditions.



## SUCCESSIVE CANTILEVER CARRIAGES

Solution for large viaducts.

Trolleys for executing bridge decks and wide span compressive arches using the successive bolt method. Advances of 5 metres (16 1/2') or more in special cases.





- Successive cantilever trolley with hydraulic, mechanical and fixed superelevation adjustment.
- In constant and variable section type.
- With vertical or inclined side wall type.
- Mounting with crossmember for first laying on stack head.
- Ideal system for the execution of large span viaducts.
- Compatible with Multiform system.

### **INTEGRATED SOLUTION**

One of the great advantages of the Successive Cantilever Carriages is that we do not execute the lower part and the rear part of the formwork separately, but rather it is possible to do it all at the same time, which translates into significant time savings.

### **EFFECTIVE SYSTEM**

It is an ideal system when support on the ground is difficult or complex, either due to geographical features such as rivers, roads or weak ground, or when the option of the execution of towers is unfeasible.

### **VERSATILE**

With a great capacity to adapt, the Successive Cantilever Carriages have great compatibility with different tailor-made solutions, depending on the section of the bridge.



# | MINE TUNNELS

Tunnel lining equipment.

Equipment for lining tunnels. Self-supporting formwork that is moved using hydraulically driven trolleys.





### EFFECTIVE

Supports concrete overpressure in the mine tunnel. The pumped concrete is confined between the excavation and the temporary structure, generating loads much higher than conventional ones.

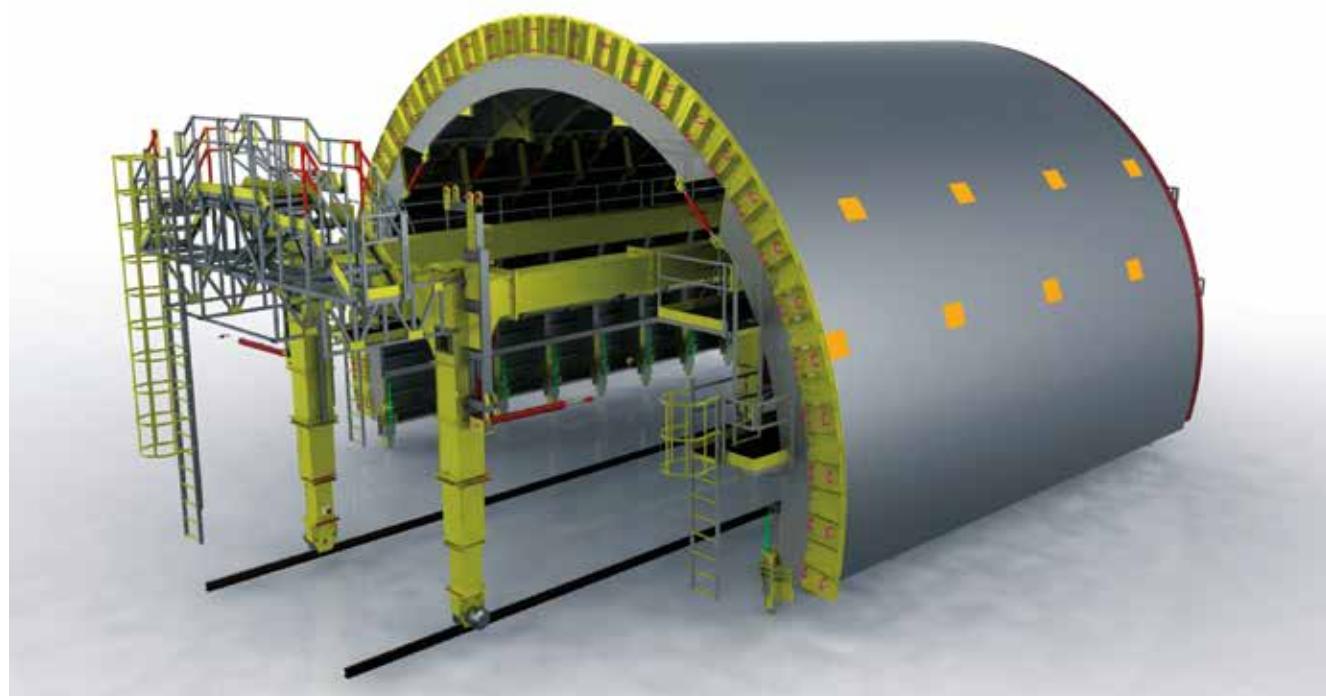
### ROBUST SYSTEM

The system allows us to concrete both gables and vaults together, which translates into significant time savings.

### HIGH PERFORMANCE

Thanks to the system, we can make layouts very quickly and with concreting sections with little separation in time.

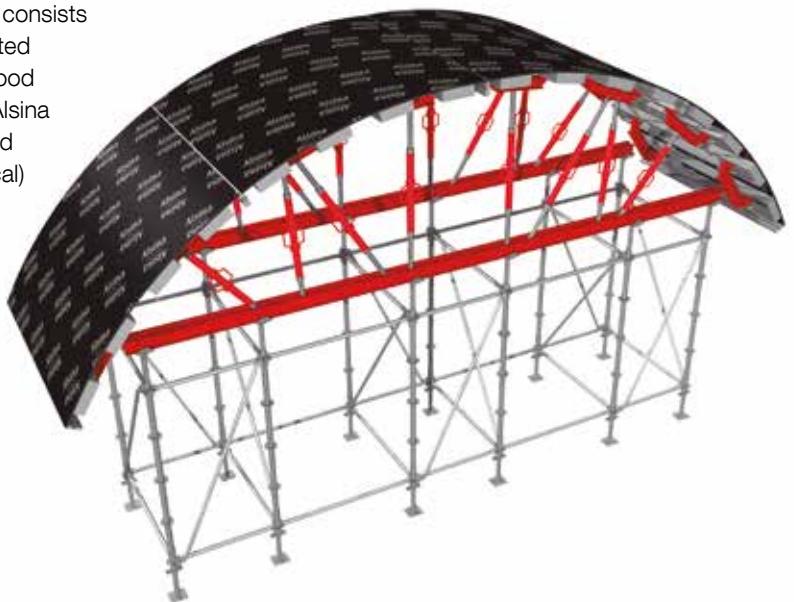
- Collapsible side wall panels.
- Support system using skids.
- Allows using reference height formwork and ensures correct tightening by reducing slurry losses.
- Easy to handle transfer trolley.
- With hydraulics for adjusting height and wheels for transfer.
- Self-supporting formwork that allows using various formwork elements with a single trolley.
- Laterally movable trolley.



# ALISPLY VAULT DOME FORMWORK

Economical and fast option  
for false tunnels.

Formwork system to execute with circular vaults with radius from 2.50 m and pressures up to 60 kN/m<sup>2</sup> (1250 lbf/sq ft.), handled by crane. The system's horizontal formwork consists of pre-assembled panels with an electrolytic zinc-plated steel frame and an 18 mm thick (3/4") phenolic plywood formwork surface. Vertical support is done with the Alsina multidirectional modular shoring system, the high load capacity of which (up to 80 KN (18,000 lbf) per vertical) is safe for heavy load requirements.



### GR-2 AND ADJUSTABLE CLAMP

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.

### SAFE SYSTEM

Union of the modules using manual clamps from the lower platform. it's not necessary that any operator transits through the curved formwork surface in order to formwork.

### EFFICIENT LOGISTICS

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

### MOVEMENT

The shoring system can be moved using a support carriage.



- The roofing formwork is made up of factory assembled, extra flat, 15 cm (6") modules that do not require special tools for assembly.
- The joining and alignment of the roof panels is done by means of a clamp that can be handled without tools, streamlining assembly on site.
- Multiform beams support the roofing formwork and release onto the vertical support.
- The vault's vertical support is ensured thanks to the high load-bearing capacity of the multidirectional shoring system joint (up to 80 KN (18,000 lbf) with verticals of 1.5 m (5') and safety coefficient of N=2).
- The roofing system is always assembled from below, avoiding unnecessary risks for workers who do not need to walk on the formwork surface.
- Alsina's supplemental offsetting components, which are connected to the panel, guarantee the proper geometric fit for the roofing formwork.

# I BOX CULVERT

Versatile and agile option for the execution of rectangular sections.

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.



- Versatile system with which various rectangular sections can be made, including chamfers at its upper part.
- 95% of its parts are standard Alsina systems.
- Easy movement between fillings thanks to the formwork trolleys.
- Due to the modularity of the system, it can be configured to handle different loads, and thicknesses from 20 cm to 1 meter (8" to 3 1/4') can be made.
- The vault's vertical support is ensured thanks to the high load-bearing capacity of the multidirectional shoring system joint (up to 80 KN (18,000 lbf) with verticals of 1.5 m (5') and safety coefficient of N=2).



### SIMPLE SYSTEM

The Box Culvert is a system of great simplicity formed from the combination of standard Alsina products. This means that it is very easy to assemble.



### MOVEMENT

The Box Culvert system can be moved in two ways. First of all, the crane can be used for initial positioning. Subsequently, you can make use of the wheels and the formwork carriage, suitable for advancing the system through the rectangular section.



### PRACTICAL

The Box Culvert, thanks to its structure and characteristics, is a very useful system for projects that require long runs and a lot of repetition.

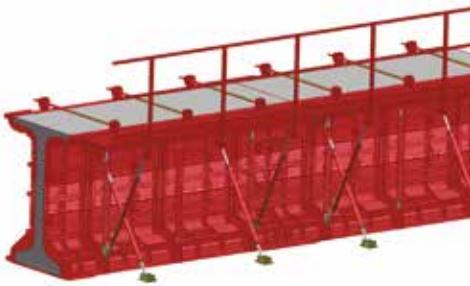
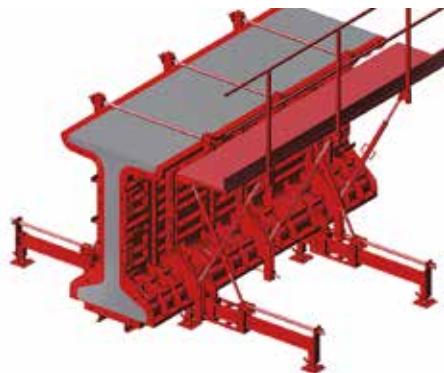


# PRECAST CONCRETE BEAMS

On-site concrete beams  
for bridges and viaducts.

The modular system for precast concrete beams has been designed for the on-site manufacture of pre- and post-tensioned concrete beams used in bridges and viaducts. The most common designs correspond to double-T type beams with reinforcements at the ends and bulkheads for fastening the necessary elements for pre- or post-tensioning.

Alsina offers two versions of the solution to maximize on-site production performance: either with, or without an integrated alignment and formwork system.





### VERSION WITH INTEGRATED ALIGNMENT AND REMOVAL SYSTEM

The bed incorporates guides along which rollers slide that allow the alignment, fixing and removal of the formwork in a comfortable way, thus facilitating and minimizing labor, which translates into high performance and process automation.

In addition, the bottom of the beams is modular in length and allows the coupling of sections to achieve the desired beam dimensions.



### VERSION WITH SUPPORTING FOOT

This solution includes supporting feet with formworking and stripping wedge. The part consists of a fixed part and a movable part.

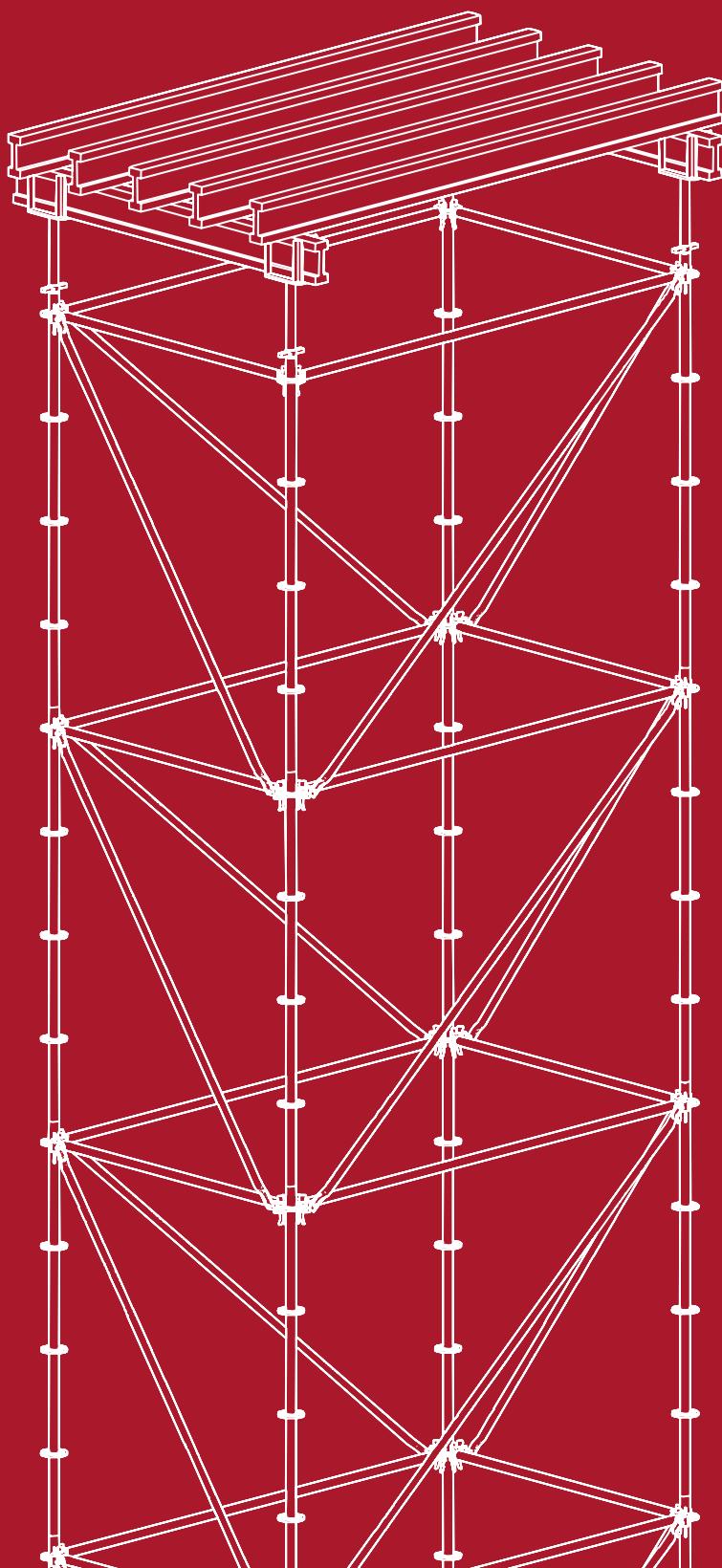
For its assembly, once the formwork is positioned, the fixed part of the support foot will be connected to the ground by means of anchors, and the mobile wedge will be hit so that it is embedded inside the mold rib.

To remove the formwork, simply tap the plate of the moving part positioned at 45° to release the beam fixing.

- Metal molds for on-site prefabricated beams. Important savings in time and logistics.
- Ideal solution when there are access difficulties for special transport, when the price for applying other methods is not competitive and the number of placements is high, or when it requires a level of control and finish similar to the prefabricated one.
- Fully-modular design (base and sides) both in length and height of the beam. The panels are joined together using self-aligning conical screws already integrated in the mold.
- The system incorporates a work platform so that the operator may work safely throughout the whole process.
- Without the need to pass tying rods through the concrete.
- Beveled to smooth the edges.
- Made-to-measure metal bulkheads.
- Positioning of possible perforations using metallic tubes fixed with magnets.



# SHORING AND PROPS



# Alsina



CL Shoring	66
AR Shoring	68
TC360 Heavy duty tower	70
G Europrop	74
A Europrop	76
M Europrop	78
Alisan Prop	80
Alisan Plus Prop	82
A-Lite Prop	84

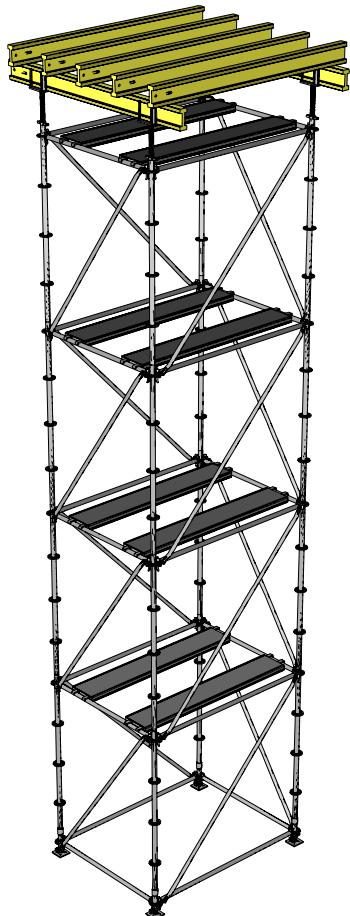




## | CL SHORING

Lightweight shoring system adaptable to multiple shapes.

Multidirectional support structure for slab formwork. The system features light weight, easy component assembly and a bearing capacity of up to 40 kN (8.992 lbf) per support, making it an extremely useful element for the support of slab formwork, whether by means of independent towers or fixed scaffolding, depending on application requirements. Based on a scaffold with multidirectional connections used by a vast number of construction professionals.





- Load capacity of 40 kN (4.0 ton) per support.
- Allows configuration as fixed shoring or independent towers.
- It can be configured to provide support for geometrically complex surfaces such as inclined slabs, semi-spherical domes or adjusted surfaces.
- Allows adapting the distribution of the support structure to each specific application.
- It can use phenolic boards for exposed finishes or the Alisan Board to obtain standard finishes.
- Easy assembly with light components that can be handled by a single worker.
- Connections with wedges minimizing the use of nuts and bolts.

## **LIGHT**

Bearing capacity of 40 kN (8.992 lbf) per support and can be configured for both fixed scaffolding and independent towers, making it the ideal choice when a light, practical system is required.

## **VERSATILE**

CL Shoring is three-dimensional so it can provide support for complex geometrical surfaces, allowing construction of inclined slabs, domes and adjusted surfaces.

## **MODULAR**

Configuration as independent towers or fixed shoring in combination with various floor sizes, from 0.73 m to 2.57 m (2'-4 3/4" to 8'-5 1/4"), allow the support structure distribution to adapt to each specific need, optimizing resources and costs.

## **HIGH COMPATIBILITY**

Compatible with a variety of Alsina horizontal formwork systems, such as Vistaform, Multiform Table, Bridge deck Multiform, etc.

## **FORMWORK SURFACES**

Alsina CL Shoring System can use plywood panels for architectural concrete requirements or boards for standard finishes.



# AR SHORING

AR Shoring is a support structure for slab formwork. Its most outstanding feature is its high bearing capacity up to 80 kN (8,0 ton) 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.



## HIGH LOADS

Alsina's AR Shoring System has a bearing capacity up to 17.984 lbf (80 kN) per support and is the ideal choice for high load requirements.

## PROFITABLE

AR Shoring System can be configured to provide support for geometrically complex surfaces for the construction of inclined slabs, domes or adjusted surfaces.

## VERSATILE

Configuration as towers or close-woven shoring in combination with various floor sizes, from 2'-4<sup>3/4"</sup> to 8'-5<sup>1/4"</sup> (0.73 m to 2.57 m), allow the support structure distribution to adapt to each specific need, optimizing resources and costs.

Fast and versatile shoring system,  
ideal for heavy loads.



- Load capacity up to 80 kN (8,0 ton) per support.
- Allows shoring for surfaces with complex shapes, such as inclined slabs, semi-spherical domes or adjusted surfaces.
- Allows adapting the distribution of the support structure to each specific application, thus optimizing resources and costs.
- It can use phenolic boards for exposed finishes or the Alisan Board for standard finishes.
- Easy assembly with components, can be handled by a single worker.
- Connections with wedges minimizing the use of nuts and bolts.

#### HIGH EFFICIENCY

Its multidirectional connection system and standard sizes allow it to incorporate a wide range of accessories, whether made by Alsina or other manufacturers, to assist in moving and add functional advantages.

#### COMPATIBLE

The Alsina AR Shoring System is compatible with a variety of Alsina horizontal formwork systems, such as Vistaform, Multiform Table, Multiform for bridges, etc.

#### FORMWORK SURFACES

Alsina AR Shoring System can use plywood panels for architectural concrete requirements or boards for standard finishes.





## TC360 HEAVY DUTY TOWER

High load capacity for shoring civil works structures.

Modular shoring system with a high load capacity designed mainly for shoring civil works structures. The main advantage of the system is that it shares many pieces from the MF system that makes the system extremely versatile.

It can solve almost any solution without especial pieces only sharing standard pieces. All the solutions contains the MF beam. Combining the different lengths with all the accessories, allows the system the capacity to solve as mentioned previously.





- Few parts allows different shoring configurations.
- Quick and safe one-site erection.
- Heights up to 30 m (98 1/2').
- Jacks extensions for any Camber and Inclination.
- Fine height adjustment.
- Up to 1400KN (315,000 lbf) of capacity.
- Integrated safety system.
- Hydraulic stripping system.
- Complete bracing system for high capacity assemblings.

### HIGH LOAD CAPACITY

Up to 1400KN (315,000 lbf) depending of the height and the configuration according to the horizontals 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.

### 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.

### RELIABLE

During the assembly stage just must follow the instructions noted in the previous study done by our Technical staff. Besides this Alsina always offer advisory service to its customers at all times.

### ACCESSORIES

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





#### DIFFERENT SOLUTIONS

Depending of the jobsite, the base of the tower allows different solutions and attachments to the ground.



#### HIGH VERSATILE AND MODULAR SYSTEM

It is a modular concept that can be assembled with different combinations. Depending on the composition and the bracing configuration used to carry the horizontal forces, the capacity of the system can be modified just to reach the values desired.

The MF shoring system allows assembling all the components of the towers horizontally. Those towers assembled then can be jointed vertically one to another through a centering component.



#### BRACING SYSTEM

The MF horizontal bracing system is used for high applications. It joints and braces MF heavy duty towers making a stable and performing assembling.



#### SAFETY

Integrated safety solution for any configurations make the system completely accessible in all conditions required according to the safety standards. All the components are shared with the CL shoring and MF.

# G EUROPROP

Lightweight shoring with high load capacity.

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.



## LOAD RELEASE SYSTEM

Props with quick, comfortable and safe release. Its durability is greater due to less wear and tear. The incorporated release system reduces the prop removal time by about 80%, compared with a conventional prop.

## SAFETY

Incorporates a tube and body Anti-Separation System. Safe distance to prevent getting hands caught and falling tubes, eliminating the risk during crane movement.

## EFFICIENCY

The Gama G prop combine two properties in the same product that were previously considered incompatible: the lightweight quality of the traditional Spanish prop and the high resistance necessary for the strict European Standard EN-1065.



- Prop in compliance with EN 1065 standard.
- New quick-release system reduces removal time.
- High bearing capacity.
- Failsafe. For safety reasons, the Alsina props come equipped with a safety anti-separation device that prevents the tube from coming loose and falling.
- 10 cm of clearance with the prop closed as a safety measure against hands getting crushed.
- Long-life galvanized structure.
- Light weight in relation to its high load capacity.
- Enables optimizing the number of props on site.
- Models with and without load release.

	<b>G30 Europrop</b>	<b>G40 Europrop</b>	<b>G50 Europrop (no release)</b>
<b>Thickness (tube/body)</b>	2,5 / 2,7 mm (1/8" / 1/8" in)	2,6 / 2,6 mm (1/8" / 1/8" in)	2,6 / 2,6 mm (1/8" / 1/8" in)
<b>Diameters (tube/body)</b>	42,5 / 54 mm (1 11/16" / 21/8" in)	50 / 63 mm (1 15/16" / 2 1/2" in)	60,3 / 73 mm (2 3/8" / 2 7/8" in)
<b>Strip thickness</b>	6 mm (1/4" in)	6 mm (1/4" in)	8 mm (5/16" in)
<b>Weight</b>	12,7 / 13,6 Kg (27.9 / 29.9 pounds)	17,8 / 18,7 Kg (39.2 / 41.2 pounds)	25,2 Kg (55.5 pounds)
<b>Max./min. height</b>	3,0 / 1,8 m (9'-10 1/8" / 5'-10 7/8" in)	4,0 / 2,3 m (13'-1 1/2" / 7'-6 9/16" in)	5,0 / 2,8 m (16'-4 7/8" / 9'-2 1/4" in)
<b>Load</b>	20,0 / 30,0 kN	20,0 / 30,0 kN	20,0 / 30,0 kN

# A EUROPREP

Lightweight shoring with quick release.

The generation of Class A prop with quick release and integrated safety system.

Alsina, true to its commitment to research, developed a prop, the A, which brings new and significant technological improvements to the market—all of this in a prop weighing only 26.4 pounds (12 Kg). The Alsina A Europrep has been designed and manufactured in compliance with the EN 1065 European standard and certified by the prestigious Sigma Karlsruhe Institute in Germany.

	<b>A3 Europrop</b>	<b>A35 Europrop</b>	<b>A40 Europrop</b>
<b>Thickness (tube/body)</b>	2,7 / 2,4 mm (1/8" / 1/8" in)	3,2 / 2,5 mm (1/8" / 1/8" in)	3,6 / 2,5 mm (1/8" / 1/8" in)
<b>Diameters (tube/body)</b>	42,5 / 50 mm (15/8" / 2" in)	48,3 / 57 mm (1 7/8" / 2 1/4" in)	48,3 / 57 mm (1 7/8" / 2 1/4" in)
<b>Strip thickness</b>	6 mm (3/16" in)	5 mm (3/16" in)	5 mm (3/16" in)
<b>Weight</b>	12,5 Kg (26.4 pounds)	17 Kg (34 pounds)	18,93 Kg (37.1 pounds)
<b>Max./min. height</b>	3 / 1,8 mm (9'-10 1/8" / 5'-10 7/8" in)	3,5 / 2,2 mm (11'-5 13/16" / 7'-2 5/8" in)	4 / 2,7 mm (13'-1 1/2" / 8'-10 1/42" in)
<b>Load</b>	18,0 / 22,5 kN (4.04 / 5.05 lbf)	18,38 / 25,0 kN (4.13 / 5.62 lbf)	14,95 / 22,89 kN (3.36 / 5.14 lbf)



**SAFE**

Quick, comfortable and safe release with less wear and tear. That means quicker form removal, reducing the prop removal time around 80%, compared with a conventional props.

The A prop, with a tube and body anti-separation system, prevents the tubes from falling: especially dangerous when using the crane.

**EFFICIENT**

Certified by the prestigious German institution Sigma Karlsruhe GmbH. With the A, it has been possible to combine two contrasting properties in one product: the lightness of the traditional Spanish post-shore and the high resistance necessary for the strict European Standard EN-1065.

**RESISTANT**

Made of steel of high quality and greater thickness. Because of the release system, it is not necessary to hit the lower part of the prop body or the handles of the thread to remove it. This means working less and less wear and tear on material.



- New quick, comfortable and safe release.
- Tube and body anti-separating system.
- Greater overlap between body and tube.
- Regulator with stopper for the thread.
- Safety distance against getting hands caught.
- High resistance: made of high-quality steel with greater thickness.
- High durability: less wear and tear.

# | EUROPROP M

Very light prop with high load capacity.

The Alsina Europrop M are props with an extension device according to the standard EN 1065 with integrated safety system. They serve as vertical prop for temporary structures. The M Europrop perfectly combines two important qualities such as lightness and high load capacity.



	<b>Europrop M 3,5m *</b>	<b>Europrop M 5,5m **</b>
<b>Weight</b>	24,7 Kg (54,4 lb)	35,7 Kg (78,7 lb)
<b>Max./min. height</b>	3,50 / 2,0 m (11'-5 13/16" / 6'-6 3/4")	5,50 / 3,0 m (18'-9/16" / 9'-10 1/8")
<b>Admissible load</b>	30 kN (6.75 lbf)	20 kN (4.49 lbf)

\* The prop used in Table systems with the hingable head, it can be used with an admissible load of 40 kN (9 lbf).

\*\* The prop used in Table systems with the hingable head, it can be used with an admissible load of 30 kN (6.74 lbf) up to 5.0 m (16'-4 7/8"), and an admissible load of 25 kN (5.62 lbf) up to 5.50 m (18'-9/16").



#### LIGHT AND RESISTANT

Its galvanized construction guarantees a long service life and a greater wear and resistance. In addition, it perfectly combines two important qualities such as lightness and high load capacity.

#### EFFICIENCY

The Alsina Europrop M always have the same safe working load extension at whatever extension they are being used.

#### SAFETY

Incorporates a tube and body Anti-Separation System. Safe distance to prevent getting hands caught and falling tubes, eliminating the risk during crane movement.

- Prop in compliance with EN 1065 standard.
- High bearing capacity.
- Failsafe. For safety reasons, the Alsina props come equipped with a safety anti-separation device that prevents the tube from coming loose and falling.
- 10 cm (3 15/16") of clearance with the prop closed as a safety measure against hands getting crushed.
- Long-life galvanized structure.
- Light weight in relation to its high load capacity.
- Enables optimizing the number of props on site.

# **| ALISAN PROP**

Lightweight prop ideal for lightweight slabs.

