

CATALOGUE 2018 GENERAL



FORMWORK

PROPS

BEAMS

SHORING

SAFETY



Alphi
Formwork and solutions

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INNOVATION

SAFETY

PRODUCTIVITY

PROXIMITY

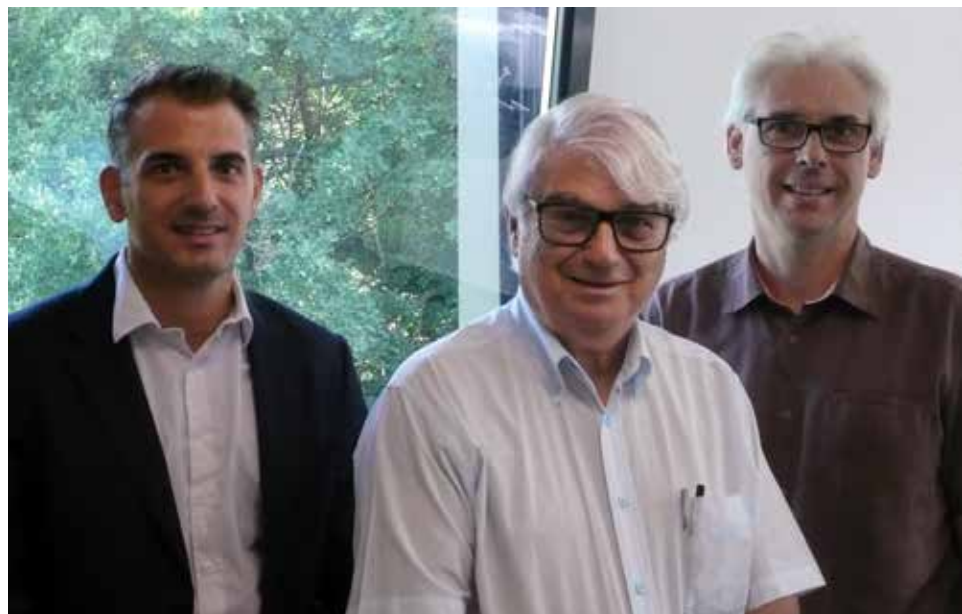
EXPERTISE

Alphi[®]

Formwork and solutions

The French formwork and shoring specialist, Alphi has consolidated its position as leader on the national market, and beyond, through the fundamental values introduced from the company's inception by its founder, Edmond Souvignet. **Innovation - Safety - Performance** are the cornerstone of product development centred on greater well-being for workers and customer satisfaction.

Belief in the values of a family business



Alexandre Souvignet, CEO of Alphi, and Philippe Souvignet, Managing Director, with Edmond Souvignet, founder of the company

The adventure started in 1995, on the banks of France's largest natural lake. At that time, Edmond Souvignet made the decision to capitalise on aluminium hand-portable slab formwork.

Twenty years focussing on innovation and customer satisfaction, in the "made in France" tradition, followed.

Alphi found its roots in the Savoie region, at the crossroads between the Lyon, Geneva and Turin routes. These regional roots have remained consistent over the years, as the company as grown, with the construction of one of the largest equipment bases in France in 2014. This logistic platform, situated

on a four-hectare site in Saint-Genix-sur-Guiers, was an expression of the aim of Alphi's management team to remain in Savoie, while **reaching out to the French and international markets under optimum conditions.**

Alphi now offers a **comprehensive range of formwork and shoring systems** capable of meeting the needs of any construction project. This is the result of a drive towards innovation fundamentally centred on improving working conditions for workers on construction sites, particularly in terms of safety and reducing arduousness for the benefit of performance.



« The "innovation" aspect is fundamental because everything goes faster now, the technical challenges are increasing, and we must constantly find (or invent) the most appropriate equipment. That is where our Group's long-standing partnership with Alphi comes into its own. »

Stéphane DENCHE
Head project manager, Spie Batignolles Sud-Est



With this in mind, Alphi's R&D Department works daily on the development of new products, mindful of keeping production within Europe and, wherever possible, within France.

With Alexandre and Philippe Souvignet at the helm since 2007, Alphi now employs 60 people, up to speed with the **quality and service standards** driving the company.

« For the Hôpital Nord Deux-Sèvres project, we selected Alphi for three reasons: safety, first and foremost - as the Bouygues group is particularly exacting in such matters -; equipment ergonomics: we take heed of any initiative making worker's tasks easier; productivity. »

Étienne POIGNANT
Head construction manager,
Bouygues Bâtiment Grand Ouest

KEY INFORMATION

- > 1995: creation of Alphi
- > 3 subsidiaries in Switzerland, Luxembourg and Qatar
- > Staff of 60
- > 14 patents filed
- > 1,000 sites handled annually across the country
- > 50,000 m² of formwork produced annually
- > Stock of equipment:
 - 80,000 props
 - 150,000 m² of formwork
 - 1,600 tonnes of shoring



Promoting innovation through safety for the benefit of productivity

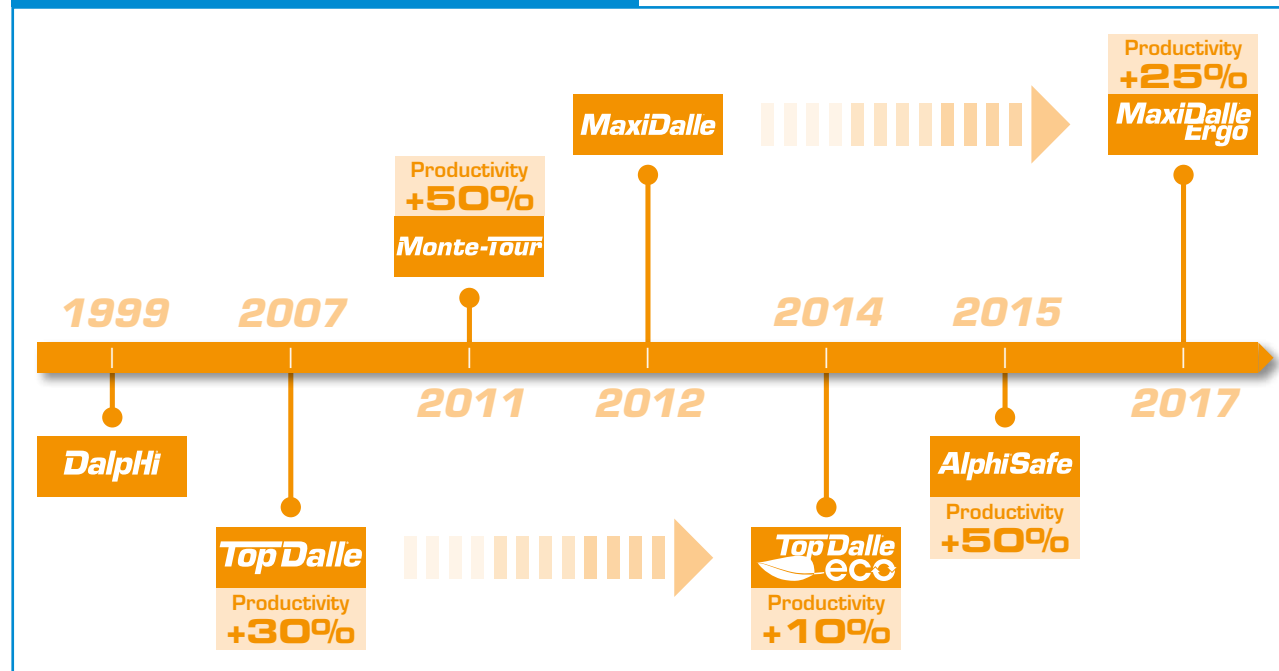
Safety and reducing arduousness are now recognised **sources of productivity**, encouraged in the construction sector. A recent study by OPPBTP (French Professional Body for Prevention in Construction and Public Works) highlighted that investing in safety can provide leverage for profitability: improving safety-related practices has positive repercussions on the environment and the

working conditions of workers, who are more efficient and more productive.

An analysis in keeping with Alphi's vision:

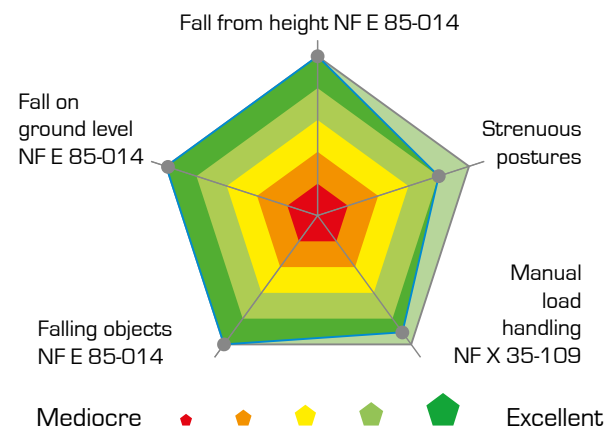
SAFETY = PRODUCTIVITY

RECOGNISED JUMPS IN PERFORMANCE



Each new product designed by the R&D Department is considered in terms of **quality** and **improving the working conditions** of workers on construction sites. **Reducing** equipment weight, reducing **arduousness** and **repetitive strain injuries**, ease of use, adapting to complex shapes, or ecodesign all guide the company's analysis.

In this way, Alphi has created a **rating tool** used to view the performances of its products in terms of safety and arduousness. Each diagram is drawn up on the basis of the applicable professional standards.



SAFETY AND ARDUOUSNESS PERFORMANCES

The diagram for the TopDalle Eco formwork system is shown here.

AWARDS FOR INNOVATION

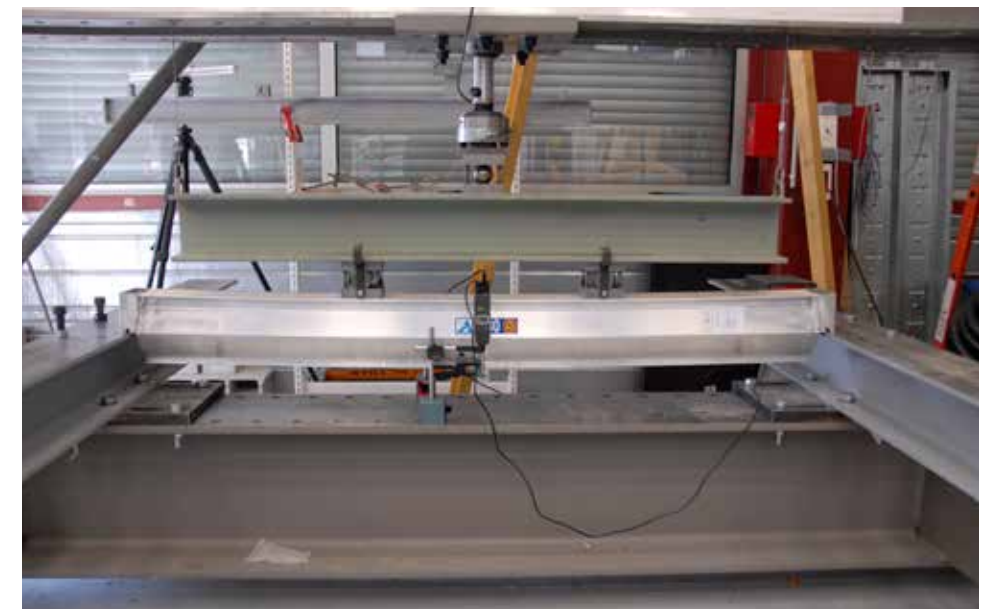


The R&D Department pays particular attention to each client and their specific constraints in order to offer them **tailor-made** solutions. This ability to factor in requirements, combined with anticipation of market trends, has resulted in the jumps in performance that have marked the history of Alphi products and helps **optimise construction techniques** for concrete floors.



KEY INFORMATION

- > Alphi's studies are conducted in partnership with research bodies, innovation support and technology transfer organisations, and occupational health and prevention authorities.
- > Product testing is conducted by the independent laboratory Locie at the University of Savoie Mont-Blanc.



Making a commitment to high-quality French production



Official presentation of Origine France Garantie label by the certification body Veritas

Innovation and technology that are **"made in France"** are an integral part of Alphi's R&D policy. The design and manufacture of Alphi products are guarantees of quality and take place in this country.

Alphi is the **first formwork manufacturer** to have been awarded, in 2014, the **"Origine France Garantie"** label for horizontal formwork. This label is a clear recognition of the approach taken by

Alphi's management ever since the company was founded: always promoting French expertise.

More recently, Alphi joined the **French Fab** campaign which is aimed at promoting French industry on a global scale, highlighting the innovation and expertise of the industrial fabric found in France.

ENVIRONMENTALLY RESPONSIBLE COMMITMENT

Sustainable development, the circular economy and Corporate Social Responsibility (CSR) are at the heart of the company's strategic approach.

Alphi's latest innovations are the perfect example of this. A product like the TopDalle Eco formwork system is totally compatible with the concepts of the green economy, economical use, and industrial ecology that characterise **the circular economy**.

- Alphi is active in the following areas:
- > the use of **aluminium** - 100% recyclable - as a preferred component for the company's products,
 - > a production method favouring **short distribution channels** and operators in French industry,
 - > procurement-related **transport** distances of less than 460 km,
 - > a lower number of trucks on the road thanks to **packing optimisation**.



Embodying the values of service and proximity



NEW! AN ALPHI OFFICE IN PARIS

All of our product ranges are now distributed in the Île-de-France region by our new office located at Portes de Versailles, in the Yvelines department.

This new technical and operational hub covering 1 800 m² is helping us improve our quality of service for our clients in the wider Parisian region, while bringing us closer to our clients in Brittany, Northern France and Normandy.

From the design office to production, and from quality control to customer relations, 60 people are mobilised to help your construction projects succeed.

The **Design Office** produces the rotation, phasing, and layout drawings, in keeping with the client's methods and time constraints.

The **logistics team** is involved in all aspects of scheduling, delivery, and equipment returns.

Manufacture, production tracking and quality monitoring are carried out by qualified personnel who are dedicated to those tasks.

Alphi offers **training** for form fitters, accompanied by time and target tracking procedures.

Alphi's sales team, present throughout France, provides you with quality support. Made up of experienced technical sales representatives, the team responds to all your technical queries with a tailor-made solution.



"There is no problem with no solution."

Pascal Perrotin,
Technical and R&D Director



"Precision calculations for each project."

David Leroy,
Design Office Manager



"Guaranteeing project follow-up."

Guy Servaud,
Administrative Manager



"Negotiation for the benefit of quality."

Jacky Ordenez,
Purchasing Manager



"Space-time control."

Dominique Secondi,
Logistics Manager

Embodying the values of service and proximity

Alphi's **logistic hub** covers an area of more than **34,000 m²** in Saint-Genix-sur-Guiers, on the border between the Savoie and Isère departments.

It contains an equipment warehouse, offices and an external storage area. The site layout allows optimised equipment management and easier turnarounds, for the benefit of our clients who gain in **responsiveness** and in **speed of procurement**.



FOR EASIER MANAGEMENT OF YOUR CONSTRUCTION SITES

AlphiCad

Designed by the Alphi design office, in collaboration with AriCad, the **AlphiCad 2017** program is a valuable tool that facilitates the management of your construction sites.

The functions developed are used for:

- automatic cell layout,
- saving time,
- phasing and turnaround management,
- counting of equipment counting based on these phasings and turnarounds,
- equipment optimisation according to the phases.

AlphiCad 2017 is operational for calculations concerning the TopDalle, TopDalle Eco and Dalphi formwork systems.

Also available for sale, accompanied by a one-day training course on our premises or at the client's premises, AlphiCad is compatible with AutoCad 2017* and comes in two languages (French and English).

Clear and intuitive stages:

- surfacing,
- phasing,
- phase turnaround,
- incorporation of special phases,
- layout,
- summaries.

*Not compatible with AutoCad LT versions



Making operational excellence our signature

The traceability process implemented in the logistics hub is a part of the **operational excellence** approach as well as the **quality approach** to which Alphi is committed. It includes inspection stages all along the equipment shipping and receiving chain.



Inspections managed by PDA

On arrival



Trucks are stopped and weighed on entering the hub. The driver inputs the registration number on the screen without getting out. Once unloaded, the vehicle is weighed again at the exit.

On departure



The inspection milestones are the same for equipment loading, weighing the truck's unladen weight, and every stage until a delivery note is issued before weighing the full truck on leaving the hub.

In the unloading zone, a handler directs the truck after checking its origin and that it is written on the daily schedule.

The truck is uncovered and the equipment is unstrapped. Several photos of the vehicle and the equipment are taken.

The number of packages is recorded before unloading, and the equipment is isolated and identified in an enclosure.

MAINTAINED EQUIPMENT

On receipt of equipment returns, the number of packages is checked, each of these is weighed.

The items are then counted and checked one by one before cleaning, processing, stowage and packaging operations for imminent departure.

Useful!

A new beam cleaning tool makes teams' work easier, thereby helping reduce arduousness and repetitive strain injuries. Environmentally friendly, it operates without water and collects dust. Automated, it is adaptable to any beam size.



Exporting our know-how to the international market

Whether for correctional facilities, mountain resort accommodation or skyscrapers over 100 m high, Alpha is capable of exporting its **know-how** not only to the most distant regions of the French overseas departments and territories, but also to our neighbours in Belgium, Luxembourg and Switzerland, where the company has developed long-standing special relationships. The company is also expanding to the countries of the Middle East and the African continent. Illustrating the aim to offer its clients proximity, including on the international market, **three Alpha subsidiaries** naturally came into being.



Formwork project Qatar

National Library of Luxembourg Kirchberg, Luxembourg City Client: Tralux

Equalizer Delemont, Switzerland Client: Losinger Marazzi

A team of experts at your service

Alpha's sales team covers all French territory and is present on the export market to offer you tailor-made solutions, at the best price. The members of the team are first and foremost technicians for whom **proximity** and **availability** are meaningful values. These professionals in formwork, shoring and safety are **attentive** to their clients' needs.

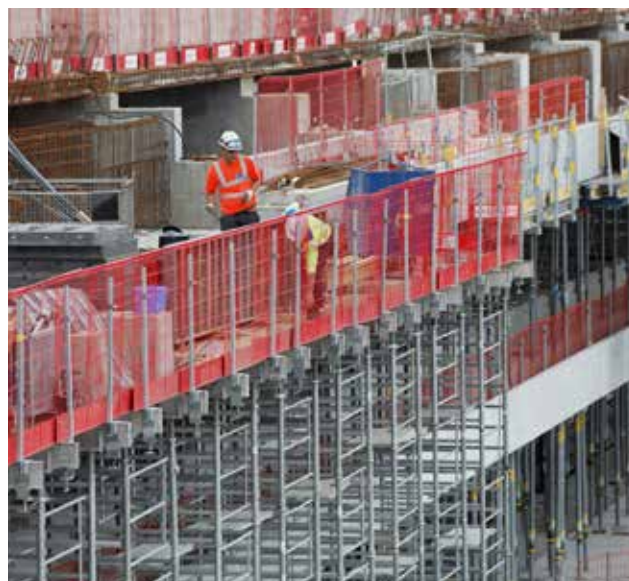
They stand out from the competition by the **relevance of the technical solutions** offered, by presence in the field and **follow-up** of your projects guaranteed up the completion stage. A specific contact is assigned to each client and to each project. **Don't hesitate to contact them!**

Paris / Ile de France sector	David De Castro +33 6 43 51 99 33	Côme Patterson +33 6 70 82 71 90	Éric Roman +33 6 45 13 52 06	Sales Director	Eastern Sector	Mathieu Montaigu +33 7 61 07 11 22
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					Middle East	Sérafín Ibañez +974 6661 3523

Lyon Stadium



Grand stade de Lyon is a large-scale construction project representing a surface area of 180,000 m² of slabs and 120,000 m³ of cast-in-place concrete. The Vinci Group, in charge of this multi-faceted project, called on Alphi's services for a part of the shoring work.



■ Grand stade de Lyon, built in the outskirts of Lyon in Décines-Charpieu, is host not only to Olympique Lyonnais matches but also to concerts. The construction of this enclosed space with a capacity of 60,000 people simultaneously mobilised 11 cranes at the peak stage of the project.

180,000 m² slab surface area



Shoring up to a height of 16 m

The A120 towers installed by Alphi enabled extra-high shoring at heights of up to 16 m, and also hollow slab shoring.

The 2015 award-winning Monte-Tour, combined with A120 Towers, was tested for the first time on this Grand stade de Lyon project. It offers an unprecedented mode of tower assembly, starting from the top and finishing at the bottom. An undeniable benefit in terms of safety, reducing arduousness and repetitive strain injuries, and productivity.

ALPHI EQUIPMENT

- > A120 tower - 700 tonnes
- > Monte-Tour

La Cartoucherie car park



For this project led by Eiffage, the complementary systems offered by Alphi for formwork, shoring and safety, helped successfully complete the construction of a silo car park in the heart of the new La Cartoucherie district in Toulouse.



In Toulouse, the new eco-district of La Cartoucherie covers a surface area of 33 hectares. The construction is a mix of housing, public services, shops and offices. Eiffage chose Alphi for an open-facing above-ground car park project.

6 parking levels, for a total area of 12,000 m²



MaxiDalle formwork is particularly suitable for commercial structures



Alphi's formwork systems, TopDalle and MaxiDalle, met the expectations of the project's architect who wanted different surface rendering inside and around the building, looking for a smoother and more stylish look for the latter.