Alsina has a range of telescopic post-shores with measurements between 1.5 and 6 meters (4'-11" and 19'-8 1/4") that can be used with all the formwork systems, whether from Alsina or other manufacturers.





- Manufactured with high-quality steel tube S275JR.
- The bases, the thread and the pin are also made of steel.
- The tube of the prop is painted in polyester paint to protect from outdoor conditions, prolonging use on site.

Prop	Height max. / min.	Weight	Load
<b>6 m (19'-8 1/4")</b>	6,0 / 3,6 m (19'-8 1/4" / 11'-9 3/4")	31 kg (68.2 pounds)	10,1 / 33, 2 kN (2270 / 7464 lbf)
<b>5 m (16'-4 7/8")</b>	5,20 / 3,55 m (19'-8 1/4" / 11'-7 3/4")	18,58 kg (40.9 pounds)	9,3 / 23,5 kN (1910 / 5283 lbf)
<b>4 m (13'-1 1/2")</b>	4,0 / 2,45 m (13'-1 1/2" / 8' 7/16")	11,25 kg (24.8 pounds)	6,0 / 16,4 kN (1349 / 3687 lbf)
<b>3 m (9'-10 1/8")</b>	3,10 / 1,80 m (10'-2" / 5'-10 7/8")	10 kg (20.9 pounds)	11,1 / 19,9 kN (2270 / 4474 lbf)
<b>1,5 m (4'-11")</b>	1,50 / 1,0 m (4'-11" / 3'-3 3/8")	5,48 kg (12 pounds)	9,6 / 11 kN (2158 / 2473 lbf)



#### ALISAN TRIPOD

Alisan Tripod helps in the setting up of the floor and can be used with all of Alsina's slab formwork systems. It is very simple to position as it has a closing system with no need to use threaded parts; one hit of a hammer closes and opens the hook ensuring the stability of the post-shores during the setting up of the floor.



# ALISAN PLUS PROP

The new Alsina props with integrated safety system.

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

	<b>Alisan Plus 3 m</b>	<b>Alisan Plus 4m</b>
<b>Thickness (tube/body)</b>	2,0 / 2,0 mm (1/16" / 1/16")	2,0 / 2,0 mm (1/16" / 1/16")
<b>Diameters (tube/body)</b>	42,5 / 54 mm (1 11/16" / 2 1/8")	54,0 / 66 mm (2 1/8" / 2 5/8")
<b>Weight</b>	9,30 Kg (20.5 lb)	14,20 Kg (31.3 lb)
<b>Max./min. height</b>	3,0 / 1,8 m (9'-10" / 5'-10 3/4")	4,0 / 2,3 m (13'- 1 1/2" / 7'-6 1/2")
<b>Load</b>	15,0 / 22,5 kN (1.5 / 2.25 ton)	15,0 / 22,5 kN (1.5 / 2.25 ton)





- Prop in compliance with UNE 180201 standard.
- Failsafe. For safety reasons, the Alsina props come equipped with a safety anti-separation device that prevents the tube from coming loose and falling.
- 10 cm (4") of clearance with the prop closed as a safety measure against hands getting crushed.
- Long-life galvanized structure.
- Light weight in relation to its high load capacity.
- Enables optimizing the number of props on site.
- Compatible with all slab systems.

### SAFE

Incorporates a tube and body Anti-Separation System. Safe distance to prevent getting hands caught and falling tubes, eliminating the risk during crane movement.

### GREAT EFFICIENCY

Its durability is greater due to less wear and tear. With Alisan Plus prop, the prop removal time is reduced about 80%, compared with a conventional prop.

### LIGHT AND RESISTANT

Its galvanized construction guarantees a long service life and a greater wear and resistance. In addition, it perfectly combines two important qualities such as lightness and high load capacity.



# A-LITE PROP

A lightweight prop for heavy loads.

The A-lite Prop is Alsina's telescopic prop. It is made of aluminium and is both lightweight and strong. The A-lite Prop can be used as an independent support prop, or as part of a loading tower. The so-called bracing frame accessory has been designed to brace the A-Lite props, and safely and quickly assemble independent loading towers. Designed and manufactured in accordance with European standard EN 16031.



Length	Capacity	Weight
192 cm (6'3 1/2")	86 kN (19350 lbf)	20 Kg (44 lb)
225 cm (7'4 1/2")	84 kN (18900 lbf)	20 Kg (44 lb)
250 cm (8'2 1/2")	82 kN (18450 lbf)	20 Kg (44 lb)
275 cm (9'-1/4")	75 kN (16875 lbf)	20 Kg (44 lb)
300 cm (9'-10")	68 kN (15300 lbf)	20 Kg (44 lb)
325 cm (10'-8")	58 kN (13050 lbf)	20 Kg (44 lb)
350 cm (11'-6")	40 kN (9000 lbf)	20 Kg (44 lb)



### TIME SAVINGS

Assembling and dismantling a support system with the A-lite post-shore saves considerable time. The system's design, lightweight and multiple accessories greatly facilitate work on site, so that you can work with complete safety without having to use a crane and ensuring high on-site productivity.

### SAFE

The A-lite prop includes a safety feature to prevent the post-shore shank from working loose from the thread. This system stabilises the unit once the post-shore has been adjusted to the desired height for on site installation and subsequent handling.

### LIGHT AND RESISTANT

The aluminium A-lite is a light post-shore that can be hand-carried by one person. This versatility and range makes the ALite post-shore useful for a variety of slabs.

### A-LITE BRACING FRAME

The A-Lite Frame is intended to connect aluminium post-shores for tower assembly. In this case, the post-shore's allowable capacity increases as a result of rigidity. A-Lite Frame lengths vary between 1,22 m (4' - 1/16") and 3.00 m (9' - 10 1/8"). These measurements make it possible to adjust frames for the distance necessary to optimize the post-shores for the loads they need to bear.

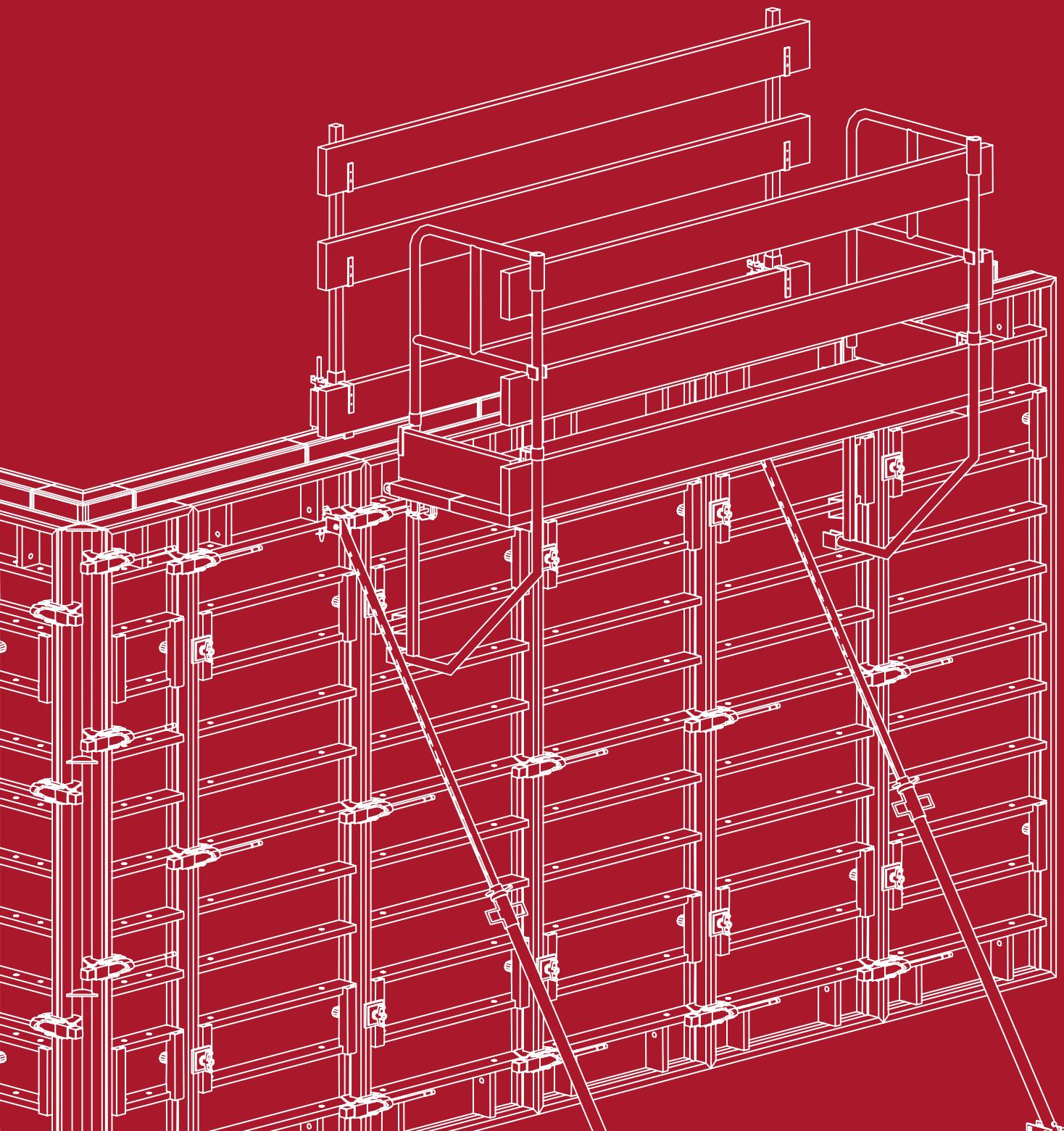
### COMPATIBLE

The A-lite Prop and the bracing frames are compatible with Vistaform (HT-20 wood beam), Aluflex (aluminium girder) and Multiform Table (MF steel girder).

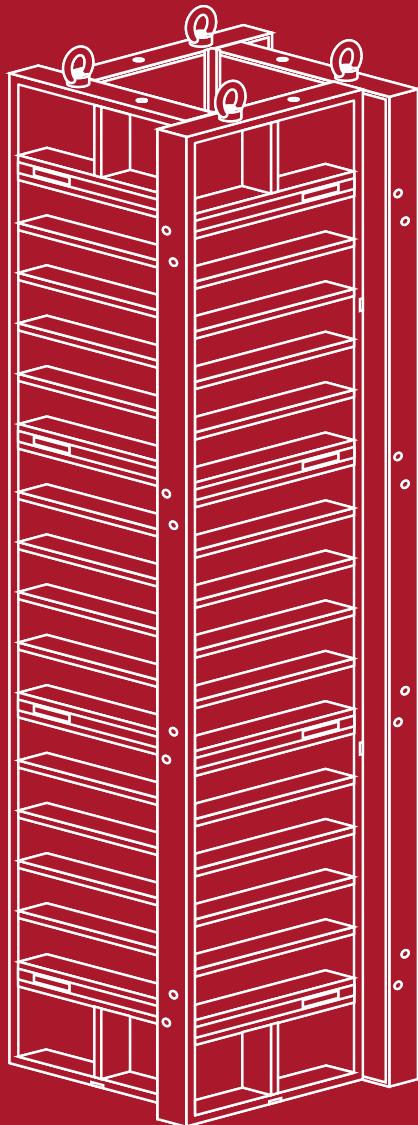


- High load capacity in relation to its lightness.
- It offers considerable time savings when assembling and disassembling a system.
- Its design and accessories make it possible to work in complete safety without the need for a crane.
- High productivity on site.
- Made of aluminium.
- Enables formwork for load towers thanks to the brace frame.
- Includes a safety feature to prevent the prop shank from working loose from the thread.

# COLUMNS AND WALLS



# Alsina



Alispilar	88
Alupilar	92
Springform	94
Alisply Universal	96
Alisply Columns	100
Multiform Vertical	104
Alisply Walls	108
Alisply Circular	116
Alisply Manual walls (Handset)	122
One Sided Wall	128
Wallite	132
Self-Spanning	134
Special parts	138
Finish plate	140
Side-shutter	141



# ALISPILAR

Formwork for columns in 15 minutes.

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

Panel width 50 cm (19 5/8")	Panel width 68 cm (2'-2 3/4")	Ancho de panel 70 cm (2'-3 9/16")	Panel supplements of 10 cm (3 7/8")
<ul style="list-style-type: none"><li>• 3 m x 0,50 m (9'-10 1/8" x 19 5/8")</li><li>• 1,40 m x 0,50 m (4'-7 1/8" x 19 5/8")</li><li>• 0,80 m x 0,50 m (31 1/2" x 19 5/8")</li></ul>	<ul style="list-style-type: none"><li>• 3 m x 0,68 m (9'-10 1/8" x 2'-2 3/4")</li><li>• 1,40 m x 0,68 m (9'-10 1/8" x 2'-2 3/4")</li><li>• 0,80 m x 0,68 m (31 1/2" x 2'-2 3/4")</li></ul>	<ul style="list-style-type: none"><li>• 3 m x 0,70 m (9'-10 1/8" x 2'-3 9/16")</li><li>• 1,40 m x 0,70 m (4'-7 1/8" x 2'-3 9/16")</li><li>• 0,80 m x 0,70 m (2'-7 1/2" x 2'-3 9/16")</li></ul>	<ul style="list-style-type: none"><li>• 3 m x 0,10 m (9'-10 1/8" X 3 7/8")</li><li>• 1,40 m x 0,10 m (4'-7 1/8" x 3 7/8")</li><li>• 0,80 m x 0,10 m (2'-7 1/2" x 3 7/8")</li></ul>
It covers columns measuring between 20 and 40 cm (8" to 16") usable surface 5 cm (2").	It covers columns measuring between 25 to 60 cm (10" to 24") usable surface 5 cm (2").	It covers columns measuring between 20 to 60 cm (10" to 24") usable surface 5 cm (2").	



## EASY ASSEMBLY

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 SAVINGS

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



## MANUAL ASSEMBLY, WITHOUT CRANE

Alispilar allows manual assembly without the need for a crane. Weight reduction, 50% less than other systems, but maintaining the admissible pressure: 80 kN / m<sup>2</sup> (1700 lbf/sq ft).

## SMOOTH FINISH

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

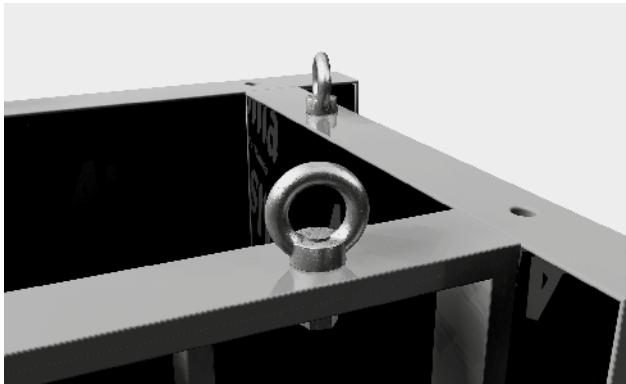


- Light. Weight of the panel.
- Fast, thanks to its easy assembly.
- Cost-efficient, thanks to the finish offered by the phenolic surface.
- Panel made of high resistance steel.
- Weight of the Alispilar panel: 30 kg/m<sup>2</sup> (6 lb/sq ft).
- Panel available painted or galvanized
- Maximum pressure: 80 kN/m<sup>2</sup> (1700 lbf/sq ft).
- Phenolic formwork surface 12 mm (1/2") thick with protection of 220 gr/m<sup>2</sup> (0,72 oz/sq ft) giving an optimum number of repetitions.
- Anchoring components incorporated in the panel.
- Execution of columns up to 60 x 60 cm (1'-11 1/2" x 1'-11 1/2") without any connecting fittings or through threaded bars, which increases productivity on site and eliminates losses of accessories.



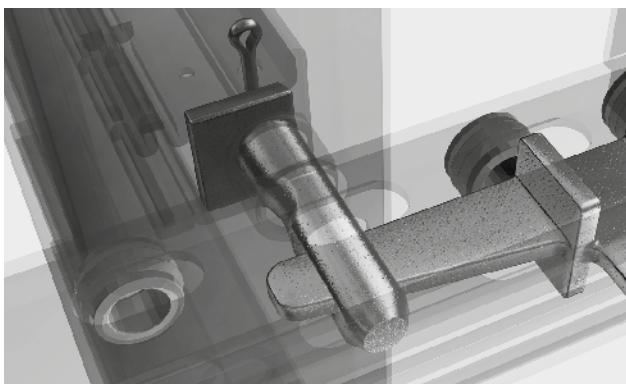
#### ALISPILAR PANELS

- Panel built of high resistance steel.
- Weight of the Alispilar panel: 30 Kg/m<sup>2</sup> (6 lbs/sqft).
- Birch plywood surface: 1/2" (12 mm) thick.
- Maximum pressure: 1660 psf (80 kN/m<sup>2</sup>)



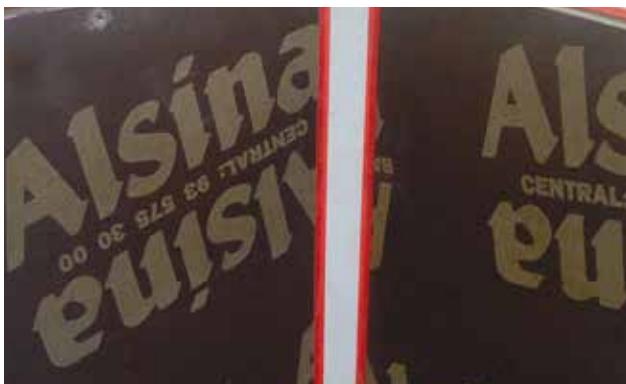
#### LIFTING BRACKET

Essential accessory for the movement of the panels on site with a crane. Its positioning is quick and easy.



#### WEDGE AND PIN

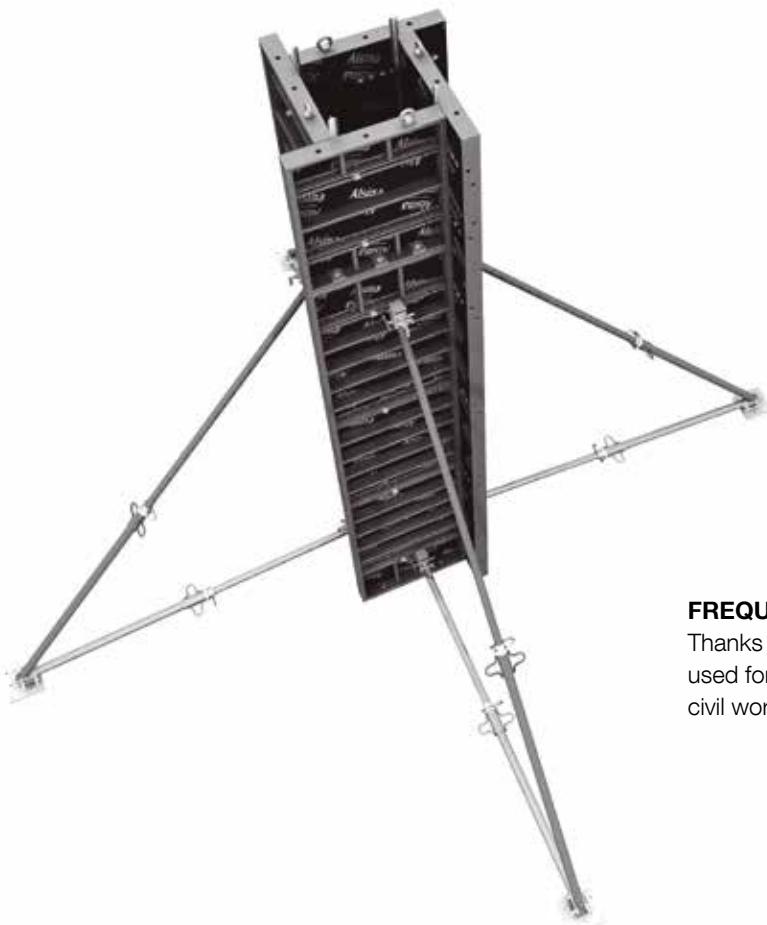
Locking elements between panels; both are built into the panel. The wedge is inserted in a cross beam with reinforced guide allowing its horizontal movement and protects it from hits and concrete debris.



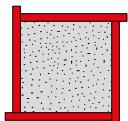
#### CHAMFER STRIP

This accessory prevents the grout of the concrete from leaking out and 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.

The use of the removable Alsina chamfer strip greatly improves the stripping of the column. The chamfer strip is formed by a gray plastic body and red rubber edges that fit into the joint of the panels and seal the column joints.

**FREQUENT USES**

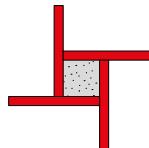
Thanks to the versatility of the Alispilar system, it can be used for rectangular columns in any type of work, whether civil works or residential or commercial buildings.

**68 cm (2'-2 3/4")****PANEL**

4 panels of 68 cm  
(2'-2 3/4")

**Column of:**

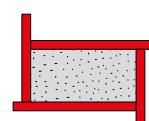
25 x 25 cm  
(9 7/8" x 9 7/8") (min)  
60 x 60 cm  
(23 5/8" x 23 5/8") (max)  
In intervals of 5 cm (2").

**50 cm (19 5/8")****PANEL**

4 panels of 50 cm  
(19 5/8")

**Column of:**

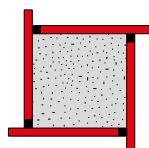
20 x 20 cm  
(7 7/8" x 7 7/8") (min)  
40 x 40 cm  
(15 3/4" x 15 3/4") (max)  
in intervals of 5 cm (2").

**50 + 68 cm****(19 5/8" + 2'-2 3/4")****PANEL**

2 panels of 50 cm (19 5/8")  
2 panels of 68 cm (2'-2 3/4")

**Column of:**

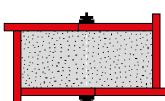
20 x 25 cm  
(7 7/8" x 9 7/8") (min)  
40 x 60 cm  
(15 3/4" x 23 5/8") (max)  
in intervals of 5 cm (2").

**68 cm (2'-2 3/4")  
+ ext. 10 cm (3 7/8")****PANEL**

4 panels of 68 cm  
(2'-2 3/4")  
extension: 10 cm (3 7/8")

**Column of:**

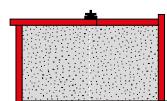
70 x 70 cm  
(2'-3 1/2" x 2'-3 1/2")

**50 + 50 cm**  
**(19 5/8" + 19 5/8")****PANEL (moduled)**

6 panels of 50 cm  
(19 5/8")

**Column of:**

20 x 70 cm  
(7 7/8" x 2'-3 1/2") (min)  
40 x 90 cm  
(15 3/4" x 2'-11 3/8") (max)  
in intervals of 5 cm (2").

**PANEL 50 + 68 cm**  
**(19 5/8" + 2'-2 3/4")****(moduled)**

2 panels of 19 5/8" (50 cm)  
4 panels of 2'-2 3/4" (68 cm)

**Column of:**

25 x 75 cm  
(9 7/8" x 2'-5 1/2") (min)  
60 x 110 cm  
(23 5/8" x 3'-7 1/4") (max)  
in intervals of 5 cm (2").

# ALUPILAR

The manual system for columns.

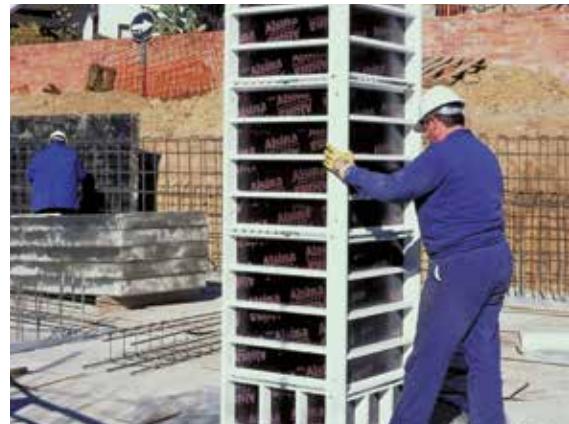
Heavy-duty column formwork system for use manually or with a crane. The design of the frame incorporates the quick assembly to reduction system. The frame is made of duraluminium (structural aluminium) painted with white epoxy and a 12 mm phenolic plywood lining that gives it a higher quality concrete finish. A hammer is all that's needed to assemble and dismantle the system.

Panel width of 50 cm (19 5/8")	Panel width of 50 cm (2'3 9/16")	Panel width of 85 cm (2'9 7/16")
<ul style="list-style-type: none"><li>• 2,80 m x 0,50 m (9'-2" x 19 5/8")</li><li>• 1,30 m x 0,50 m (4'-3" x 19 5/8")</li><li>• 0,80 m x 0,50 (2'-7" x 19 5/8")</li></ul>	<ul style="list-style-type: none"><li>• 2,80 m x 0,70 m (9'-2" x 2'-3 9/16")</li><li>• 1,30 m x 0,70 m (4'-3" x 2'-3 9/16")</li><li>• 0,80 m x 0,70 (2'-7" x 2'-3 9/16")</li></ul>	<ul style="list-style-type: none"><li>• 2,80 m x 0,85 m (9'-2" x 2'-9 7/16")</li><li>• 1,30 m x 0,85 m (4'-3" x 2'-9 7/16")</li><li>• 0,80 m x 0,85 (2'-7" x 2'-9 7/16")</li></ul>



### EASY ASSEMBLY

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.



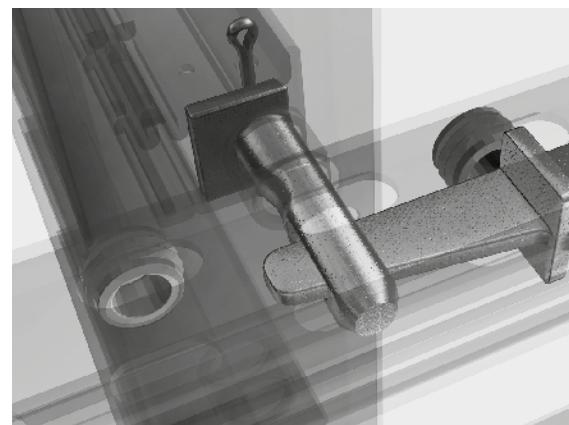
### SIGNIFICANT SAVINGS

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.



### SMOOTH FINISH

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



### WEDGE AND PIN

Locking elements between panels; both are built into the panel. The wedge is inserted in a cross beam with reinforced guide allowing its horizontal movement and protects it from hits and concrete debris.

### CHAMFER STRIP

This accessory prevents the grout of the concrete from leaking out and 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.

The use of the removable Alsina chamfer strip greatly improves the stripping of the column. The chamfer strip is formed by a gray plastic body and red rubber edges that fit into the joint of the panels and seal the column joints



- Frame made of duraluminium (structural aluminium).
- Painted with white polyester paint.
- Weight: 20 kg/m<sup>2</sup> (4 lb/sq ft).
- Maximum pressure: 80 kN/m<sup>2</sup> (167,000 lbf/sq ft.).
- Phenolic plywood formwork surface measuring 12 mm (1/2").
- Exposed concrete finish thanks phenolic plywood lining.

# SPRINGFORM ROUND COLUMN

Reusable circular column  
with manual handling without  
the need for a crane.

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.

Ø 30 cm (Ø 11 3/4")	11 Kg/linear meter (4.2 pounds / 3'-3 3/8")
Ø 60 cm (Ø 23 5/8")	19 kg/linear meter (41.9 pounds / 3'-3 3/8")
Ø 90 cm (Ø 35 3/8" )	39 kg/linear meter (85.8 pounds / 3'-3 3/8)



## EASY AND FAST ASSEMBLY

Setting up and removing formwork from a pillar with Springform means less time lost. Once the steel reinforcing is positioned, Springform is bent open and placed around the fixture. The opening and closing system of the pillar is made using handset wedges and bolts.



## PROFITABLE

The Springform System offers a useful life of more than 100 applications on site (depending on the treatment and the application of the concrete release agent). The lack of maintenance, as well as its resistance to outdoor conditions, means a longer useful life.



## STRONG AND RESISTANT

The fiber mold does not lose its shape when hit and does not rust like metal pillars.

## NO CRANE REQUIRED

The system consists of a fiberglass mold with a single vertical joint reinforced in steel. These characteristics facilitate transport, assembly and form removal on-site. The crane does not have to be used.



- Made of polyester and fibreglass, it withstands a maximum radial pressure of 11,500 Kg/m<sup>2</sup> (2400 psf).
- The thickness of the fibreglass material increases as the diameter of the formwork increases, from approximately 3 mm to 6 mm (1/8" to 1/4"). 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.
- The system uses pins and wedges. They are quick and easy to assemble and remove. It is used to close the pillar and is placed every 15 cm (5 7/8").
- The collar is made of steel 10 cm (3 7/8") wide and well-secured in order to plumb and secure the pillar.
- The seal gasket is reinforced with a perforated steel handrail to house the wedges and the bolts.

# ALISPLY UNIVERSAL

The column system  
to withstand 100 kN/m<sup>2</sup> (2100 psf).

Reusable formwork system for adjustment columns designed to be handled with a crane. Alisply Universal forms the column with an exposed concrete finish, ideal for creating large sections. The Universal Panel has the same features as the Alisply Panel but with one important difference: its cross-beams are reinforced and modified to be able to create columns adjustable on four sides.

Panel width 0,65 m (2'-1 1/2")	Panel width 1,05 m (3'-5 3/8")	Panel width 1,35 m (4'-5 1/8")
<ul style="list-style-type: none"><li>• 3 m x 0,65 m (9'-10 1/8"x 2'-1 1/2")</li><li>• 1 m x 0,65 m (3'-3 3/8"x 2'-1 1/2")</li></ul>	<ul style="list-style-type: none"><li>• 3 m x 1,05 m (9'-10 1/8"x 3'-5 3/8")</li><li>• 1 m x 1,05 m (3'-3 3/8"x 3'-5 3/8")</li></ul>	<ul style="list-style-type: none"><li>• 3 m x 1,35 m (9'-10 1/8"x 4'-5 1/8")</li><li>• 1 m x 1,35 m (3'-3 3/8"x 4'-5 1/8")</li></ul>
Forms columns of 20 up to 50 cm (7 7/8" to 1'-7 11/16"). Variations of measurements in 5 cm (2") intervals.	Forms columns of 20 up to 90 cm (7 7/8" to 2'-11 7/16"). Variations of measurements in 5 cm (2") intervals.	Forms columns of 20 up to 50 cm (7 7/8" to 1'-7 11/16"). Variations of measurements in 5 cm (2") intervals.



### **RESISTANT**

The development and design of its metal structure makes the Alisply Universal one of the most resistant panels on the market, able to withstand a pressure of up to 100 kN/m<sup>2</sup> (2100 psf) with a weight of 80 kg (176.37 pounds).



### **VERSATILE**

Made in three widths 0.65 m, 1.05 m and 1.35 m (2'-1 1/2", 3'-5 3/8" and 4'-5 1/8") in order to better adapt to the requirements of each job. Forms columns of 20 up to 120 cm (8" up to 48"), with intervals of 5 cm (2").



### **COMPATIBLE**

The accessories of the Alisply wall system range are compatible with the Alisply Universal System, making the on site equipment much more cost-effective. The Alisply Universal System is also compatible with Alisply Walls to solve tasks involving bulkheads, beginnings and corners of walls; it is the perfect complement for this type of formwork.



### **FINISH**

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



- Frame built with high resistance steel.
- Painted with red polyester paint.
- Weight: 53 kg/m<sup>2</sup> (11 lb/sq ft).
- Maximum pressure: 10,000 kg/m<sup>2</sup> (2000 lb/sq ft).
- Phenolic plywood formwork surface measuring 1.5 cm (1/2").
- Exposed concrete finish with phenolic plywood lining.



#### **ALISPLY UNIVERSAL PANELS**

The Alisply Multipurpose Panel is based on the Alisply Panel, but with the following modifications: the cross beams are reinforced and have 15 holes for the adjustment of the four sides in all the panels, including 0.65 m, 1.05 m and 1.35 m (2'-1 1/2", 3'-5 3/8" and 4'-5 1/8").

Formwork surface of phenolic resin-coated plywood 15 mm (5 7/8") thick.



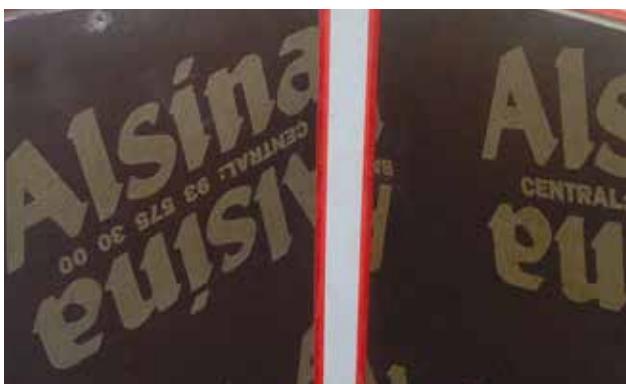
#### **LIFTING BRACKET**

Essential element for the movement of the wall modules. Quick, easy and manual positioning; has a safety device that prevents accidental opening. For security, it is necessary to use two hooks for moving any material



#### **ALISPLY GR-2 CLAMP**

Use the GR-2 Clamp to join the panels vertically. quick, manual, self aligning and with no need for tools.



#### **CHAMFER STRIP**

This accessory prevents the grout of the concrete from leaking out and 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.

The use of the removable Alsina chamfer strip greatly improves the stripping of the column. The chamfer strip is formed by a gray plastic body and red rubber edges that fit into the joint of the panels and seal the column joints.

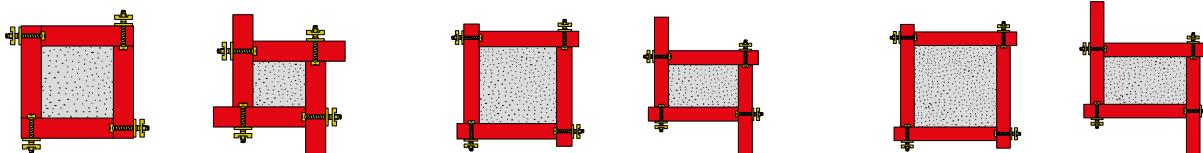


### ADJUSTABLE LOCK

For joining the adjustment panels, use the Alisply Multipurpose stud, the Alisply wing nut plate and the Alisply wing nut.

### FREQUENT USES

Widely used in large section columns, especially for large buildings with shielded columns.



#### ADJUSTMENTS WITH 0,65 M (2'-1 1/2") PANEL

Columns of:  
20 x 20 cm (7 7/8" x 7 7/8")  
up to 50 x 50 cm (19 5/8" x 19 5/8").

Variations of measurements in 5 cm (2") intervals.

Maximum pressure: 100 kN/m<sup>2</sup>  
(2100 psf).

#### ADJUSTMENTS WITH 1,05 M (3'-5 3/5") PANEL

Columns of:  
20 x 20 cm (7 7/8" x 7 7/8")  
up to 90 x 90 cm (2'-11 3/8" x 2'-11 3/8").

Variations of measurements in 5 cm (2") intervals.

Maximum pressure: 100 kN/m<sup>2</sup>  
(2100 psf).

#### ADJUSTMENTS WITH 1,35 M (4'-5 1/8") PANEL

Columns of:  
50 x 50 cm (19 5/8" x 19 5/8")  
up to 120 x 120 cm (3'-11 1/4" x 3'-11 1/4").

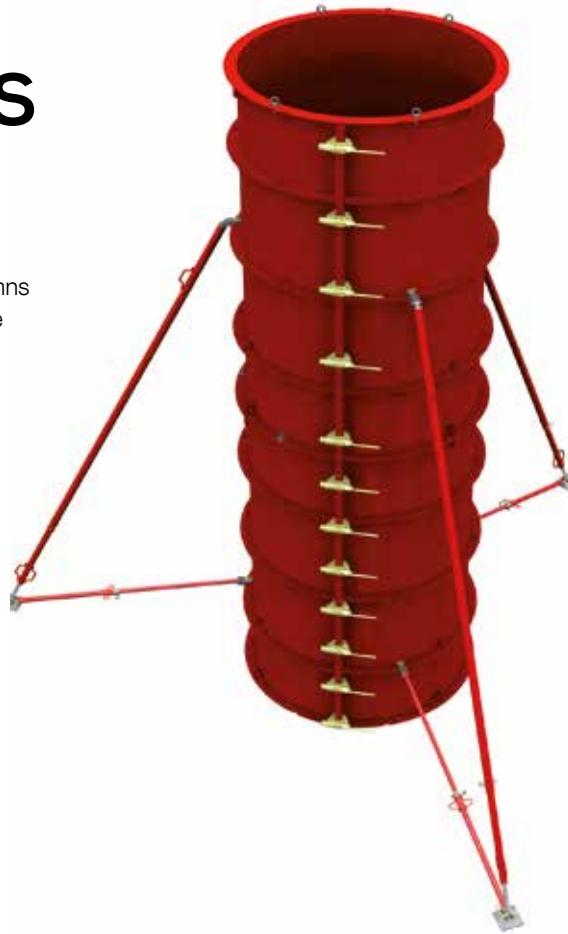
Variations of measurements in 5 cm (2") intervals.

Maximum pressure: 100 kN/m<sup>2</sup>  
(2100 psf).

# STEEL ROUND COLUMNS

Connectable circular panel  
with straight panel clamp.

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





### GR-2 CLAMP

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

### COMPATIBLE CON OTROS SISTEMAS ALSINA

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

### ELIPTICAL COLUMNS

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



- The metal panels support a maximum pressure of 100 kN/m<sup>2</sup> (2100 lbf/sq ft.).
- Made of sheet metal with reinforcing cross beams.
- Alisply Steel Columns Piles from Alsina are manufactured from highly resistant, 3 mm (1/8") thick steel, a quality that provides greater resistance and better efficiency on site.
- The design of the panel stops the components from sliding, making their transport and stacking on site easier.
- Available sizes: Diameters from 20 cm to 200 cm (8" to 6'-6 3/4"), with intervals of 5 cm up to 100 cm (2" up to 3'-3 1/2") in diameter; and with intervals of 10 cm up to 200 cm (4" up to 6'-6 3/4") in diameter.
- Lifting bracket: Hook used for moving the panels with a crane.
- Concrete finish with smooth surface.
- Speed and ease in assembling and dismantling formwork.



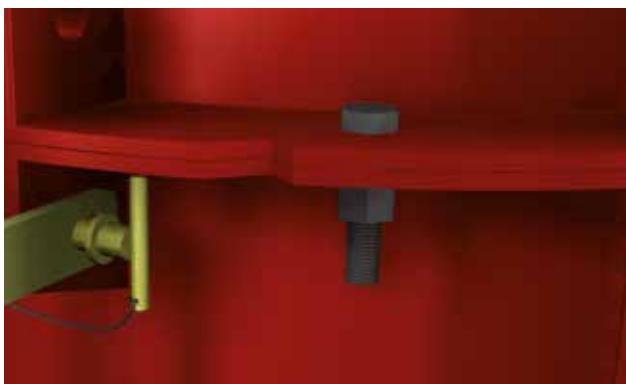
#### PANELS

Steel panel 3 mm (1/8") thick with size modules of 20 to 200 cm (7 7/8" to 6' - 6 3/4") diameter.



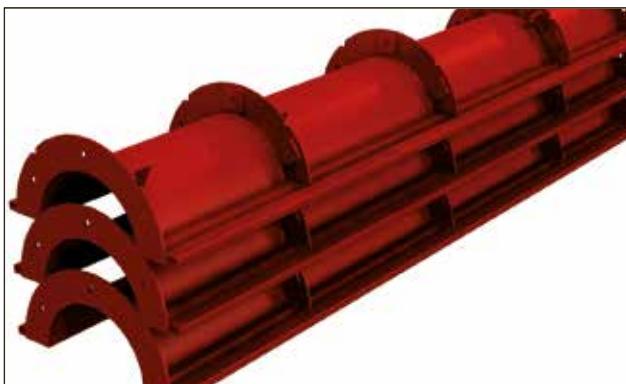
#### ALISPLY CLAMP GR-2

Use the GR-2 Clamp to join the panels horizontally. Quick, manual, self aligning and with no need for tools.



#### VERTICAL JOINING

The vertical joining of the half pillars is made using a nut and bolt. Bolts of different measurements may be used.



#### TRANSPORT AND STACKING

The design of the panel stops the components from sliding, making their transport and stacking on site easier.

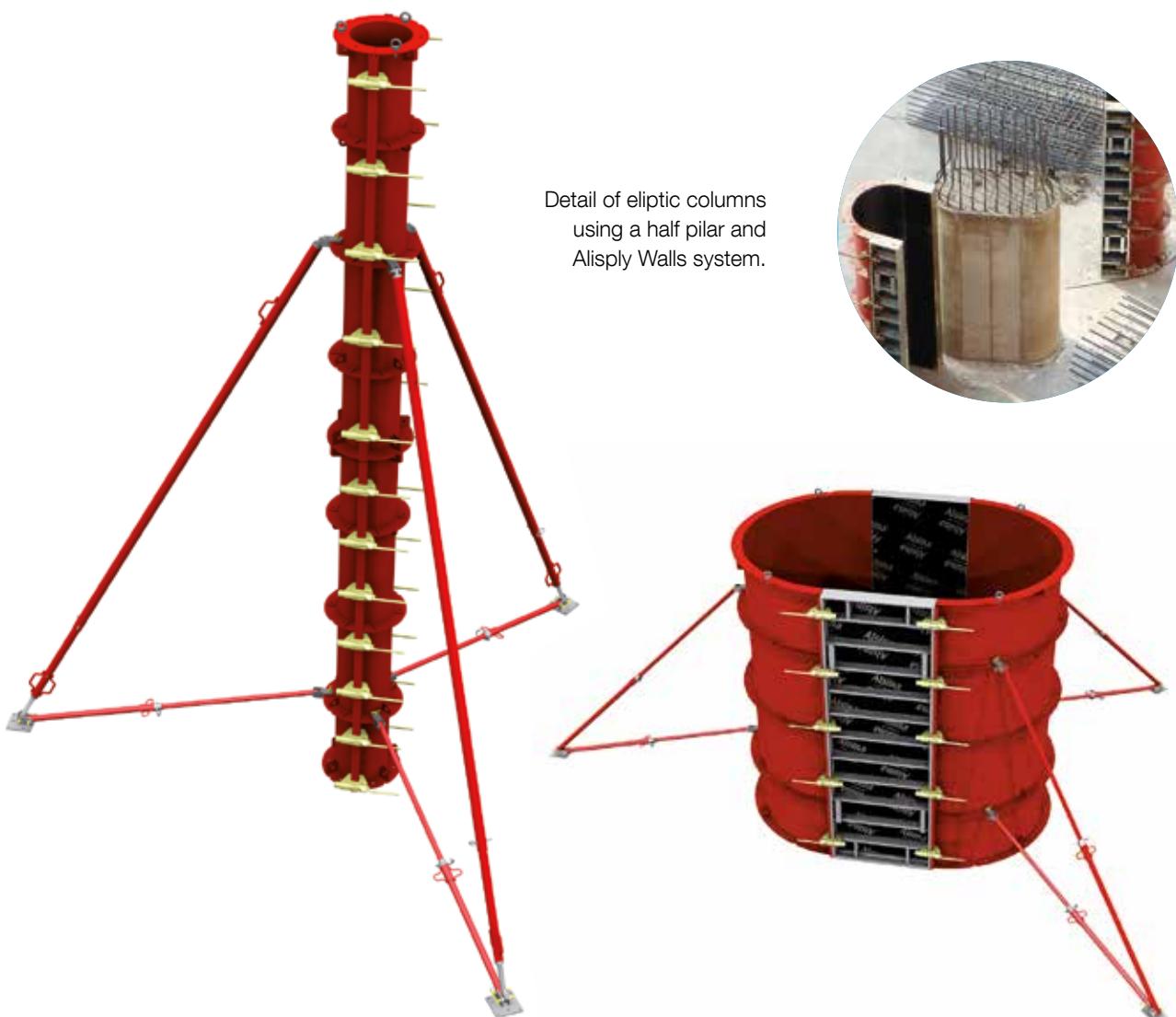


### MULTIPLE SIZES

Alsina has a wide range of measurements that help create semicircular piles of measurements between 20 and 200 cm (7 7/8" and 6'-6 3/4") diameter. In standard sizes up to 100 cm (3'-3 3/8") with increase in 5 cm (2") intervals and of 100 to 200 (3'-3 3/8" to 6'-6 3/4") in 10 cm (3 7/8").

### FREQUENT USES

The Steel round columns are especially useful for columns in parking garages and civil works.



# MULTIFORM VERTICAL

High quality architectural finishes.

A reusable formwork system for straight-faced or circular-faced walls with all sorts of polygonal shapes and exposed concrete finish. The equipment is configured specifically according to the load to bear, which can be greater than that of steel frame walls.





### HIGH VERSATILITY

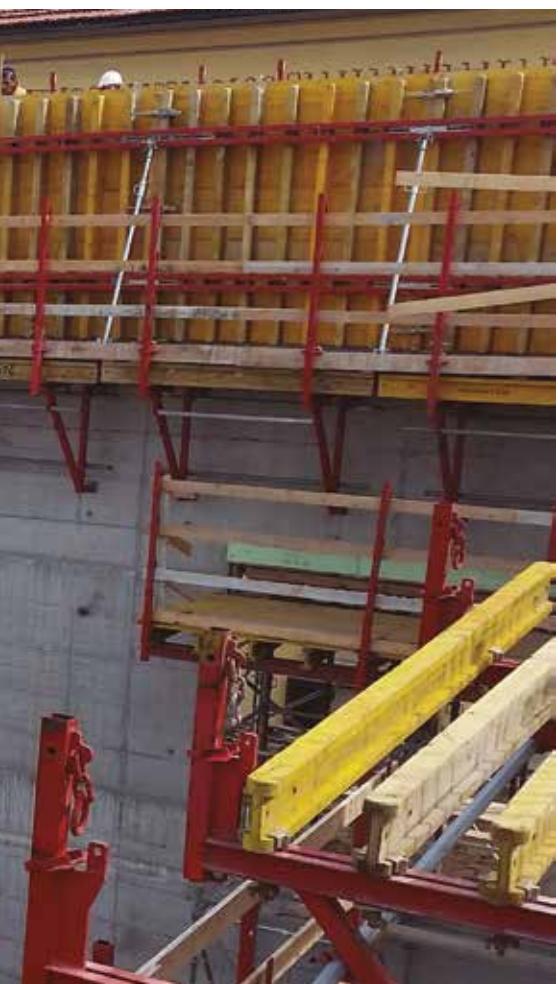
The system was conceived to adapt easily to complex and irregular polygonal shapes, while maintaining its capacity as reusable formwork. It is also completely compatible with the Alsina climbing, bracing and safety systems.

### MODULAR SYSTEM

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

### ARCHITECTURAL CONCRETE

Thanks to the phenolic plywood board sheeting and the layout of the ties, the Vertical Multiform system presents almost imperceptible joints and an architectural concrete finish.



- It can be used for both straight and circular walls.
- Uses the same metal primary beams as the Multiform system, consisting of DUPN-120 with holes in the core.
- HT-20 secondary beam made of wood.
- Wide range of gibbs and connections enabling different types of joints to be made, for internal and external modules, at different angles.
- Joints between beams and gibbs are done quickly by means of pins.
- Joining primary and secondary beams is done with the HT connector, which allows the connection to be made quickly by tightening a single bolt.
- Different types of modules can be assembled depending on the pressure, varying the type of lining and the distance between beams.
- The great variety of beam lengths makes it possible to install a wide range of modules.
- Significant space and transport savings.
- Use of the Vistaform system's MCR Clamp to tighten and seal joints.



#### FREQUENT USES

Used in all types of straight walls with architectural finishes.

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#### ASSEMBLY WITH PINS

The Vertical Multiform system is designed for fast assembly. The elements can be connected with pins to eliminate screw placing tasks.



#### CONNECTION GIBS

These Vertical Multiform system elements connect the various components that are manufactured in various sizes so they adapt to any kind of project.

**PRIMARY BEAM**

The resistant element of the system, formed by a DUPN120 section that includes a series of holes in the core for all kinds of connections using adjusting gibbs and connections. The wide range of lengths provides solutions for almost any type of formwork.

**HT-20 BEAM**

A wood structural element that supports the formworking surface and the primary beam. The distribution of the wood beams varies depending on the study performed by the Technical Department.

**PHENOLIC PLYWOOD PANEL**

The Vertical Multiform system can use two types of formworking surfaces, depending on the element to be formworked: Phenolic Plywood Board 15, 18 and 21 mm (5 7/8", 7 1/8" and 8 1/2") thick and Three-Layer Board 27 mm (10 5/8") thick.

**MF CONNECTOR**

Element to connect the HT20 beam to the primary beam. Connectors are staggered at each connection for multiple connections on the same beam.



## | ALISPLY WALLS

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

Removable formwork system for concrete walls, designed to be handled by crane. Large surface areas 3 and 6 m<sup>2</sup> (32.3 and 64.6 sf) can be created with minimal space between the panels due to its carefully researched reinforced steel structure. This allows the wall to have a finish without excessive imperfections.





- Pressure rating: 60 kN/m<sup>2</sup> (1250 lbf/sq ft).
- Only two ties at 3 m (9 3/4') in height.
- The holes for the tie bars are not in the frame, which improves the finish and allows production of sloping walls.
- Plywood drill protection with bonded PVC sleeves.
- The metal frames have a galvanized finish, and the accessories have an electrolyte zinc finish that protects against corrosion.
- Unique system for panel connection with manual clamps: Quick and tool-free installation.
- No need for aligning bars.
- Allows vertical and horizontal panels to be combined.

### **MANUAL CLAMP GR-2**

The joint and alignment system of the panels is made using the GR-2 Alisply Clamp. Its design allows you to join and align the panels with only one hand. Alisply Adjustable Clamps may also be used, which allow you to incorporate extensions of up to 26 cm (10 1/4") wide between panels.

### **QUICK SYSTEM**

The Alisply Wall System, along with its accessories, is designed for quick and easy assembly. The support of the 15 cm (5 7/8") framework facilitates assembly and alignment of the panels.

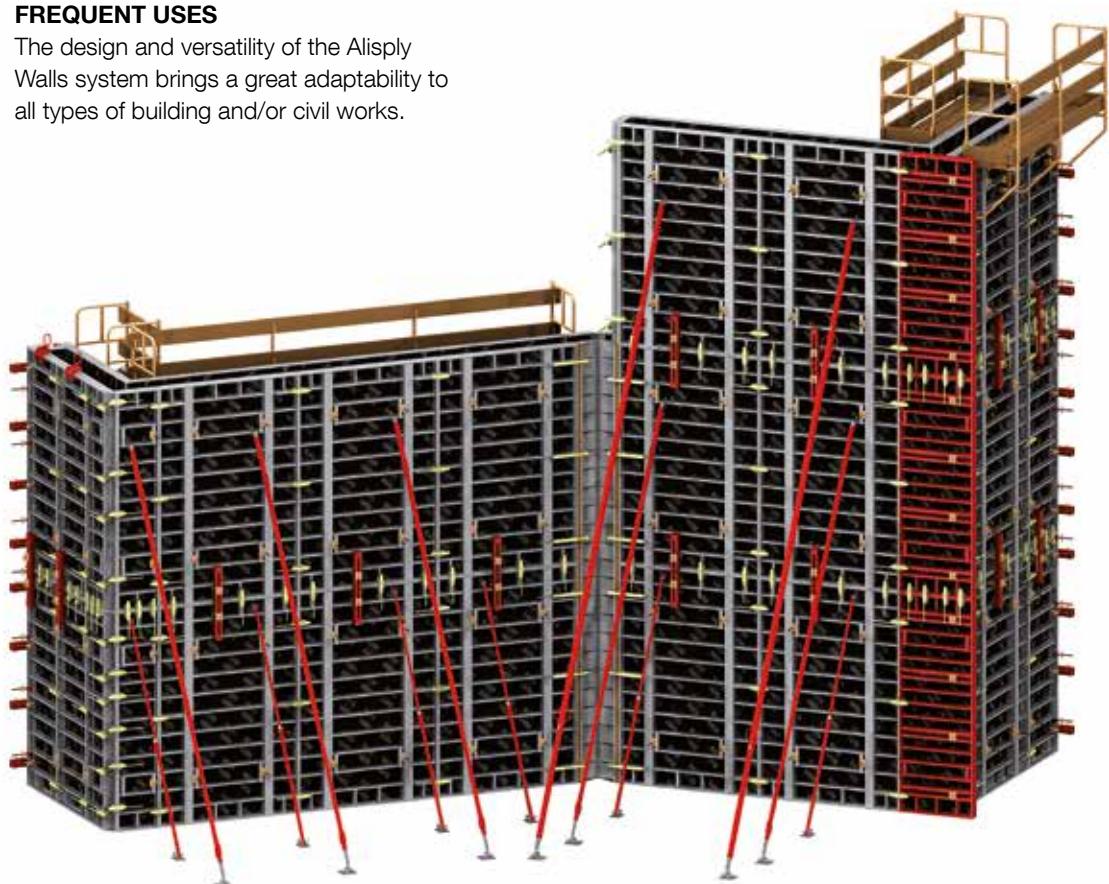
### **SMOOTH FINISH**

Alisply Walls, with a phenolic resin-coated plywood formwork surface of 15 mm (9/16"), provide a fair-faced concrete finish. Also, it allows for the defining of the texture of the concrete through the positioning of chamfer strips or other components that easily adhere to the lining.



## FREQUENT USES

The design and versatility of the Alisply Walls system brings a great adaptability to all types of building and/or civil works.



### MODULAR

The sizing and the position of the ties makes it possible to take down the panel so that it can be used both vertically and horizontally.

### BATTERED WALLS

Alisply Panels have been designed so that when the Dywidag tie bars are inserted, the steel frame is not touched. This facilitates the construction of sloping walls, and the cleaning of the components.

### STEPPED FOOTINGS

The Clamp can be attached to any part of the steel frame, giving great versatility, and enabling the construction of stepped walls, with both vertical and horizontal panel alignment.

## POSSIBLE COMBINATIONS

The Alisply Walls System consist of and standard set of 15 panel sizes. All of the sizes are metric enabling easy combination of all of the panels.

The panels come in 2 standard heights, and 10 standard widths, plus two special sizes of 3 x 2 m, and 2 x 1 m (9'-10 1/8" x 6'-6 3/4" and 6'-6 3/4" x 3'-3 3/8").



## WALKWAY BRACKET

An essential piece of equipment for the safety of the operator during the concreting of the wall. Its design means that it can be set up independently of the formwork panel's position (vertical or horizontal). The recommended distance between concreting platforms is 2 m (6').



## COMPATIBLE SYSTEM

The Alisply Walls offers a great compatibility with other Alsina systems and products, such as the support structures for implementing one sided-walls, with a reinforced brace frame that are coupled wth two horizontal primary beams, or the climbing systems, an element that allows piles and walls of climbing cycles with pouring in heights to be formed with total safety for the laborers.





#### **ALISPLY PANEL**

Formed by a galvanized steel frame and a phenolic plywood formwork surface of 15 mm (1/16"). The sizing and the position of the ties makes it possible to take down the panel so that it can be used both vertically and horizontally.



#### **GR-2 CLAMP**

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



#### **ADJUSTABLE CLAMP**

The Adjustable Clamp is designed for the positioning of panels requiring wood fillers; it can accommodate a complement of up to 26 cm (10 1/4") in width. Just like the GR-2 Clamp, it may be positioned on any point of the frame.



#### **ALISPLY WALER**

Designed for use in the transportation, and handing of larger panel size where the use of Clamps is less effective, Alisply Waler give more rigidity, and provide a totally secure system that cannot be disassembled. The Alisply Waler can be used both horizontally and vertically, for panels with a minimum width of 60 cm (23 5/8").



#### LIFTING BRACKET

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



#### HINGED CORNERS

The Outside Hinged Corner panels are an easy solution for the corners of walls with non-right angles. Facilitating the joining of two standard panels with the appropriate width based on the thickness of the wall.

#### TIE-OFF ROD

It's an indispensable component for the safe anchoring of the worker. It is very easy to place and has several positions in any Alisply Panel.



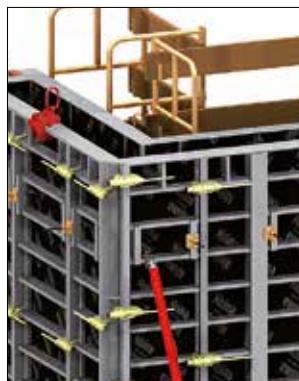
#### ALIGNERS

Accessory to stabilize and to plumb the wall shuttering.



#### INTERIOR CORNER

Accessory used to join two panels on the inner face of the wall and to create a corner of 90°.



#### OUTSIDE CORNER

Accessory used to join two panels on the outside face of the wall and to create a corner of 90°.





#### ALISPLY QUICK CORE

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.

- Patented retractable panel.
- Protected design of the reversible stripping/forming operation.
- 50 cm (1'-7 3/4") panel designed to withstand pressures up to 60 kN/m<sup>2</sup> (1250 lbf/sq ft).
- Automatic activation concept.
- Increased productivity thanks to time savings.
- Built-in safety. It is not necessary for workers to enter the inner structure (except to pass through the Dywidag ties).
- Intuitive operation.
- Easy forming / stripping with just one clasp change.
- Perfectly adapted to the climbing system.
- Compact for transport. Easily stackable.
- Metal supplements for layout adjustment.



**TRIPLE HINGED CORNER**

To facilitate the formwork for hollow columns and wall interiors, Alsina has developed the Triple Hinged Corner, the most striking feature of which is that it is a retractable element.

This element allows wall formwork removal without the need to dismount the panels, since the corner shrinks partially and releases the formwork.

**BICONICAL CORNER**

Retractable corner for Alisply, intended for formwork stripping and recovering inner formwork from hollow spaces, such as columns and elevators shafts.

The system's main feature is that the corners reduce the overall dimensions of the inner formwork, thus allowing it to be recovered.



# 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.



## MANUAL CLAMP GR-2

The frame is the same design as the Alisply Walls frame, which allows quick and simple joining between straight and curved Alisply panels without requiring special accessories. 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.