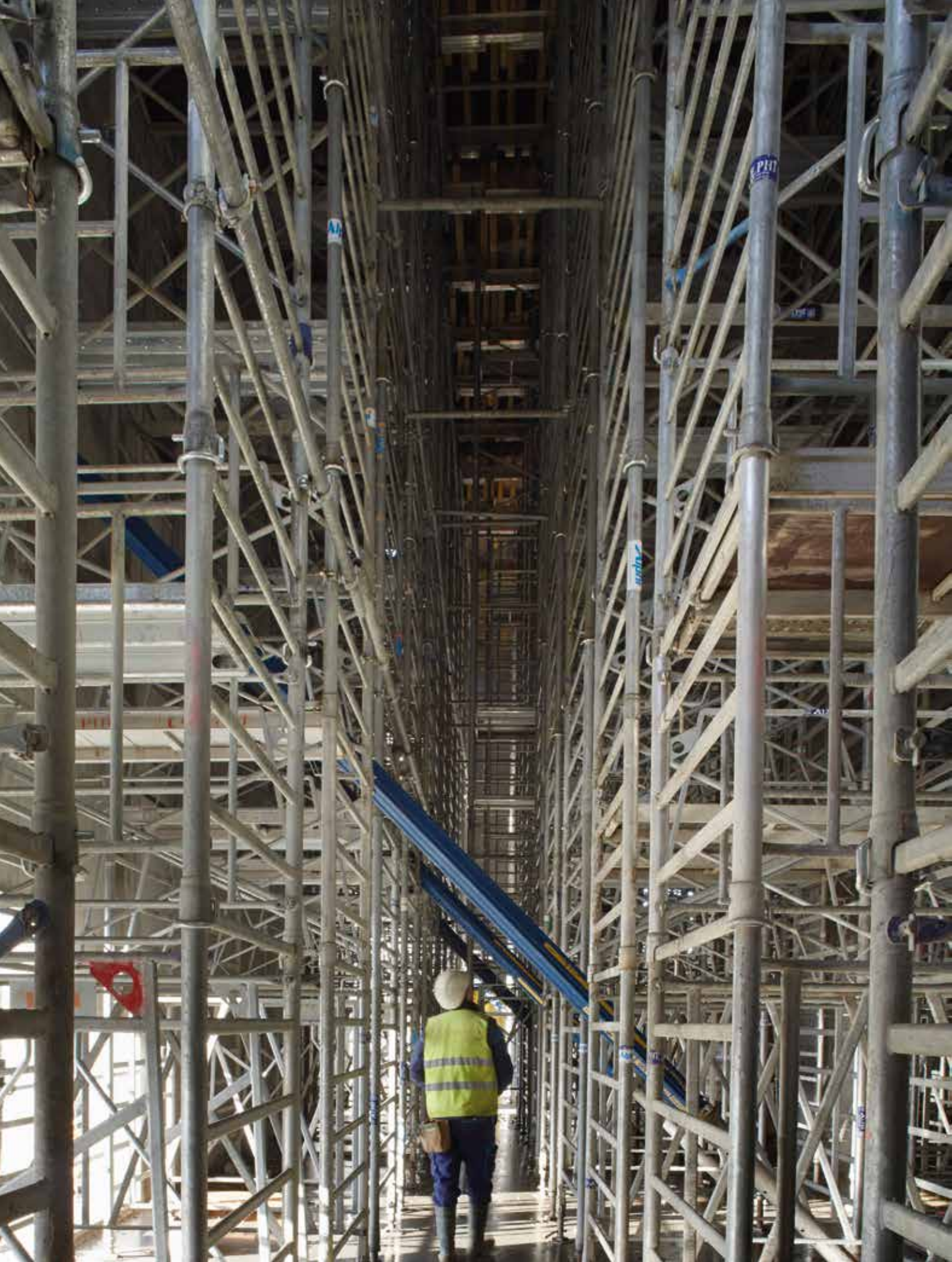
A120 shoring towers, combined with Alto formwork decks and the AlphiSafe collective safety system, made it possible to produce the overhangs envisaged over the entire belt course of the structure.

ALPHI EQUIPMENT

- > TopDalle - 500 m²
- > MaxiDalle - 1,600 m²
- > A120 tower - 380 m², height 14 m
- > Alto - 380 m²
- > AlphiSafe - 300 m

Synutra dairy complex

The Chinese firm Synutra chose Brittany as the location for its new production plant. On this construction project of the largest baby milk plant in the world, the Cardinal Édifice group assigned Alphi the design, supply and installation of more than 1,000 tonnes of shoring; installation performed using the Monte-Tour, Alphi's equipment innovation and award-winner in 2015.





■ The establishment of this industrial complex includes a number of phases. The powdered milk plant for the Chinese baby milk market on which Alphi worked is the first production unit of the three scheduled. In total, the complex represents €400 million of investment and 700 jobs for the three plants.

1,100 tonnes of shoring, up to a height of 49 m

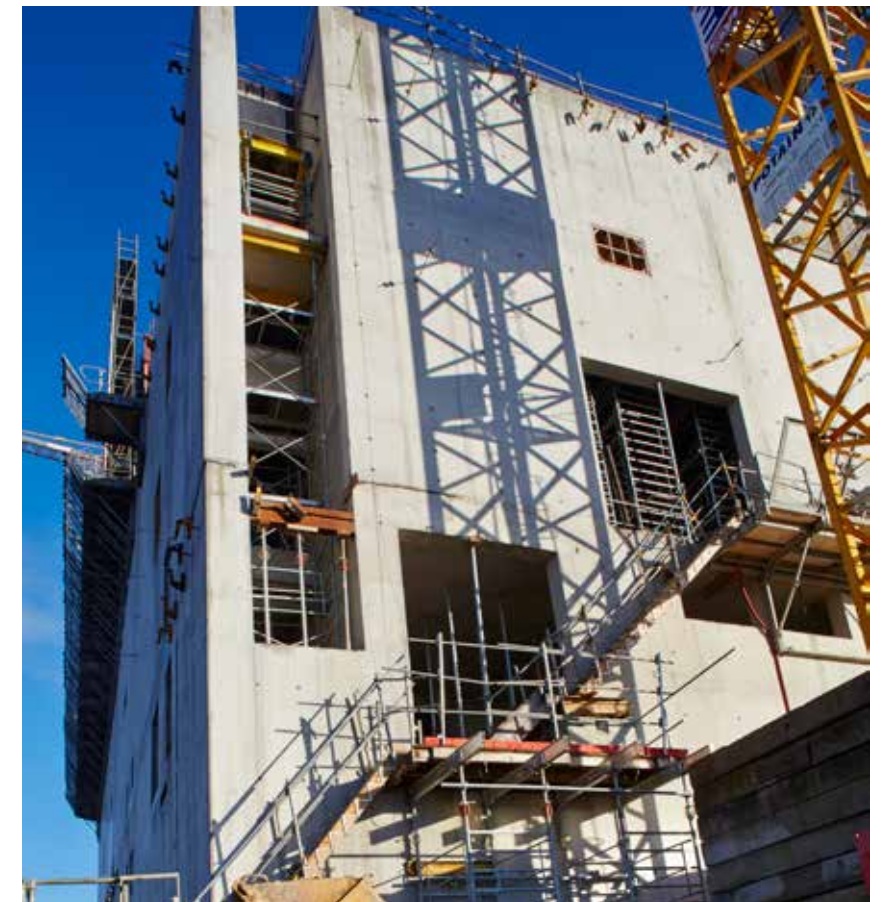


The end-to-end solution proposed by Alphi consisted of installing 1,100 tonnes of shoring made up of A120 and TourÉchaf towers over 6 levels, for a height of up to 49 m.

The Alphi Monte-Tour, also used on this project, offers an unprecedented tower assembly system, starting from the top and finishing at the bottom. An undeniable benefit in terms of safety, reducing arduousness and repetitive strain injuries, and productivity.

ALPHI EQUIPMENT

- > TourÉchaf - 500 tonnes
- > A120 tower - 600 tonnes
- > Monte-Tour



New hospital in Libourne

The new hospital project in Libourne includes the construction of a new building intended to accommodate in-patient and out-patient activities. GTM Bâtiment Aquitaine (Vinci Construction France) was awarded the contract for the design-construction of this project and chose MaxiDalle formwork for the concrete floors.



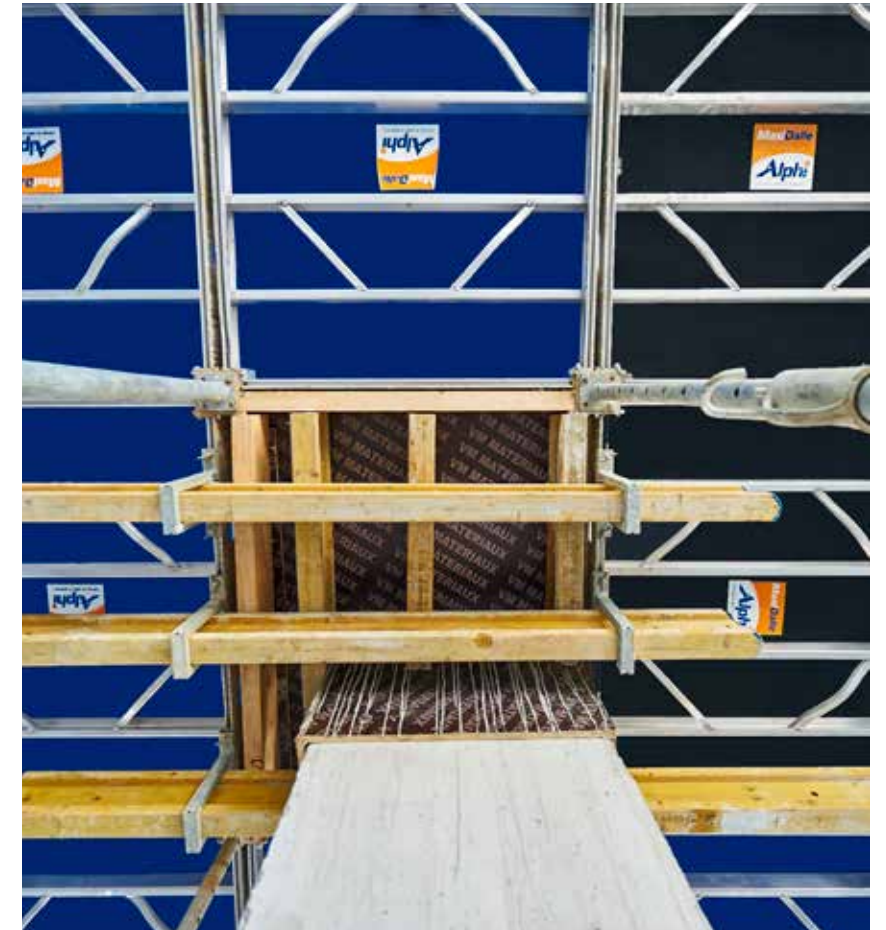
■ The construction site of this new 42,000 m² hospital facility is divided into 6 levels. It makes it possible to double the patient capacity of the existing hospital, increasing it to 477 beds and 33 day case beds.



A single system, MaxiDalle, for both the floors and the overhangs

The technical complexity in terms of the floors consisted of providing a single formwork system, suitable for both the interior floors and the many overhangs in the structure.

4200 m² of MaxiDalle formwork was used for the construction of this healthcare facility. Vinci's teams appreciated the ease of use of the system and the productivity generated, while the formwork heights to be obtained were 3.50 m with 120 x 150 cm panels.



ALPHI EQUIPMENT

- > MaxiDalle - 4,200 m²
- > AlphiSafe - 300 m



The AlphiSafe collective system allowed for completely safe installation

Housing programme

The contract for the housing programme in the Ferrières district in Martigues was awarded to the contractor Travaux du Midi (Vinci Construction France). This complex, technical project offered the Marseille office an opportunity to test the performances of the latest additions to Alphi's formwork range: TopDalle Eco and formwork tables.



« This first experience with Alphi for our Marseille office was a success. In particular, it was a first for Vinci in the Bouches-du-Rhône department with TopDalle Eco formwork. First of all, we tested the system on a specially assigned area. Confident in the product, we decided to construct this site using TopDalle Eco and have not regretted our choice. The system was fully satisfactory, equally well in terms of its light weight and its versatility, without forgetting the ease of use. We should also point out the relationship, which I would describe as clear and honest, with the Alphi sales manager in our sector. »

Marc BRAIBANTI
Head project manager, Travaux du Midi (Marseille office)



The TopDalle Eco system forms a solid surface to work in safety



■ The development project includes 90 residential units, 2,000 m² of office and retail space on the ground floor and underground car parks, for a total floor area of 13,500 m². The architectural choices - specific balcony layout, no right angles, arches, façade setbacks - involved a great degree of flexibility in terms of construction material adaptation on this site.



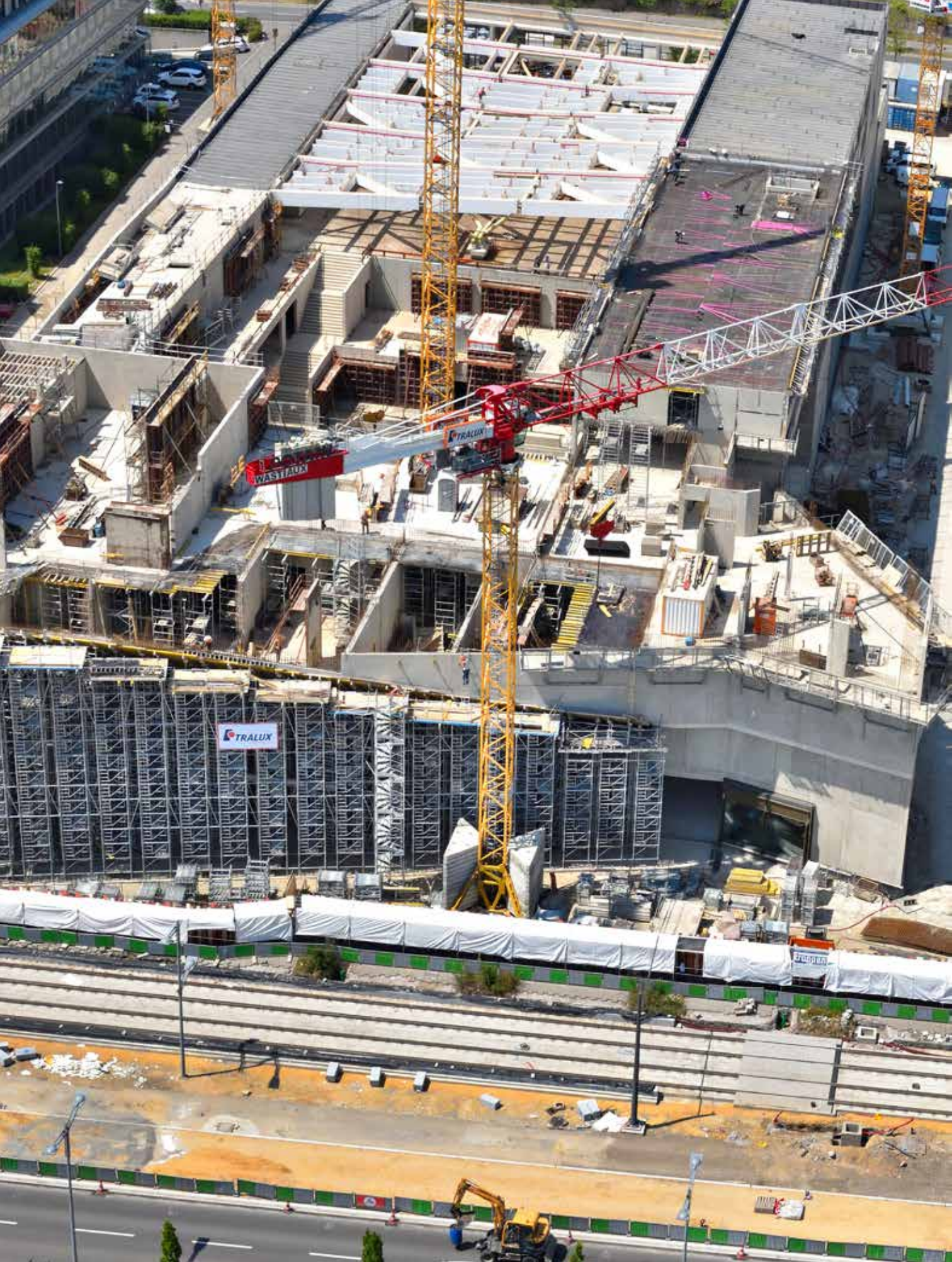
Alphi was able to provide a comprehensive solution for these challenges, each of the systems proposed - TopDalle Eco formwork particularly suitable for residential construction and formwork tables - met the client expectations. Furthermore, the AlphiSafe collective safety system recently developed by Alphi allowed for completely safe installation.

ALPHI EQUIPMENT

- > TopDalle Eco - 650 m²
- > Formwork tables - 300 m²
- > AlphiSafe - 100 m

A comprehensive solution for the specific requirements of this project

National Library of Luxembourg



The contractor Tralux is constructing the new national library in Luxembourg in the Kirchberg district of Luxembourg City. The firm has chosen Alphi products to complete this project representing 30,000 m² of floors.



■ The aim of this project is to bring all library services together to facilitate the day-to-day needs of users and staff alike, and also to increase the storage capacity in terms of number of documents from 1.7 to 3.5 million. In this way, a warehouse, exhibition room, meeting rooms and an automatic book transport system have been created.

A bold architectural choice including inclined façades



This project has two specific features: an architectonic concrete structure, on one hand, and an inclined front façade of the building, on the other, requiring support for the weight of the construction throughout the project, until completion of the roof.

In order to handle these constraints, Alphi supplied and fitted the Dalphi formwork system, appreciated for its light weight and its productivity, A120 shoring towers and Alto decks. TourÉchaf towers were also used on this site for constructing the inclined façade.

ALPHI EQUIPMENT

- > A120 tower - 1,000 m²
- > TourÉchaf - 150 tonnes
- > Dalphi - 3,000 m²
- > Alto - 200 m²



Office complex



This Swiss project led by the Induni-Perret consortium includes a factory, offices and two underground car park levels, for a floor area of 110,000 m².

■ This construction project is remarkable not only in its surface area but also in its height. In fact, it includes 6 storeys and 4 underground levels. On this construction site, Induni-Perret was faced with a time constraint, with the buildings being constructed in merely 17 months thanks to work being conducted on multiple levels simultaneously.



Alphi was able to address these constraints with its TopDalle formwork system and its formwork tables, two products characterised by their safe use and the ensuing productivity.

The 200 tonnes of TourÉchaf were for their part used for extra-high shoring, while ensuring complete safety thanks to their design limiting risks of falls from heights.



ALPHI EQUIPMENT

- > TourÉchaf - 200 tonnes
- > Formwork tables - 4,300 m²
- > Escalib - 5
- > TopDalle



A project in which productivity was an essential factor

Luma Foundation



The Luma Foundation is investing in Arles in the creation of an experimental cultural complex. The structure, designed by the architect Frank Gehry, is being constructed by a Vinci Construction France grouping (Dumez Méditerranée, Dumez Sud and GTM Sud). Alphi was awarded the shoring contract.

In 2013, Maja Hoffmann's private foundation launched the Luma project in Arles, in the heart of Parc des Ateliers. The complex includes the creation of a vast landscaped park covering 6 hectares, the refurbishment of 5 old industrial buildings and the construction of a new so-called "Resource Building", housing the foundation's collections, artists' residences and a restaurant.

The "Resource Building", a 56-metre high-rise building, involves particular complexity in its construction, due to its novel architecture. The floors all display a different shape. The beams are cast in place, at different levels and at great heights, of up to 20 m.



ALPHI EQUIPMENT

- > TopDalle - 350 m²
- > A120 tower - 300 tonnes
- > TourÉchaf



Alphi was able to handle these constraints with its shoring towers: A120 Tower and TourÉchaf, complying with CRAMIF NT24 guidelines. They are characterised by completely safe assembly and disassembly, thereby limiting the risks of falls from heights for the team of 30 fitters involved at the peak stage of the project.

Moreover, these towers are distinguished by their ease of use and the light weight of their components which helps reduce arduousness.



Quality concrete soffit finish

Michelin Research Centre



Michelin, the world leader in tyres, launched the upgrade of its research and development centre in the town of Cébazat, near Clermont-Ferrand. Eiffage Construction Auvergne, in charge of the project, awarded Alphi the formwork and shoring contract for stage 2 of the largest building ever constructed in the Auvergne region.



■ This project includes the construction of a 67,000 m² flagship building. The complex brings Michelin's major research units together. Devised by the architectural firm Chaix & Morel and Associates, the project is characterised by a 300-metre long avenue called "Rue de la recherche" (Research Street), dominated by a 15 m high glass roof.



Alphi worked on all of the cast-in-place floors



A number of construction methods were adopted on this site of an exceptionally scale: cast-in-place floors, hollow slabs and pre-slabs.

For the 23,500 m² floor area, the TopDalle formwork system, offering high performances in terms of safety and productivity, was selected for the cast-in-place floors. Alphi's A120 Towers were used for shoring the pre-slabs and the hollow slabs.

ALPHI EQUIPMENT

- > TopDalle - 1,500 m²
- > A120 tower - 200 tonnes



Bordeaux Métropole Arena

Performance venue

The large performance venue for the Bordeaux conurbation, devised by the architect Rudy Ricciotti, is being constructed on the right bank of the Garonne river, in the town of Floirac, in the Gironde department. Bouygues Bâtiment Centre Sud-Ouest, in charge of the project, is once again collaborating with Alphi on this exceptional project.

■ The design of "Bordeaux Métropole Arena" is modelled on that of an amphitheatre. Its architectural design and features rank it among the world's greatest enclosed spaces. Recognisable by its curved shape and the white of its concrete wall, it is fully modular, with a potential capacity of 2,500 to 11,000 seats. It is intended to provide a venue for all types of events: major cultural, variety and sports performances.



ALPHI EQUIPMENT

- > A120 tower - 600 tonnes
- > TourÉchaf - 600 tonnes
- > MaxiDalle - 400 m²
- > AlphiSafe - 100 m



« We have had a productive relationship with Alphi for a number of years. We work in complete confidence, with frequently innovative equipment. We also have full confidence on a technical level, the work procedures developed with the design office help us address the challenges of the project, in terms of time constraints in particular. »

Stéphane COQUILLEAU
Supervision Team Manager,
Bouygues Bâtiment Centre
Sud-Ouest

The radiating geometric shape of this arena, vertically and horizontally, represents a challenge for the Bouygues teams who are required to construct a double concrete curve, cast-in-place, and keep the same shade of white on the entire structure.

Alphi's formwork and shoring systems help address some of the specific challenges of this project: extra-high shoring height and a greater floor thickness than standard values. As such, TopDalle and MaxiDalle formwork, A120 and TourÉchaf towers, the AlphiSafe collective safety system, were selected by the construction firm for their performances and reliability.

	Housing	Commercial buildings	Shoring/ high formwork	Pre-slab shoring	Prestressed hollow slab shoring	Safety and prevention of arduousness
Formwork systems						
TopDalle	***	**		**		☺☺
TopDalle Eco	***	**		**		☺☺☺
MaxiDalle	**	***				☺☺
Dalphi	**	**		**		☺
Formwork tables	***		***			☺☺☺
Vertical formwork						
AS10	***	***				☺☺
Shoring						
TourA120		**	***	***	***	☺☺
TourÉchaf		**	***	***	***	☺☺☺
Formwork decks						
Alto	**	***	***			☺☺☺



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- To use our products safely, please observe the regulations in force in each country.
 - The elements and set-ups presented in this catalogue match the characteristics of the equipment on the date of publication of the document.
 There might have been some changes since then.
 - The full user guides for each product are available on the website alphi.fr, by scanning the product QR codes in the catalogue, or on request by e-mail: info@alphi.fr

SAFETY

ERGONOMICS

PRODUCTIVITY

QUALITY

TopDalle[®]

TopDalle formwork is particularly suitable for residential construction projects. The safety conditions for workers are optimal thanks to the controlled spacing between frames of 13 cm. The flexible use and simplicity of the system offer high productivity.

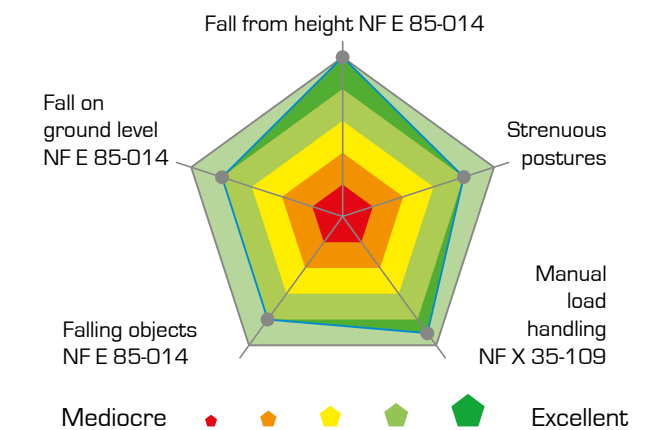


TopDalle

The versatile TopDalle system suits every types of building: offices, housing, residential care homes, correctional facilities, etc.

Simple and quick to install, the TopDalle system offers productivity of 30 m²/person/day at a height of 2.50 m.

Designed by the Alphi Design Office in collaboration with CARSAT Rhône-Alpes, TopDalle formwork is **compliant with the decree of September 2004 on falls from height** thanks to its anti-tipping system for the secondary frames and controlled spacing of 13 cm between frames.



SAFETY AND ARDUOUSNESS PERFORMANCES

TopDalle is the best-performing framework of its generation in terms of the constraints of the NF E 85-014 and NF X 35-109 standards.

Site: Eureka service hub
 Client: GFC Construction (Bouygues Group)
 Location: Montpellier



COMPLIANT WITH DECREE OF SEPTEMBER 2004 CONCERNING FALLS FROM HEIGHT

SAFETY

Worker safety

Protection against falling at ground level and falling from height by an anti-tipping system for the C2+ secondary frames and controlled spacing of 13 cm.

Frames are installed and removed from ground level.

With TopPerche, formwork is installed and removed from ground level up to 3 m (no need for rolling safety ladder depending on heights).

Free-standing system

The unique design of the TopDalle system guarantees optimum stability.

Theft protection

The chemical process developed by Alphi prevents fraudulent recycling.



THEFT PROTECTION: PROTECTED ALUMINIUM



ALL TOPDALLE ELEMENTS HAVE BEEN TESTED BY THE INDEPENDENT LABORATORY LOCIE AT THE UNIVERSITY SAVOIE MONT BLANC.



The installation (and removal) of C2+ frames using the TopPerche provides a dual safety advantage:

- the fitter works at ground level;
- the risk of falls from height is eliminated,
- controlled 13 cm spacing

ERGONOMICS

Lightest weight per m² formwork on the market

Made of aluminium, the frames and beams contribute to the lightness of the TopDalle hand-portable formwork system.

Less repetitive strain injury

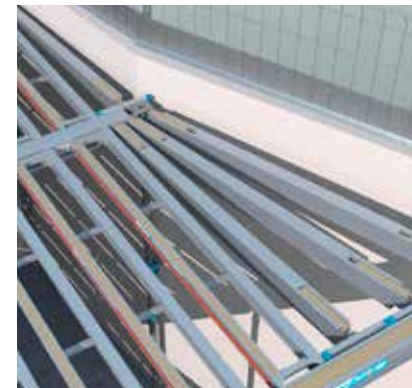
- Better weight distribution.
- Ergonomic handles on the C2+.
- Accommodates 15 mm plywood.

Less noise pollution

Complies with the European noise directive (2003/10/EC dated 6 February 2003).

Easier identification

The beams are colour-coded, in compliance with the layout drawings provided.



PRODUCTIVITY

30 m²/person/day at a height of 2.50 m

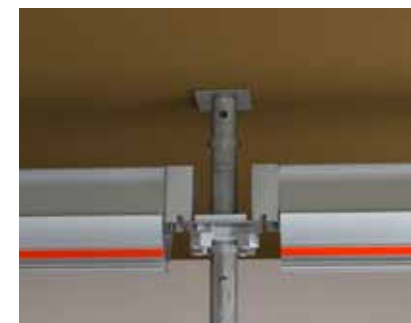
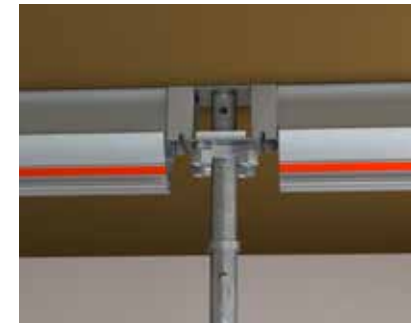
(formwork, adjustment, cladding, and formwork removal)

Easy removal

The drop-head for fast removal integrated in the technical support (Alphi patented system) keeps the slab supported during formwork removal. The turnaround of the aluminium structure is accelerated.

Flexible use to satisfy all technical requirements

- "Primary on primary" assembly allows the TopDalle system to adapt to the exact dimensions of the cells.
- The extendable primary beams and secondary corner beams complete the range to handle any complex shape requirements.



QUALITY

Superior concrete soffit quality

Superior quality to DTU 21 guidelines for concrete floors.

Nailing on timber insert

Plywood (15 mm authorised) secured using nails.

Regulations

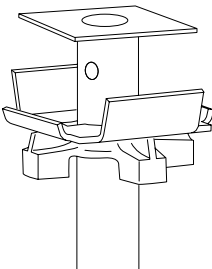



The beams are designed in compliance with the formwork standard NF P 93-322.

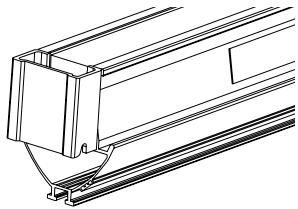




Cast concrete thickness of up to 1.23 m

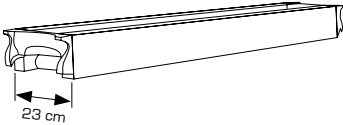




The drop-head integrated in the prop allows fast formwork removal without releasing pressure on the slab

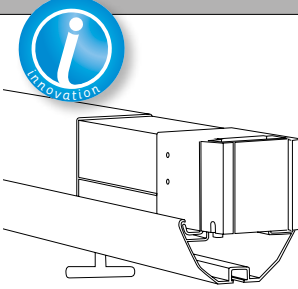

3 COMPONENTS FOR SIMPLE SHAPES

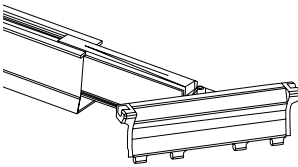



1	Technical support (ST) with integrated drop-head	Name	Colour	Height (cm)	Unit weight (kg)	Description	
			ST1		197-300	18.50	<ul style="list-style-type: none"> Integrated drop-head for fast removal (patented system) Base web Hot-dip galvanised Cast iron sleeve
			ST2		221-350	20.50	
			ST3		250-400	23.50	

2	Primary beam	Name	Colour	Length (cm)	Unit weight (kg)	Description	
			PP 90		90	5.40	<ul style="list-style-type: none"> Theft protection Can be mounted in a drawer 30 mm timber inserts, for nailing on plywood using 40 mm nails
			PP 110		110	6.60	
			PP 150		150	9.00	
			PP 180		180	10.80	

3	C2+ and C4+ secondary frames	Name	Colour	Length (cm)	Unit weight (kg)	Description	
			C2+ 110 C4+ 110		110	5.00 8.00	<ul style="list-style-type: none"> Anti-tip safety Width of 23 cm for C2+ Theft protection Timber inserts for nailing on plywood using 40 mm nails
			C2+ 150 C4+ 150		150	6.00 9.50	
			C2+ 180 C4+ 180		180	8.00 11.00	

2 COMPONENTS FOR COMPLEX SHAPES (OPTIONAL)

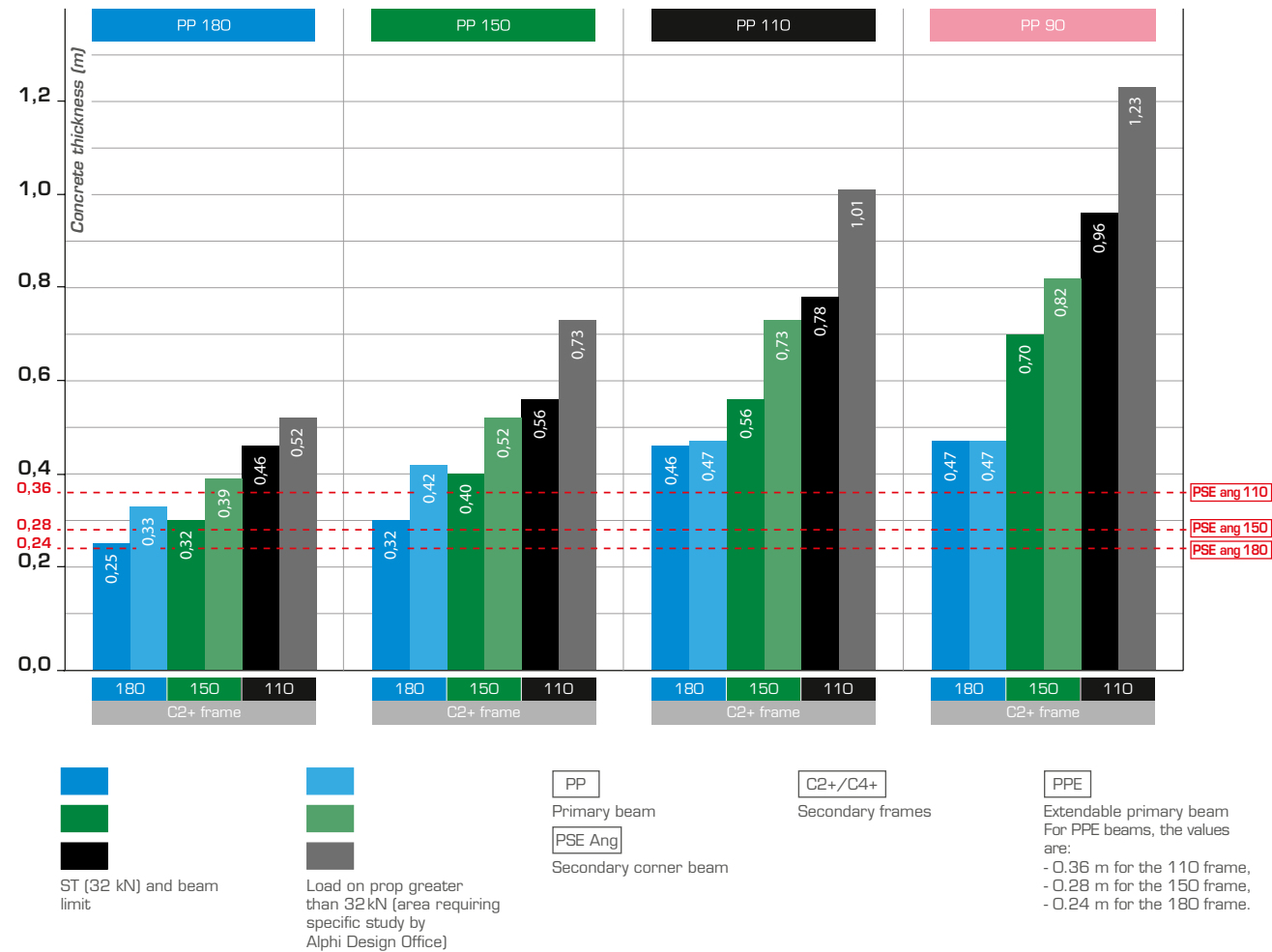
1	Extendable primary beam	Name	Colour	Length (cm)	Unit weight (kg)	Description
			PPE 90-110		90-110	8.10

2	Extendable secondary corner beam	Name	Colour	Length (cm)	Unit weight (kg)	Description	
			PSE Ang 110		110-135	5.40	<ul style="list-style-type: none"> Modular orientation as close as possible to the concrete skin by rotating the tip Working angles of 0° to 35° Each secondary corner beam must be associated with the secondary beam of the same size (e.g.: PSE Ang 110 with PS 110) Adjustable length Timber inserts for nailing on plywood
			PSE Ang 150		150-180	6.60	
			PSE Ang 180		180-220	7.50	

USE CALCULATION CHARTS

Beams

Value given for superior quality as per DTU 21 guidelines for concrete floors, accounting for the site load [2.5 kN/m²]. Maximum deflection L/400.



ST technical supports with integrated drop-head

Name	Colour	Height (cm)	Weight (kg)	Shored height (m) / Working load (kN)																				
				1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9
ST1	Blue	197-300	18.50	40	39	38	37	36	35	35	34	33	33	32	32									
ST2	Orange	221-350	20.50				40	39	39	38	37	36	36	35	35	34	34	33	32	32				
ST3	Green	250-400	23.50							40	39	39	38	37	37	36	35	34	34	33	33	33	32	32

Hot-dip galvanised - Sleeve or nut colour coding - As per Eurocode safety coefficients 0 and 3.



TOPDALLE ACCESSORIES

Safety	Grid*		Dimensions w x h (m)	Weight (kg)	Description
			1.25 x 1.30	7.60	The wire grid is galvanised, with polyester powder coating
			2.40 x 1.30	13.90	
			2.50 x 1.30	14.50	
	Galvanised post*		Cross-section (cm ²)	Height (m)	Weight (kg)
		3.5 x 3.5	1.34	3.50	
Alphi formwork adapters*		Weight (kg)		Weight (kg) Prop adapter	
Primary adapter	Prop adapter	2.30			
				2.10	
* Compliant with EN 13374 standard					


Additional	Electrogalvanised insulated head		Bores (mm)	Height (cm)	Unit weight (kg)	Maximum allowable load (kN)
			4 x Ø12 x 80	33	3.80	40
	Bracket	Non-tilt safety fork (FSAB)	Unit weight bracket (kg)	Maximum allowable load (kN)	Unit weight FSAB (kg)	Tube diameter (mm)
		1.05	3.5	1.150	35	<ul style="list-style-type: none"> Bracket: butterfly fastening nut FSAB: hammer head screw

Installation from ground level	TopPerche		Length (cm)	Unit weight (kg)	Description
			150	1.80	<ul style="list-style-type: none"> Work from ground level Risk of falls from height eliminated Controlled spacing of 13 cm Compatible with C2+ frames

TOPDALLE ACCESSORIES

Leborgne tools	nanovib® range	Description
		<ul style="list-style-type: none"> Tools suitable for fitting and removing Alphi formwork: hammers, hammer holder, prop key Vibration and noise reduction <div style="text-align: center;">  </div> <p style="font-size: small;">See page 234 for details of Leborgne tools</p>

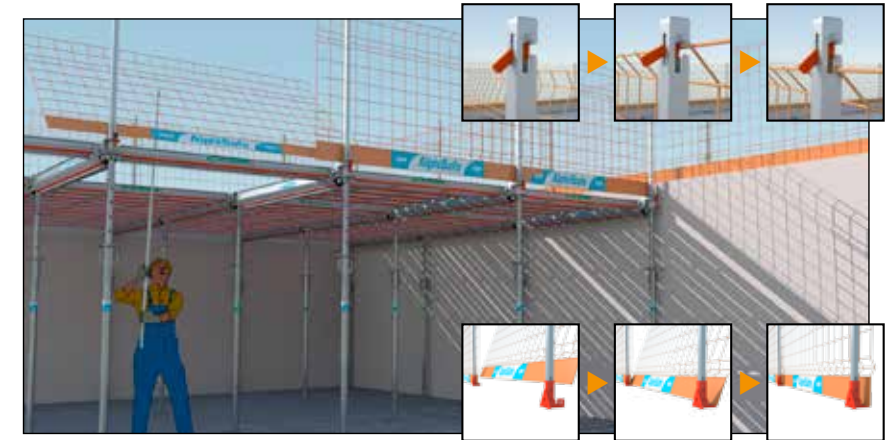
Manual	Racks	Ranges
		<ul style="list-style-type: none"> Vertical storage rack Galvanised rack on wheels Galvanised handling rack <p style="font-size: small;">See page 246 for the various rack models</p>

Manual	TransEtais Housing	Description
		<ul style="list-style-type: none"> Easier prop handling Makes it possible to pass through door openings <p style="font-size: small;">See page 238 for details of TransEtais Housing</p>

Aids for use	Plywood cutting support	Dimensions W x L x H (m)	Description
		1.40 x 2.06 x 0.86	<ul style="list-style-type: none"> For sale only Circular saw kit and electrical extension available as an option
	Rolling safety ladder	Working height (m)	Description
	2.50 to 4.33	<ul style="list-style-type: none"> For sale only 	

ALPHISAFE COLLECTIVE PROTECTION

AlphiSafe is a collective protection system for formwork and slab edges. The technical innovations in the system allow **safe installation** and **automatic locking**. Robust AlphiSafe is certified by Ginger CEBTP, as per the **EN 13374 standard of July 2013**, as class A and B for some components. AlphiSafe is distinguished by its **height of 1.30 m** which is above the minimum height of 1.00 m set by the standard, and protects traditional slab formwork up to 30 cm thick.



The grid is locked at the top by the anti-lifting pin and locked in rotation at the base.

Installation of AlphiSafe safety system in cantilever configuration



Installation of AlphiSafe safety system on technical support (progressive fitting)



SIMPLIFIED USER GUIDE

FORMWORK

- Reception of equipment on the worksite: check quantities and validate delivery note.
- Precise distribution of the equipment according to the first phases of formwork defined by the layout drawing.
- Before starting to set up, remember to secure the area.
- Refer to the drawings and calculation charts provided.



- Do not place the props against the wall.
- Use TransEtais Housing for easy prop storage and transport.



- Caution: it is essential to lock the head.

FINISHING & CASTING

- Conduct a final inspection to check levelling.
- Check that props are vertical.
- Check that no prop has been placed in the reserved areas.
- Check the jointing of the plywood panels.
- Caution: it is prohibited to walk on the formwork, with the exception of trained personnel authorised to fit plywood panels.



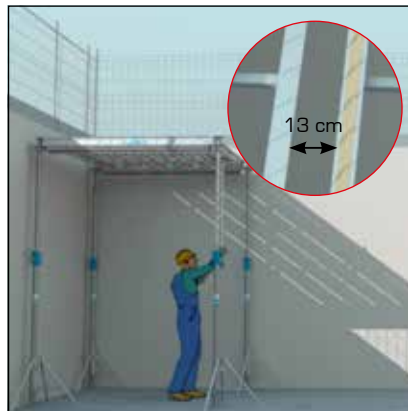
- Plywood installation.
- Nailing.
- Ensure that a load-bearing member is present under the plywood sheet joins, nailing possible in the timber insert.



- Check the sealing of the formwork between plywood sheets and at the edges.
- Spread the concrete on the formwork without overloading the beams and the technical supports.



- Mount 1 primary beam on 2 technical supports (ST) stabilised by tripods. **Caution: engage the primary beams on the large bushings of the technical support.**



- Position the C2+ frames from one to the next using the TopPerche.



- Mounting a primary beam on ST stabilised by a tripod.

FORMWORK REMOVAL

- The drop-head for fast removal integrated in the technical support is a patented system held by Alphi.
- It enables the slab to remain shored during formwork removal.
- This speeds up equipment turnover.
- Formwork removal is performed after 24 to 48 hours (according to concrete setting conditions).



- Strike down the formwork heads from the STs as you progress



- Remove the C2+ frames and finally the primary beams.



- The fitter uses the prop to position the primary beam.



- The fitter uses the prop to position the extendable primary beam.



- Finish installing TopDalle using secondary corner beams where necessary.



- Remove the plywood sheet using a panel elevator.
- Use the Leborgne long-range form stripping tool to simplify this stage.



- Install the drying props, allowing one prop per 5 m² (general case).

DOCUMENTATION



View full user guide.

SAFETY

PRODUCTIVITY

ERGONOMICS

QUALITY

ENVIRONMENT



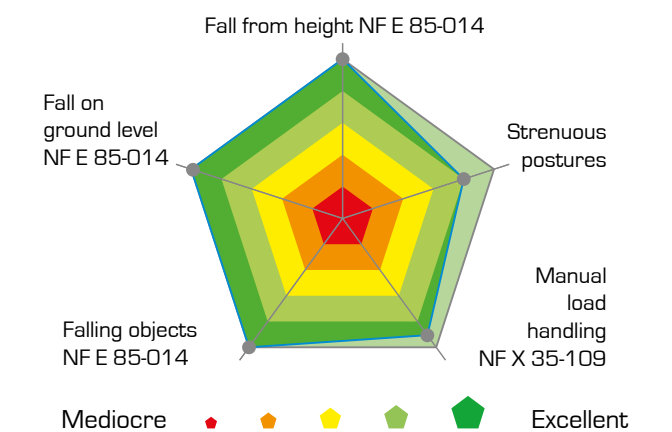
Alphi's latest innovation for formwork for residential construction, TopDalle Eco is unrivalled in terms of safety and productivity. Its full-surface panels provide a proper stable and secure working platform. Workers can work safely, productivity is increased.



The versatile TopDalle Eco system suits every type of building: offices, housing, residential care homes, correctional facilities, etc.

Simple and quick to install, the TopDalle Eco system offers productivity of 33 m²/person/day at a height of 2.50 m.

Developed by Alphi's R&D department, TopDalle Eco formwork is **compliant with the decree dated 2004 concerning falls from height** and meets the requirements of the **NF E 85-014 and NF X 35-109 standards** concerning the risks of tripping, slipping and falling objects, as well as manual load handling.



SAFETY AND ARDUOUSNESS PERFORMANCES

TopDalle Eco is the best-performing framework of its generation in terms of the constraints of the NF E 85-014 and NF X 35-109 standards.