## QUICK

Designed for quick and easy assembly. The use of the manual clamp, the joints at heights with the GR-2 Clamp, and the bent threads protected from concrete residue, mean high productivity when working with the straight walls. The radius can be changed without having to dismantle the module.

## PROFITABLE

Both the design of Alisply Circular System and the materials used in its composition mean an important saving in formwork material and reduction in transportation costs. The module comes preassembled and has a thickness of 15 cm (5 7/8").



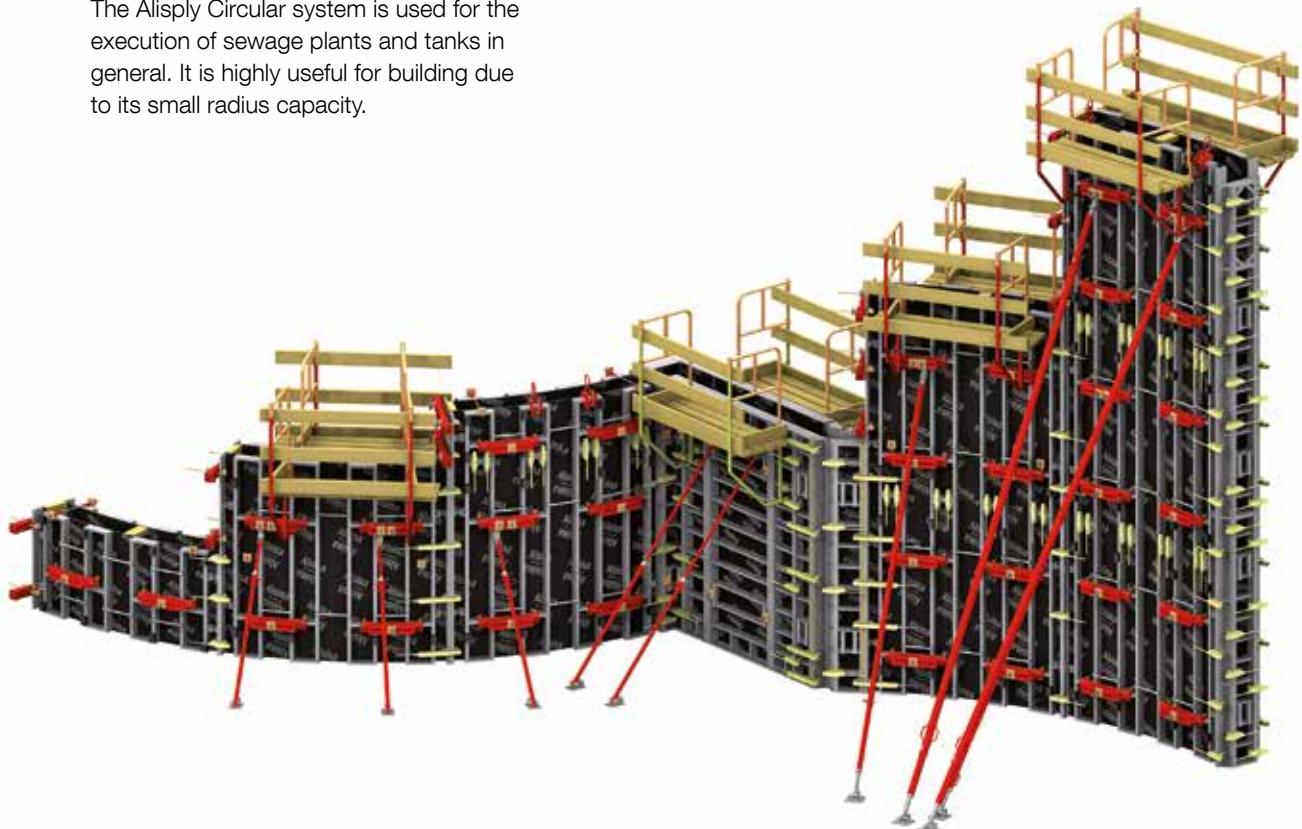
Pre-assembled circle can be connected to the straight wall with a clamp.

- Metal frames and phenolic board formwork surface. Formwork of up to 250 cm (8'2-2 1/2") minimum inner radius with pressures of 60 kN/m<sup>2</sup> (1250 lbf/sq ft.)
- Plywood thickness of 1.8 cm (3/4").
- Pre-assembled and extra flat module.
- Vertical and horizontal connection with clamps.
- Threads protected from knocks and concrete.
- Accessories and joints compatible with Alisply Walls.
- Unique reinforcement system for the end jamb.
- Radius change without the need to disassemble the wall.
- Template does not require trestles.
- Optional supplemental offsetting components integrated with the panel.



### FREQUENT USES

The Alisply Circular system is used for the execution of sewage plants and tanks in general. It is highly useful for building due to its small radius capacity.



### SMOOTH FINISH

The Alisply Circular System has a phenolic formwork surface that provides a fair-faced concrete finish, and offers the possibility of attaching chamfer strips, channels, bulkheads etc. in a comfortable and easy way.

### HIGH VERSATILITY

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

### PREASEMBLED MODULES

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

## PANEL SIZES

Alisply Circular system has three module measures height: 60, 120 and 240 cm (23 5/8", 3'-11 1/4" and 7'-10 1/2"). In this way can be joined vertically for every 60 cm 23 5/8" heights. Each module has two models: a screen with a developing inner radius of 240 cm (7'-10 1/2") and an outer radius screen with a development of 250 cm (8'-2 7/16").



## TABLE FREE RADIUS SET-UP

The system has an accessory used to curve the module without the need for trestles/tables. The Template Support is designed to fit to the phenolic panel of the module.



## STEEL FILLERS

The Alisply Circular System has extension pieces of 2 and 4 cm (13/16" and 1 5/8") that enable adjustment of the width of the panel, this way ensuring the correct definition of the wall's radius.

These extensions can be used with both internal and external radius panels and are fitted with a nut and a screw that prevent them coming apart when the formwork is released, enabling them to be reused in later jobs.





### PREASEMBLED MODULE

Preassembled module with high resistance galvanized steel frame with built-in bent handles and long-lasting phenolic lining.

The system has three sizes of shields used at heights: 60, 120, 240 cm (23 5/8", 3'-11 1/4", 7'-10 1/2") . Also, each shield has two models: an interior radius 240 cm (7'-10 1/2") one and an exterior radius 250 cm (8'-2 7/16") one.



### GR-2 MANUAL CLAMP

The Alisply GR-2 Clamp joins the modules of the Alisply Circular System horizontally and vertically. This operation can be carried out without tools. Because of the module's design, the clamp's position does not have to coincide with the position of the vertical posts. The GR-2 Clamp has a pressure regulator to adjust the joint strength.



### GR-2 ADJUSTABLE CLAMP

The GR-2 Adjustable Clamp is designed for the joining of panels needing wooden fillers. It can accommodate an accessory of up to 26 cm (10 1/4") in width. Its positioning is optional on any point of the vertical frame.



### TIE-BOX WALER

Component that supports the strain of the Dywidag tie bars. Its anchoring to the cross beams of the module is carried out using a bolt and a shear pin. When not anchored to the module, the Alisply Circular module can be "folded" and be stored efficiently.



#### LIFTING BRACKET

Essential element for the movement of the wall modules. Quick, easy and manual positioning; has a safety device that prevents accidental opening. For security, it is necessary to use two hooks for moving any material.

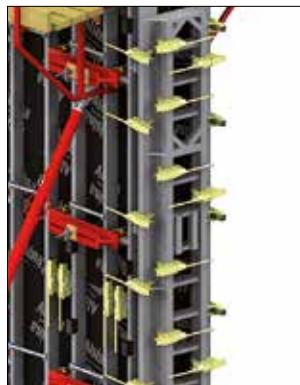


#### WALKWAY BRACKET

The Alisply Circular System has an accessory used to adjust the Walkway bracket. This is placed on the vertical cross beams of the module. It is quick and easy to place using shear pins and bolts instead of threaded components which may deteriorate.

#### OUTSIDE CORNER

Accessory used to join two panels on the outside face of the wall and to create a 90° corner.



#### ALIGNERS

Range of Bracings that stabilize and plumb the wall modules.



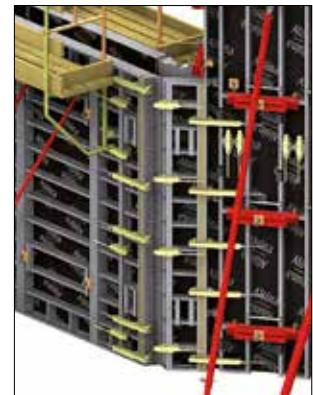
#### TURNBUCKLE

The tensors are protected from hits, concrete debris and any other type of agent that may damage them or prevent them from working properly.



#### HINGED CORNERS

An easy solution for the corners of walls with non-right angles.



# ALISPLY MANUAL

## Light and reusable manual wall formwork.

Modular formwork system for the execution of concrete walls and columns, designed to be used by hand use and / or with a crane. Designed to solve projects with only 5 panel sizes, 90, 75 universal, 50, 30 and 35x35 universal inner corner in metric panels and 3', 2', 1'-8", 1' and 1'x1' inner corner in imperial panels. Its resistance and versatility make it a product capable of solving, with its standard elements, most situations that we encounter during construction.

		Metric width				Imperial width			
Alisply Manual Plus panel		30	50	75	90	1'	1'- 8"	2'	3'
Metric Height	300 cm	Yes	Yes	Yes	Yes	No	No	No	No
	270 cm	Yes	Yes	Yes	Yes	No	No	No	No
	150 cm	Yes	Yes	Yes	Yes	No	No	No	No
Imperial Height	9'	No	No	No	No	Yes	Yes	Yes	Yes
	5'	No	No	No	No	Yes	Yes	Yes	Yes



## MANUAL SYSTEM

Really lightweight system, and is therefore 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.

## QUICK

The Alisply Manual system and its accessories are designed for a fast and easy assembly. The 11 cm (4 5/16") frame support makes it easier to assemble and align the panels. The Alisply Manual Clip makes joins possible anywhere on the frame, and aligns the panels as well.

## VERSATILE AND RESISTANT

Due to the great variety of modules and accessories, any kind of wall can be erected with panels 30/50/75 and 90 cm wide and also allow for polygonal walls. The system withstands a pressure of 60 kN/m<sup>2</sup> (1253 psf), in compliance with the DIN 18202 standard.

## FINISH

The Alisply Manual System is manufactured with a galvanized steel structure to protect it from corrosion. The formwork surface is phenolic plywood board, protected with a piece of melanin that provides a visible concrete finish.



- Panel weight of 30 Kg/m<sup>2</sup> (6 psf).
- Admissible Pressure: between 60 kN/m<sup>2</sup> (1253 psf) and 80 kN/m<sup>2</sup> (1670 psf) (according to panel). Complying with DIN 18218 standard.
- 3.00 m, 2.70 m and 1.50 m in metric panels.
- 9' and 5' in imperial panels.
- The holes for the tie bars are not located in the frame, improving its finish and allowing the construction of sloping walls.
- Phenolic contact face supported by top quality plywood, with protection of the bars of the plywood with stainless steel bushings.
- Long-lasting panels made of high-strength galvanized steel.
- Ribs with drain and for easy cleaning.
- Quick nut for assembling tie bars.
- PVC pipes with cone to avoid loss of grout and taper ties.
- PVC chamfer for exposed corner solutions.

## FREQUENT USES

The Alisply Manual system is very used in building and civil works: Double-sided structural walls, elevator shafts, bridge columns, abutments, tanks, one and two-sided retaining walls, columns of any section, foundations, etc.



### WORK BRACKET

Essential element for operator safety when concreting the wall. Thanks to its design, with the rotary head, it can be placed in either the vertical or horizontal panel position.



### ALIGNERS

Provided with Aligners that are used to stabilize and plumb the wall panels. Designed without a thread at the top to prevent the build-up of concrete, it is provided with a coupling and base plate that are easily to dismantle.



### MULTI-HOLE CORNER

Its design that facilitates stripping in the corners. It has a fully perforated slide, which helps to solve multiple widths with the same element, thus increasing performance and productivity.

**ALISPLY MANUAL CLAMP**

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.

**ALISPLY JOINT CLAMP ROBUST AND MANUAL**

The union clip allows you to attach Alisply-M to your older sisters Alisply Muros and Alisply Circular, thus being 100% compatible.

**EXTENDIBLE CLAMP**

The Extendible Clip is designed for positioning panels when there is need for supplements. It allows for a complement of 20 cm (8") wide. Like the Alisply Manual Clip, it can be placed anywhere on the frame.





#### ALISPLY MANUAL PANELS

The Alisply Manual Panel has been designed so that the position of the tie rod allows the panel to be hinged, therefore it can be used both vertically and horizontally.



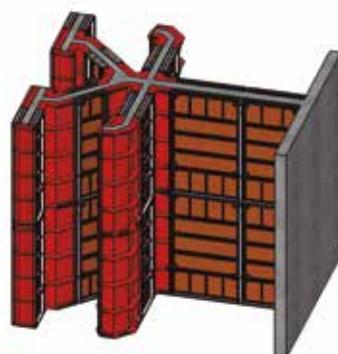
#### SYSTEM MODULATION

The Alisply Manual System has a standard set of modules including 18 panels. They all share the same feature, which allows all the panels to be combined horizontally and vertically, providing that the bars passing through the wall coincide. This standard module set is made up of 2 heights and 9 widths.



#### CRANE HOOK

Element for moving wall screens. Quick and easy to position manually, and it has a built-in safety device so that it cannot be opened. For safety reasons, it's necessary to use two hooks when moving any material.



#### SPECIAL SOLUTIONS

We have numerous solutions special to adapt to your needs. Consult your commercial closest.



### WALL CORNERS

Due to Alisply Manual modules diversity, it is easy to solve the corners on the most common type of walls. The Outside Corner Angle is used to join together two standard panels of the appropriate width, according to the wall thickness. This type of solution makes the most of the material, because it limits the number of specific parts. The different inner corner measurements provide an easy solution for matching perpendicular walls.



### ARTICULATED CORNER

The Articulated Corner Accessory makes it easy to solve corners on walls that do not have straight angles. Facilitating the joining of two standard panels with the appropriate width based on the thickness of the wall. This type of solution makes the material more cost-effective, since it limits the number of specific parts required.



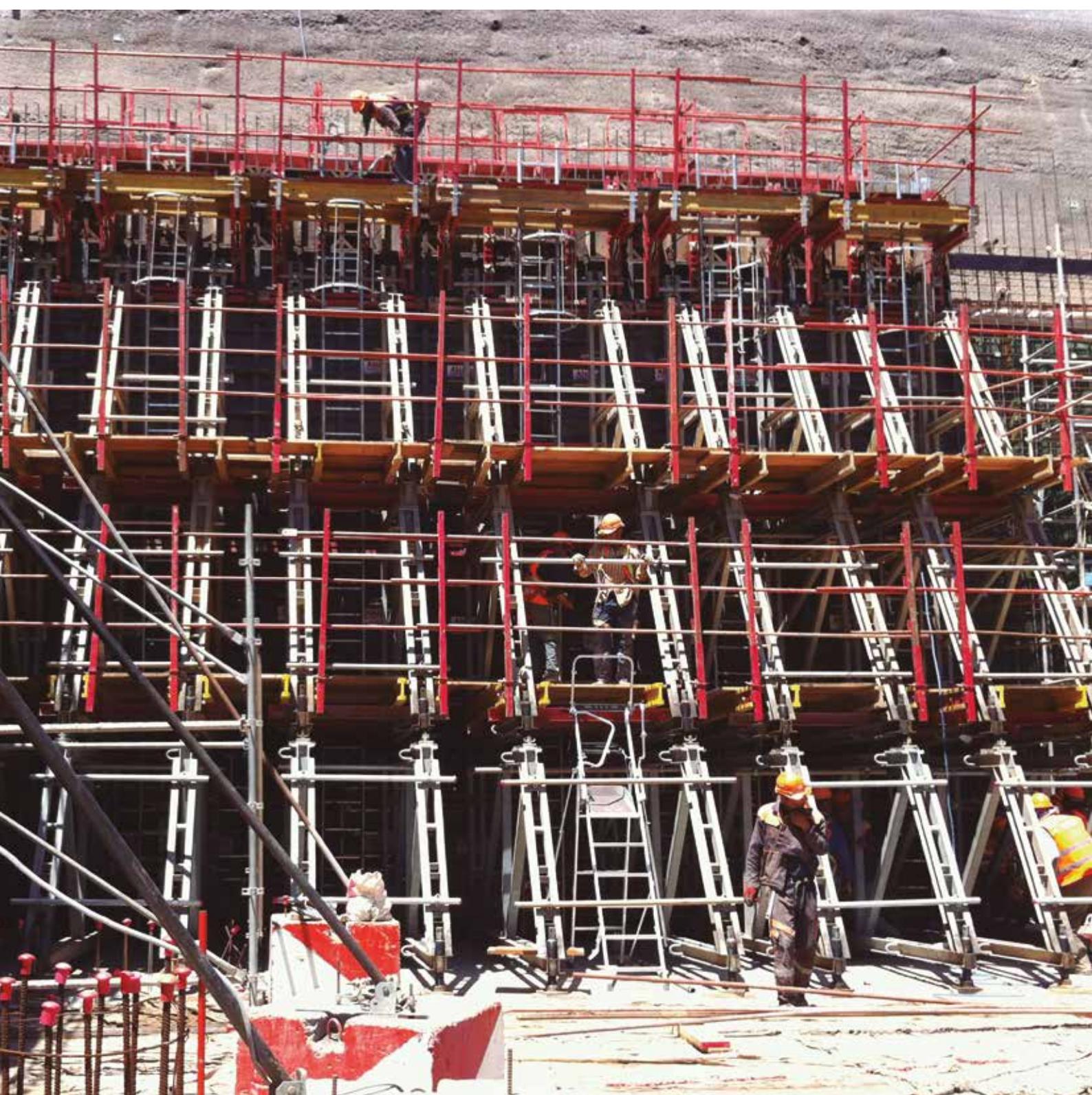
### COLUMN CORNER

They allow the solution with total efficiency of the corners of walls, embedded pillars and columns.

# | ONE SIDED WALL

System for reaching up to 9 m (29'-6 5/16") 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.

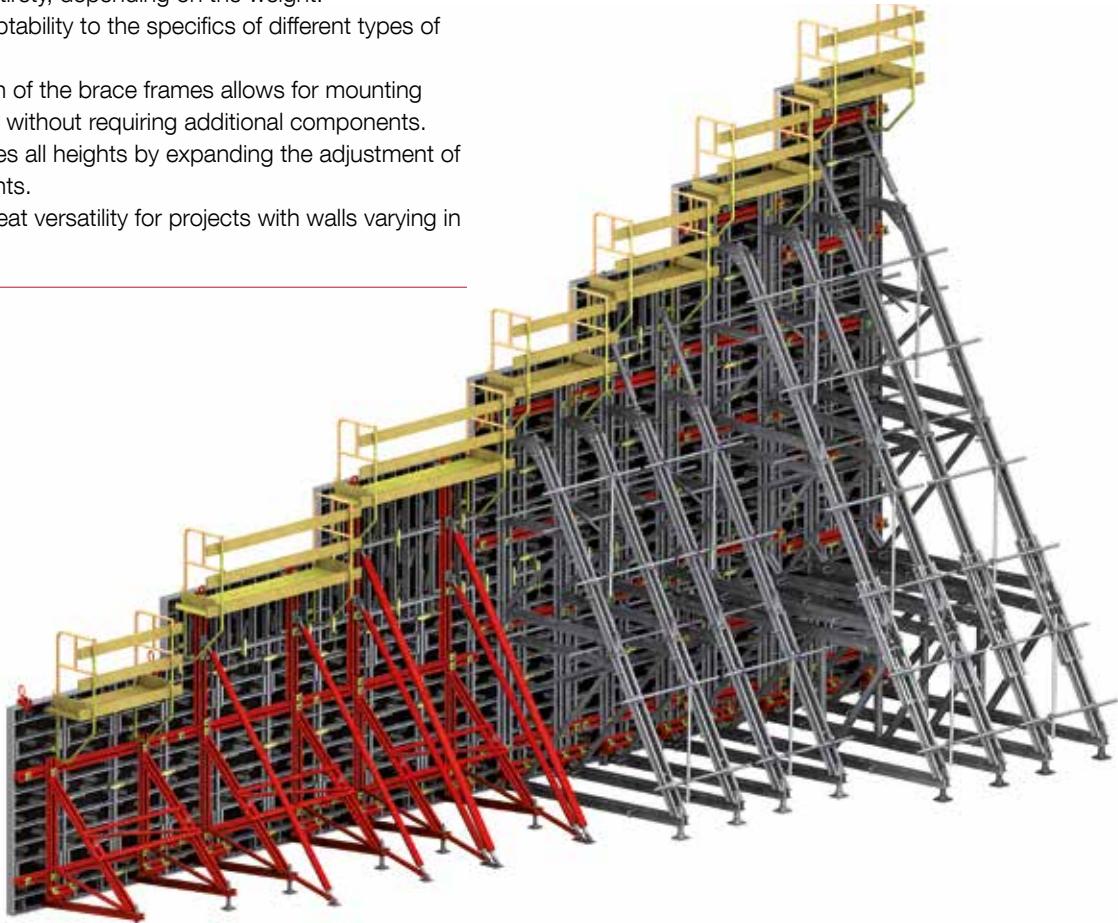




Support structure used to create one-sided walls from 3 to 9 (9'-10 1/8" to 29'-6 5/16"). The system consists of reinforced brace frames that are coupled to the Alisply Panel with two horizontal main beams.

Great adaptability to the specificities of the different types of works. The design of the A-frames allow a quick connection to the radius system with no need of additional parts. Its design addresses all heights extending the modulation of the elements, which is achieved with ease and versatility in those works where there are walls of varying height.

- Simple assembly. Easy to move and transport.
- It can be transported by crane, either as a compact unit or in its entirety, depending on the weight.
- Great adaptability to the specifics of different types of projects.
- The design of the brace frames allows for mounting with a wall without requiring additional components.
- It addresses all heights by expanding the adjustment of the elements.
- It offers great versatility for projects with walls varying in height.





### SUPPORT STRUCTURE

The system consists of a reinforced brace frames that are coupled with two Alisply Panel horizontal primary beams.

The design of its components, ensures the safe transfer of the concrete forces. This occurs joining the steel brace frames with the formwork panels and the inclined anchorages inside the ground.



### GR-2 CLAMP

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



### WALKWAY PLATFORM AND BRACKET

Essential element for the safety of the operator when pouring the concrete for the wall. Its design allows for its independent positioning from the formwork panel position (vertical or horizontal).



### LIFTING BRACKET

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

**ONE SIDED WALL 3-5 m****(9'-10 1/8" to 16' - 4 7/8')**

- Good weight / features ratio.
- Joining brace between easy positioning.
- Maximum height 3.30 m (10'-10") and 4.30 / 5.30 m (14'-1 1/4" / 17'-4 5/8") with filler.
- Movable together with the wall formwork.
- Rear base jack with height regulator.
- Compatible with Alisply Walkway bracket.

**ONE SIDED WALL 6-8 m****19'-8 1/4" to 26'-2 15/16**

- Admissible pressure up to 60 kN/m<sup>2</sup> (1253.1 psf) up to 7 m height (22'-11 1/2")
- Easy assembly between brace frames.
- Optimal design for its stacking.
- Movable with the formwork system.
- Several lifting points for the crane, depending on the different loads.
- Front support for better positioning of the panel on the floor.
- Adjustable rear base jack.
- Compatible with the Alisply Walkway Bracket.

**ONE SIDED WALL 9 m****(26'-6 5/16")**

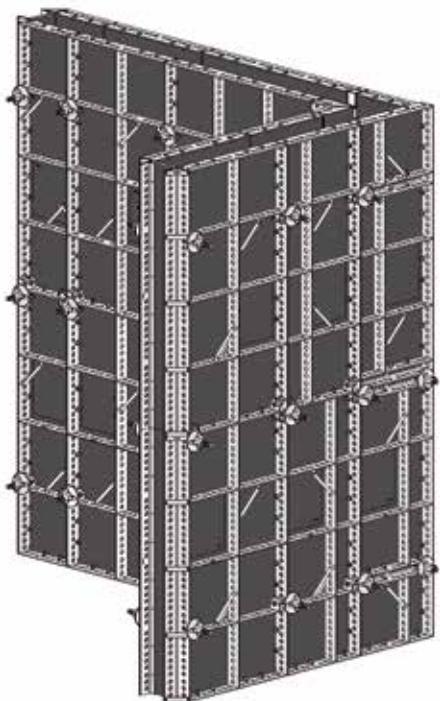
- Admissible pressure variable depending on the foundation trench and the height of up to 60 kN/m<sup>2</sup> (1250 psf).
- Easy assembly between brace frames.
- Adjustable rear base jack.
- Adjustable front support: it allows the fitting of the formwork to the ground, preventing the concrete grout from leaking.
- Several lifting points for the crane, depending on the different loads.
- Optimal design for its stacking.



# 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.



### **LIGHT AND MANAGEABLE**

The panel modules can be transported and assembled by a single person, because their light weight and manageability makes it possible to use them without a crane. This is due a combination of metal for structural elements and a phenolic resin coated plywood board.

### **DURABILITY**

Its galvanized finish and design, which allow the phenolic resin to be reversible and both plywood faces usable, gives the product the features necessary to be of very frequent service in the work.

### **SIMPLE ASSEMBLY**

The ease of assembly and disassembly make it a high productivity system. The joining pieces of the Wallite Connecting Clamp are designed so that they can be fixed in place with just a hammer, meaning that the worker does not need to use special tools. Plus, just one corner solves the formworks of the inside corner, outside corner, inside and outside hinged corners and the inside fixed corner, locked with its own Wallite clamp.

### **MODULAR SYSTEM**

The modular panels open up a wide range of construction possibilities, and can be adapted to any geometry without the need of other elements. They can be used for any type of work which needs a good finish, from small surfaces to large areas. They are also a solution for single sided walls, foundations, flagstone overflow, beams, columns and any vertical structure.

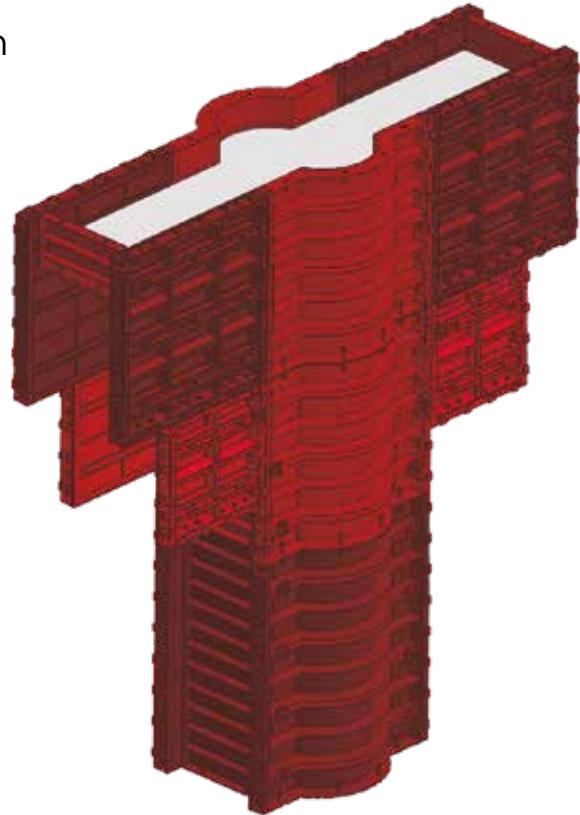


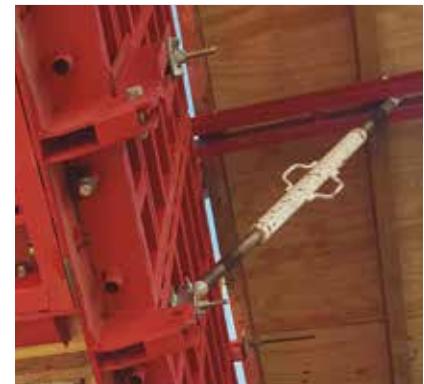
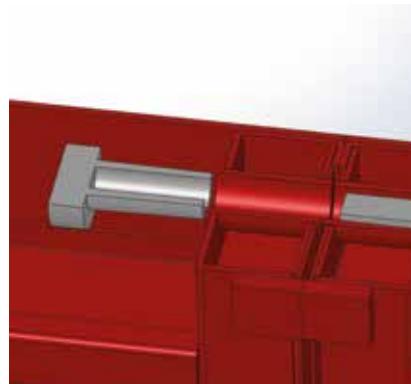
- Light and manageable: The panel modules can be transported and assembled by a single person thanks to their low weight.
- Modular: They allow a wide range of construction possibilities and adapt to any shape.
- Simple: Very easy to assemble and disassemble, boosting productivity.
- Strong: The panels can withstand pressures of up to 40 kN/m<sup>2</sup> (840 lbf/sq ft).
- Economical: The advantages of the panel system translates into significant cost savings compared to other formwork systems.
- The Alispilar chamfer strip and spring can be coupled to the Wallite system to provide a small chamfer on the corners.

# | SELF-SPANNING

Universal solution for the construction of road structures.