Site:
Housing
Client: Eiffage
Location: Paris,
20th district



COMPLIANT WITH DECREE OF SEPTEMBER 2004 CONCERNING FALLS FROM HEIGHT AND WITH THE NF E 85-014 AND NF X 35-109 STANDARDS.

ALL TOPDALLE ECO COMPONENTS HAVE BEEN TESTED BY THE INDEPENDENT LABORATORY LOCIE AT THE UNIVERSITY OF SAVOIE MONT BLANC.



THEFT PROTECTION: PROTECTED ALUMINIUM



SAFETY

Worker safety

The work area is secured by full-surface Eco+ panels, preventing falls from height and the risk of tripping, slipping, or falling objects.

Ground-based Eco+ panel fitting and removal

With TopPerche Eco, formwork is installed and removed from ground level up to 3 m (no need for rolling safety ladder depending on heights).

Increased stability

The multi-support areas of the Eco+ panel, the continuous-support extendable primary beam combined with the extendable secondary corner beam, provide optimum stability.

Theft protection

The chemical process patented by Alphi is a protective measure against the fraudulent recycling of aluminium beams.

PRODUCTIVITY

33 m²/person/day at a height of 2.50 m

(formwork, adjustment, cladding, and formwork removal)

Practical use

- Simplified assembly thanks to adjacent Eco+ panels.
- The range needs fewer products thanks to the extendable primary beam.
- At the end of the span, the spacing of the Eco+ panel can be adjusted to the cell, leaving a gap of up to 10 cm between panels.

Easier identification

Coloured tips allow easy recognition of different Eco+ panel lengths.



Easy removal

The drop-head for fast removal integrated in the technical support (Alphi patented system) keeps the slab supported during formwork removal: this speeds up the turnaround of the aluminium structure.

Adaptability to complex shapes

- Working on a full surface facilitates mobility above the formwork.
- The continual adjustment of the extendable primary beam and the extendable secondary corner beam lets you go near the edges of the cell.

SAVINGS

Strength and durability

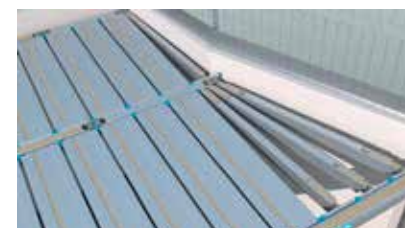
- Exclusive extrusion process to create wide, monobloc profiles.
- The plastic tips are shock-absorbent, limiting breakage.

Compatibility

TopDalle Eco is compatible with the entire aluminium beam formwork range.

Maintenance

Servicing is simplified because aluminium is easy to repair.



QUALITY

Concrete soffit quality

Superior quality as per DTU 21 guidelines for concrete floors.

Nailing on timber insert

- Plywood (15 mm authorised) secured using nails.
- The asymmetric insert can adapt to different configurations.

Regulations

The beams are designed in compliance with the formwork standard NF P 93-322.

Cleanliness

The shape of the Eco+ panel limits the chalking on the vertical wall.

Concrete formwork thickness of up to 1.23 m, according to configuration.

ENVIRONMENT

100% "Green"

Designed to limit CO₂ emissions, the Eco+ panel is made of 100% recycled and 100% recyclable aluminium.

Short distribution channels

- The production method implemented by Alphi favours short distribution channels and operators in French industry.
- Procurement-related transport covers distances of less than 460 km.

Fewer lorries

- Optimum packing has been achieved by limiting the thickness of the Eco+ panel and designing its shape with a view to obtaining a more compact size.
- Lorries can now carry 15% more equipment.

ERGONOMICS

35% less weight

TopDalle Eco hand-portable elements are 35% lighter than conventional solutions.

Making work less arduous

The system limits manual load handling.

Less noise pollution




Eco+ panels have shock-absorbent plastic tips, which reduce noise.




The extendable beams let you go near the cell edges




3 COMPONENTS FOR SIMPLE SHAPES




1	Technical support (ST) with integrated drop-head	Name	Colour	Height (cm)	Unit weight (kg)	Description
		ST1		197-300	18.50	<ul style="list-style-type: none"> Integrated drop-head for fast removal (patented system) Base web Hot-dip galvanised Cast iron sleeve
		ST2		221-350	20.50	
		ST3		250-400	23.50	

2	Primary beam	Name	Colour	Length (cm)	Unit weight (kg)	Description
		PP 90		90	5.40	<ul style="list-style-type: none"> Theft protection Can be mounted in a drawer 30 mm timber inserts, for nailing on plywood using 40 mm nails
		PP 110		110	6.60	
		PP 150		150	9.00	
		PP 180		180	10.80	

3	Eco+ panel	Name	Colour	Length (cm)	Unit weight (kg)	Description
		Eco+ 110		110	5.40	<ul style="list-style-type: none"> Anti-tip safety 33 cm width Theft protection Timber inserts for nailing on plywood using 40 mm nails Coloured tip for easy identification
		Eco+ 150		150	6.90	
		Eco+ 180		180	7.90	

2 COMPONENTS FOR COMPLEX SHAPES (OPTIONAL)

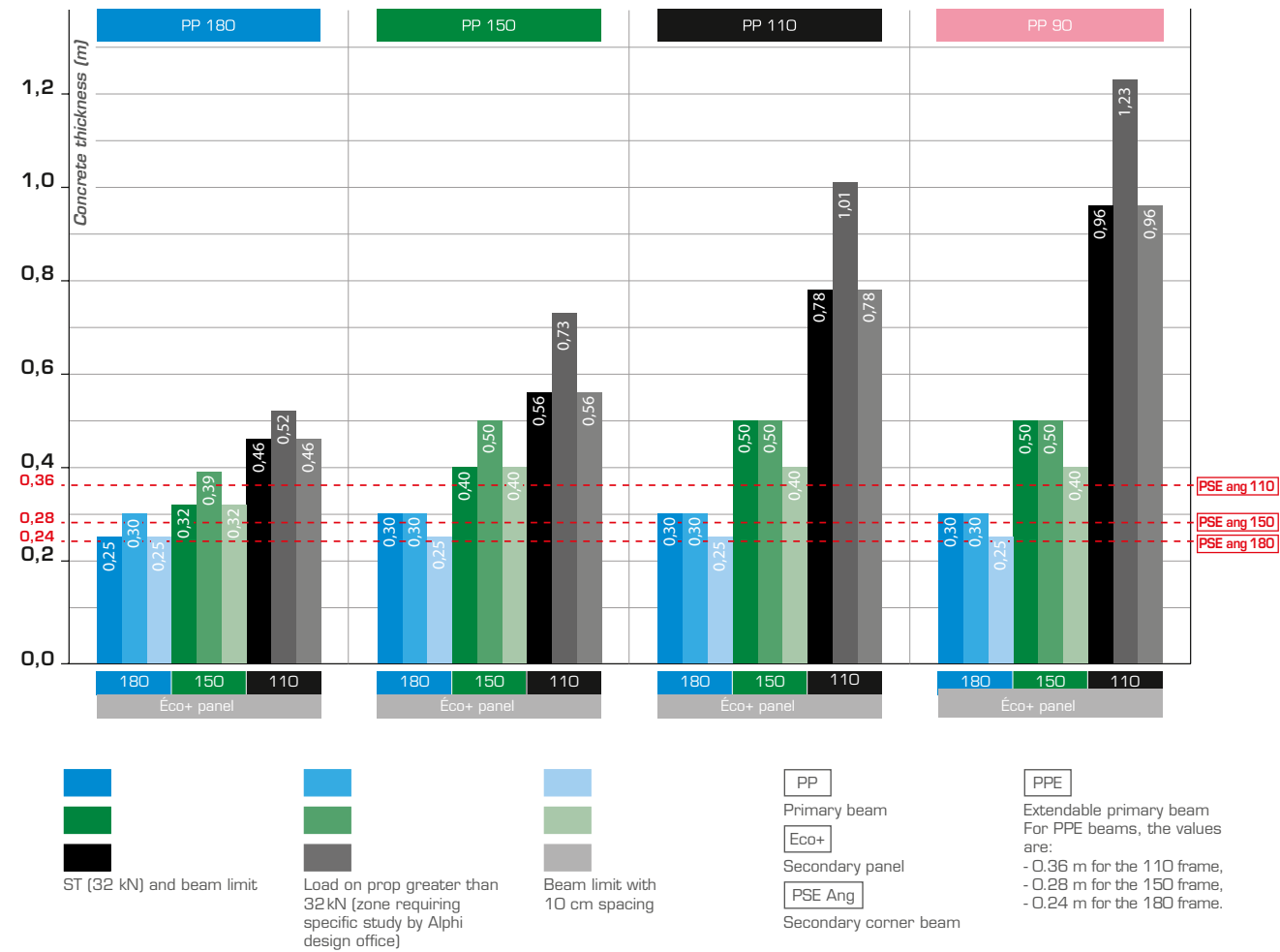
1	Extendable primary beam	Name	Colour	Length (cm)	Unit weight (kg)	Description
		PPE 90-110		90-110	8.10	<ul style="list-style-type: none"> From 90 to 110 cm, to adapt to all cell sizes Can be mounted in a drawer Continuous resting of secondary beams on primary beam

2	Extendable secondary corner beam	Name	Colour	Length (cm)	Unit weight (kg)	Description
		PSE ang 110		110-135	5.40	<ul style="list-style-type: none"> Each secondary corner beam must be associated with the secondary beam of the same size (e.g.: PSE ang 110 with PS 110) Adjustable length Timber inserts for nailing on plywood Modular orientation as close as possible to the concrete skin by rotating the tip Working angles of 0° to 35°
		PSE ang 150		150-180	6.60	
		PSE ang 180		180-220	7.50	

USE CALCULATION CHARTS

Beams

Value given for superior quality as per DTU 21 guidelines for concrete floors, accounting for the site load [2.5 kN/m²].



ST technical supports with integrated drop-head

Name	Colour	Height (cm)	Weight (kg)	Shored height (m) / Working load (kN)																																				
				1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0															
ST1	Blue	197-300	18.50	40	39	38	37	36	35	35	34	33	33	32	32																									
ST2	Orange	221-350	20.50				40	39	39	38	37	36	36	35	35	34	34	33	32	32																				
ST3	Green	250-400	23.50							40	39	39	38	37	37	36	35	34	34	33	33	32	32																	

Hot-dip galvanised - Sleeve or nut colour coding - As per Eurocode safety coefficients 0 and 3.



TOPDALLE ECO ACCESSORIES

Safety	Grid*	Dimensions w x h (m)	Weight (kg)	Description
		1.25 x 1.30	7.60	The wire grid is galvanised, with polyester powder coating
		2.40 x 1.30	13.90	
		2.50 x 1.30	14.50	
	Galvanised post*	Cross-section (cm²)	Height (m)	Weight (kg)
	3.5 x 3.5	1.34	3.50	
Alphi formwork adapters*		Weight (kg) Primary adapter	Weight (kg) Prop adapter	*Compliant with EN 13374 standard
Primary adapter	Prop adapter	2.30	2.10	


Additional	Electrogalvanised insulated head	Bores (mm)	Height (cm)	Unit weight (kg)	Maximum allowable load (kN)	
		4 x Ø12 x 80	33	3.80	40	
Bracket	Non-tilt safety fork (FSAB)	Unit weight bracket (kg)	Maximum allowable load (kN)	Unit weight FSAB (kg)	Tube diameter (mm)	Description
		1.05	3.5	1.150	35	<ul style="list-style-type: none"> Bracket: butterfly fastening nut FSAB: hammer head screw

Installation from ground level	TopPerche Eco	Length (cm)	Unit weight (kg)	Description
		200	1.80	<ul style="list-style-type: none"> Work from ground level Risk of falls from height eliminated Compatible with Eco+ panels

TOPDALLE ECO ACCESSORIES

Leborgne tools	nanovib® range	Description
		<ul style="list-style-type: none"> Tools suitable for fitting and removing Alphi formwork: hammers, hammer holder, prop key Vibration and noise reduction  <p>See page 234 for details of Leborgne tools</p>

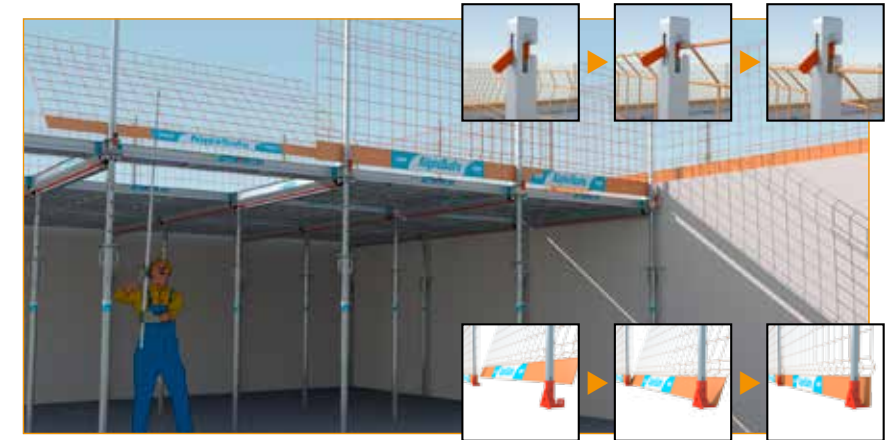
Handling	Racks	Ranges
		<ul style="list-style-type: none"> Vertical storage rack Galvanised rack on wheels Galvanised handling rack <p>See page 246 for the various rack models</p>

Handling	TransEtais Housing	Description
		<ul style="list-style-type: none"> Easier prop handling Makes it possible to pass through door openings <p>See page 238 for details of TransEtais Housing</p>

Aids for use	Plywood cutting support	Dimensions W x L x H (m)	Description
		1.40 x 2.06 x 0.86	<ul style="list-style-type: none"> For sale only Circular saw kit and electrical extension available as an option
	Rolling safety ladder	Working height (m)	Description
	2.50 to 4.33	<ul style="list-style-type: none"> For sale only 	

ALPHISAFE COLLECTIVE PROTECTION

AlphiSafe is a collective protection system for formwork and slab edges. The technical innovations in the system allow **safe installation** and **automatic locking**. Robust AlphiSafe is certified by Ginger CEBTP, as per the **EN 13374 standard of July 2013**, as class A and B for some components. AlphiSafe is distinguished by its **height of 1.30 m** which is above the minimum height of 1.00 m set by the standard, and protects traditional slab formwork up to 30 cm thick.



The grid is locked at the top by the anti-lifting pin and locked in rotation at the base.

Installation of AlphiSafe safety system in cantilever configuration



Installation of AlphiSafe safety system on technical support (progressive fitting)



SIMPLIFIED USER GUIDE

FORMWORK

- Reception of equipment on the worksite: check quantities and validate delivery note.
- Precise distribution of the equipment according to the first phases of formwork defined by the layout drawing.
- Before starting to set up, remember to secure the area.
- Refer to the drawings and calculation charts provided.



- Do not place the props against the wall.
- Use TransEtais Housing for easy prop storage and transport.



- Caution: it is essential to lock the head.

FINISHING & CASTING

- Conduct a final inspection to check levelling.
- Check that props are vertical.
- Check that no prop has been placed in the reserved areas.
- Check the jointing of the plywood panels.
- Caution: it is prohibited to walk on the formwork, with the exception of trained personnel authorised to fit plywood panels.



- Plywood installation.
- Nailing.
- Ensure that a load-bearing member is present under the plywood sheet joins, nailing possible in the timber insert.



- Check the sealing of the formwork between plywood sheets and at the edges.
- Spread the concrete on the formwork without overloading the beams and the technical supports.

FORMWORK REMOVAL

- The drop-head for fast removal integrated in the technical support is a patented system held by Alphi.
- It enables the slab to remain shored during formwork removal.
- This speeds up equipment turnover.
- Formwork removal is performed after 24 to 48 hours (according to concrete setting conditions).



- Strike down the formwork heads from the STs as you progress.



- Remove the Eco+ panels followed by the primary beams.



- Mount 1 primary beam on 2 technical supports (ST) stabilised by tripods. Caution: engage the primary beams on the large bushings of the technical support.



- Mounting Eco+ panels using TopPerche Eco.



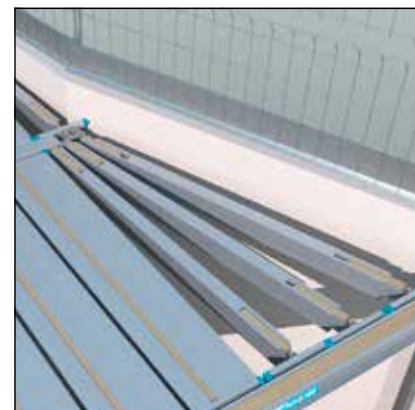
- Mounting a primary beam on ST stabilised by a tripod.



- The fitter uses the prop to position the primary beam.



- The fitter uses the prop to position the extendable primary beam.



- Finish installing TopDalle Eco using secondary corner beams if required.



- Remove the plywood sheet using a panel elevator.
- Use the Leborgne long-range form stripping tool to simplify this stage.



- Install the drying props, allowing one prop per 5 m² (general case).

DOCUMENTATION



View full user guide.



SAVINGS

ADAPTABILITY

LIGHT WEIGHT

Dalphi[®]

Its first quality is its versatility, the second is its price. Dalphi, the firm's "legacy" formwork can be adapted to all types of buildings. Lightweight and economical, it include the Alphi-patented integrated drop-head for fast removal.



Dalphi®

The economical, high-performance Dalphi floor formwork system suits all types of buildings: offices, housing, residential care homes, correctional facilities, etc.

It can be installed at a productivity rate of 25 m²/person/day.

Its aluminium components make it one of the most lightweight formwork systems **on the market.**

The drop-head integrated in the prop (patented by Alphi) ensures **safe removal.**

*Site: Chambéry
hospital maternity
ward car park
Client: Bouygues
Construction
Location:
Chambéry*



PRODUCTIVITY

Installation

25 m²/person/day.

Quick turnarounds

Small quantity of equipment used thanks to quick turnarounds.

Easy removal

The drop-head for fast removal integrated in the technical support (Alphi patented system) keeps the slab supported during formwork removal.

Easier identification

The beams are colour-coded, in compliance with the layout drawings drafted by the Alphi design office.

Hand-portable

The simple components in the Dalphi system make it possible to work independently, with no need for a crane. This leaves the crane available for other tasks.

ADAPTABILITY

Wide choice of lengths

The beam size is chosen to suit the needs of each project. 4 primary beam lengths and 3 secondary beam lengths are available.

Flexible use

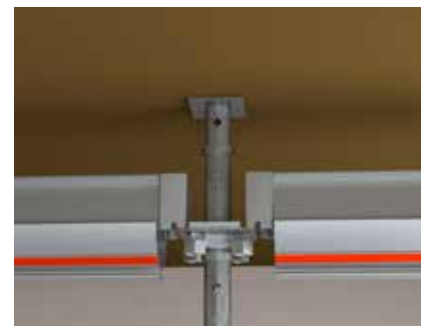
- "Primary on primary" assembly allows the Dalphi system to adapt to the exact dimensions of the cells.
- Beams can also be fitted on shoring towers.



LIGHTWEIGHT,
HAND-PORTABLE
EQUIPMENT



The integrated drop-head for fast removal enables a quicker turnaround of the aluminium structure.



The drop-head integrated in the prop allows fast formwork removal without releasing pressure on the slab



ALL DALPHI COMPONENTS HAVE BEEN TESTED BY THE INDEPENDENT LABORATORY LOCIE AT THE UNIVERSITY OF SAVOIE MONT BLANC.



QUALITY

Cast concrete thickness of up to 1.23 m

Regulations

The beams are designed in compliance with the formwork standard NF P 93-322.

Theft protection

The chemical process developed by Alphi prevents fraudulent aluminium beam recycling.

THEFT PROTECTION:
PROTECTED ALUMINIUM



Protection identifiable by red insert

3 SIMPLE COMPONENTS

1	Technical support (ST) with integrated drop-head	Name	Colour	Setting (cm)	Unit weight (kg)	Description
		ST1		197-300	18.50	<ul style="list-style-type: none"> Integrated drop-head for fast removal (patented system) Base web Hot-dip galvanised Cast iron sleeve
		ST2		221-350	20.50	
		ST3		250-400	23.50	

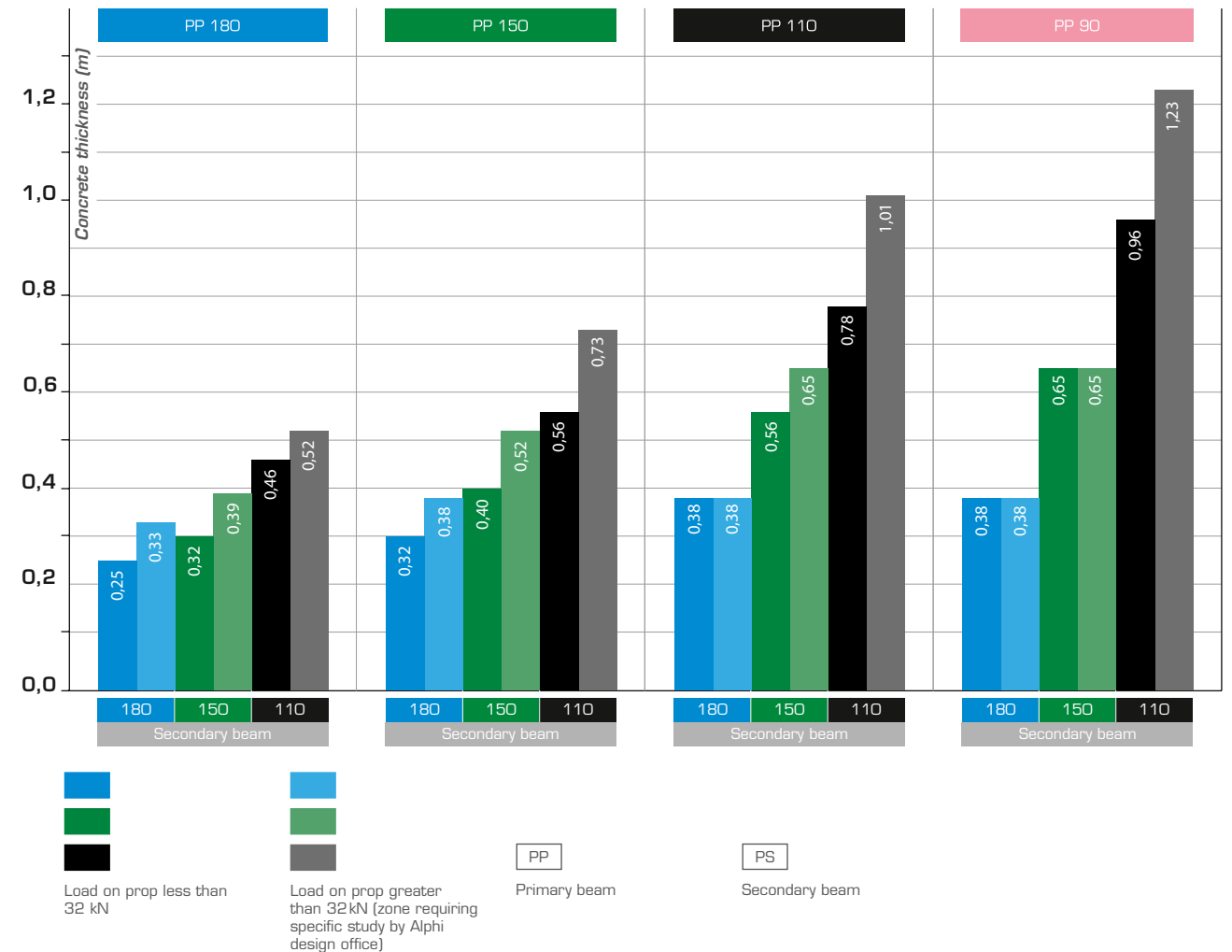
2	Primary beam	Name	Colour	Length (cm)	Unit weight (kg)	Description
		PP 90		90	5.40	<ul style="list-style-type: none"> Theft protection Can be mounted in a drawer 30 mm timber inserts, for nailing on plywood using 40 mm nails
		PP 110		110	6.60	
		PP 150		150	9.00	
		PP 180		180	10.80	

3	Secondary beam	Name	Colour	Length (cm)	Unit weight (kg)	Description
		PS 110		110	3.00	<ul style="list-style-type: none"> Theft protection Timer inserts for nailing on plywood using 40 mm nails Compatible with other formwork solutions
		PS 150		150	4.10	
		PS 180		180	4.90	

USE CALCULATION CHARTS

Beams

According to the thickness of the floor to be cast, with a centre distance of up to 45 cm between the secondary beams, to observe a deflection of $L/400$.

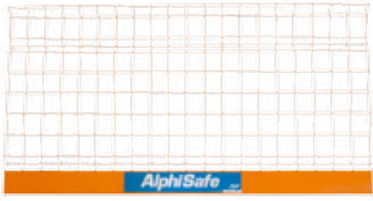





ST technical supports with integrated drop-head



Name	Colour	Height (cm)	Weight (kg)	Shored height (m) / Working load (kN)																				
				1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9
ST1		197-300	18.50	40	39	38	37	36	35	35	34	33	33	32	32									
ST2		221-350	20.50				40	39	39	38	37	36	36	35	35	34	34	33	32	32				
ST3		250-400	23.50							40	39	39	38	37	37	36	35	34	34	33	33	33	32	32



Hot-dip galvanised - Sleeve or nut colour coding - As per Eurocode safety coefficients 0 and 3.

DALPHI ACCESSORIES



Safety	Grid*		Dimensions w x h (m)	Weight (kg)	Description <ul style="list-style-type: none"> The wire grid is galvanised, with polyester powder coating
			1.25 x 1.30	7.60	
			2.40 x 1.30	13.90	
			2.50 x 1.30	14.50	
	Galvanised post*		Cross-section (cm²)	Height (m)	Weight (kg)
		3.5 x 3.5	1.34	3.50	
Alphi formwork adapters*		Weight (kg) Primary adapter	Weight (kg) Prop adapter		
Primary adapter	Prop adapter			2.30	2.10
				*Compliant with EN 13374 standard	

Additional	Electrogalvanised insulated head		Bores (mm)	Height (cm)	Unit weight (kg)	Maximum allowable load (kN)		
			4 x Ø12 x 80	33	3.80	40		
			Bracket	Non-tilt safety fork (FSAB)	Unit weight bracket (kg)	Maximum allowable load (kN)	Unit weight FSAB (kg)	Tube diameter (mm)
				1.05	3.5	1.15	35	<ul style="list-style-type: none"> Bracket: butterfly fastening nut FSAB: hammer head screw

Leborgne tools	nanovib® range	Description
		<ul style="list-style-type: none"> Tools suitable for fitting and removing Alphi formwork: hammers, hammer holder, prop key Vibration and noise reduction  <p>See page 234 for details of Leborgne tools</p>

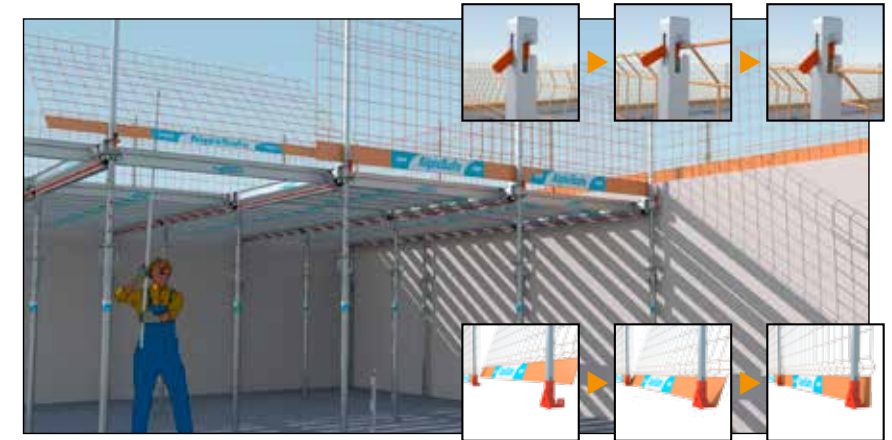
Handling	Racks	Ranges
		<ul style="list-style-type: none"> Vertical storage rack Galvanised rack on wheels Galvanised handling rack <p>See page 246 for the various rack models</p>
	TransEtais Housing	Description
		<ul style="list-style-type: none"> Easier prop handling Makes it possible to pass through door openings <p>See page 238 for details of TransEtais Housing</p>

DALPHI ACCESSORIES

Aids for use	Plywood cutting support	Dimensions W x L x H (m)	Description
		1.40 x 2.06 x 0.86	<ul style="list-style-type: none"> For sale only Circular saw kit and electrical extension available as an option
	Rolling safety ladder	Working height (m)	Description
	2.50 to 4.33	<ul style="list-style-type: none"> For sale only 	

ALPHISAFE COLLECTIVE PROTECTION

AlphiSafe is a collective protection system for formwork and slab edges. The technical innovations in the system allow **safe installation** and **automatic locking**. Robust AlphiSafe is certified by Ginger CEBTP, as per the **EN 13374 standard of July 2013**, as class A and B for some components. AlphiSafe is distinguished by its **height of 1.30 m** which is above the minimum height of 1.00 m set by the standard, and protects traditional slab formwork up to 30 cm thick.



The grid is locked at the top by the anti-lifting pin and locked in rotation at the base.

Installation of AlphiSafe safety system in cantilever configuration



Installation of AlphiSafe safety system on technical support (progressive fitting)



SIMPLIFIED USER GUIDE

FORMWORK

- Reception of equipment on the worksite: check quantities and validate delivery note.
- Precise distribution of the equipment according to the first phases of formwork defined by the layout drawing.
- Before starting to set up, remember to secure the area.
- Refer to the drawings and calculation charts provided.



- Do not place the props against the wall.
- Use TransEtais Housing for easy prop storage and transport.



- Caution: it is essential to lock the head.

FINISHING & CASTING

- Conduct a final inspection to check levelling.
- Check that props are vertical.
- Check that no prop has been placed in the reserved areas.
- Check the jointing of the plywood panels.
- Caution: it is prohibited to walk on the formwork, with the exception of trained personnel authorised to fit plywood panels.



- Nailing using 40 mm (max.) nails.
- Ensure that a load-bearing member is present under the plywood sheet joints, and that the formwork between plywood sheets and the edge is sealed.



- Check the sealing of the formwork between plywood sheets and at the edges.
- Spread the concrete on the formwork without overloading the beams and the technical supports.



- Mount 1 primary beam on 2 technical supports (ST) stabilised by tripods. **Caution: engage the primary beams on the large bushings of the technical support.**
- Mount a secondary beam on a third ST.



- Place a second primary beam on another ST.



- Finish setting up the secondary beams.
- Do not leave gaps greater than 39 cm. **Observe the layout plan.**

FORMWORK REMOVAL

- The drop-head for fast removal integrated in the technical support is a patented system held by Alphi.
- It enables the slab to remain shored during formwork removal.
- This speeds up equipment turnover.
- Formwork removal is performed after 24 to 48 hours (according to drying conditions).



- Strike down the formwork heads from the STs as you progress
- The primary beams and the secondary beams drop by 19 cm.
- The STs remain in position.



- Remove the secondary beams and finally the primary beams.



- Set up another secondary beam on ST.



- Adjust the level using a laser level, ST by ST.
- A gauge stick hanging from the formwork allows laser adjustment to be performed by one person.



- When the structure is finished and the height has been adjusted: laying the plywood. **Peripheral safety (skin, beam, etc.) ensured beforehand.**



- Remove the plywood sheet using a panel elevator.
- Use the Leborgne long-range form stripping tool to simplify this stage.



- Install the drying props, allowing one prop per 5 m² (general case).

DOCUMENTATION



View full user guide.



PRODUCTIVITY

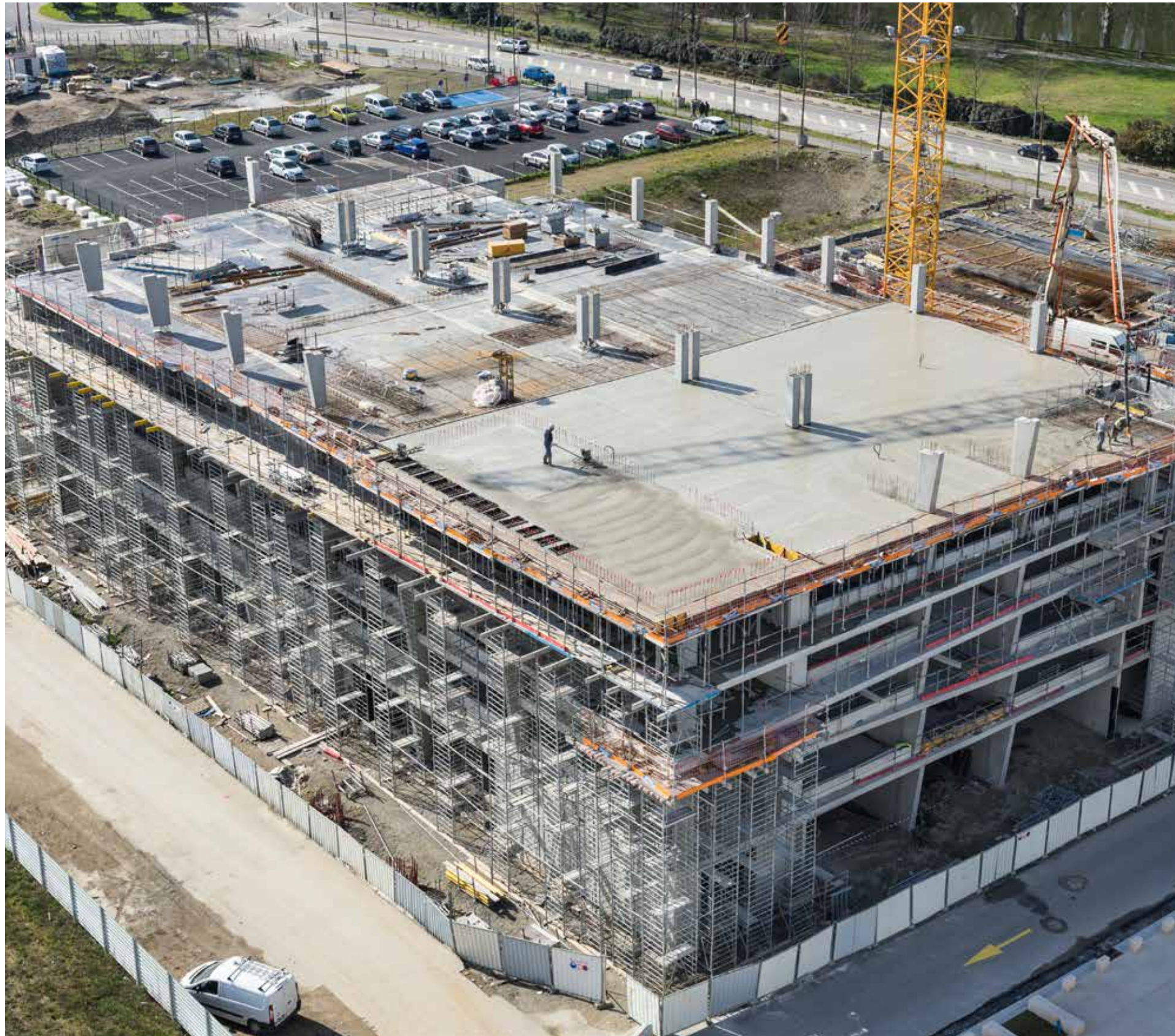
QUALITY

SAFETY

ERGONOMICS

MaxiDalle

The MaxiDalle range is panel type formwork designed for large cells, making it the ideal system for commercial building construction. The use of the panels at extra-high heights is facilitated by the ingenious MaxUpDown tool, designed to make work less arduous.



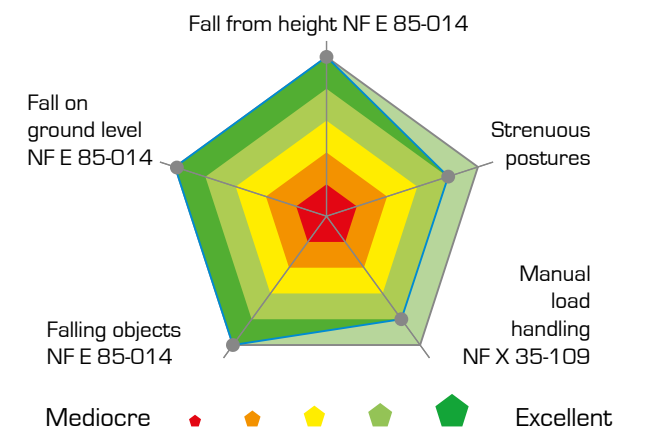
MaxiDalle

The MaxiDalle range is a panel-type formwork system for **large cells**.

The high-performance MaxiDalle system allows for the concrete to swell by up to 50 cm.

Simple: MaxiDalle comprises a single prop head for all assembly configurations and a formwork panel that comes in four sizes.

A snap-on joint provides **complete sealing** of the formwork.



SAFETY AND ARDUOUSNESS PERFORMANCES

MaxiDalle is the best-performing panel formwork of its generation in terms of the constraints of the NF E 85-014 and NF X 35-109 standards.

Site:
La Cartoucherie
car park
Client: Eiffage
Location: Toulouse



PRODUCTIVITY

- High installation work rate.
- Flexible use thanks to the various solutions for handling compensations (sheet, batten, H2O beam support).
- A single head for all configurations.
- Joint can be reused up to 5 times.
- Ergonomic panel handling tool: MaxUpDown.

QUALITY

- The insertion of the formwork panels combined with the snap-on joint creates a quality facing.
- The flashing left by the joint is admired for its clean and neat appearance.
- The joint seals the panel and enables the use of self-levelling concrete.



SAFETY

- Ground-based fitting and removal of panels and compensations when greater than 20 cm.
- The full surface inherent to the system forms a proper working platform.
- The AlphiSafe collective safety system is integrated in the panel using suitable adapters. It helps limit falls from height.

ERGONOMICS

- Lightweight panels: 28 kg for the 120 x 150 cm panel. 2 workers are sufficient for handling, in compliance with labour regulations.
- At extra-high heights, the MaxUp-Down tool enables easier panel handling and helps reduce repetitive strain injuries.



MAXUPDOWN
HELPS INCREASE
THE WORK RATE TO
40 M² /PERSON/DAY

WITHOUT MAXUPDOWN
Surface area: 120 m²
Height: 3.90 m
4 workers
30 m²/person/day



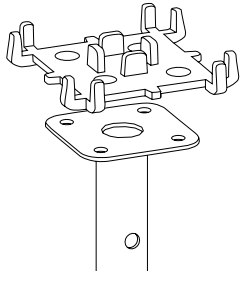
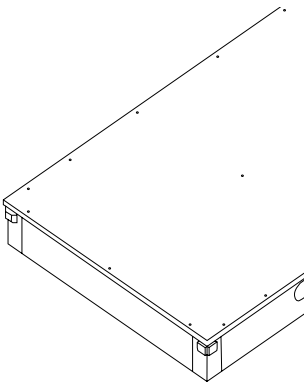
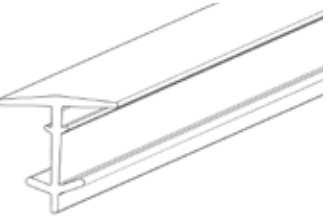
Productivity +25%



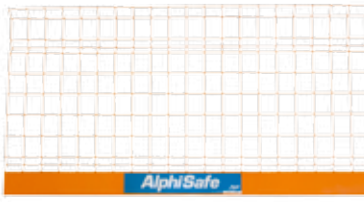




WITH MAXUPDOWN
Surface area: 120 m²
Height: 3.90 m
3 workers
40 m²/person/day








3 SIMPLE COMPONENTS



1	Head (prop + plate)	Description			
		<ul style="list-style-type: none"> Prop with 120 x 120 mm plate, bore holes spaced at 80 mm MaxiDalle plate: a single model for all assembly configurations 			
2	Formwork panel	Name	Dimensions W x L x H (cm)	Unit weight (kg)	Description
		MaxiDalle 30	30 x 150 x 14	9.00	<ul style="list-style-type: none"> 4 panel sizes Possible compensation system
		MaxiDalle 60	60 x 150 x 14	14.00	
		MaxiDalle 90	90 x 150 x 14	19.00	
		MaxiDalle 120	120 x 150 x 14	28.00	
3	Joint	Width (mm)	Thickness (mm)	Description	
		20	2	<ul style="list-style-type: none"> Snap-on for quick assembly Reliable hold during all phases of formwork and casting Reusable (number of reuses: 5) 	

MAXIDALLE ACCESSORIES





Safety	Grid*	Dimensions w x h (m)	Weight (kg)	Description
		1.25 x 1.30	7.60	<ul style="list-style-type: none"> The wire grid is galvanised, with polyester powder coating
		2.40 x 1.30	13.90	
		2.50 x 1.30	14.50	
Galvanised post*	Cross-section (cm²)	Height (m)	Weight (kg)	
	3.5 x 3.5	1.34	3.50	
	Alphi formwork adapter*	Name	Weight (kg)	
		MaxiDalle adapter	3.60	
*Compliant with EN 13374 standard				
Leborgne tools	nanovib® range	Description		
		<ul style="list-style-type: none"> Tools suitable for fitting and removing Alphi formwork: hammers, hammer holder, prop key Vibration and noise reduction <div style="text-align: center;">  </div> <p style="text-align: center; font-size: small;">See page 234 for details of Leborgne tools</p>		



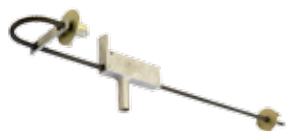

MAXIDALLE ACCESSORIES

Additional	Gauge stick	Length retracted / deployed (m)	Unit weight (kg)	Description
		1.80 / 2.90	2.00	<ul style="list-style-type: none"> Use up to 3.50 m
	Formwork removal pole	Length (m)	Unit weight (kg)	
		3.20	7.00	
	Compensation support	Unit weight (kg)	Description	
		2.30	<ul style="list-style-type: none"> Support for H20 beam and 18 mm plywood 	
	Compensation plate	Dimensions W x L (cm)	Thickness (mm)	
		30 x 150	2	
50 x 150		2		
Compensation batten (to receive 15 mm plywood)	Dimensions h x L (cm)	Thickness (cm)		
	12.50 x 139	4		

Handling	MaxUp	Dimensions W x L x h (cm)	Maximum working height (m)	Unit weight including cylinder (kg)
		70 x 125 x 170	4.20	74.00
	MaxDown	Dimensions W x L x h (cm)	Maximum working height (m)	Unit weight including cylinder (kg)
	130 x 160 x 230	4.20	96.00	

MAXIDALLE ACCESSORIES

Boundary barrier	Bracket	Dimensions L x h (m)	
		0.54 x 1.08	
	Ballast	Unit weight (kg)	
		25.00	
	Tube	Length (m)	Diameter (mm)
	3.00	33.4	
Assembled unit	Description		
	<ul style="list-style-type: none"> Barrier + ballast + tube 		

Stabilisation	150 cm frame 120 cm cross-member	Weight (kg)	
		38.60	
	Skin clamp	Unit weight (kg)	Description
		3.00	<ul style="list-style-type: none"> Stabilising clamp for use with 48 mm tube and collars
	Beam clamp	Unit weight (kg)	Description
	3.00	<ul style="list-style-type: none"> The tube is inserted into the prop used for cladding 	
Prop clamp	Unit weight (kg)	Description	
	5.00	<ul style="list-style-type: none"> The 45°-oriented rear plate allows retrospective fastening with the prop 	

ALPHISAFE COLLECTIVE PROTECTION

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Robust AlphiSafe is certified by Ginger CEBTP, as per the **EN 13374 standard of July 2013**, as class A and B for certain elements.

AlphiSafe is distinguished by its **height of 1.30 m** which is above the minimum height of one metre set by the standard, and protects traditional slab formwork up to 30 cm thick.



The grid is locked at the top by the anti-lifting pin and locked in rotation at the base.

Installation of AlphiSafe safety system in cantilever configuration from bottom

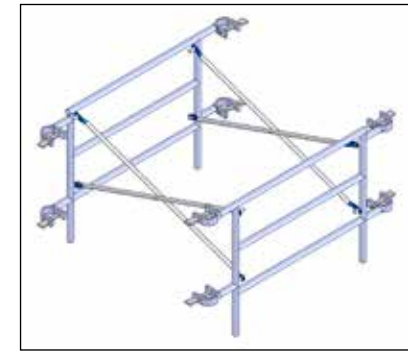


SIMPLIFIED USER GUIDE

STABILISATION

- MaxiDalle must be stabilised at cell commencement and during cell installation.
- For cells greater than 100 m² in size or on commencing, intermediate stabilisations should be added, every 100 m², using cross-member frames or clamps.
- 3 stabilisation solutions can be used at commencement.