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





### PANELS CONFIGURATION

The Self-Spanning System has 16 panels sizes with heights and lengths up to 3,60 m (12').

### MULTIPLE ACCESSORIES

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

### QUICK ASSEMBLY

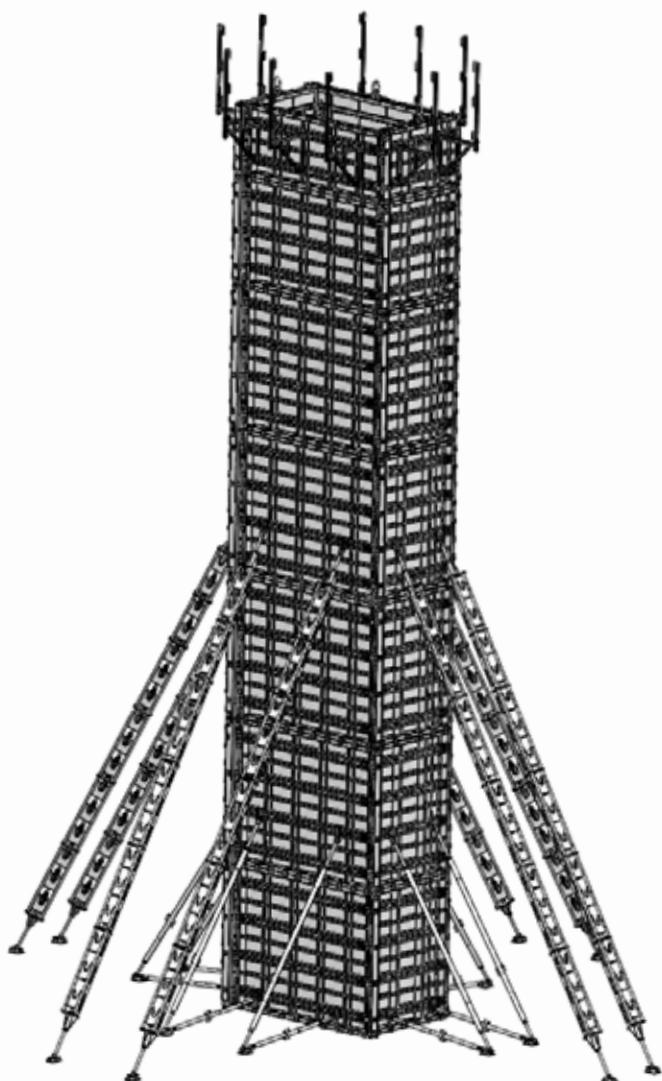
Heavy duty conical bolts allow using fewer items than other systems in the market and self-align panels while tightening them.



- Universal steel panels to fit in any geometry, from 1,2 x 1,2 m (4'x4') to 3,6 x 2,4 m (12'x8').
- 4 mm (1/4") teel face plate.
- Allowable pour pressure up to 120 kN/m<sup>2</sup> (2500 psf).
- Multi-hole double channel allows connecting as many accessories as needed.
- Easy connecting system between panels. Heavy duty and self-aligning conical bolts allow using fewer items and faster assembly.
- No need for ties.
- Possibility of hinged corners and soffit for easy stripping.
- Nuts attached to panels allowing 90° connection between panels with no corners needed.

### FREQUENT USES

The Self Spanning system is very used in the execution of bridges, roads, caps, repetitive horizontal structures and columns.



### UNIVERSAL PANELS

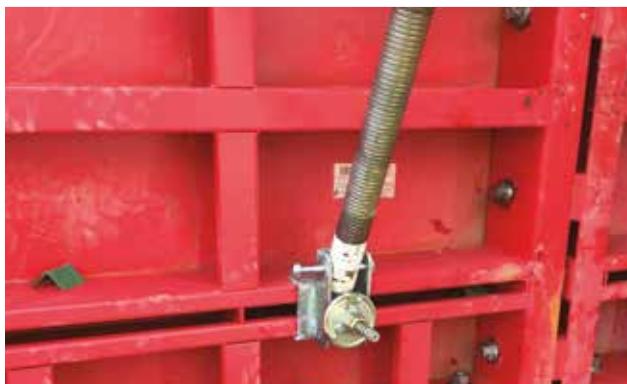
Same panel is used for side, bulkhead and soffit. High versatility, double channel allows pouring different piers and pier cap widths with the same panel.

### BRACKETS

Form support in concrete piers. Standard brackets are 35 tons (70 kips) or 70 tons (140 kips).

### DISTRIBUTION BEAMS

Allows connection between panels and brackets.



### HIGH VERSATILITY

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



### PANELS DESIGN

Alsina Forms can design and manufacture custom components to meet any design requirement.



### DIFFERENT SOLUTIONS

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

Panels have been designed to be interchangeable to work as a horizontal formwork or vertical formwork. Even panels can be cycled from column forms to pier cap forms.



### ARQUITECTURAL FINISH

Rustication, Chamfers and Form liners can be attached to the form face. The Steel face sheet provides a great finish, reducing finishing costs.



## | SPECIAL PARTS

Bespoke solutions for all types of projects and geometry.

Alsina also designs and develops bespoke engineering solutions to complete special projects: from special small pieces up to new integral formwork systems and molds with non-standard geometry, thus making the ideas and proposals put forward by the customer a reality.



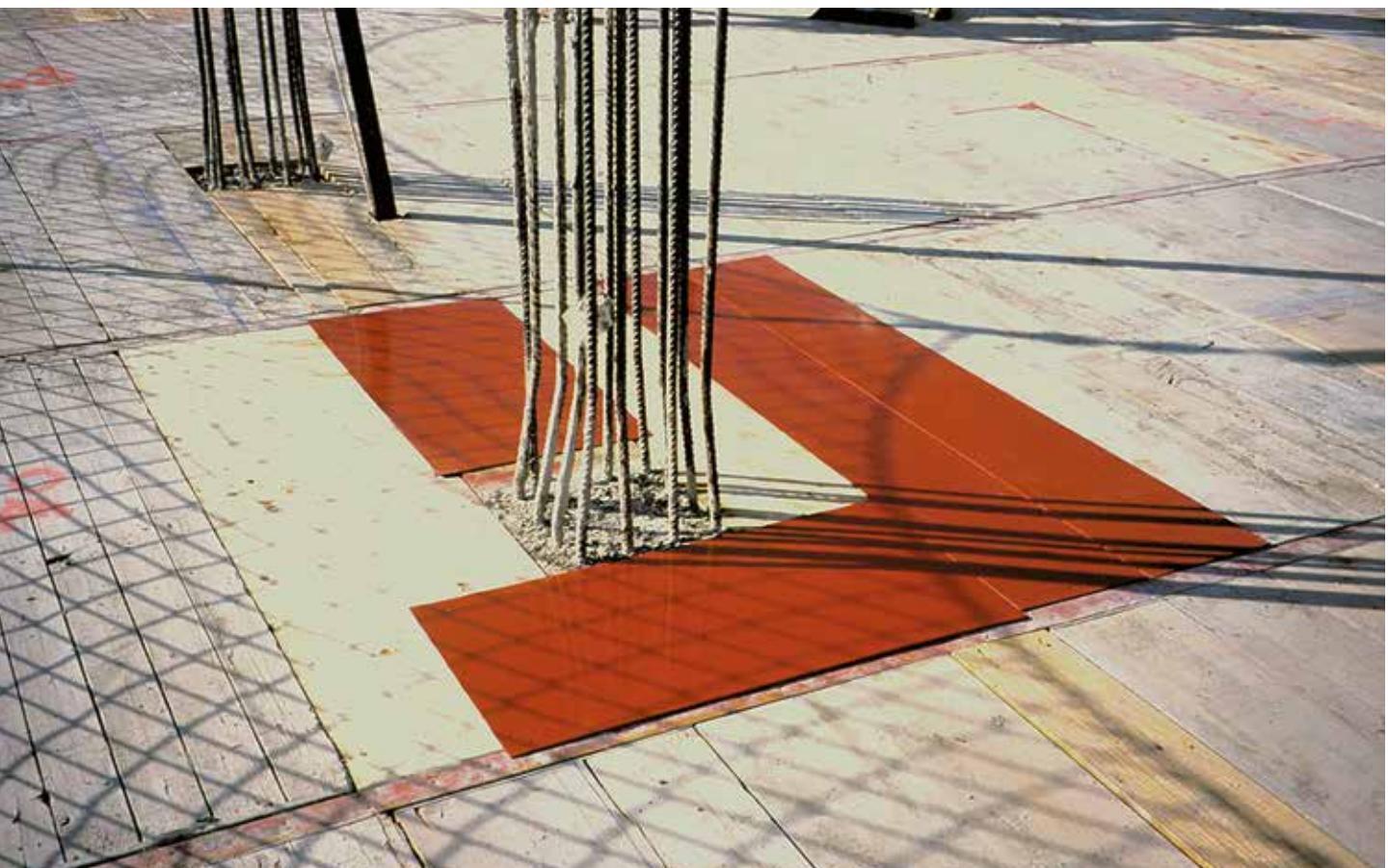


- Exclusivity: each design is unique and individual; therefore, our engineering department will study each case exclusively.
- Practicality: with extensive experience in complex geometry and special construction procedures, we accept any challenge presented by the customer and create a real solution for their project.
- Variety: wide range of materials to calculate and design the solution, such as steel, aluminum, wood and polymers (fiberglass, plastics, porex, etc.).
- Experimental: possibility of performing trials, certifications and prototypes to evaluate, together with the customer, the proposed solution with the aim of validating it, or improving it if necessary.

## DIVERSITY OF SOLUTIONS

Alsina offers the customer its engineering service and extensive experience with the intention of providing all those bespoke solutions necessary for the implementation of the project, thus adapting to any geometry and overcoming all kinds of challenges and obstacles that arise.

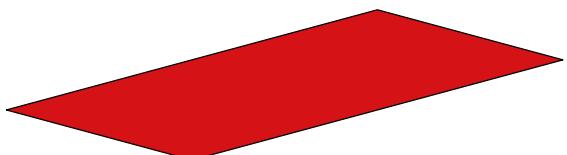
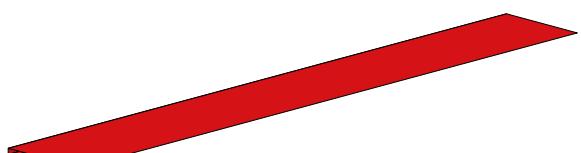




## ALSINA FINISH PLATE

Easy and cost-effective  
for finishing slab formwork.

Metal part designed for carrying out the finishing of the columns, replacing wood cut to size. Its positioning adjusts to the standard measurements of our slab systems and its assembly is made by overlapping and nailing the plate onto a wood board.



- 
- Made of steel.
  - Painted with red epoxy paint.
  - Addresses most bulkheads for projects.
  - Frequent uses: building slabs.
-

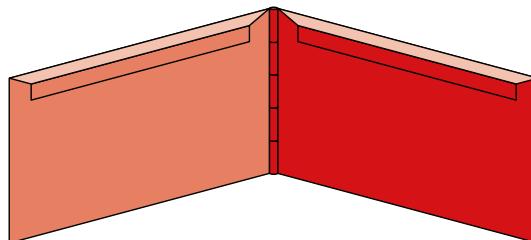
# ALISAN SIDE-SHUTTER

High performance while saving on wood.

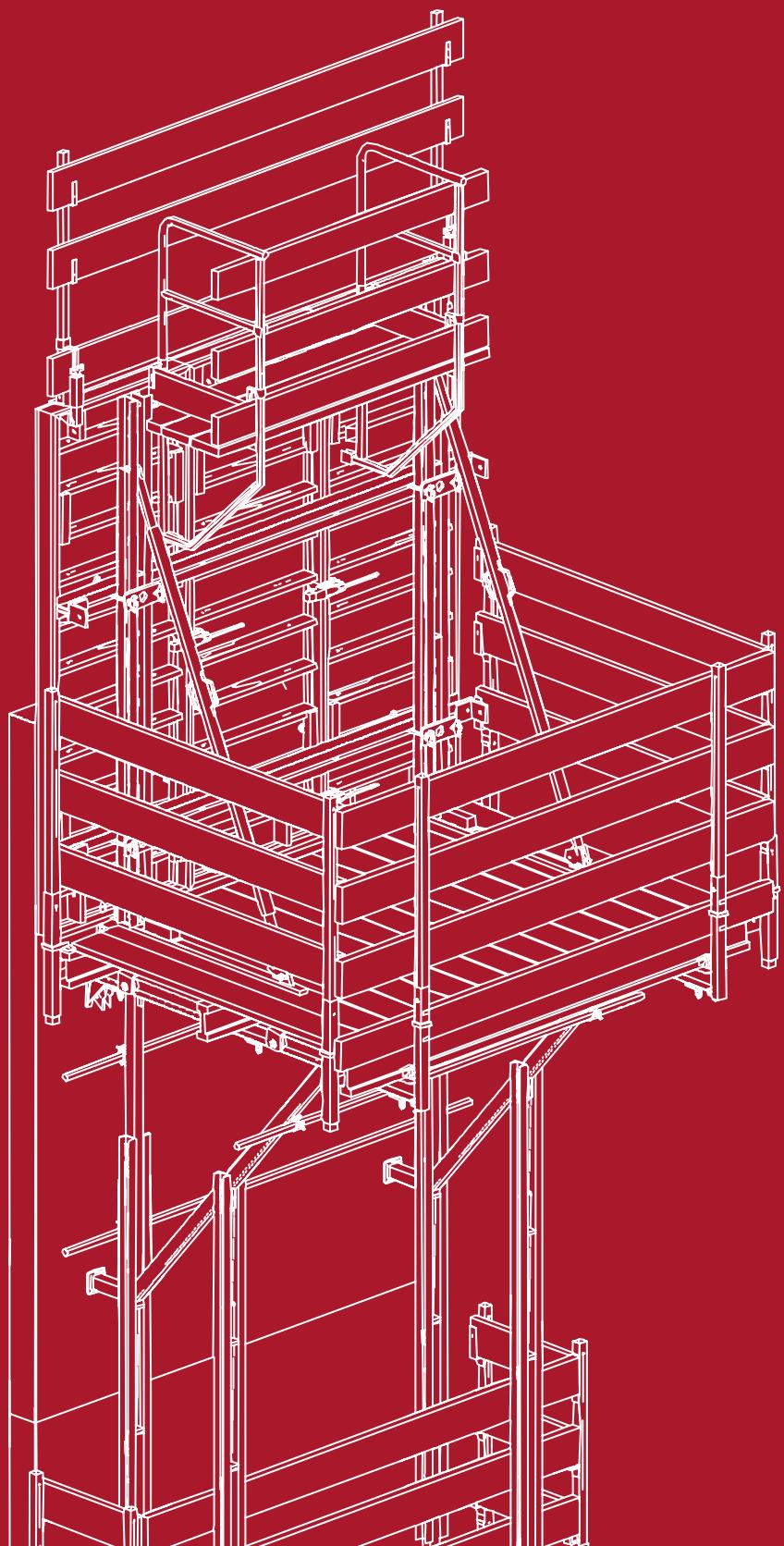
Metal component designed for the setting up of slab side forms, replacing traditional wood parts. Easy to install, it incorporates legs that can be nailed in the formwork surface and thus ensure the finishing of the slab.

Standard size modules of 1 and 2 m (3'-3 3/8" x 6'-6 3/4") lengths and 30, 35 and 40 cm (11 3/4", 13 3/4" and 15 3/4") heights.

- Adaptable to slab perimeters with irregular straight shapes.
- Avoids wood finishes, resulting in time and cost savings.
- Compatible with any slab formwork.
- Frequent uses: All types of slabs from 30 to 40 cm (11 3/4" to 15 3/4").



# CLIMBINGS, SUPPORT BRACKETS AND FRICTION COLLARS



# Alsina



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C160 Climbing System 144

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C240 Climbing System 148

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Multiform Climbing System 152

---

One sided Climbing System 154

---

Interior Climbing System 158

---

160 KN Support bracket 162

---

300 KN Support bracket 163

---

500 KN Support bracket 164

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750 KN Support bracket 166

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SCAP 166

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Friction Collar 170



# C160 CLIMBING SYSTEM

The system has semi-automatic anchoring, ensuring optimal safety for workers.

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.





### ASSEMBLY VERSATILITY

The C160 has two assembly possibilities: in the ground or positioning the platform directly on the wall. Its centering system prevents possible deviations in the climbing; its removal is made easily by tilting the climbing assembly (along with the formwork) with a crane.

### SAFETY

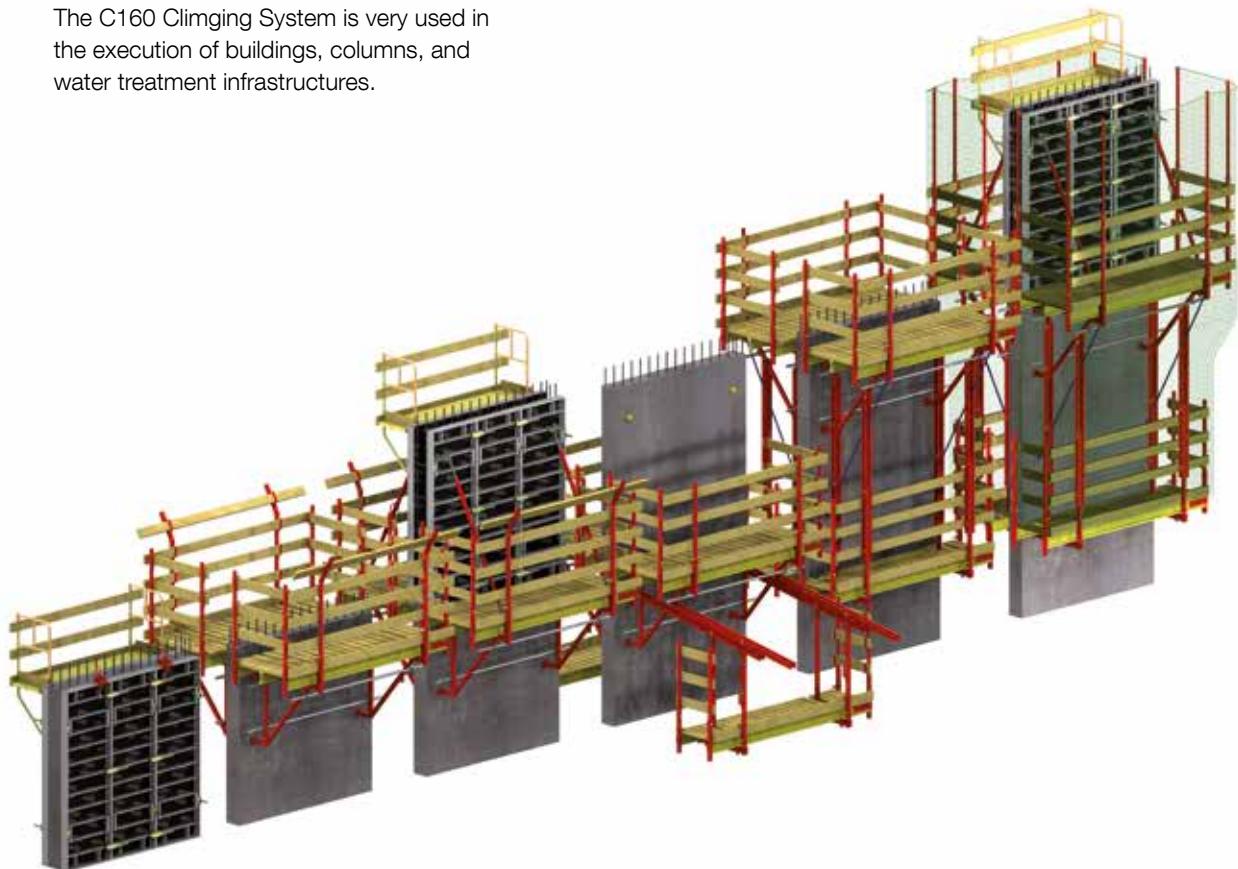
The Alsina climbing systems have been designed carefully considering the complete safety of the operator. They have a work platform that is free of obstructions and a safety railing that is watertight and complete, preventing risky situations during assembly and/or form removal.



- 
- 1.6 m (5 1/4') wide platform.
  - For formwork heights up to 4 m (13').
  - Platform length for 3 linear m (10 linear ft) of formwork.
  - Designed to withstand a range of wind stress at any height.
  - Platform designed to support 2 kN/m<sup>2</sup> (42 lbf/sq ft) in addition to the weight of the formwork.
  - It has a wide and safe lower platform.
  - It has a work platform that is free of obstructions and a guardrail, preventing risky situations during assembly and/or formwork removal.
-

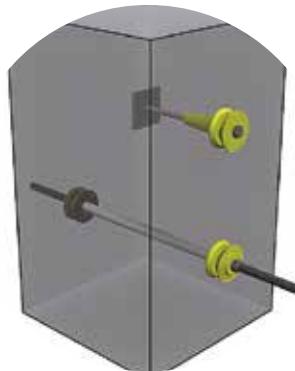
## FREQUENT USES

The C160 Climbing System is very used in the execution of buildings, columns, and water treatment infrastructures.



### CENTERING RING

The C160 Climbing System has a centering system in the first position that allows differences of +/- 8 mm (3/8") to be absorbed between axes for the later positions.



### ANCHORAGE SYSTEMS

The Climbing platform has two anchorage systems; these are both compatible for one-sided climbing or for the climbing of double-sided walls.



### OBSTACLE-FREE PLATFORM

The platform was designed taking into account the safety and the ability of the operator to work easily on it, keeping the floor space completely free of obstructions, such as: beams, platforms, etc.



#### **SEMI-AUTOMATIC SAFETY DEVICE**

Both platforms use the systems that allows anchoring of the climbing section using a semi-automatic system; driven by the crane, when it lifts the assembly it releases the safety device in the platform.

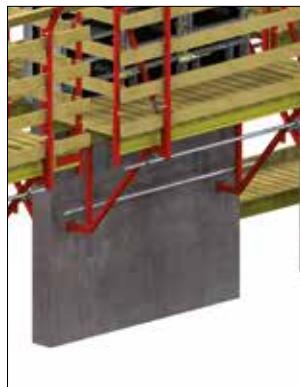


#### **COMPATIBLE SYSTEM**

The system is completely compatible with the formwork systems for straight and curved walls: Alsiply Walls, Alsiply Circular and Vertical Multiform.

#### **CLIMBING BRACKET**

Wide area clean of obstacles to facilitate the work.



#### **WALKWAY PLATFORM**

1.6 m (5'-2") wide platform, obstacle free.



#### **TRAILING PLATFORM**

1 m (3'-3 3/8") wide platform essential for recovering anchor elements after climbing. Distance to main platform can be set from 3 to 4 m (9'-10 1/8" to 13'-1 1/2").



#### **TENSION BELT**

Increases safety against high wind loads.



# C240 CLIMBING SYSTEM

Climbing platform with a wide passage for auxiliary work.

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.





### **ASSEMBLY MOVABLE WITH CRANE**

The design of the C240 platform offers the possibility of transporting the assembly, made up of the climbing platform and the formwork, without having to dismantle it.

### **EFFICIENT SYSTEM**

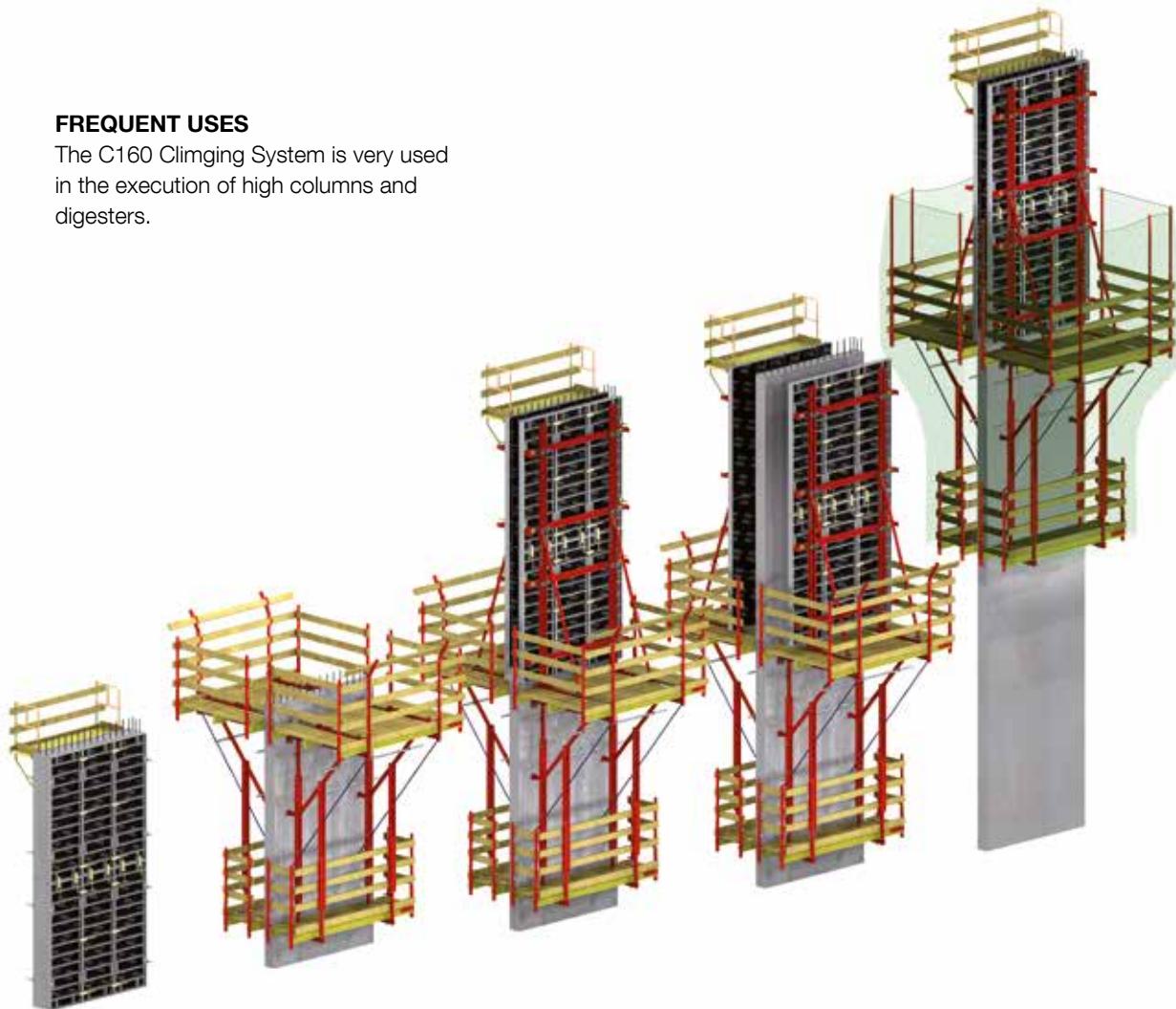
It allows piles and walls of climbing cycles with pouring heights of up to 6 m (19'-8 1/4") to be formed with total safety for the worker. In the C240, formwork operations are carried out using a shifter car that separates the formwork 75 cm (2'-5 1/4") from the wall, allowing the joint movement (without having to remove the formwork) of the platform and the formwork.



- 2.4 m (7 3/4') wide platform.
- For formwork heights up to 6 m (19 3/4").
- Platform length for 3 linear m (10 linear ft) of formwork.
- Designed to withstand a range of wind loads at any height.
- Platform designed to support 2 kN/m<sup>2</sup> (42 lbf/sq ft) in addition to the weight of the formwork.
- Formwork removal system using a cart on wheels.
- It has a wide and safe lower platform.
- It enables transporting the formed set with the platform and the formwork without disassembling it.
- Stripping does not require workers to be on the platform.

### FREQUENT USES

The C160 Climbing System is very used in the execution of high columns and digesters.



#### SAFE

It has been designed carefully considering the complete safety of the operator. It has a work platform that is free of obstructions and a safety railing, preventing risky situations during assembly and/or form removal.



#### HIGH VERSATILITY

Formwork operations are carried out using a shifter car that separates the formwork 75 cm (2'-5 1/4") from the wall, allowing the joint movement (without having to remove the formwork) of the platform and the formwork.



#### WIDE PLATFORM

The C240 has a large and safe platform allowing work to be carried out comfortably.



#### **ROLL-BACK SYSTEM**

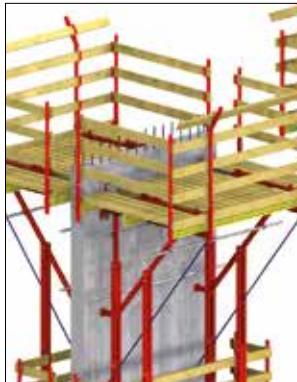
The C-240 Climbing platform has a rack system that allows the panel to be taken out 75 cm (2'-5 1/4") from the wall in order to remove the form.



View of the track for the rack and of the shim that secures the overall unit during form stripping.

#### **CLIMBING BRACKET**

Wide area clean of obstacles to facilitate the work.



#### **WALKWAY PLATFORM**

2.4 m (7'-10 1/2") wide platform, obstacle free.