Cross-member frame



- Cross-member frame system.



- A cross-member frame is fitted provisionally on the first 4 props.

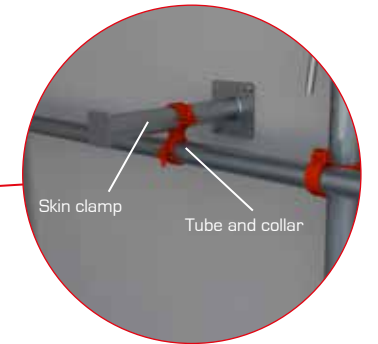
Skin clamp



- Skin clamp + tube system.



- Set up the stabilisation of the first components.
- Once in place, the tripods can be removed.



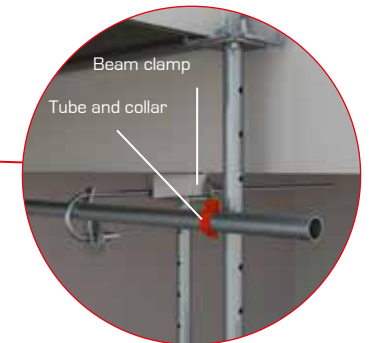
Beam clamp



- Beam clamp + tube system.



- Set up the stabilisation of the first components.
- Once in place, the tripods can be removed.



SIMPLIFIED USER GUIDE

MAXIDALLE
INSTALLATION
WITH TRIPODS

- Panel installation should start on the side of the arrow indicated in the installation drawing.



- Install 4 props equipped with MaxiDalle tie plates, using tripods.
- Fit the first panel flat using a rolling safety ladder.



- Attach the second panel vertically to the props.



- Raise the first panel using the gauge stick, and hold it in the horizontal position.
- Position the first prop of the second frame against the wall and complete the stabilisation with skin clamps.



- Raise the second panel using a second gauge stick and position the next prop.
- Continue from one to the next.



- The cell is formed and the slab is cast.



- Using the gauge stick, the form fitter raises the panel safely, until it is in the horizontal position.



- Whilst keeping the panel resting on the gauge stick, the form fitter installs the props.

MAXIDALLE
FORMWORK REMOVAL
WITH ROLLING SAFETY
LADDERS

- If applicable, start formwork removal with a panel close to a compensation zone.



- The panel to be removed is held by 4 props
- Remove the props on the side of the free edge of the panel. The panel cannot fall as it is fixed onto the rear props.



- Position the rolling safety ladders on either side of the panel to be removed.
- Remove the final holding prop.

CONTINUED
INSTALLATION
WITH SKIN CLAMPS

- Stabilisation can be performed using skin clamps, prop clamps or cross-member frames.



- Fitting of skin clamps suitable for use for formwork stabilisation.



- Start the second frame by hanging the first panel.



- Remove the rear props.
- Lower the panel to be removed.
- Continue from one to the next.



- If required, the slab may be shored underneath by drying props.

DOCUMENTATION



View full user guide.

MAXUPDOWN FOR MAXIDALLE



MaxUp

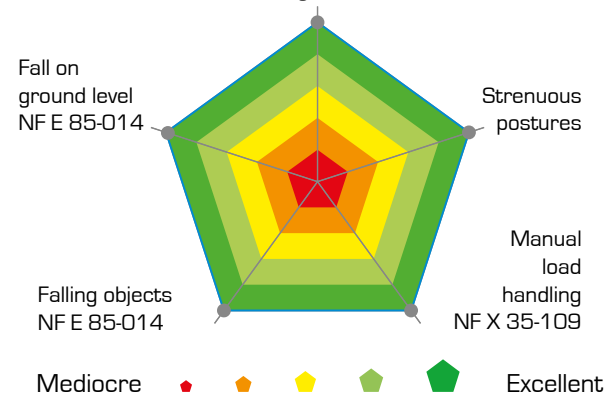
MaxUp is a tool enabling MaxiDalle formwork panels to be fitted effortlessly onto prop heads.

MaxDown

MaxDown is a tool enabling easier MaxiDalle formwork panel removal at extra-high heights. Protective netting receives and secures the panel as it is lowered.



Fall from height NFE 85-014



SAFETY AND ARDUOUSNESS PERFORMANCES

Fitters work at ground level (no need for rolling safety ladder). They no longer need to handle heavy loads at heights.

MAXUPDOWN: SIMPLIFIED USER GUIDE

MAXIDALLE INSTALLATION WITH MAXUP

- Only two workers are required to fit a 120 x 150 cm MaxiDalle panel.
- The compressed air cylinder used to actuate the system is pressurised to 200 bar.
- A compressor can be made available.



- Position the panel vertically on the MaxUp.
- Raise the panel and place it on the brackets.
- Lift the panel using the telescopic mast system.



- Move the MaxUp to position the panel.
- Lower the panel so that its 2 top corners are engaged.
- Lower the MaxUp and remove it from the rear.

MAXIDALLE FORMWORK REMOVAL WITH MAXDOWN

- The MaxDown frame should be positioned in the same direction as the panel to be removed.
- As such, the latter will remain stable when tilted to the vertical position in the final stage.



- Tilt the panel to the horizontal position using the pole.
- Position 1 prop at the junction of the 2 panels.
- Repeat the operation for the entire cell.



- After removing the 2 props situated to the front of the panel to be removed, place MaxDown under the panel.



- The panel is detached using a pole.
- Once the pole is positioned, a simple rotating movement enables the panel to lower into the net.



- When the panel is detached from the slab, the MaxDown is lowered.

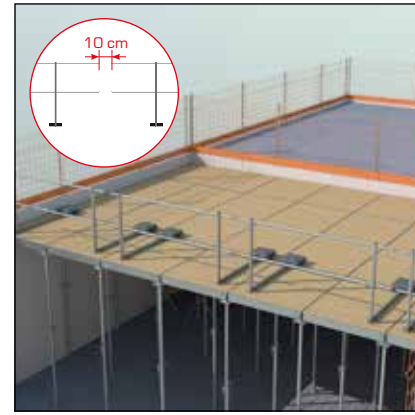
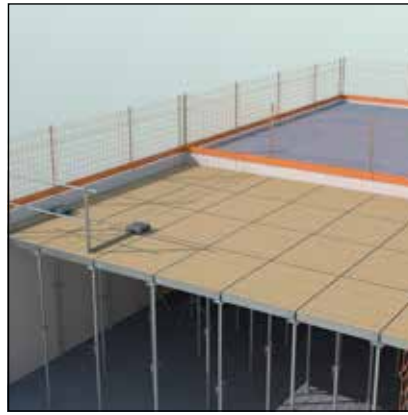


- When the frame comes to a stop, the panel can be retrieved by 2 workers (case of a 120 cm panel).

BOUNDARY BARRIERS

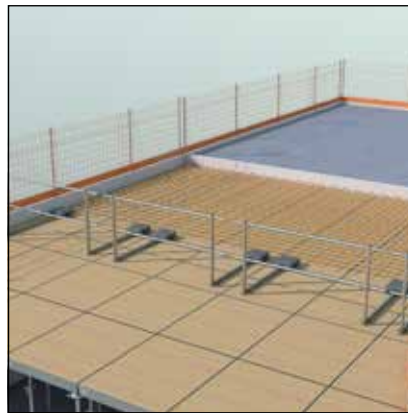
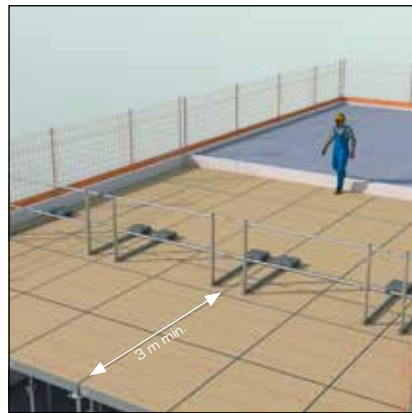
INSTALLATION

- These barriers are used to define a work area for workers working after the formwork phase.



- From ground level, fit the boundary barriers using 2 rolling safety ladders.
- This stage is performed at a rate of 2 workers per 3 m block containing 2 bases.

- Before working in the area within the boundary, the formwork must be continued for 3 m beyond the boundary barriers. **Caution: maximum gap between 2 barriers of 10 cm.**



- Complete the formwork of the cell with boundary barriers over at least 3 m, before any work in the area within the boundary.

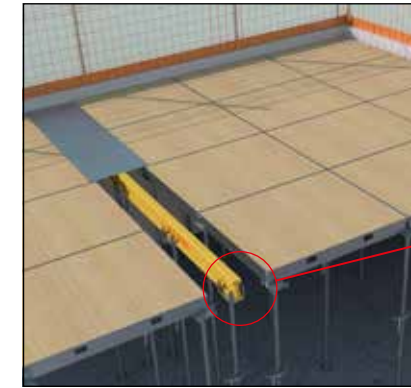
- The area within the boundary is then accessible.
- All work before casting the slab will be performed in this area.

COMPENSATION MANAGEMENT

With compensation plate



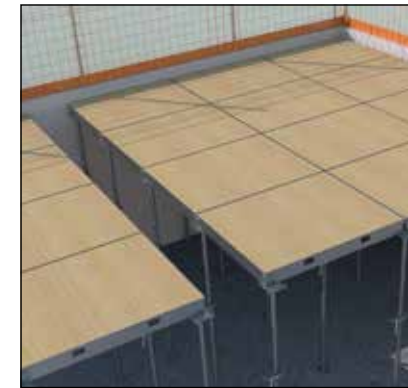
- Minimise the gap by combining panels of different sizes.
- Up to a gap of 19 cm, no risk of falls from height.



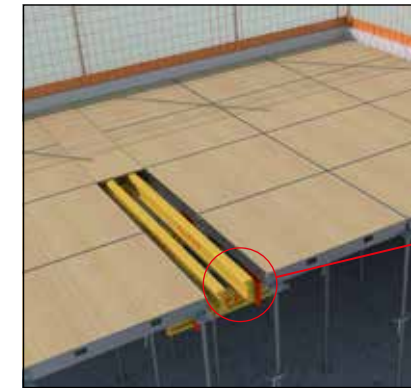
- Fit the plate over the gap.
- Nail the plate onto the MaxiDalle plywood.
- Between 20 and 30 cm, add a beam.
- The gap is thus less than 30 cm.



With compensation support



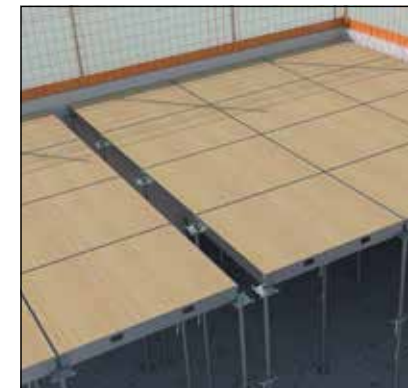
- Minimise the gap by combining panels of different sizes.



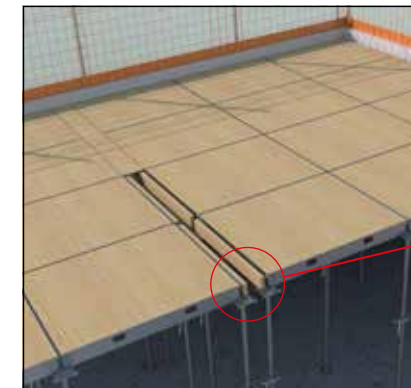
- Fix the compensation supports into the grooves of the MaxiDalle.
- Cut the 18 mm plywood to seal the gap.



With compensation batten



- Minimise the gap by combining panels of different sizes.
- The gap is thus less than 30 cm.



- Position the compensation battens directly on the MaxiDalle heads.
- Position the plywood.





PRODUCTIVITY

SAFETY

STURDINESS

LARGE SURFACES

Formwork Tables

Ideal for large surfaces and balconies, Alphi formwork tables can be adapted to all construction site configurations. They offer a high level of stability.



Formwork Tables

Alphi formwork tables are used for formwork on **large surfaces** or **balconies**. They can be adapted to all construction site configurations.

According to the required use and strength, they will be associated with **steel props** compliant with the EN 1065 standard or with **aluminium props** compliant with the EN 16031 standard.

Very **stiff** and very **stable**, they can create formwork of up to 6 m in depth.

The **AlphaSafe** collective protection system further ensures worker safety.

Site:
La Germandrée -
Housing
Client: Yilbat
Location:
Narbonne

Left

Site in Switzerland
Client: Induni
Location: Geneva

Right

PRODUCTIVITY

- Reduction in fitting, formwork removal and handling time.
- The table formwork surface created can reach 6 m in depth for a variable width.
- Cast concrete thickness: up to 80 cm.
- The balcony table is used from depths of 1.30 m.
- The robustness of the system enables a high number of reuses.



SAFETY


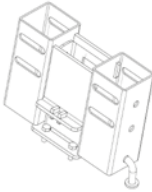
- The AlphiSafe collective safety system can be adapted to all formwork tables.
- The lifting beam required for handling the tables is self-stabilising.
- Clamps, push-pull props, frames and straps help achieve optimal stability when the table is in place.

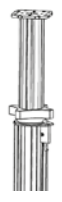
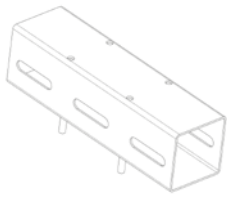
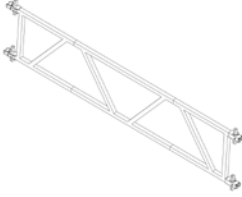


COMPONENTS




Components	Double C steel die (primary support)	Length (m)	Weight (kg)	Profile inertia (I) (cm ⁴)	Allowable moment (kN.m)	Allowable shearing force (kN)
		1.00	14.10	498	14.5*	88*
		2.50	33.75			
		4.00	54.00			
		5.00	66.90			
6.00		79.70				
H2O timber secondary beam	Standard lengths (m)	Weight (kg/m)	Max. allowable bending moment (kN.m)	Max. allowable shearing force (kN)		
	1.95	4.70	5***	11***		
	2.45					
	2.90					
	3.30**					
	3.60**					
	3.90					
	4.90**					
Mounting clip	Description	*As per Eurocodes 0 and 3 **For sale only ***As per NF P 93-221 standard				
	<ul style="list-style-type: none"> Fastened with screw and Nylstop nut For securing H2O 					
Reinforcement bracket	Description	<ul style="list-style-type: none"> H2O secondary beam connection on steel die Used to increase the stiffness of the formwork table 				

COMPONENTS





For standard load support	Steel prop	Height (m)	Strength	Standard
		from 2.50 to 5.00	Strength classes A to E	Compliant with EN 1065 and NF P 93-221 standards
	Connecting head	Description		
	<ul style="list-style-type: none"> Used for tilting props to pass over collective protections, with inclined or vertical locking 			

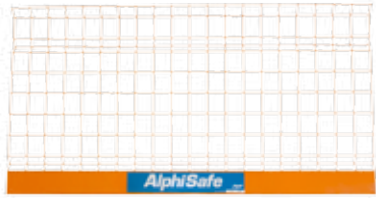



For strong load support	Aluminium prop	Height (m)	Strength	Standard	
		from 2.00 to 6.20	Strength classes D to U	Compliant with EN 16031 standard	
	Mounting housing on die	Description			
		<ul style="list-style-type: none"> Used to fix the prop head, thereby increasing loads and stability 			
	Connecting frame	Dimensions w x h (m)	Weight (kg)		
		1.20 x 0.50	10.70		
	1.60 x 0.50	14.30			
	1.90 x 0.50	17.00			
	2.10 x 0.50	18.70			
	2.30 x 0.50	20.50			
	2.50 x 0.50	22.30			

FORMWORK TABLE ACCESSORIES

Additional	Formwork table clamp	Description		
		<ul style="list-style-type: none"> Used to fasten the formwork table to the skin (anti-recoil) 		
	Push-pull prop	Description		
		<ul style="list-style-type: none"> Withstands both tensile and compressive forces, for optimal stabilisation 		
	Shifting trolley	Dimensions L x W x H (m)	Lifting height (m)	Maximum load (kN)
	1.80 x 1.20 x 1.90	0.90	10	

FORMWORK TABLE ACCESSORIES

Handling	Lifting beam	Maximum allowable load (kN)	Description
		15	<ul style="list-style-type: none"> Suitable for handling 5 m tables Other lifting beams may be used according to table size
	Lifting beam table lock	Description	
		Hot-dip galvanised	
	Base strike-down tool	Weight (kg)	Maximum allowable load (kN)
	6.00	100	
Aluminium prop setting key	Weight (kg)	Description	
	1.50	<ul style="list-style-type: none"> Facilitates formwork strike-down and makes it possible to avoid hammer use 	

Safety	Grid*	Dimensions w x h (m)	Weight (kg)	Description
		1.25 x 1.30	7.60	<ul style="list-style-type: none"> The wire grid is galvanised, with polyester powder coating
		2.40 x 1.30	13.90	
		2.50 x 1.30	14.50	
	Galvanised post*	Cross-section (cm²)	Height (m)	Weight (kg)
		3.5 x 3.5	1.34	3.50
Alphi formwork adapters*		Weight (kg) Die adapter	Weight (kg) Timber beam adapter	
		2.20	6.60	

*Compliant with EN 13374 standard

DOCUMENTATION



[View full user guide.](#)

PRODUCTIVITY

MODULARITY

STEEL

ALUMINIUM

AS10[®]

VERTICAL FORMWORK



AS10 vertical formwork panels, available in steel or aluminium, allow all geometric combinations, from rectilinear to circular.

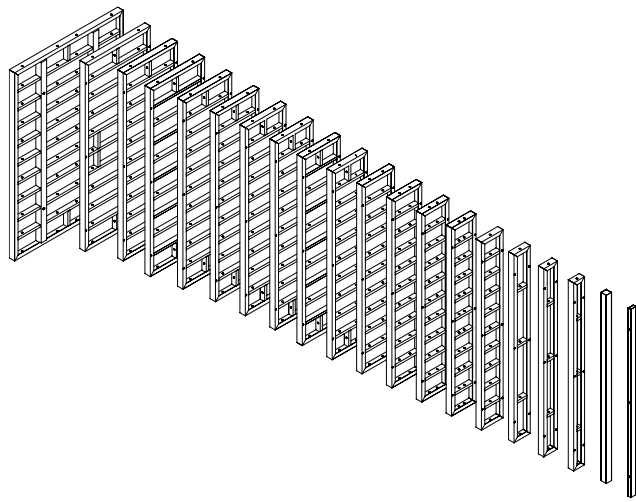


AS10®

The AS10 vertical formwork panel system can reduce assembly times on building sites, as well as production costs.

COMPONENTS

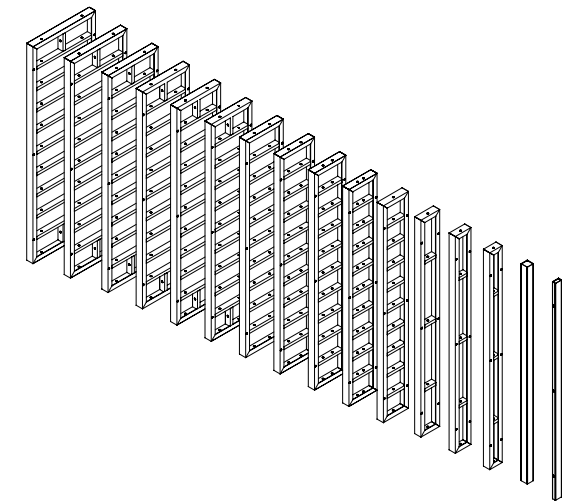
AS10 STEEL panels



Cat. No.	Height (cm)	Width (cm)	Unit weight (kg)	Cat. No.	Height (cm)	Width (cm)	Unit weight (kg)
221100	300	200	375	221202	150	120	73
221102	300	120	150	221204	150	100	58
221104	300	100	115	221254F	150	100	62
221154F	300	100	120	221206	150	90	53
221106	300	90	107	221208	150	80	49
221108	300	80	98	221209	150	75	47
221109	300	75	87	221210	150	70	45
221110	300	70	83	221260F	150	70	50
221160F	300	70	87	221211	150	65	42
221111	300	65	77	221212	150	60	39
221112	300	60	73	221213	150	55	37
221113	300	55	69	221214	150	50	35
221114	300	50	65	221215	150	45	33
221115	300	45	61	221216	150	40	30
221116	300	40	57	221218	150	30	25
221118	300	30	45	221219	150	25	23
221119	300	25	42	22120	150	20	21
221120	300	20	39	223201	150	10	14
223101	300	10	28	223211	150	5	7.5
223111	300	5	15				

AS10 Steel panels are available in various sizes ranging from 1.35 m to 3.30 m.

AS10 ALUMINIUM panels







Cat. No.	Height (cm)	Width (cm)	Unit weight (kg)	Cat. No.	Height (cm)	Width (cm)	Unit weight (kg)
221104A	300	100	69	221204A	150	100	36.6
221154AF	300	100	69	221254AF	150	100	36.6
221106A	300	90	65.2	221206A	150	90	32.5
221108A	300	80	59.3	221208A	150	80	29.4
221109A	300	75	56.3	221209A	150	75	27.9
221110A	300	70	53.3	221210A	150	70	26.3
221160AF	300	70	53.3	221260AF	150	70	26.3
221111A	300	65	50.4	221211A	150	65	24.7
221112A	300	60	46.5	221212A	150	60	22.7
221113A	300	55	43.5	221213A	150	55	21.2
221114A	300	50	40.5	221214A	150	50	19.5
221115A	300	45	37.6	221215A	150	45	18.2
221116A	300	40	34.6	221216	150	40	16.5
221118A	300	30	26.5	221218	150	30	13
221119A	300	25	24	221219	150	25	11.5
221120A	300	20	21.6	221220	150	20	10.5
223101	300	10	28	223201	150	10	14
223111	300	5	15	223211	150	5	7.5

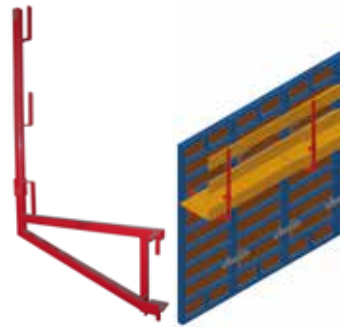
AS10 Aluminium panels are available in various sizes ranging from 1.35 m to 3.00 m.

AS10 ACCESSORIES


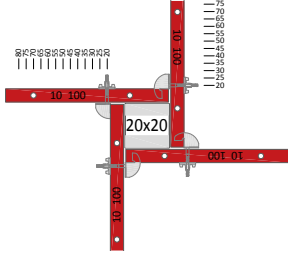
Compensation	5 cm rod compensation element	Cat. No.	Height (cm)	Weight (kg)	Description
		223111	From 135 to 330	From 7.00 to 16.50	<ul style="list-style-type: none"> Suitable for obtaining a specified size failing panels of the required size
	10 cm rod compensation element	Cat. No.	Height (cm)	Weight (kg)	Description
		223101	From 135 to 330	From 12.50 to 31.00	<ul style="list-style-type: none"> Suitable for obtaining a specified size failing panels of the required size
	Formwork strike-down element	Cat. No.	Height (cm)	Weight (kg)	Description
		223131	From 135 to 330	From 7.00 to 16.50	<ul style="list-style-type: none"> 2 oblique parts for performing formwork removal after applying pressure
Compensation holding profile	Cat. No.	Height (cm)	Weight (kg)	Description	
	811101	From 50 to 250	From 7.00 to 37.50	<ul style="list-style-type: none"> In the case of 5 or 10 cm compensation, makes it possible to obtain satisfactory formwork support absorbing the concrete thrust 	





Additional	Lifting hook	Cat. No.	Weight (kg)	MWL (kN)	Description
		291002	7.00	11.40	<ul style="list-style-type: none"> Can be used alone or in pair according to load To be positioned at the level of a reinforcement bar
	Form panel alignment clamp	Cat. No.	Length (cm)	Weight (kg)	Description
	291012	45	5.20	<ul style="list-style-type: none"> Suitable for keeping 2 form panels attached and ensuring tightness 	

Angle brackets	90° internal bracket 30 x 30 cm	Cat. No.	Height (cm)	Weight (kg)	Description
		222111	From 135 to 330	From 270 to 670	<ul style="list-style-type: none"> Made of steel, can be used for forming 90° angles or for forming "T" connections
	External angle bracket	Cat. No.	Height (cm)	Weight (kg)	Description
		222401	From 135 to 330	From 9.00 to 24.50	<ul style="list-style-type: none"> Quick, flexible system clamped to the various elements connected by means of a short pin and a key
	Variable angle bracket external 10 x 10 cm	Cat. No.	Height (cm)	Weight (kg)	Description
		222131	From 135 to 330	From 30.00 to 79.00	<ul style="list-style-type: none"> Used for forming variable external angles
Variable angle bracket internal 30 x 30 cm	Cat. No.	Height (cm)	Weight (kg)	Description	
	222141	From 135 to 330	From 30.00 to 79.00	<ul style="list-style-type: none"> Used for forming variable internal angles 	

Safety	Service bracket	Cat. No.	Weight (kg)	Description
		296021	12.00	<ul style="list-style-type: none"> Used to form a gangway to allow the user to move about safely

AS10 ACCESSORIES

Custom	Posts		Description
			<ul style="list-style-type: none"> Option of forming custom posts by assembling panels using a post fixing tool Adjustable shapes and sizes

Universal modular single-faced skin	Anchoring truss	Cat. No.	Height (cm)	Weight (kg)	Description
		310010	From 70 to 300	From 20.00 to 330.00	<ul style="list-style-type: none"> System for absorbing horizontal forces during single-faced skin casting
	Extension piece	Cat. No.	Height (cm)	Weight (kg)	Description
		310012	150	64.00	<ul style="list-style-type: none"> Connection element
	Hook	Cat. No.	Weight (kg)	Description	
		310021	1.60	<ul style="list-style-type: none"> Connection element 	
	Galvanised steel tube	Cat. No.	Length (cm)	Weight (kg)	Description
	310100	300	10.40	<ul style="list-style-type: none"> Used for truss crossbracing 	
	310102	150	5.20		

SIMPLIFIED USER GUIDE

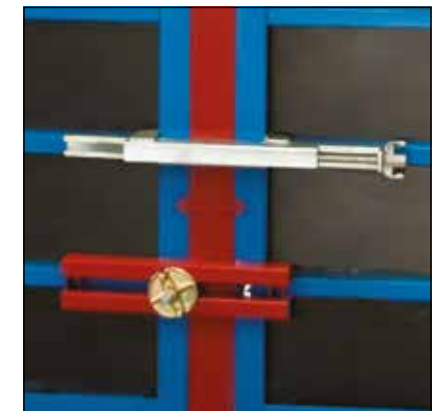
FORM PANEL ALIGNMENT CLAMP

- Form panel alignment clamps, which are 45 cm long, are used to assemble several panels or accessories, both vertically and horizontally.
- The form panel alignment clamp must be positioned as an extension of the reinforcement profiles in order to obtain proper alignment of the panels. It locks and firmly binds the assembled elements together, for increased safety.



COMPENSATION ELEMENTS

- AS10 rod compensation elements are used to obtain the desired size in the absence of panels of the correct size.
- The includes 5 and 10 cm metal and timber compensating elements, and a 6 to 30 cm compensating sheet.



DOCUMENTATION



[View full user guide.](#)

SAFETY

COMPLIANCE

STRENGTH

QUALITY

Props *European standard*

European standard props are compliant with the EN 1065 and NF P 93-221 standards. Available in 4 classes, they offer the best performances in terms of strength and quality.



Props European standard

The **metal prop range** offered by Alphi is used on all construction sites.

Available in four classes, props compliant with the **EN 1065 and NF P 93-221 standards** offer the best performances in terms of quality and strength.

Standard props, shores and push-pull props round out the Alphi range.

For **long props**, Alphi has designed the TransEtais trolley to facilitate the work of form fitters.

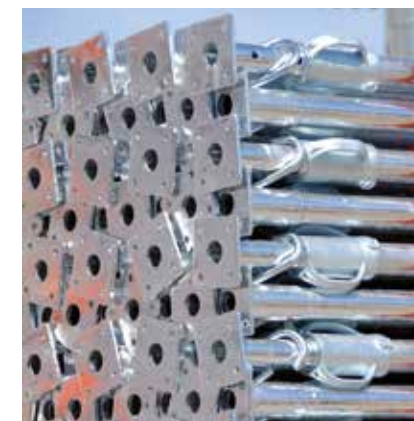
SAFETY

For added safety, the following are available on props compliant with the NF P 93-221 standard:

- Finger protection inside the sleeve prevents jammed fingers,
- Base web on the sleeve, giving greater distortion resistance at the bottom.

COMPLIANCE

- Compliant with the European standard EN 1065, including lower slide.
- Press test and certification by the independent laboratory Locie of University of Savoie Mont Blanc.
- Verification of ageing in rental housing stock.



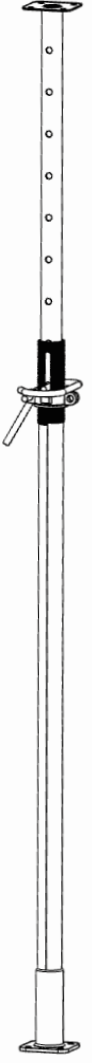
COMPLIANT WITH EN 1065 AND NF P 93-221 STANDARDS



Site: Arena performance venue
Client: Bouygues Bâtiment
Location: Floirac

EQUIPMENT

Class B - Type N

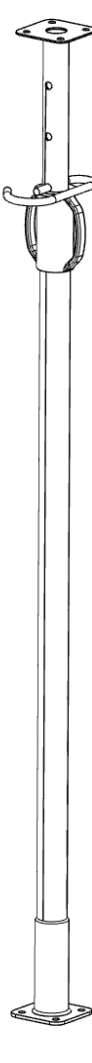


Formwork working load (daN), safety coefficient: 1.65 as per Eurocodes 0 and 3							
Extension (m)	Cat. No.						
	B25N	B30N	B35N	B40N	B45N*	B50N*	B55N*
	from 1.6 to 2.5	from 1.8 to 3.0	from 2.1 to 3.5	from 2.3 to 4.0	from 2.6 to 4.5	from 2.8 to 5.0	from 3.1 to 5.5
1.6 and 1.7	3090						
1.8	3090	3090					
1.9	2854	3090					
2.0	2576	3090					
2.1	2336	2804	3090				
2.2	2129	2554	2980				
2.3	1948	2337	2727	3090			
2.4	1789	2146	2504	2862			
2.5	1648	1978	2308	2638			
2.6		1829	2134	2439	2743		
2.7		1696	1979	2261	2544		
2.8		1577	1840	2103	2365	2628	
2.9		1470	1715	1960	2205	2450	
3.0		1374	1603	1832	2061	2290	
3.1			1501	1715	1930	2144	2359
3.2			1409	1610	1811	2012	2214
3.3			1325	1514	1703	1892	2081
3.4			1248	1426	1604	1783	1961
3.5			1177	1346	1514	1682	1850
3.6				1272	1431	1590	1749
3.7				1204	1355	1505	1656
3.8				1142	1284	1427	1570
3.9				1084	1219	1355	1490
4.0				1030	1159	1288	1417
4.1					1103	1226	1348
4.2					1051	1168	1285
4.3					1003	1114	1226
4.4					957	1064	1171
4.5					915	1018	1119
4.6						973	1071
4.7						932	1026
4.8						894	983
4.9						858	944
5.0						824	906
5.1							871
5.2							838
5.3							806
5.4							777
5.5							749

* For export only as per NF P 93-221 standard

Description	Components (mm)					
	Class	Weight (kg)	Ø Outer tube	Ø Inner tube	Ø Pin	Plate
<ul style="list-style-type: none"> Anti-dropout of inner and outer tube 100 mm hand guard Protection by hot-dip galvanising Optional finger protection Tapered captive pin Optional base web 	B25N	14.10	60	48	14	120 x 120 x 6
	B30N	15.80				
	B35N	17.40				
	B40N	19.10				
	B45N	20.70	70	60	15	
	B50N	22.40				
	B55N	24.00				

Class B - Type T



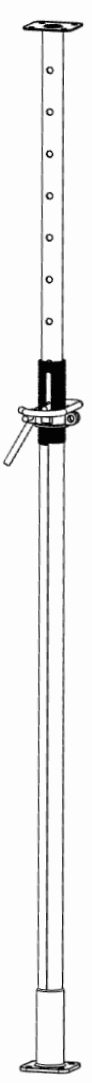
Formwork working load (daN), safety coefficient: 1.65 as per Eurocodes 0 and 3							
Extension (m)	Cat. No.						
	B25T	B30T	B35T	B40T	B45T*	B50T*	B55T*
	from 1.6 to 2.5	from 1.8 to 3.0	from 2.1 to 3.5	from 2.3 to 4.0	from 2.6 to 4.5	from 2.8 to 5.0	from 3.1 to 5.5
1.6 and 1.7	3090						
1.8	3090	3090					
1.9	2854	3090					
2.0	2576	3090					
2.1	2336	2804	3090				
2.2	2129	2554	2980				
2.3	1948	2337	2727	3090			
2.4	1789	2146	2504	2862			
2.5	1648	1978	2308	2638			
2.6		1829	2134	2439	2743		
2.7		1696	1979	2261	2544		
2.8		1577	1840	2103	2365	2628	
2.9		1470	1715	1960	2205	2450	
3.0		1374	1603	1832	2061	2290	
3.1			1501	1715	1930	2144	2359
3.2			1409	1610	1811	2012	2214
3.3			1325	1514	1703	1892	2081
3.4			1248	1426	1604	1783	1961
3.5			1177	1346	1514	1682	1850
3.6				1272	1431	1590	1749
3.7				1204	1355	1505	1656
3.8				1142	1284	1427	1570
3.9				1084	1219	1355	1490
4.0				1030	1159	1288	1417
4.1					1103	1226	1348
4.2					1051	1168	1285
4.3					1003	1114	1226
4.4					957	1064	1171
4.5					915	1018	1119
4.6						973	1071
4.7						932	1026
4.8						894	983
4.9						858	944
5.0						824	906
5.1							871
5.2							838
5.3							806
5.4							777
5.5							749

* For export only as per NF P 93-221 standard

Description	Components (mm)					
	Class	Weight (kg)	Ø Outer tube	Ø Inner tube	Ø Pin	Plate
<ul style="list-style-type: none"> Anti-dropout of inner and outer tube Nut end-of-travel stop 100 mm hand guard Protection by hot-dip galvanising Optional finger protection Tapered captive pin Optional base web 	B25T	13.70	57	48	14	120 x 120 x 6
	B30T	15.40				
	B35T	17.00				
	B40T	18.70				
	B45T	20.30				
	B50T	22.00				
	B55T	23.60				

EQUIPMENT

Class C - Type N

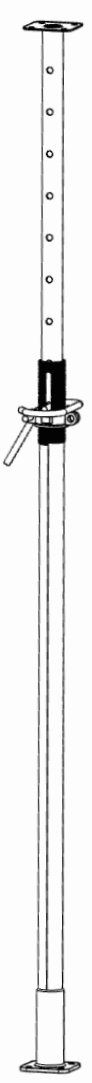


Working load (daN), safety coefficient: 1.65 as per Eurocodes 0 and 3							
Extension (m)	Cat. No.						
	C25N*	C30N*	C35N	C40N	C45N	C50N	C55N
	from 1.6 to 2.5	from 1.8 to 3.0	from 2.1 to 3.5	from 2.3 to 4.0	from 2.6 to 4.5	from 2.8 to 5.0	from 3.1 to 5.5
1.6 and 1.7	3606						
1.8	3606	3606					
1.9	3606	3606					
2.0	3606	3606					
2.1	3504	3606	3606				
2.2	3193	3606	3606				
2.3	2921	3506	3606	3606			
2.4	2683	3220	3606	3606			
2.5	2473	2967	3462	3606			
2.6		2743	3201	3606	3606		
2.7		2544	2968	3392	3606		
2.8		2365	2760	3154	3548	3606	
2.9		2205	2573	2940	3308	3606	
3.0		2061	2404	2747	3091	3434	
3.1			2251	2573	2895	3216	3538
3.2			2113	2415	2717	3018	3320
3.3			1987	2271	2554	2838	3122
3.4			1872	2139	2406	2674	2941
3.5			1766	2019	2271	2523	2776
3.6				1908	2146	2385	2623
3.7				1806	2032	2258	2484
3.8				1712	1926	2141	2355
3.9				1626	1829	2032	2235
4.0				1545	1739	1932	2125
4.1					1655	1839	2023
4.2					1577	1752	1927
4.3					1504	1672	1839
4.4					1437	1597	1756
4.5					1374	1526	1679
4.6						1461	1607
4.7						1399	1539
4.8						1342	1476
4.9						1287	1416
5.0						1236	1360
5.1							1307
5.2							1257
5.3							1210
5.4							1166
5.5							1124

*Protected threading option (C25T - C30T)

Description	Components (mm)					
	Class	Weight (kg)	Ø Outer tube	Ø Inner tube	Ø Pin	Plate
<ul style="list-style-type: none"> Anti-dropout of inner and outer tube 100 mm hand guard Protection by hot-dip galvanising Optional finger protection Tapered captive pin Optional base web 	C25N	15.60	60	48	15	120 x 120 x 8
	C30N	17.50				
	C35N	19.40				
	C40N	21.20	70	60		
	C45N	23.10				
	C50N	25.00	76	63		
	C55N	26.90				

Class C + D - Type N

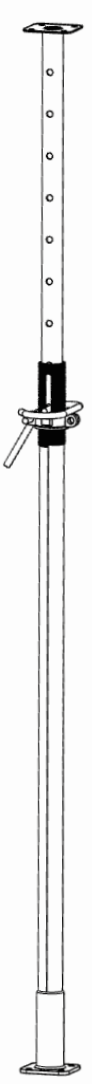


Formwork working load (daN), safety coefficient: 1.65 as per Eurocodes 0 and 3							
Extension (m)	Cat. No.						
	D25N*	C+D30N*	C+D35N	C+D40N	C+D45N	C+D50N	C+D55N
	from 1.6 to 2.5	from 1.8 to 3.0	from 2.1 to 3.5	from 2.3 to 4.0	from 2.6 to 4.5	from 2.8 to 5.0	from 3.1 to 5.5
1.6 and 1.7							
1.8		3606					
1.9		3606					
2.0		3606					
2.1	2060	3606	3606				
2.2		3606	3606				
2.3		3506	3606	3606			
2.4		3220	3606	3606			
2.5		2967	3462	3606			
2.6		2743	3201	3606	3606		
2.7		2544	2968	3392	3606		
2.8		2365	2760	3154	3548	3606	
2.9		2205	2573	2940	3308	3606	
3.0		2061	2404	2747	3091	3434	
3.1			2251	2573	2895	3216	3538
3.2			2113	2415	2717	3018	3320
3.3				2271	2554	2838	3122
3.4			2060	2139	2406	2674	2941
3.5					2271	2523	2776
3.6					2146	2385	2623
3.7						2258	2484
3.8				2060		2141	2355
3.9							2235
4.0							2125
4.1					2060		
4.2							
4.3							
4.4						2060	
4.5							
4.6							
4.7							
4.8							2060
4.9							
5.0							
5.1							
5.2							
5.3							
5.4							
5.5							

*Protected threading option (C25T - C30T)

Description	Components (mm)					
	Class	Weight (kg)	Ø Outer tube	Ø Inner tube	Ø Pin	Plate
<ul style="list-style-type: none"> Anti-dropout of inner and outer tube 100 mm hand guard Protection by hot-dip galvanising Optional finger protection Tapered captive pin Optional base web 	D25N	15.60	60	48	15	120 x 120 x 8
	C+D30N	17.50				
	C+D35N	19.10				
	C+D40N	22.10	76	63		
	C+D45N	30.50				
	C+D50N	33.10	76	63		
	C+D55N	35.50				


Class C + E - Type N





Formwork working load (daN), safety coefficient: 1.65 as per Eurocodes 0 and 3						
Extension (m)	Cat. No.					
	C+E25N	C+E30N	C+E35N	C+E40N	C+E45N	C+E50N
1.6 and 1.7	3606					
1.8	3606	3606				
1.9	3606	3606				
2.0	3606	3606				
2.1	3504	3606	3606			
2.2	3193	3606	3606			
2.3		3506	3606	3606		
2.4	3090	3220	3606	3606		
2.5			3462	3606		
2.6			3201	3606	3606	
2.7		3090		3392	3606	
2.8				3154	3548	3606
2.9					3308	3606
3.0					3091	3434
3.1			3090			3216
3.2						
3.3						
3.4						
3.5				3090		
3.6						
3.7						
3.8					3090	
3.9						
4.0						
4.1						3090
4.2						
4.3						
4.4						
4.5						
4.6						
4.7						
4.8						
4.9						
5.0						
5.1						
5.2						
5.3						
5.4						
5.5						



Description	Components (mm)					
	Class	Weight (kg)	Ø Outer tube	Ø Inner tube	Ø Pin	Plate
<ul style="list-style-type: none"> Anti-dropout of inner and outer tube 100 mm hand guard Protection by hot-dip galvanising Optional finger protection Tapered captive pin Optional base web 	C+E25N	19.20	76	63	15	120 x 120 x 8
	C+E30N	22.50				
	C+E35N	25.00				
	C+E40N	23.80 (steel/alu) 27.00 (steel)				
	C+E45N	33.00				
	C+E50N	38.00				

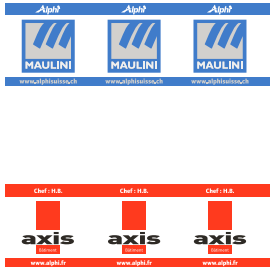


PROP ACCESSORIES

	Collapsible galvanised tripod	Weight (kg)	Height (cm)	Prop diameter (mm)
		4.70	70	From 55 to 76
	Fork	Working height (cm)	Description	
		14	<ul style="list-style-type: none"> For use with timber beams and AL200 	
	Beam clamp	Unit weight (kg)	Description	
		3.00	<ul style="list-style-type: none"> The tube is inserted into the prop used for cladding 	
	Skin clamp	Unit weight (kg)	Description	
		3.00	<ul style="list-style-type: none"> Stabilising clamp for use with 48 mm tube and collars 	
	Prop clamp	Unit weight (kg)	Description	
		5.00	<ul style="list-style-type: none"> The 45°-oriented rear plate allows fastening after positioning the prop 	
	Dywidag form panel hole flange	Unit weight (kg)	Description	
		3.00	<ul style="list-style-type: none"> The loop is used either to stabilise a prop, or to receive a tube for holding multiple props 	

PROP ACCESSORIES

Leborgne tools	nanovib® range	Description
		<ul style="list-style-type: none"> Tools suitable for fitting and removing Alphi formwork: hammers, hammer holder, prop key Vibration and noise reduction  <p>See page 234 for details of Leborgne tools</p>

Handling	Racks	Ranges
		<ul style="list-style-type: none"> Vertical storage rack Galvanised rack on wheels Galvanised handling rack <p>See page 246 for the various rack models</p>
	TransEtais Housing	Description
	<ul style="list-style-type: none"> Easier prop handling Makes it possible to pass through door openings <p>See page 238 for details of TransEtais Housing</p>	

Customisation	Self-adhesive label	Description
		<ul style="list-style-type: none"> Self-adhesive labels can be produced with the client's colours and logo
	Epoxy paint (sleeve, slide, nut, etc.)	Description
		<ul style="list-style-type: none"> RAL according to client's choice
	Plate and/or handle engraving	Description
	<ul style="list-style-type: none"> Engraving of plate and/or operating handle on external thread prop (not more than 8 characters for client's name) 	

DOCUMENTATION



View full user guide.

SIMPLIFIED USER GUIDE

PREPARATORY STAGE

- Reception of equipment on the worksite: check quantities and validate delivery note.
- Prop inspection: do not use warped or damaged props.
- Props may be used with the slide up or down, according to the site configuration.

Broken sleeve



Warped prop

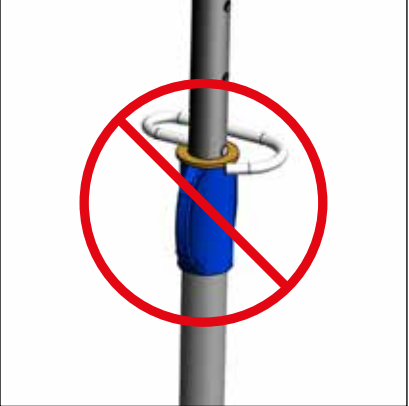





- Bearing surfaces must be flat and stable.