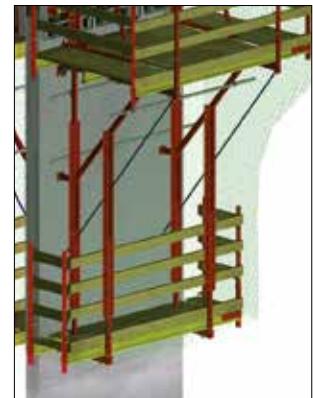
#### **TRAILING PLATFORM**

1 m (3'-3 3/8") wide platform essential for recovering anchor elements after climbing. Distance to main platform can be set from 3 to 4 m (9'-10 1/8" to 13'-1 1/2").



#### **TENSION BELT**

Increases safety against high wind loads.



# MULTIFORM CLIMBING SYSTEM

Highly versatile climbing system.

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



### HIGH VERSATILITY

It can be positioned with one of two anchoring systems: using M-24 ties bars or using steel cones with ties set in the concrete.

### PRODUCTIVE

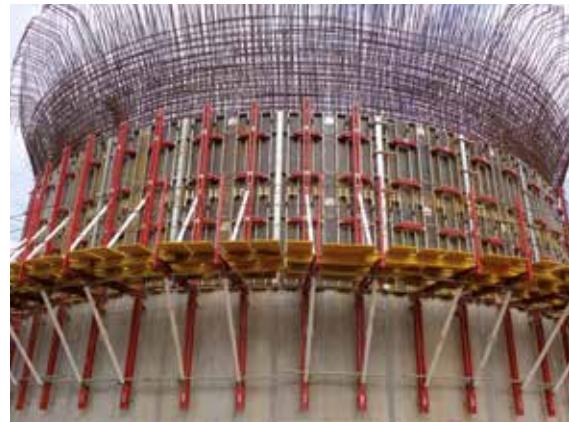
The assembly of the bracket and its safety platforms can be carried out on the ground, before positioning it on the wall, or by placing the brackets in the anchoring rings and mounting the platforms later.

### PROFITABLE

It is mainly used in dams and dykes, lochs, walls standing against high level ground and large or geometrically complex piers.

### COMPATIBILITY WITH ALSINA SYSTEMS

The Multiform Climbing System offers a great versatility with the wall formwork systems from Alsina: Alisply Walls, Alisply Circular and Multiform Vertical.



- Offers a large number of on-site solutions using standard material.
- Possibility of using the MF climbing bracket in a tilted position, either forward or backward, with all the work platforms in a horizontal position.
- Easily addresses both tilted and broken walls.
- Adjusts the position of the formwork before pouring the concrete with precision.
- Maximum formwork height up to 6 m (19 3/4').
- Maximum width of the frame spacing up to 6 m (19 3/4').
- Worker safety when moving between platforms, and during all stages.

# ONE SIDED CLIMBING SYSTEM

Versatile system for vertical and inclined walls.

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.

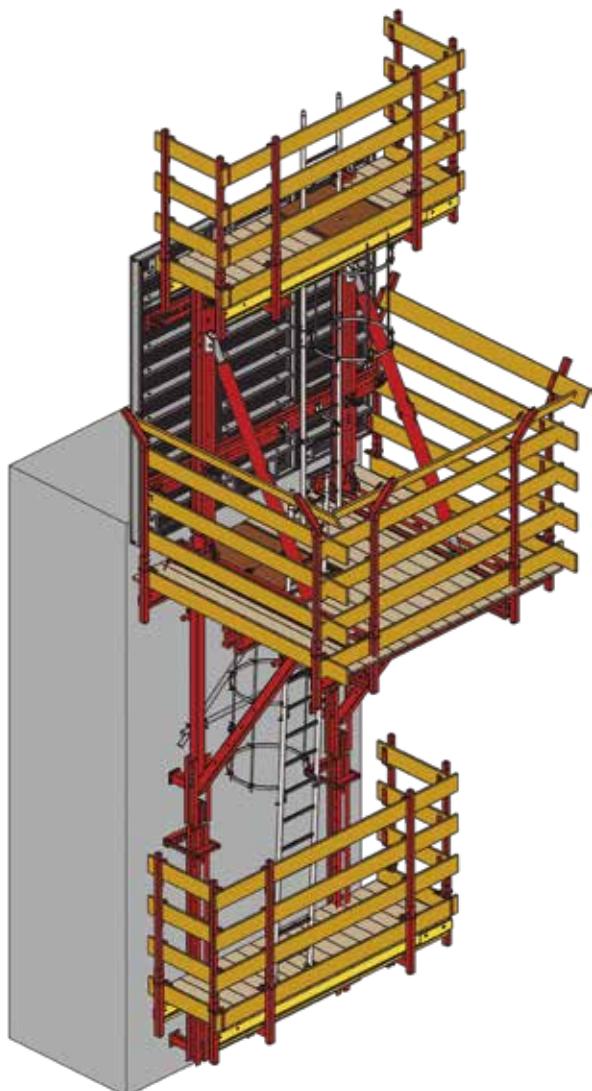




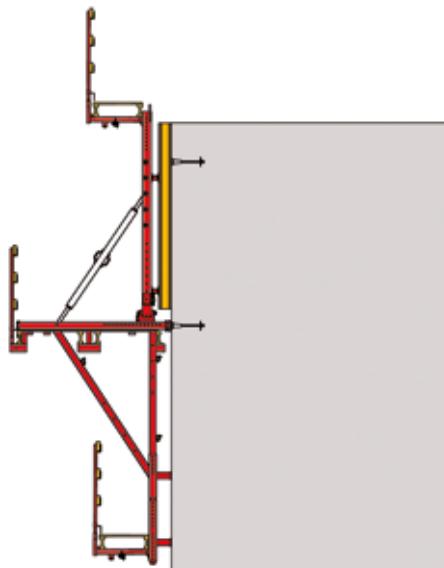
Designed for fast assembly. Most of the elements are connected by pins and do not require the use of tools or threaded fasteners. The cast-in anchoring uses a lost anchor and a M30 or M36 cone use.

The Alsina climbing systems have been designed taking into account the complete safety of the operators in all the job processes. The working platforms offer integral operator safety, both while working on the platform and when moving between brackets.

The T1C Climbing System is designed to perform a wide range of interior wall sections with standard elements. The manufacture of a customized climbing set can be studied and calculated in order to provide a solution to any project requirement.

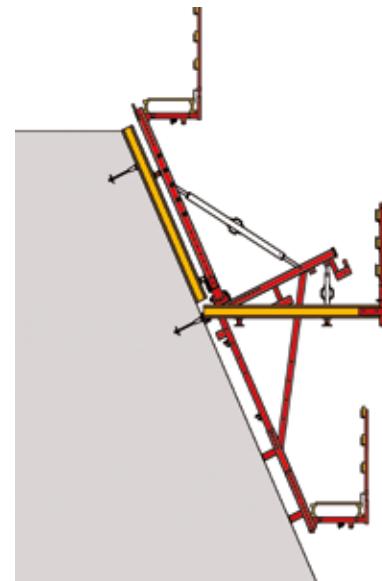


- Highly versatile thanks to its adaptability to the Multiform system. Offers a large number of on-site solutions using standard material.
- Possibility of using the one sided console in a tilted position, either forward or backward, with all the work platforms in a horizontal position.
- Easily addresses both tilted and broken walls.
- Anchor tensile strength up to 200 kN (45000 lbf).
- Adjusts the position of the formwork before pouring the concrete with precision.
- Maximum formwork height up to 6 m (19 3/4').
- Maximum width of the frame spacing up to 6 m (19 3/4').
- Safety for workers when moving between platforms and during each stage of the project.
- Adjustment of the formwork's position vertically and horizontally.
- Provides solutions for dam, pier and complex project construction that requires the use of this type of climbing formwork for one or two faces.



#### **INCLINED AND STRAIGHT VERTICAL CLIMBING ON TWO SIDES**

It can be used without difficulty for formworking set vertical faces of up to 6 m (19'-8 1/4") as well as inclined faces.



#### **INCLINED AND STRAIGHT VERTICAL CLIMBING ON ONE SIDE**

Its design allows it to be used for vertical climbing faces with an angle of inclination of up to 45°, as long as job conditions allow.



#### **POURING PLATFORM**

Safety element anchored to the One Sided Climbing System by means of the sail beam. This allows the platform to be independent from the wall forming system.



#### **FORMWORK SYSTEM**

The One sided Climbing System is compatible with the Alisply Wall System and the Multiform Vertical System. The system has been designed so it can correct small deviations in the adjustment of the wall formwork.

**ONE SIDED CLIMBING SYSTEM**

This is the climbing element in the unit that supports the formwork system. It permits an inclination of +/- 45° versus the horizontal plane. The top supports the formwork and the bottom supports the trailing platform.

**WORKING PLATFORM**

The working platform is designed for assembly of the One Sided Climbing System with the formwork system.

**INTERIOR ACCESS STAIR**

This element has been designed for completely safe access between all platforms of the One Sided Climbing System.

**TRAILING PLATFORM**

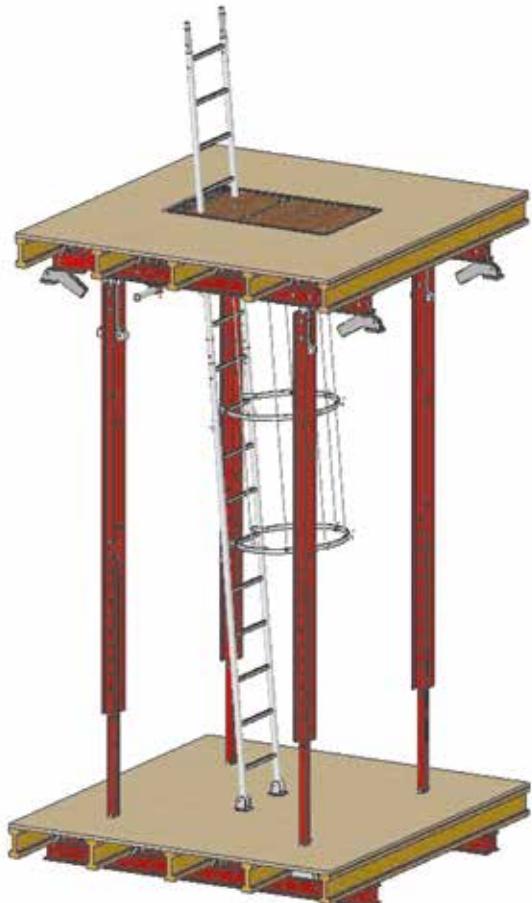
A working platform designed for ring and cone recovery tasks; and rope anchor handling.



# INTERIOR CLIMBING SYSTEM

System for joint movement of climbing and formwork systems.

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





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

### **IMPORTANT SAVINGS**

Interior climbing of the hollow structures allows the formwork to be supported from the interior without using elements such as scaffolding or bracing from the ground. This implies considerable savings in material and labor, since both the toggle support and the toggle are reusable. The wood beams allow for project adjustment without the need to manufacture customized elements.

### **HIGH VERSATILITY**

Designed to perform a wide range of interior wall sections with standard elements. The interior face dimensions must be between 1200 and 4000 mm (3'-11 1/4" and 13'-1/2").



### **SIMPLE ASSEMBLY**

The design principle of the Interior Climbing System is simplicity: it is very easy to assemble, without the need for tools and it can be moved quickly and easily.



### **SAFETY**

Movement can be carried out entirely by means of a crane, without the direct intervention of an operator. The Interior Platform System is compatible with the Alsina safety accessories.



### CLIMBING SYSTEM WITH THE TOGGLE SUPPORT

The Toggle Support is used when an opening can be left in the structural concrete element. The element called a Reusable Box must be left embedded in the concrete during the previous fill.

After pouring, the formwork is removed first and then the Reusable Box is removed. Finally, the Interior Platform System is raised and the Toggle Support is housed in the hole left by the Reusable Box.

When the Interior Climbing System is supported on the hole in the concrete, it can not move from its position because the Toggle Support is designed so it can only be unlocked manually.

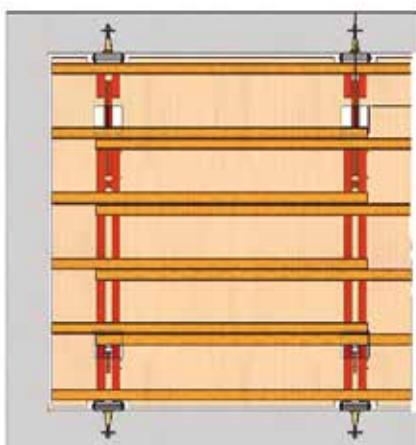
### CLIMBING SYSTEM WITH CAST-IN ANCHOR

The Cast-in Anchor is used when a hole can not be left in the structural concrete element because of high steel framework density or technical requirements.

Pass through bars through the walls can not be used in the Interior Platform System. Therefore, the Fixed Support must be used, anchored to the wall by means of a lost anchor.

The Cast-in Anchor will be attached to the formwork for the next pour with a metric bolt and reused for the following pour by accessing the trailing platform of the Interior Platform System.

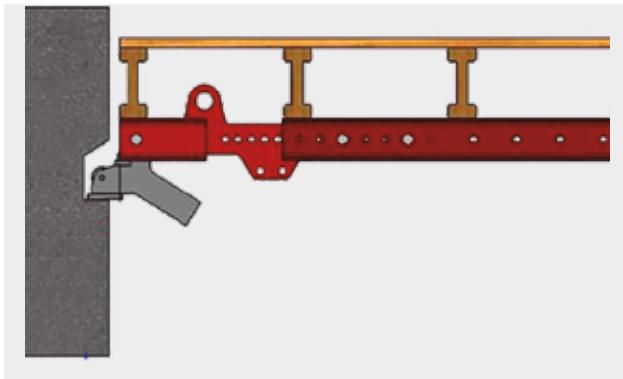
The Cast-in Anchor system bears the weight of the Interior Platform System and can only be moved upwards by lifting with a crane.



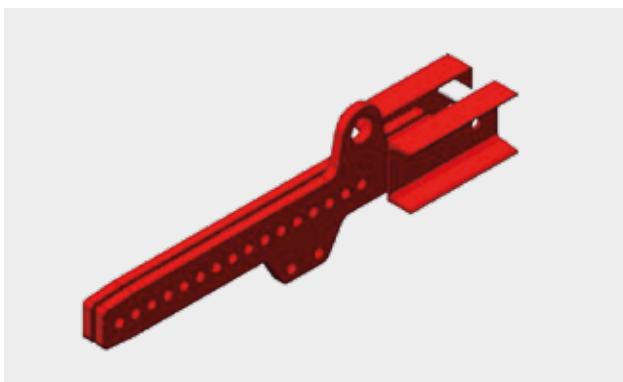
### ADAPTABLE A TODAS LAS DIMENSIONES

The system consists of modular steel elements and the dimensions of the Multiform Beams and Multihole Heads are used for customized assembly of the set in each project. Two combinations are available to adjust the size of the set:

- Multiform Beams of different lengths.
- Using one, two or no Multihole Heads.
- Adjust the Multihole Head to the required size.

**MULTIFORM BEAM**

Steel supporting elements of the Interior Platform System. The dimensions of the steel beams and the multihole heads can be used to assemble the entire set and adjust it to any measurement required.

**MULTIHOLE HEAD**

This item is designed to adjust the platform to the exact measurement needed to guarantee that the supports work properly.

**WOOD BEAM**

A wood structural element that supports the formworking surface and the primary beam. The distribution of the wood beams varies depending on the count performed by the Technical Department.

**UPPER PLATFORM**

Boards are nailed to the wood beams to achieve a stable working platform so the operator can carry out wall formwork tasks in complete safety.

# 160 kN SUPPORT BRACKET

High load bearing capacity support bracket. Up to 160 kN.

Support bracket for vertical loads in provisional work structures, compatible with Alsina T1C Ring anchoring systems. It is designed to support a maximum load of 160 kN, thus transmitting the stress to the concrete facing through the anchoring.

- Maximum admissible vertical load: 160 kN.
- Vertical load maximum eccentricity: 200 mm.
- Minimum concrete resistance: 30 N/mm<sup>2</sup> (depending on the type of anchoring used).
- It incorporates two elevation points located in the system's center of gravity plane, which allows it to be moved in a vertical position.



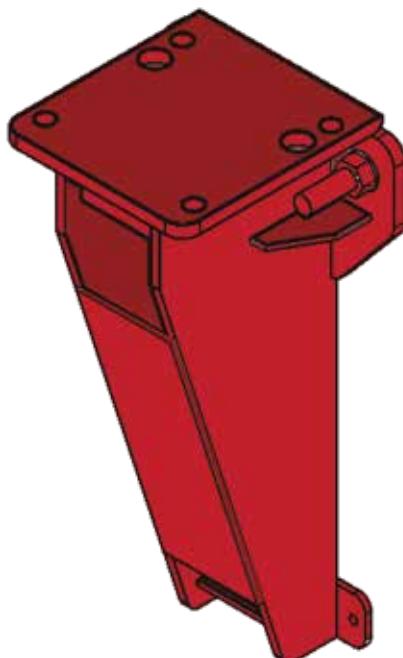


## 300 KN SUPPORT BRACKET

High load bearing capacity support bracket. Up to 300 kN.

Support bracket for vertical loads in provisional work structures. The support bracket is designed to support a vertical load of 300 kN, transmitting the stress to a concrete facing through two M30 rod anchors and epoxy resin.

- Maximum admissible vertical load: 300 kN.
- Vertical load maximum eccentricity: 220 mm.
- Minimum concrete resistance: 30 N/mm<sup>2</sup>.
- Minimum thickness of the concrete facing: 500 mm.
- The support corbel has two elevation points located in the system's center of gravity plane, which allows it to be moved in a vertical position.

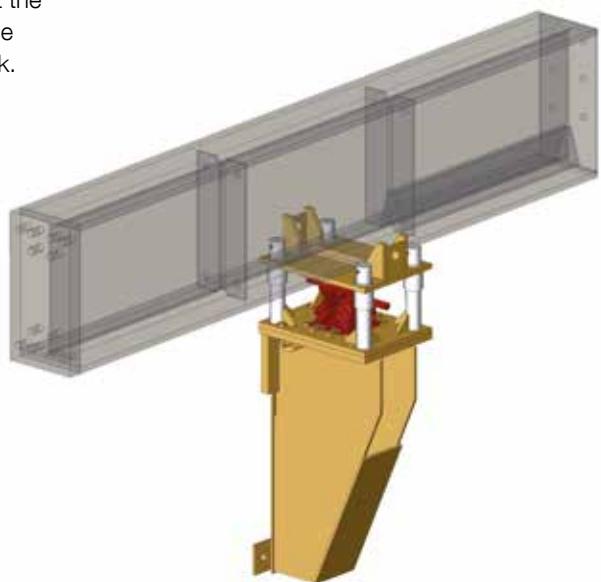


# 500 KN SUPPORT BRACKET

High load bearing capacity support bracket. Up to 500 kN.

High load bearing capacity support bracket for the formwork of lintels, capitals and slabs at great heights without the need for shoring towers. It allows the unloading and levelling of the system, facilitating the assembly and disassembly of the formwork.

- Use of the 38 mm (1 1/2") Dywidag bar prestressed by means of manual hydraulic equipment, thus guaranteeing the correct connection between the Bracket and the concrete facing.
- The set formed by the wedge and discharge guide allows the levelling and release of the formwork system, thus facilitating the assembly and disassembly of the load-bearing structure.
- The system is complemented by a set of HEA-600 beams of various sizes: 3 metres, 12 metres and 15 metres (9 3/4', 39 1/4' and 49 1/4').
- For slabs at great heights, capitals and lintels.



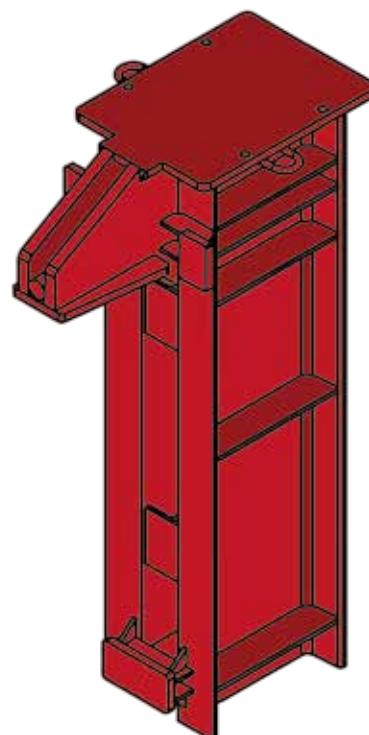


## 750 KN SUPPORT BRACKET

High load bearing capacity support bracket. Up to 750 kN.

The 75 Tn support bracket is a support system capable of transmitting vertical loads to the pier shaft by directly resting on it. Ideal for lintels, bridge piers and high slabs without the need for scaffolding towers.

- Maximum use load: 750 kN.
- Minimum concrete capacity: 25 N/mm<sup>2</sup>.
- Maximum reaction on lower support: 263 kN.
- The 75 TN support corbels are equipped with two hoisting points located on the upper support plate.

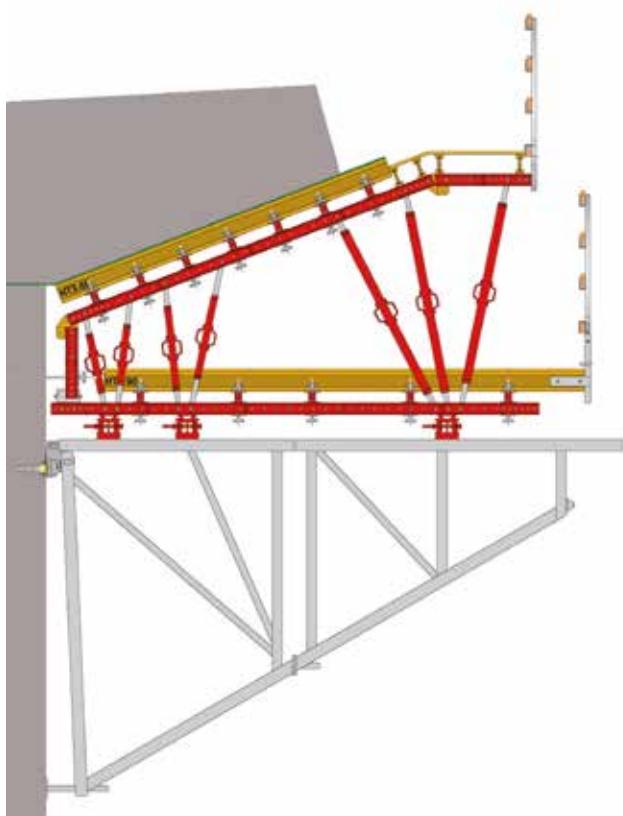




## | SCAP

Simple and safe system  
for lintels.

The 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.





- Possibility of executing bridge columns and lintels of varying shapes, with an accurate adjustment to the position of vertical and horizontal formwork before pouring concrete on any column shape.
- Great versatility and adaptation to multiple types of projects with standard Alsina material as it is compatible with the Multiform horizontal formwork systems, Alisply vertical formwork, Climbing Platforms and one sided 6 to 9 m (19 3/4' to 29 1/2') brace frames.
- High load capacity. Allowable vertical capacity in anchorage up to 270 kN (60,750 lbf) and allowable horizontal traction capacity in anchorage up to 250 kN (56,250 lbf).
- Maximum safety for workers in moving between platforms and during all the phases of the job.

### MODULE-BASED COMPONENTS

Thanks to its module-based components, SCAP can be used to build bridge piers, no matter how complex the geometry involved, using a wide range of measurements.

### NO NEED OF SHORING SYSTEMS

Bridge pier construction with SCAP does not require scaffolding because the load is transmitted by taking advantage of the stress capacity of the pier shaft. In addition to the savings presented by this technique, it is decisive when building takes place on uneven terrain where it is difficult to seat the scaffolding.

### HIGH PRODUCTIVITY

The compact SCAP structure allows for fast and safe formworking while facilitating transfer to new concrete placing sites.

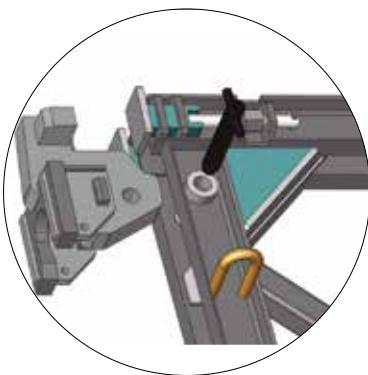
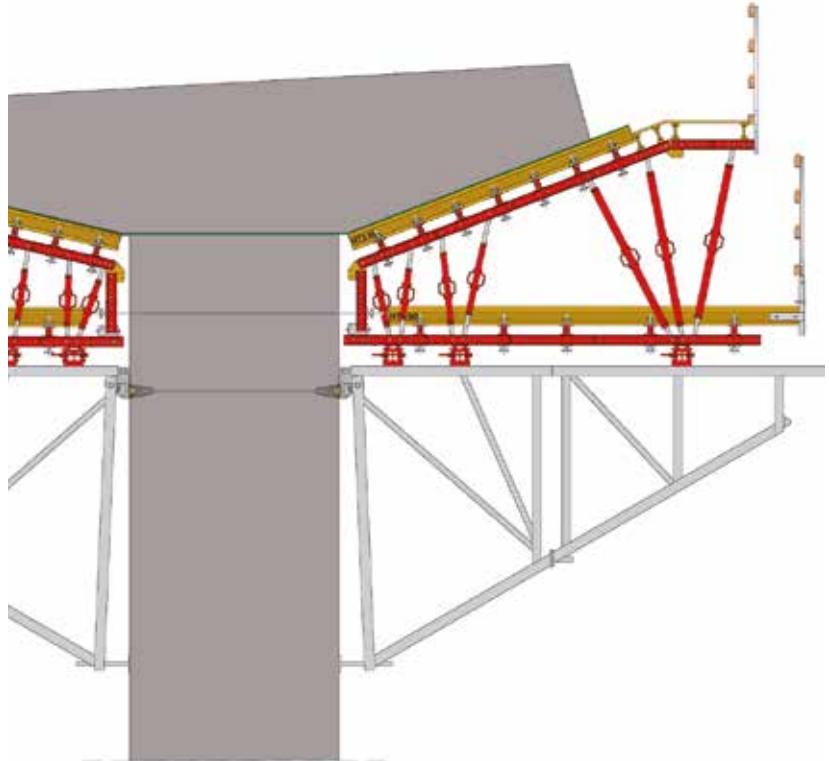
### OPTIMAL FINISH

By using phenolic plywood board as the formworking surface, SCAP provides an optimal finish in architectural concrete quality.



## FREQUENT USES

Multiform SCAP is very used in the execution of lintels and capitals.



### ASSEMBLY WITH PINS

The SCAP system is designed for fast assembly. The elements can be connected with pins to eliminate screw placing tasks.



### CONNECTION GIBS

The function of these Multiform system elements is to connect the system components so they can adapt to any kind of project.

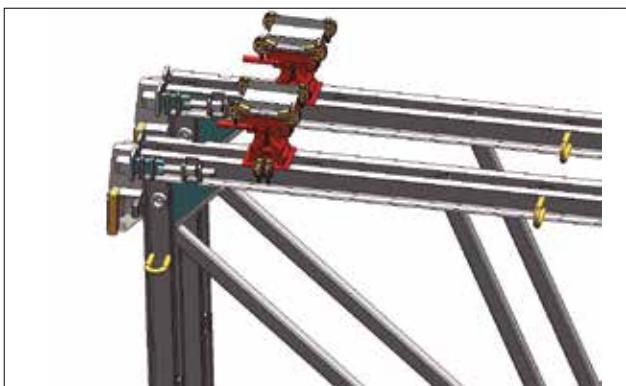


### SIMPLE LOGISTICS

The SCAP components can be transported in trucks, require little storage space and can be assembled using traditional tools at the job site.

**MULTIFORM SYSTEM**

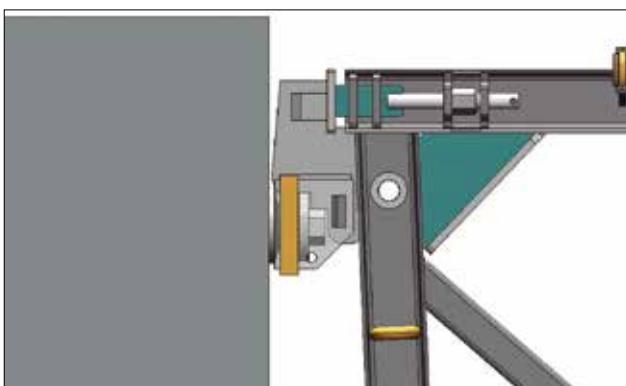
The adjusting gib and aligners can be used to configure Multiform according to project requirements.

**SLIDING WEDGE**

This element, which connects the A-frame to Multiform greatly facilitates assembly and formwork release tasks.

**SUPPORTING A-FRAMES**

The A-frames act as the base of the Multiform formwork and transmit the load to the pier shaft.

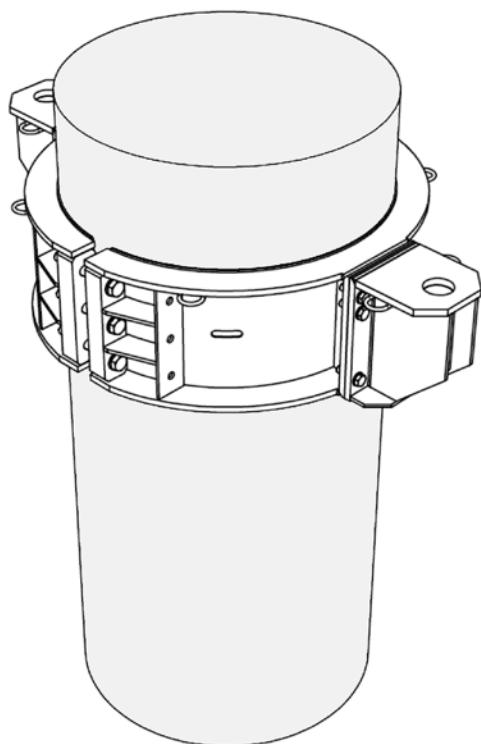
**SCAP SYSTEM ANCHOR**

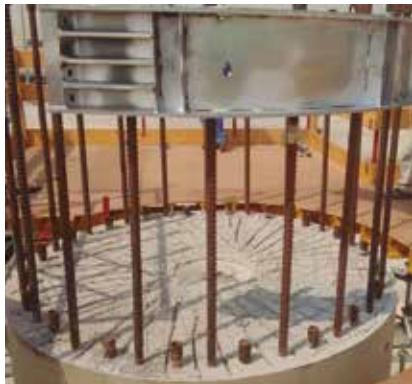
The A-frame is attached to the column by means of an anchor connected to a high axial and shear stress performance ring attached to the pier by means of a lost in concrete cone.

# | 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.





### FAST SYSTEM

The Friction Collar has an integrated bracket, which translates into high speed and ease of assembly.

### EFFICIENT

The coefficient of friction between steel and concrete can be improved by a surface finish on the collar that increases the roughness.

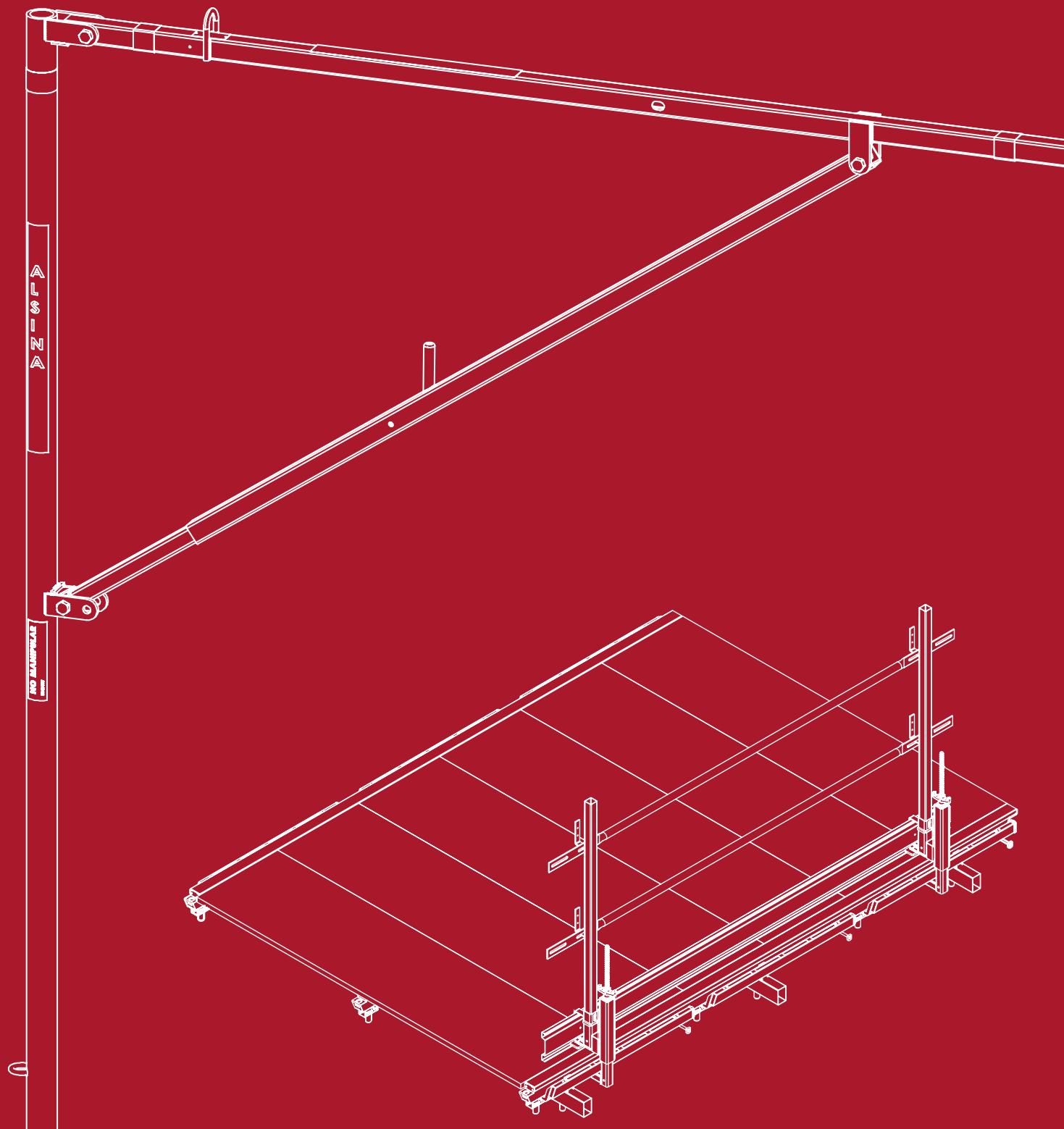
### COST-EFFECTIVE

The system, by embracing the column, does not leave any marks or traces, as there is no need to pass bars.

- 
- 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.
- 



# ACCESSES AND SAFETY



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Life Screen	174
Safety Railings	176
Catchfan	177
Alsipercha	178
Alupercha	180
Site Stairs Tower	184
Modular Stair Tower	185
Site Stairway VX	186
Moible Work Platform	188
Access Pasarelle	189
Zone access scissorgate	190
Reinforced Scaffold	191

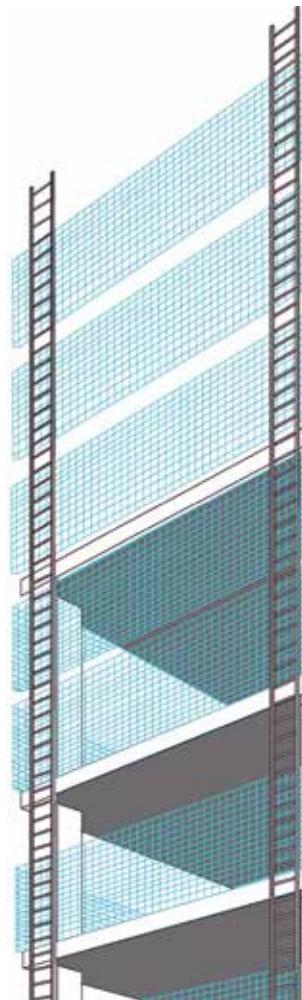
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# LIFE SCREEN

Improves productivity  
providing full safety.

The system is made of an extra-light perimeter protection screen, adaptable to any geometry or need for work configuration. The main advantage of the system is that it can be installed, set and lifted by hand, without the need for a tower crane or any special machinery. System under standard EN-13374-A/B.





#### LIGHTWEIGHT SYSTEM

It removes the need of crane, and can be easily installed by hand in just a few steps. Designed and manufactured with lightweight and robust materials, the system has been designed to contributes for an excellent ergonomy for installers (heaviest element weights 30 kg (66.1 lb)).

#### 3 IN 1 EDGE FALL PROTECTION

It provides effective full collective protection at all times, not only because it can be installed before beginning of the horizontal formwork paneling stage, but also because it provides fall protection during the stage of pouring concrete columns/walls.

#### GREAT ADAPTABILITY

With a high versatility and an extended range of supports and accessories, it can be easily adapted and provide effective fall protection even in zones of projects always difficult to other products on the market.



- Temporary Edge Protection system, avoid the fall of objects and persons.
- Provides comprehensive fall protection during the execution of the horizontal formwork stage, and during the stage prior to the closures.
- Installation by hand: remove the need of crane for installation, reducing costs and time.
- Robust and ergonomic system, is manufactured with HQ materials providing a high resistance.
- No interference with other project stages during installation or use.
- Wide range of accessories and supports that provides high versatility and adaptability to all kind of different geometries.
- Cost-effective solution in comparison to high labor costs needed for installation of other systems on the market.
- Productivity: confidence of workers is improved due to the increase of the feeling that are fully protected at all times and stages.
- System under standard EN-13374-A/B.



## | SAFETY RAILINGS

Works with total safety on site.

Alsina has a wide range of guardrails, both to provide protection to its slabs formwork systems and to protect the slab after pouring. The different solutions protect the worker from possible falls to a diffent level. Their placement is quick and easy, ensuring the work during the job.

- 
- Multiple components to provide systemized protection that conforms to EN 13374.
  - Solutions for installing to formwork or drilling to slabs or walls.
  - Provides strong and effective edge protection during horizontal formwork assembly.
  - Protect workers against falls from edges until the stage of finish begins.
  - The combination Steel Barriers + Compression Post offers: Full containment up to 2,35m height between slabs and a quick and fast installation process, with no need to anchor slabs.
-

# CATCHFAN

Collective slab edge protection designed to avoid the falling of objects.

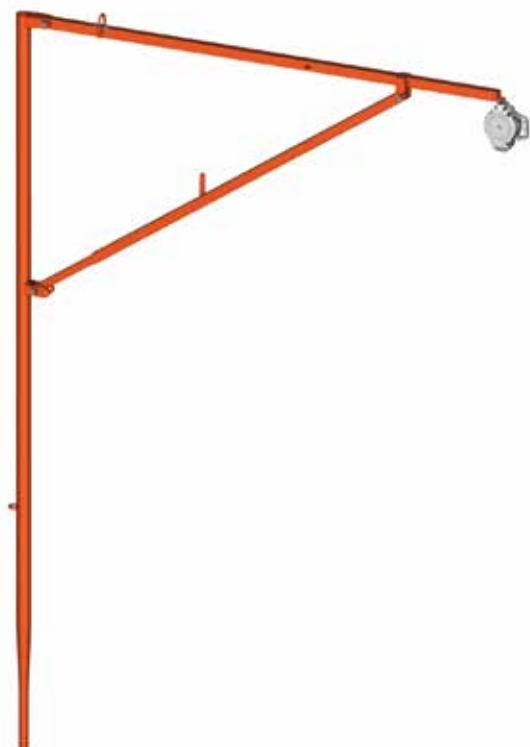
- Designed to absorb the energy of falling objects, mitigating against objects causing danger to the public or damage to property.
- Provides an excellent collective protection solution beyond the leading edge.
- Bespoke solutions available to serve space or height restricted sites.
- Capable of arresting a 100 kg (220.4 lb) mass twice on any part of the system from a 7m drop height.
- Catchfan has a double layer of net made up of 60 x 60 mm (2 3/8") and 20 x 20 mm (13/16") overlay manufactured from polypropylene.
- Yearly in-house net testing to ensure the nets structural integrity throughout its four-year life span.
- Catchfan 4 m and 6 m (13'-1 1/2" and 19'-8 1/4") versions project 3.2 m (10'-6") from the buildings edge.
- Versatile range of accessories enable use on both reinforced concrete, steel frames and scaffolding.



# ALSIPERCHA

Protection against falls from heights.

Overhead fall protection system for the stage of the formwork decking process, or instalation of: guardrails, gallows-type safety nets, formwork risers, and in general, all formwork assembly activities that entail the risk of falling from heights, can be carried out in an entirely safe manner.



**PREVENTIVE - FALL FACTOR “0”**

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

**EASY AND QUICK ASSEMBLY**

The assembly of the Alsipercha is easy and intuitive. After a few steps, the system is ready to use.

**PRODUCTIVITY**

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

**PERIMETERS AND HIGH FLOORS**

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

**COMPLEMENTARY**

Compatible with the use of collective protection systems, it allows to significantly raise the level of worker safety.



- Provides a fall factor “0”
- Structure made of high-quality elastic steel, providing a 360° free rotation, maximizing the freedom of the worker.
- To be inserted into a housing tube pre-installed on the concrete structure (column / wall).
- Built-in energy absorber that reduces the impact forces transmitted to the user and the structure, in case of fall.
- Provides a safe area up to 125m<sup>2</sup> (1345 sq ft) aprox, and a working radius of 6,5 m (21 1/4').
- Combined with the use of a SRL.
- Steel structure of 80 kg (176.3 lb), made of high-quality and elastic steel.
- Designed to be moved and handled by crane.
- Wide range of accessories, for multiple applications on jobsites.
- Up to 2 users connected simultaneously.

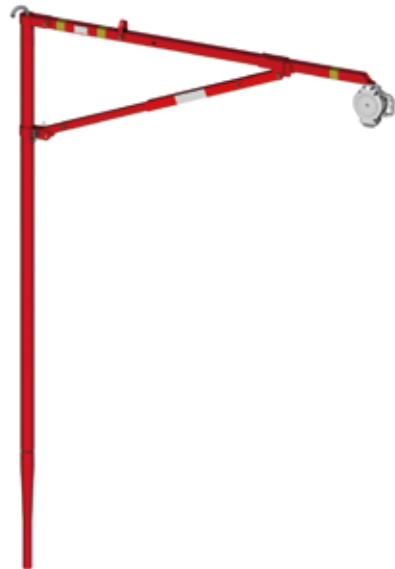


# ALUPERCHA

## Protection against falls from heights, manually installed.

Individual protection system which provides an anchoring point above workers, installed manually and without the need for a crane thanks to its reduced weight of 19 kg (42 lb), which makes it possible to safely carry out tasks for placing boards, guardrails, safety netting and formwork risers when a crane is not available on site. Significantly increases the protection of workers on site, acting as a complement to collective protection.

- To be manoeuvred and installed by a single person with no lifting equipments, or the need of crane.
- A built-in energy absorber device reduces the forces transmitted to the structure and to the user.
- Inverted "L" shaped and 100% aluminium structure measuring 2 m (6'-6 3/4") long and 3.10 m (10'-2 1/16") high (2.25 m (7'-4 9/16") when attached to the column).
- Allows the user to work safely and moving within a radius of 6.0 m (19'-8 1/4") around the column, with the PPE length up to 4m (13'-1 1/2").
- Alupercha housing steel tube measuring 85 cm long (2'-9 7/16").
- A system designed for columns spaced up to 8 M (26'-2 15/16").
- Up to 2 users connected at the same time.



# ALSIPERCHA / ALUPERCHA

## MORE POSSIBLE COMBINATIONS

### ALSIPERCHA / ALUPERCHA

#### + WALL BRACKET

Thanks to the Wall Bracket accessory, the Alsipercha / Alupercha can also be installed to reinforced concrete walls or columns, increasing the range of multiple applications significantly. The installation of the wall brackets can be performed in just a few steps, thanks to the intuitive holes and simplicity of the installation process.

The wall bracket accessory consists of a pair of brackets, procuring to have a distance between them of 1m, that will later lodge the Alsipercha / Alupercha.

Allow the use of up to 2 users connected at the same time.



### ALSIPERCHA / ALUPERCHA

#### + COLUMN CLAMPS

Perfect solution to have a safe and effective overhead anchor point connected to most common steel columns type IPE, IPN, HEB (clamps opening widths from 120 to 450 mm (4 3/4" to 1'-5 11/16")).

The advanced design includes an adjustable mechanism, covering the most common steel column widths on the market (open distances from 120 to 450 mm (4 3/4" to 1'-5 11/16")). It consists of a pair of adjustable clamps distanced by 1m (3'-3 3/8"), and a bottom sleeve where will later be inserted the Alsipercha / Alupercha.

Up to 2 users connected at the same time.



# ALSIPERCHA / ALUPERCHA

## MORE POSSIBLE COMBINATIONS

### ALSIPERCHA / ALUPERCHA

#### + MBU (MOBILE BASE UNIT)

Portable system designed to provide overhead fall protection to users when there is no possibility to install permanent fall protection systems, or there is the need to provide fall protection in different places and areas frequently.

It consists of a main anchor point (Alsipercha or Alupercha body), fastened to a MBU, that provides the stability of the whole system thanks to a set of counterweights.

Up to 2 users connected at the same time.

**FALLPROTEC**



### ALSIPERCHA / ALUPERCHA

#### + TRIPOD

With an easy, simple and fast installation process, the Tripod combined with the Alsipercha / Alupercha will provide full fall protection to users at a 2 possible height configurations: 5,5m (18'-9/16") with a 2m (6'-6 3/4") Tripod and 6,5m (21'-3 7/8") with a 3m (9'-10 1/8") Tripod.

The Tripod provides a wide range of potential uses, being specially effective for loading-unloading vehicles, a critical stage where there is a high risk of users falling from height.

Allow the use of up to 2 users connected at the same time.





### **ALSIPERCHA / ALUPERCHA + COUNTERWEIGHT MF**

It consists of a modular structure that guarantees an effective use of the Alsipercha / Alupercha when working at height over vehicles, by using the vehicle weight as counterweight.

A perfect solution, when the characteristics of the ground to be used to install a fall protection system are unknown, the Counterweight MF does not require to be anchored. The advanced design, includes 3 built-in adjustable supports to correct possible unevenness on the surface.

Allow the use of up to 2 users connected at the same time.



### **ALSIPERCHA / ALUPERCHA + POST FOR REDUCED SPACES**

It allows the use of the Alsipercha / Alupercha, even in places with high limitations on the available space. Thanks to the strong construction of the post, and reduced dimensions of the base, the POST is the perfect complement to use the Alsipercha / Alupercha mainly within industrial environments.

Allow the use of up to 2 users connected at the same time.

### **FALLPROTEC**



### **ALSIPERCHA / ALUPERCHA + RAIL**

Perfect for the use within industrial environments, where the work over tanker trucks continues to be a critical issue, the combination with Rail provides an effective and reliable fall protection solution at 6.5m (21'-3 7/8") height, admitting up to 2 users simultaneously per spans of 6m (19'-8 1/4").

Alsipercha/Alupercha combination with rigid lifeline. Up to 2 users at the same time per 6m span.

### **FALLPROTEC**

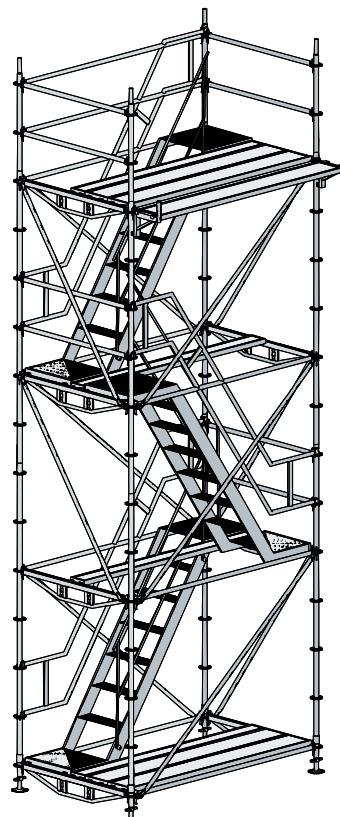


## SITE STAIRS TOWERS

Access adaptability  
for any need.

Auxiliary element that facilitates safe access and movement of employees in the work site. The Alsina access ladder, with 1.57 x 2.57 m (5'-1 3/4" x 8'-5 1/8") base, has various sections allowing access to even and uneven height ranges, braced to structural elements.

- Multidirectional connection technique (8 connections in an angle) allowing quick and easy assembly.
- Light components easy to store on site.
- Highly resistant and durable materials (steel and aluminum).



# MODULAR STAIR TOWER

Effective and fast installation  
safe access.

- Provides effective and safe access at important heights.
- Fast installation and cost-effective stair tower solution.
- No need for certified scaffolders to erect this kind of stairs.
- Flexibility and mobility for the user, with just 3 main components (base / module /gate).
- All levels can be accessed without modification.
- Manufactured with tough galvanized materials.
- Compact footprint, it can be installed in narrow places.
- Configuration in modules, reaching a maximum 20m (65'-7 3/8") of height with no need to additional calculations.

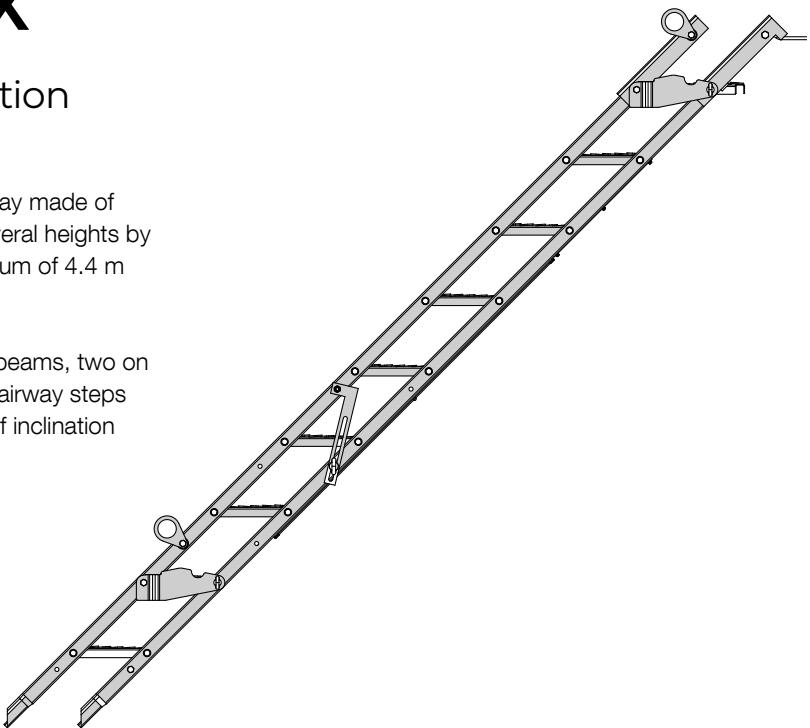


# SITE STAIRWAY VX

Fast, safe and simple solution  
for building site access.

The Site Stairway VX is a portable, folding stairway made of galvanized steel. A single stairway can reach several heights by changing the degree of inclination, with a maximum of 4.4 m (14'-5 1/4").

The steps are connected to four lateral support beams, two on each side, and can be turned. As a result, the stairway steps are always horizontal, regardless of the degree of inclination and height.



- 
- Provides effective and safe temporary access between floors levels in jobsites.
  - Stair treads manufactured using heavy duty mesh design, creating a non-slip surface ensuring strength and safety are not compromised.
  - Can be secured to concrete slabs or scaffolding.
  - Available in 5 independent sizes: 6, 9, 12, 15 and 18 steps.
  - Collapsible design feature, lifting hooks and removable folding handrails simplify transport and storage issues.
  - Stair treads align horizontally to a range of pitch angles and easily lock once in position, offering safety and versatility.
  - Fast and easy installation.
  - A smart, adjustable stair design, which can accommodate a range of pitch angles, allowing rapid installation into any site.
- 



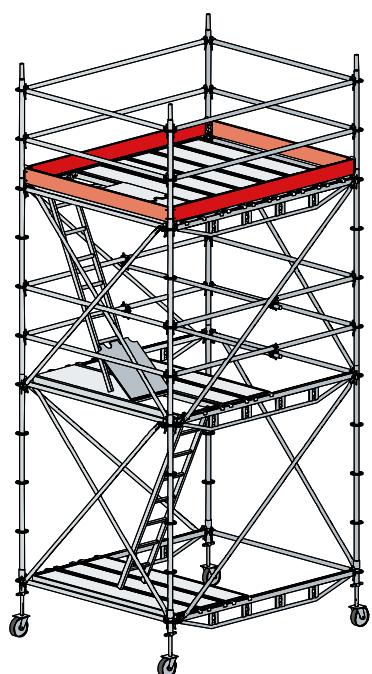


## MOBILE WORK PLATFORM

Comfortable and safe solution for concreting columns.

The Alsina Mobile Work Platform, made with multidirectional connection techniques and elements, is an accessory that allows safe work at heights. It is mainly used in concrete work and vibration of concrete columns and walls. The system is self-stabilizing and includes elements that reinforce its safety, such as baseboard, guardrail and intermediate guardrail, in compliance with current standards.

- Multidirectional connection technique (8 connections in an angle) allowing quick and easy assembly.
- For use with columns ranging from 3 to 9 (9'-10 1/8" to 29'-6 5/16") metres high.
- Has 4 wheels (with brake) for easy horizontal movement and accessories for vertical movement with a crane.
- Highly resistant and durable materials (steel and aluminium).
- Designed and manufactured according to current European Standards.



# ACCESS PASSERELLE

Passarelle that allows safe access over trenches, pits or uneven surfaces on construction sites.

- Anti-slip surface which makes it an excellent solution for application in all weathers and a variety of site environments.
- Lifting hooks for easy loading.
- Stackable for easy storage and transport.
- Fold away handrails for simple assembly and transport between sites.
- Available in four lengths: 2m – 3m – 4m – 6m (6'-6 3/4" - 9'-10 1/8" - 13'-1 1/2" - 19'-8 1/4").
- High integrated toe board.
- Strong and lightweight aluminium construction.



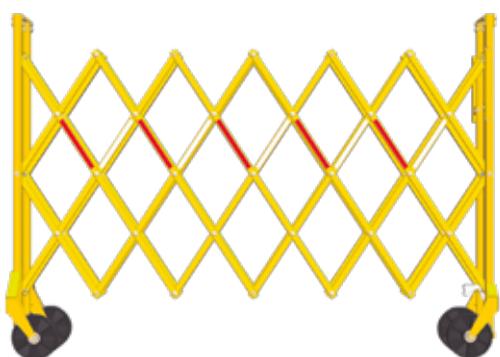


## ZONE ACCESS SCISSORGATE

Effective delimitation  
of work accesses.

- Easy to install foldable gate to perfect delimitation of potential dangerous areas in jobsites.
- Zone off areas quickly and safely.
- Robust design, and high visibility reflective strips.
- Flexibility to bolt multiple Zone Access Scissorgates together.
- Punctureless tyres to allow good mobility and easy movement across any terrain.
- Optional brake for additional security.
- Compact design for easy storage and transit.

**vertemax**

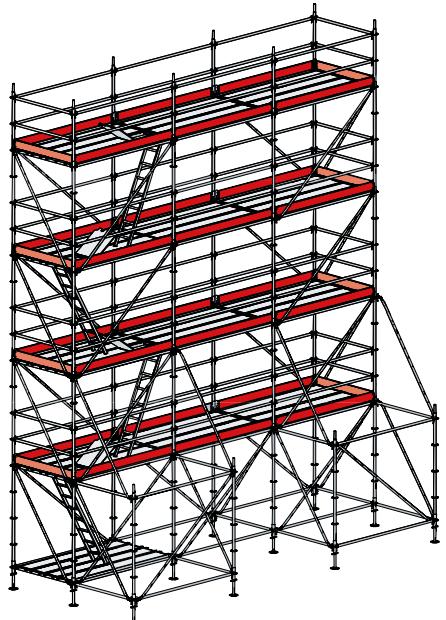


# REINFORCED SCAFFOLD

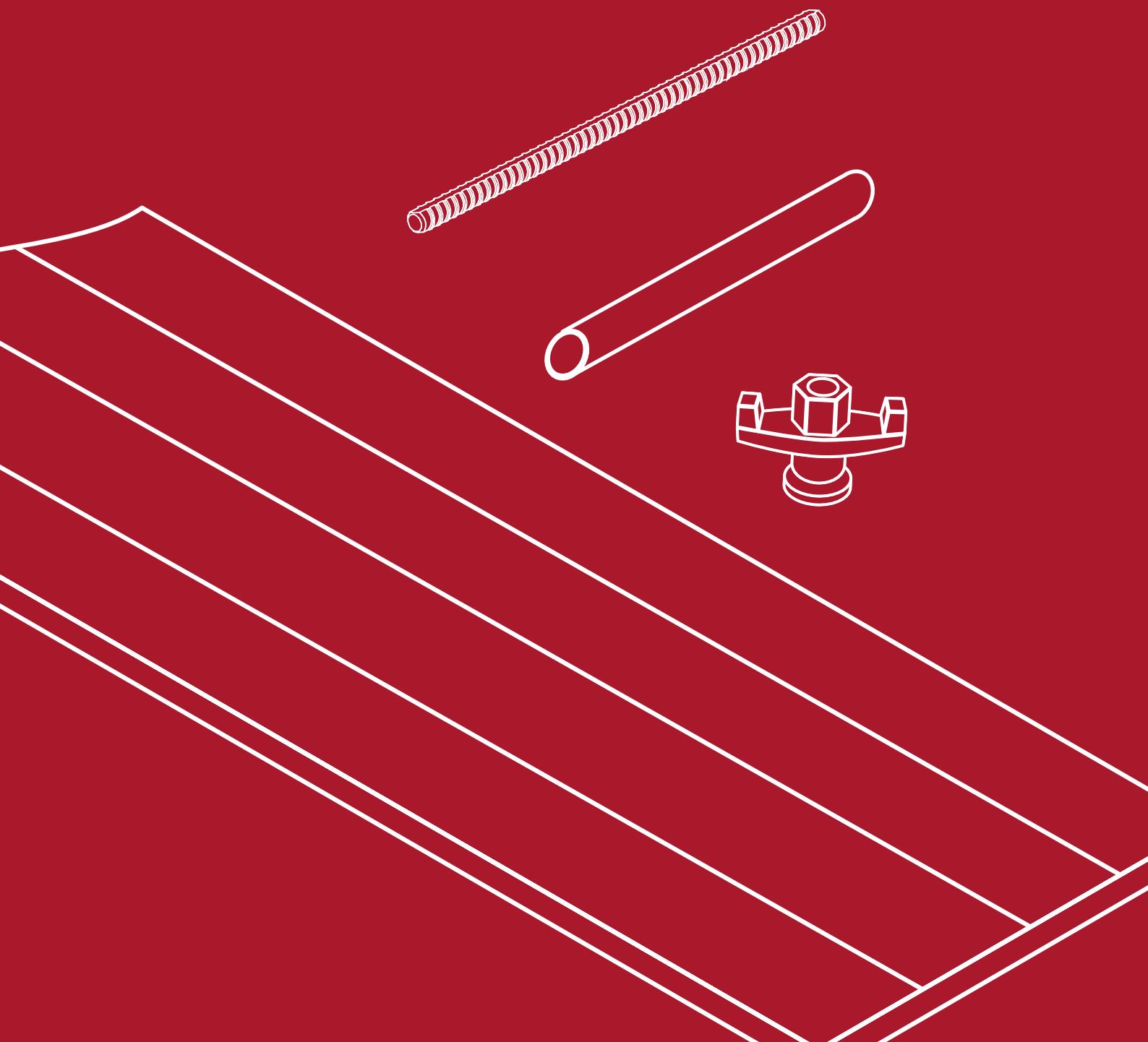
Work at heights in a horizontal direction with total safety.

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

- Multidirectional connection technique (8 connections in an angle) allowing quick and easy assembly.
- Multiple sizes and a complete range of accessories for maximum flexibility.
- It has wheels so that it can be moved horizontally and accessories for crane handling.
- Light components easy to store on site.
- Highly resistant and durable materials.



# PLYWOOD AND COMPONENTS



# Alsina basics<sup>+</sup>

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Formwork surfaces 194

---

Concrete agent release 200

---

Concrete and PVC spacers 200

---

PVC pipes, and cones 201

---

Chamfer strip 202

---

Lid bovedilla 202

---

Markers 202

---

Safety consumables 202

---

Spikes and nails 202

---

Anchorages and cast-in items 203

---

Formwork fitting 203

---

Scaffolding hardware 203

---

Prop accessories 203

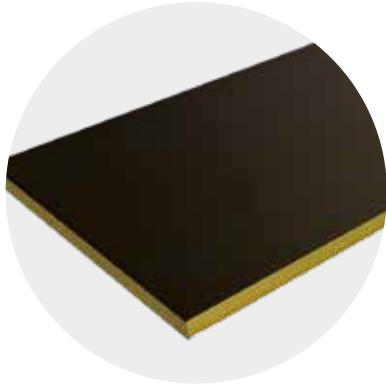


# ALSINA PHENOLIC



Resistant and quality finish.

Formwork system perfect for situations requiring a high level of surface finish, such as exposed concrete.



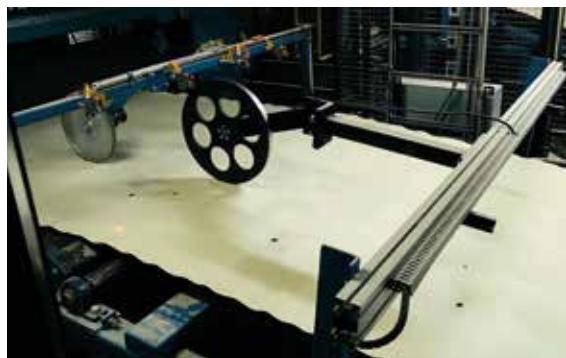
To manufacture the phenolic plywood, we took advantage of the fact that wood is a renewable resource that is biodegradable, recyclable and does not pollute the environment.

Design formed by a series of layers of wood that are glued and pressed together. This type of manufacturing makes the phenolic board strong and light and insulates it against moisture.

The phenolic board, unlike sheet metal, does not dent, rust or leave marks on the concrete; it produces an excellent exposed concrete finish.



- 
- Wide variety of boards with veneers of birch and/or spruce wood, stable and strong.
  - The ratio between the weight and the strength of the board is very balanced compared to other surfaces like sheet metal, and also allows the lining to be nailed down and updated as many times as necessary.
  - The sequencing of veneers depends on the board to maximize durability and resistance.
  - The veneers are joined with phenolic glue that is water resistant, preventing moisture from entering the board.
  - The phenolic surface finish on both sides is made using phenolic film of Kraft, generating high resistance to abrasion and providing a good quality visual finish to the concrete.
  - The perimeter sealing of the board prevents moisture from entering through the edges.
- 

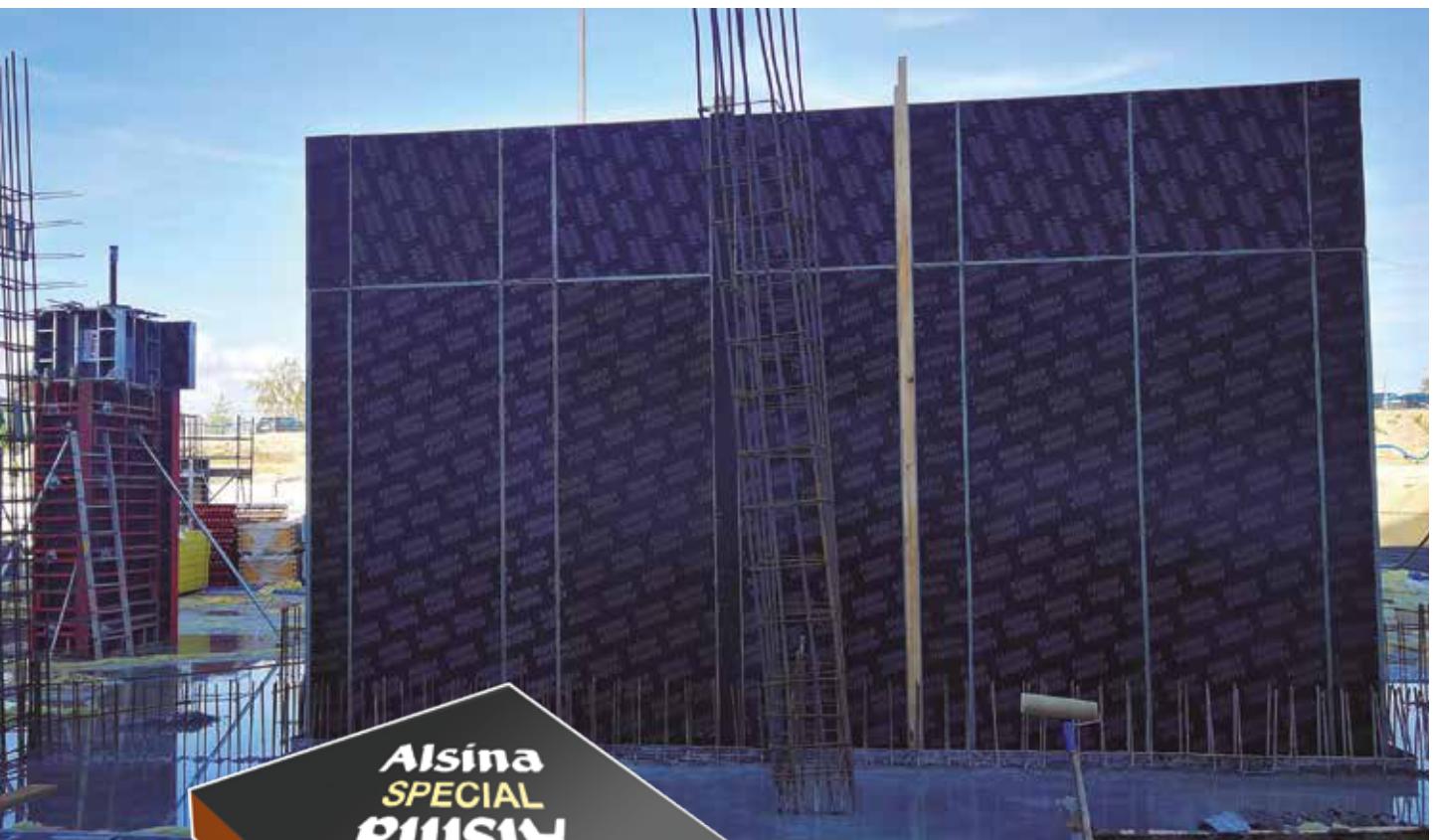


## QUALITY

Alsina panels are manufactured under the strictest quality controls.

- EN 13986 E1 (Low level of formaldehyde emissions)
- EN 635 (High level of surface finish)
- EN 315 (Dimensional tolerances)
- EN 314-2/Class 3 (Dimensional tolerances)
- EN 636-3/Class 3 (Outdoor use)





**ALSINA SPECIAL - ALSINA PANELS**  
Repairing Alsina systems.



Plywood with a special layout of veneers designed to provide maximum mechanical strength. Made from 100% European birch wood coated with 220 gr/m<sup>2</sup> of phenolic resins on both faces and edges, perfectly sealed and highly resistant to abrasion and durable.

Alsina Special is intended for use with Alsina panel systems. Able to support the heaviest pressures from 60 to 80 kN/m<sup>2</sup> of the systems it is inbuilt, and be reused many times with an excellent and smooth finish.

The panels can be supplied on the desirable dimension, ready to install in the Alsina panel system, edges cut and sealed, perforated conveniently, with special steel caps for tie rods preinstalled.

The Alsina Special plywood is durable for up to 80 reuses by face, thanks to the special and reversible steel caps preinstalled for the holes where the tie rods will be placed, it will be able to extend the life of the plywood even more, using both faces.



**ALSINA NÖRDIC - QUALITY****Maximum durability and strength. For heavy loads.**

Plywood board with 120 gr/m<sup>2</sup> phenolic surface coating. Its exclusively birch composition generates very high mechanical strength and makes it possible to reuse it many times.

Highly versatile board suitable for slab or wall framework requiring a high level of surface finish.

The Alsina Nördic board is durable for up to 80 reuses.

**ALSINA SIBERIAN - STRENGTH****Strong and versatile. For walls and slabs.**

Birch plywood board with 120 gr/m<sup>2</sup> phenolic surface coating on both sides. It is a product with high-performance mechanical features and good resistance, making it one of the best solutions for heavy loads that can be reused many times.

The Alsina Siberian board is durable for up to 30 reuses.

**ALSINA NÖRDIC - QUALITY****Economical and effective for moderate loads.**

Plywood board made from poplar wood with 120 gr/m<sup>2</sup> phenolic surface coating. Equipped with sufficient protection and strength to guarantee performance with moderate loads.

Alsina Eco is an economical solution that's perfect for formworking slabs with smaller thicknesses requiring an exposed finish.

The Alsina Protect Eco is durable for up to 15 reuses.

**ALSINA FILLER- ECONOMICAL****Perfect for complex geometries.**

Recycled Poplar Wood Board with phenolic surface coating of 220 gr / m<sup>2</sup>. Constructed, sealed and designed with sufficient resistance to guarantee response to moderate loads.

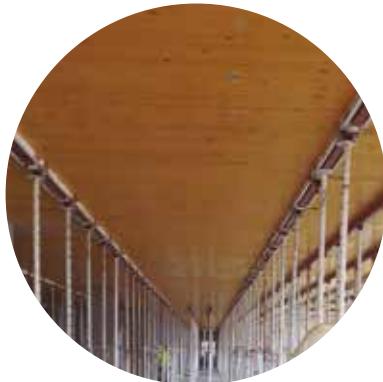
It is an economical solution to use as a phenolic to cut in complex geometries, or in combination with higher quality plywoods to reserve these intact in case cutting is needed, specially indicated in slab formwork solutions with deep beams, where many cuts are foreseen. The Alsina Filler board provides us with a durability of up to 2 to 4 repetitions.

# ALISAN PANELS



Reinforced panel for impact protection.

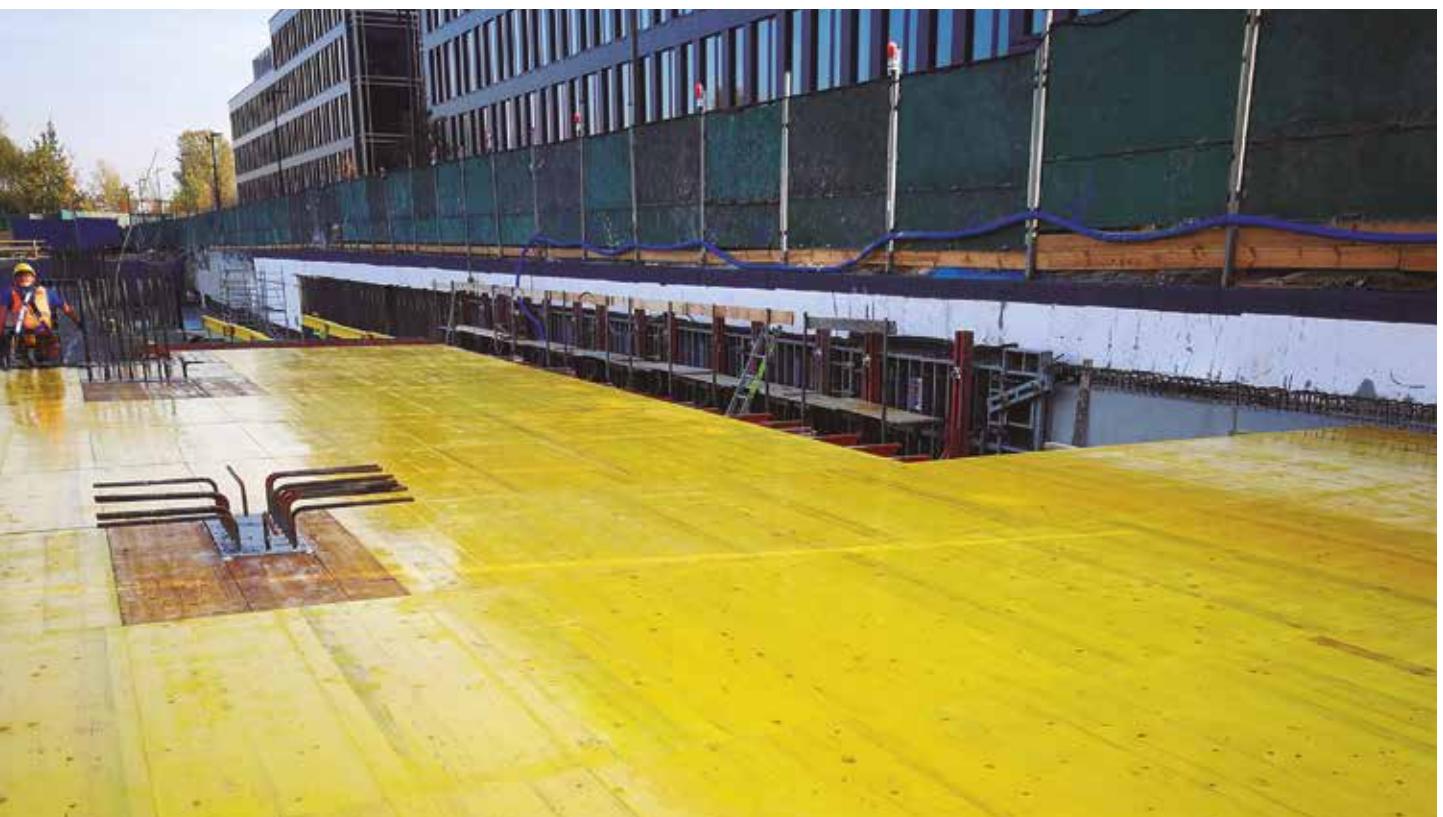
Formwork boards made from glued solid wood. Widely used in any formwork of concrete slabs and work platforms, as well as foundation formwork.



Our solid board is manufactured from the treatment and gluing of solid wood boards, reinforced with cross rods, and protected by profiles on the cross edges.

The three-layer board it's made of 3 layers, cross bonded 90° each other, what guarantee its dimensional stability, providing a great durability and maximum resistance.

Alisan boards provide a good quality finish to concrete, with a smooth wood texture.

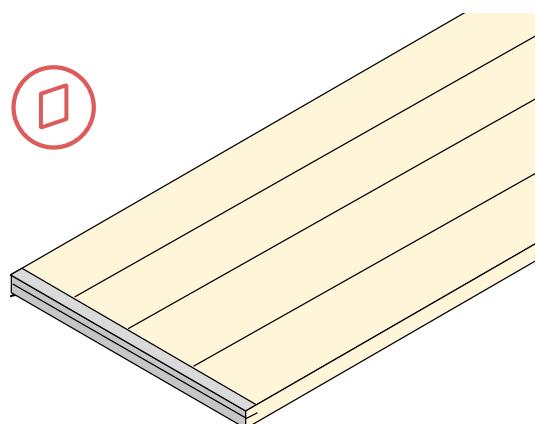


### **ALISAN MONOCAPA**

The solid board is made with planks of spruce or pine wood, with 27 mm of thickness in a single layer. Finger joint, glued and rods- reinforced design provides great stability at the joint between planks. The protection on the edges of the width by the "T" shape steel profile, gives it a perfect protection against falls on stripping.

Highly resistant board and durable, capable of supporting large loads, compatible with the Alumecano system and other systems.

The Solid board has a durability up to 80 repetitions.

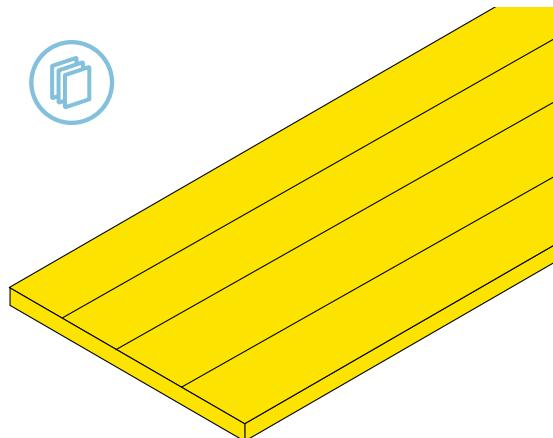


### **ALISAN TRICAPA**

Board made of spruce or pine wood. Made by three layers of 9 mm that generate a total thickness of 27 mm, glued and coated with melamine resins.

Designed to support a maximum load capacity, with a minimum deformation. Suitable for all kinds of uses and compatible with the Alumecano system.

The Trilayer board has a durability up to 60 repetitions.



- Protected with "T" shape profile.
- Reinforced with rods.
- Finger joint unions.
- Approximate measurements: 197 x 50 x 2.7 cm.
- Calculation tension
  - Tricapa: fmd = 14,0 N/mm<sup>2</sup>
  - Monocapa: fmd = 12,6 N/mm<sup>2</sup>
- Inertia Ixx
  - Tricapa, Monocapa: Ixx = 164,0 cm<sup>4</sup>
- Resistant modulus
  - Tricapa, Monocapa: Wxx = 121,5 cm<sup>3</sup>
- Parallel Young's modulus E:
  - Tricapa: E = 10.000 N/mm<sup>2</sup>
  - Monocapa: E = 9.000 N/mm<sup>2</sup>
- Wood with treatment against moisture.

### **QUALITY**

Alsina boards are manufactured following the highest quality standards.

- EN 13354 (Requirements for solid wood boards)
- EN 13353 SWP / 3 (Outdoor use)



## 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.

<b>84134</b>	Biodegradable form release multipurpose bottle 200L	200 Kg
<b>8413401</b>	Biodegradable form release multipurpose bottle 20L.	20 Kg
<b>47095</b>	Phenolic repairing putty	1 Kg

## CONCRETE AND PVC SPACERS

Spacers to maintain the coating of steel reinforcement, concrete block type for horizontal reinforcement and wheel or rudder in PVC for elements of vertical reinforcement, in different thicknesses of coating. Supplied in bags of different units according to dimension.

<b>44144</b>	SPACERS FIBRE CEMENT 30 (300 UNITS min)	0,076 Kg
<b>44147</b>	SPACERS FIBRE CEMENT 35 (250 UNITS min)	0,100 Kg
<b>44148</b>	SPACERS FIBRE CEMENT 40 (200 UNITS min)	0,122 Kg
<b>44149</b>	SPACERS FIBRE CEMENT 50 (150 UNITS min)	0,167 Kg
<b>44152</b>	SPACERS FIBRE CEMENT 60 (125 UNITS min)	0,203 Kg
<b>44153</b>	SPACERS FIBRE CEMENT 70 (100 UNITS min)	0,215 Kg
<b>44154</b>	SPACERS PLASTIC 30 (BAG 500 min)	0,040 Kg
<b>44155</b>	SPACERS PLASTIC 40 (BAG 125 min)	0,080 Kg
<b>44156</b>	SPACERS PLASTIC 70 (BAG 150 min)	0,111 Kg



## PVC PIPES, AND CONES

Expendable PVC elements necessary for the placement of tie rods in two-sided formwork, as well as plugs and sealing elements in different diameters as needed.

<b>44076</b>	22/26 TPVC 22/26 WATERPROOF CONE	0,007 Kg
<b>44079</b>	26/30 TPVC 26/30 WATERPROOF CONE	0,010 Kg
<b>44061</b>	CONE CAP (PVC TUBE 22/26)	0,004 Kg
<b>44082</b>	END CONE (26/30 PVC PIPE)	0,005 Kg
<b>44062</b>	ALISPLY EURO PVC PLUG	0,002 Kg
<b>44077</b>	WATERPROOF CONE STOPPER D/22	0,003 Kg
<b>44080</b>	WATERPROOF CONE STOPPER D/26	0,004 Kg
<b>44060</b>	D/22-26 PVC TUBE	0,120 Kg
<b>44081</b>	PVC TUBE 26/30	0,270 Kg
<b>84036</b>	A-P2 LEAKPROOF ELEMENT	0,550 Kg

## CHAMFER STRIP

It 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. The use of the removable Alsina chamfer strip greatly improves the stripping of the column. The chamfer strip is formed by a gray plastic body and red rubber edges that fit into the joint of the panels and seal the column joints.

<b>44142</b>	PL 2,5X2,5 CHAMFER STRIP	0,160 Kg/ml
<b>44141</b>	PL 1,5X1,5 CHAMFER STRIP	0,080 Kg/ml
<b>84028</b>	PL 1,5X1,5 P/ALSINA CHAMFER STRIP	0,150 Kg/ml
<b>84027</b>	ALISPILAR CHAMFER 8,5CM CLIP (50 UNITS min)	0,005 Kg
<b>84019</b>	ALISPLY CHAMFER 15CM CLIP (50 UNITS min)	0,005 Kg
<b>84026</b>	ALUPILAR CHAMFER 10CM CLIP (50 UDS min)	0,005 Kg
<b>54710</b>	ALISPLY-M CHAMFER CLIP (50 UDS min)	0,010 Kg
<b>44143</b>	Dripper Form 3X2X2	0,400 Kg/ml

## LID BOVEDILLA

Light and easy-to-install element for blinding edge vaults.

<b>44318</b>	ELASTIC RUBBER FOR BOVEDILLAS (200 UNITS min)	0,002 Kg
<b>44319</b>	BOVEDILLA COVER (200 UDS min)	0,042 Kg

## MARKERS

Items for marking and staking on site.

<b>44259</b>	LAYOUT THREAD 2MM (100 ML COIL)	0,090 Kg
<b>44269</b>	RULING MARKER PVC	0,165 Kg
<b>44158</b>	PLUMB BOB	0,500 Kg
<b>44296</b>	POWDER PAINT BLUE	1,000 Kg
<b>44298</b>	SPRAY PAINT RED	0,250 Kg
<b>44299</b>	CARPENTER PENCIL	0,080 Kg

## SAFETY CONSUMABLES

Expendable elements in PVC and other security-related materials, from cartridges for the placement of bodyguards, through rebar pvc protections and personal protection safety elements.

<b>4400122</b>	BASQUIT NO ALSINA	0,030 Kg
<b>44511</b>	ALSINA VPI-PLASTIC CONE ANCHOR	0,060 Kg
<b>4410077</b>	REBAR END CONE 12-24	0,016 Kg
<b>4400101</b>	REBAR END CONE 24-40	0,040 Kg
<b>84414</b>	S.A. SLING	0,620 Kg
<b>54271</b>	4,60M TENSION BELT	2,500 Kg
<b>8441201</b>	RETRACTABLE S.A.	1,980 Kg
<b>84415</b>	S.A. SAFETY HARNESS	1,000 Kg
<b>8341203</b>	KARABINER	0,174 Kg
<b>8441205</b>	FALL ARREST 10M	4,270 Kg
<b>84474</b>	0,5M HARNESS LENGTHENER	0,150 Kg

## SPIKES AND NAILS

Most common spike and nails for use on site with formwork for use on wood or cement, in different sizes.

<b>44197</b>	PLANNAR TIP 13X30 (KG)	1,000 Kg
<b>44195</b>	PLANNAR TIP17X70 (KG)	1,000 Kg
<b>44196</b>	PLANNAR TIP 20X100 (KG)	1,000 Kg
<b>44194</b>	STEEL TOE 50X3,5 (BOX OF 100 UD min)	0,050 Kg

## ANCHORAGES AND CAST-IN ITEMS

Different lost and recoverable anchoring elements for use in one-sided and climbing walls.

<b>54376</b>	DW/20 CAST-IN ANCHORAGE	0,85 Kg
<b>54377</b>	D/31.5-35 PVC TUBE	0,62 Kg
<b>54381</b>	TIE BAR DYWIDAG D/20 -1,2M.M1C	3,07 Kg
<b>54393</b>	TIE BAR DYWIDAG D/20 -1,5M.M1C	3,84 Kg
<b>54815</b>	DW/15 CAST-IN ANCHORAGE	0,45 Kg
<b>44081</b>	D/26-30 PVC TUBE	0,27 Kg
<b>44010</b>	TIE BAR DYWIDAG D/15 0,5M - 120	1,42 Kg
<b>53414</b>	DYW. 26 6/9 M ANCHOR HOOK	5,5 Kg
<b>53415</b>	DYW. 26 Z-HOLDER	0,44 Kg
<b>54413</b>	DYW 26/150 METAL CONE COVER	0,02 Kg
<b>53419</b>	METAL CONE DYW.26/150 M33	0,09 Kg
<b>54423</b>	D/35 PVC STOPPER	0,01 Kg
<b>53418</b>	REUSABLE TIE ROD DYW.26 M1C 6/9	7,2 Kg
<b>84286</b>	METAL CONE DIW 15/115	0,62 Kg
<b>83218</b>	METAL CONE L DIW 15/112 M24	0,81 Kg
<b>54266</b>	CLIMBING LOST DIE	1,2 Kg
<b>53831</b>	T1C M36 CONE	3,50 Kg
<b>8408651</b>	DYW 26 BART1C ANCHOR	4,48 Kg
<b>53223</b>	DW/26,5 T1C CAST-IN-ANCHOR	1,28 Kg

## FORMWORK FITTING

Formwork connection steel elements, necessary for two-sided formwork with both systems formwork and traditional wooden formwork.

<b>44040</b>	DYWIDAG LF. RN-WELDABLE BAR	1,430 Kg
<b>53302</b>	ALISPLY   WING NUT	0,350 Kg
<b>53303</b>	ALISPLY PLATE WASHER	1,080 Kg
<b>44002</b>	NUT & WASHER COMBO D/12	1,050 Kg
<b>44001</b>	FIXED PLATE NUT D/10	0,590 Kg
<b>54815</b>	DW/15 M1C CAST-IN ANCHORAGE	0,450 Kg
<b>43891</b>	TIE ROD DIN 975 8.8 m12 ZN L=1MT	0,480 Kg
<b>84395</b>	TIE ROD M24 1M	2,890 Kg
<b>84394</b>	NUT M244	0,003 Kg
<b>83479</b>	ANCHOR PLUG D18 M12X138	0,010 Kg

## SCAFFOLDING HARDWARE

Tube and fittings in diameter 48mm for your use on site both for scaffolding and for safety protections such as railings.

<b>84947</b>	120X80X60 ALSINA CONTAINER	56 Kg
<b>44058</b>	48X48 FIXED BRACE CLAMP	1,210 Kg
<b>44007</b>	48 X 48 SWIVEL BRACING CONNECTOR	1,340 Kg
<b>63242</b>	D/48 LFT BRACE BAR	3,390 Kg

## PROP ACCESSORIES

Alisan plus range of Alsina galvanized props in different sizes, optimal value for money with all the accessory elements of tripods, bracing wedge, heads, prop cages.

<b>63100</b>	ALISAN ECO TRIPOD	9,700 Kg
<b>64284</b>	TC BEAM SUPPORT	2,290 Kg
<b>64312</b>	120X80 POST-SHORE CONTAINER	34 Kg
<b>63650</b>	ALSICAR	20 Kg

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