- Ensure that the prop is vertical.



- The pin must be correctly inserted and must rest on the washer.



- Do not store the props vertically.



- Do not throw props. Stow them in the suitable racks and move them using a crane.



- Do not strike the threading with any tool liable to damage it.



PREMIUM STANDARD

FLYING SHORE

PUSH-PULL

Props other uses

In addition to the standardised prop range, Alphi offers specific props to meet all needs.

EQUIPMENT

Push-pull props



Working compressive load (daN)				
Extension (m)	Cat. No. (Outer tube Ø 60 mm - Inner tube Ø 48 mm)			
	TPE 18	TPE 30	TPE 35	TPE 45
	from 1.1 to 1.8	from 1.8 to 3.0	from 2.0 to 3.5	from 2.5 to 4.5
1.8	2500			
1.9		2000		
2.1		2000	2000	
2.3		2000	2000	
2.7		1500	1500	2000
3.0		1500	1500	2000
3.3			1500	1500
3.8				1350
4.5				1000
Working tensile load (daN)				
For all extensions	2000			
Weight (kg)				
	10.00	19.00	21.00	25.00

Working compressive load (daN)		
Extension (m)	Cat. No. (Outer tube Ø 76 mm - Inner tube Ø 63 mm)	
	TPE 45/76	TPE 55/76
	from 2.5 to 4.5	from 3.1 to 5.5
2.5	3000	
3.0	2400	3000
3.4	2150	2450
3.6	2000	2250
3.8	1650	2150
4.0	1550	2100
4.5	1400	1500
5.0		1100
5.5		1000
Working tensile load (daN)		
For all extensions	3000	
Weight (kg)		
	33.00	37.00

Description	
<ul style="list-style-type: none"> Anti-dropout of inner and outer tube Nut end-of-travel stop 	<ul style="list-style-type: none"> Protection by hot-dip galvanising Ø 15 mm captive pin

EQUIPMENT

Flying shores



Working load (daN)				
Extension (m)	Cat. No.			
	ET80	ET110	ET160	ET200
	0.512 to 0.812	0.712 to 1.112	1.012 to 1.612	1.212 to 2.012
0.5	2886			
0.7	2886	2886		
0.8	2886	2886		
1.0		2886	2886	
1.1		2886	2886	
1.2			2886	2886
1.6			2555	2886
2.0				2048
Weight (kg)				
	7.00	8.40	11.00	13.00

Description	
<ul style="list-style-type: none"> Outer tube Ø 57 mm Inner tube Ø 48 mm Pin Ø 14 mm 	<ul style="list-style-type: none"> Hot-dip galvanised or painted Plate 120 x 120 x 6 mm Holes Ø 13, spacing 80 x 80 mm

Premium Standard props



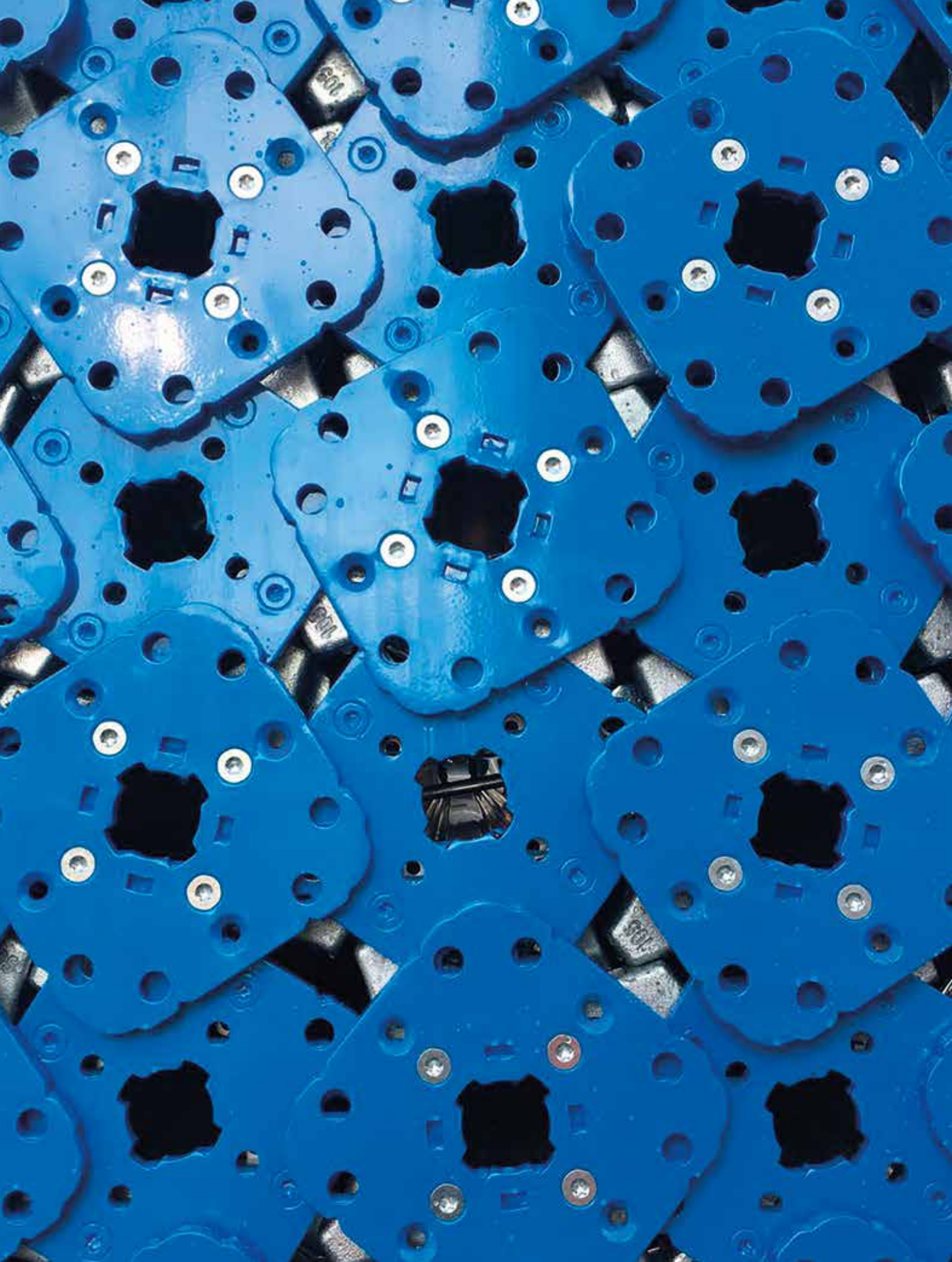
Working load (daN), safety coefficient: 2					
Extension (m)	Cat. No.				
	Premium 30	Premium 35	Premium 40	Premium 45	Premium 50
	from 1.7 to 3.0	from 2.0 to 3.5	from 2.5 to 4.0	from 2.75 to 4.5	from 3.0 to 5.0
1.7	2700				
2.0	2700	2700			
2.5	2600	2700	2700		
2.7	2500	2650	2700		
2.75	2450	2600	2650	2600	
3.0	2400	2500	2600	2600	2700
3.5		2100	2200	2400	2600
4.0			2000	1950	2300
4.5				1400	1600
5.0					1150
Weight (kg)					
	14.35	16.65	19.10	21.60	23.35

Description	
<ul style="list-style-type: none"> Outer tube Ø 57 x 2.7 mm Slide Ø 48.3 x 2.9 mm Captive pin Ø 14 mm Cast iron sleeve 	<ul style="list-style-type: none"> Plate 120 x 120 Bearing washer, 5 mm thick Hand guard Protection by hot-dip galvanising or paint



View full user guide.

Based on the quantities required, Alphi can manufacture props to the client's specifications.



LIGHT WEIGHT

LONG WORKING LIFE

COMPLIANCE

ADAPTABILITY

aluminium **Props**

Alphi aluminium props are compliant with the EN 16031 standard pertaining to adjustable telescopic aluminium props. The very high mechanical strength of the aluminium props allows a high loading capacity.



aluminium **Props**

Aluminium props are characterised by **strong load support**.

The geometry of the outer tube allows frames to be **connected quickly** in two orthogonal directions.

They can be **customised** to suit the client's colours.

The geometry of the inner tube with non-continuous threading on the perimeter facilitates **self-cleaning** when the nut is inserted.

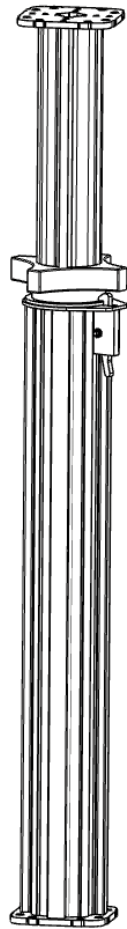
COMPLIANT WITH THE EN 16031 STANDARD, ALUMINIUM PROPS OFFERS THE BEST PERFORMANCES IN TERMS OF QUALITY AND STRENGTH.

*Site in Switzerland
Client: Induni
Location: Geneva*

EQUIPMENT

	Working load (daN)			
	Cat. No.			
	S35/20 T1	E48/33 T1	D55/35 T1	D62/48 T1
Extension (m)	from 2.0 to 3.5	from 3.3 to 4.8	from 3.5 to 5.5	from 4.8 to 6.25
2.0	8900			
2.1	8800			
2.3	8500			
2.5	8100			
2.7	7600			
2.9	7200			
3.1	6400			
3.3	5700	7900		
3.5	5000	7600	7500	
3.7		6900	7100	
3.9		6200	6600	
4.1		5600	5900	
4.3		5000	5600	
4.5		4400	4700	
4.7		3900	4200	
4.8		3600	4000	4500
5.0			3500	4300
5.2			3100	4000
5.4			2700	3700
5.5			2500	3400
5.8				3100
6.0				2800
6.2				2400
Weight (kg)	19.50	25.20	28.00	31.00

Aluminium props



DOCUMENTATION



View full user guide.

Description	
<ul style="list-style-type: none"> Light weight Can be used for casting or drying Threading to any height, self-cleaning Captive slide Customisable to suit client's colours 	<ul style="list-style-type: none"> Possibility of extending the outer tube Quality epoxy paint for easy maintenance Long working life Certification by an independent European laboratory according to the EN 16031 standard - Classes D to U

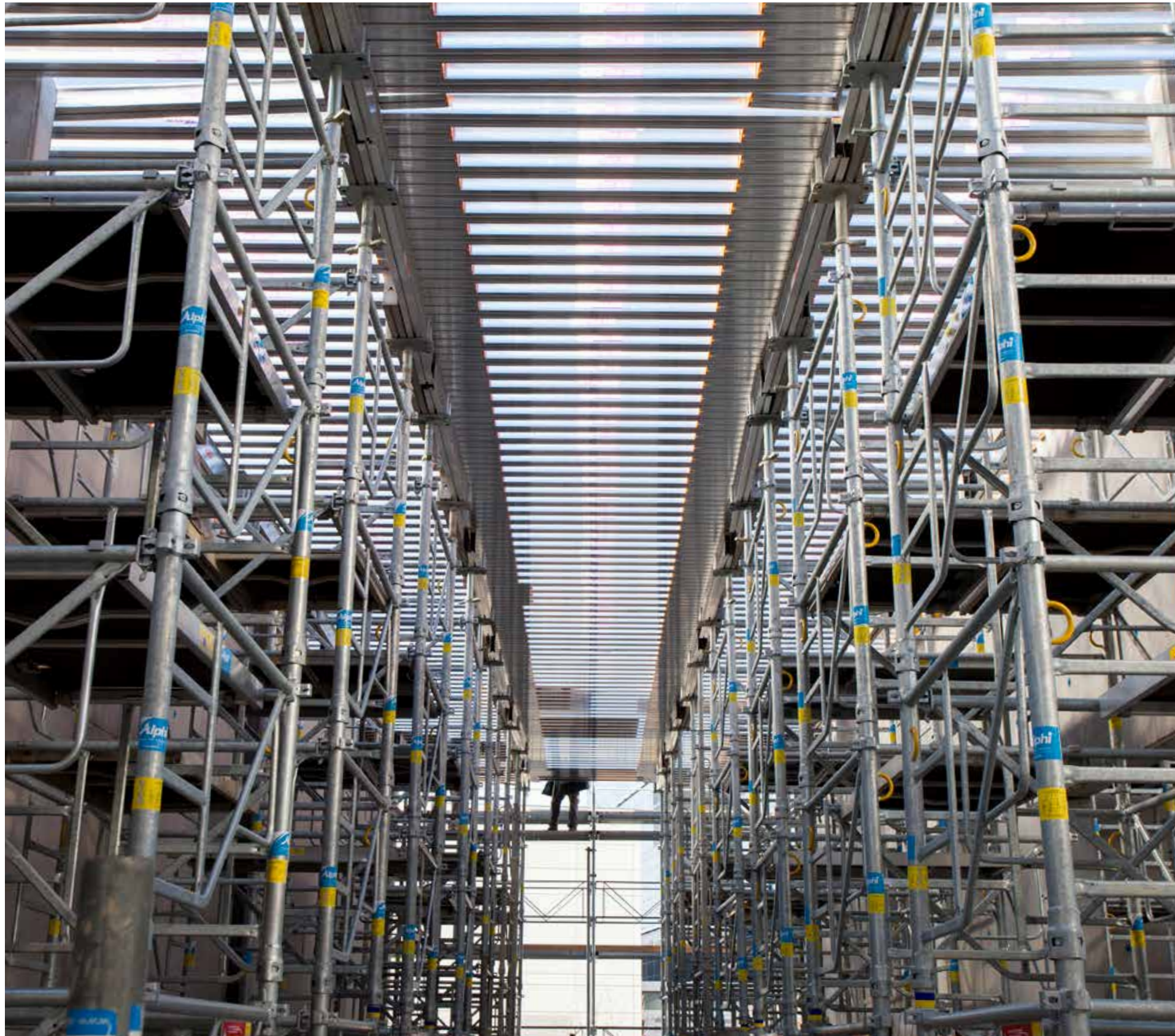
ALUMINIUM PROP ACCESSORIES

Additional	Connecting frame	Dimensions w x h (m)	Weight (kg)		
		1.20 x 0.50	10.70		
		1.60 x 0.50	14.30		
		1.90 x 0.50	17.00		
		2.10 x 0.50	18.70		
		2.30 x 0.50	20.50		
	2.50 x 0.50	22.30			
Electrogalvanised quick formwork strike-down tool	Weight (kg)	Working load (kN)	Connection bolt	Weight (kg)	
	6.00	100		0.07	
Painted collapsible tripod	Weight (kg)	Height (m)	Extension	Height (m)	
	11.00	1.16		From 0.50 to 2.00	
Setting key	Weight (kg)	Description	Flange	Description	
	1.50	Facilitates nut unfastening preparation		Used to associate aluminium props with tubes	

Handling	Rack	Weight (kg)	Quantity
		38.00	20 frames
		58.00	49 props

Beams

Both beam ranges, timber and aluminium satisfy the needs of different construction site configurations. The anti-tipping beams help prevent falls from heights.



Beams

Alphi offers two ranges of formwork beams to satisfy the needs of different construction site configurations.

- AL100 and AL200 **aluminium beams** favour strong load support. Their specific shape allows the fastening of clips or accessories (e.g. straps) and prevents any slipping with a hammer head screw system.
- H20 **timber beams** are used for traditional formwork.
- For added safety, the **AL100** beams also have an anti-tipping feature.



LIKE ALL
ALPHI ALUMINIUM
PRODUCTS,
AL200 FORMWORK
BEAMS CAN BE
PROTECTED FROM
THEFT.

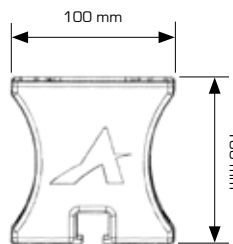
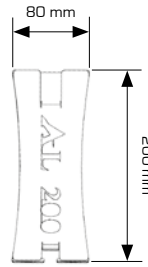


Site in Switzerland
Client: Induni
Location: Geneva

EQUIPMENT

AL200 beam						
Name	Technical characteristics*	Length (m)	Unit weight (kg)	Description		
AL200 - 180	Maximum allowable moment: 13.5 kN.m Inertia: 800 cm ⁴ Allowable shear force: 37.5 kN	1.80	9.70	<ul style="list-style-type: none"> Lightweight, strong aluminium beams Height 20 cm Integrated 30 mm timber insert, suitable for nailing Possible protection from theft and fraudulent recycling of aluminium 		
AL200 - 240		2.40	13.00			
AL200 - 360		3.60	19.00			
AL100 beam						
Name	Technical characteristics*	Length (m)	Unit weight (kg)	Description		
AL100 - 180	Allowable plastic moment: 4.80 kN.m Inertia: 164 cm ⁴ Allowable threshold shear force: 13.60 kN	1.80	6.50	<ul style="list-style-type: none"> Lightweight, strong aluminium beams with anti-tipping feature Integrated timber insert, suitable for nailing Protection from theft and fraudulent recycling of aluminium via the inclusion of an insert Clamps onto the primaries via a clip to prevent tipping during use in cantilever configuration 		
AL100 - 220		2.20	8.10			
AL100 - 360		3.60	12.80			

Formwork beams - ALUMINIUM



* Compliant with NF P 93-322 standard Press test and certification by the independent laboratory Locie of University of Savoie Mont Blanc.




H2O beam					
Length (m)	Weight (kg)	Max. allowable bending moment (kN.m)***	Max. allowable shear force (kN)***	Description	
1.95	4.70	5	11	<ul style="list-style-type: none"> Can be equipped with a protective end fitting, for longer product life 	
2.45					
2.90					
3.30**					
3.60**					
3.90					
4.90**					


Formwork beams - TIMBER



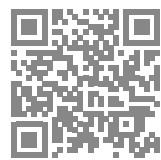
* Other lengths on request, for sale
 ** For sale only
 *** Compliant with EN 13377 standard

BEAM ACCESSORIES

Components	Fork	Working height (cm)	Description
		14	▪ For use with timber beams and AL200
	Mounting clip	Weight (kg)	Description
		0.19	▪ Suitable for securing beams
Clamp	Weight (kg)		
	0.20		

Handling		Rack	Name	Spacing (cm)	Weight (kg)	Quantity	
			MWL 1.5 t	91.5	50.00	AL100	AL200
			Painted rack	89.8	25.00	64	40
			Galva rack	89.8	28.00	64	40

DOCUMENTATION



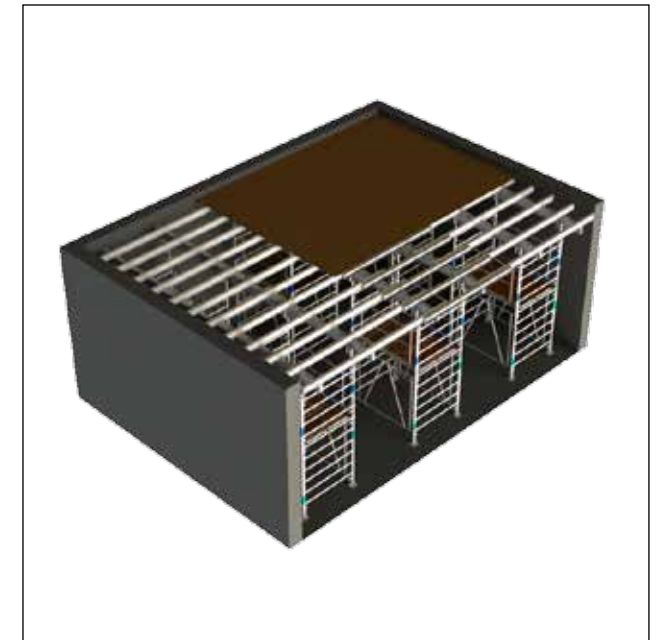
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EXAMPLES OF USE

With AL200 beams

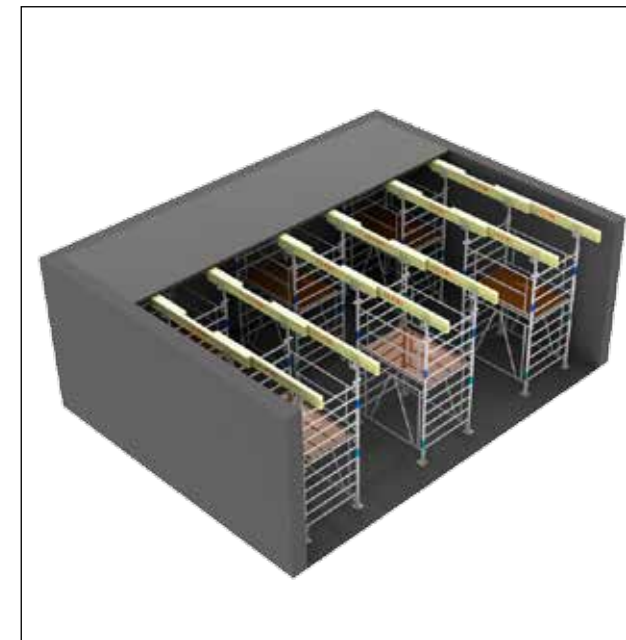


- Hollow slab shoring with AL200 on A120 towers.



- Cast-in-place slab shoring with AL200 on A120 towers.

With H20 beams



- Pre-slab shoring with H20 beams on A120 towers.

SAFETY

PERFORMANCE

ADAPTABILITY

COMPLIANCE

Shoring Tower A120

The A120 tower is a shoring tower that can be assembled and disassembled in complete safety. High-performance, it allows a load of 3 tonnes/foot.



Shoring Tower A120

Alphi shoring towers satisfy the needs of all types of projects: the **A120 tower** is an effective solution for user safety, **low towers** are available for specific requirements.

As recommended in the CRAMIF NT24 guidelines, the A120 tower can be assembled and disassembled **in complete safety**, limiting the risks of falls from height.

Site:
La Cartoucherie -
Car park
Client: Eiffage
Location: Toulouse

COMPLIANT WITH THE GUIDELINES OF CRAMIF TECHNICAL REPORT NO. 24

SAFETY

- Safe assembly from the lower level.
- Built-in safety features.
- No connectors between ladder frames.

Compliant with the guidelines of CRAMIF technical report No. 24

- This technical report concerns ladder shoring towers and other shoring towers from 2.50 to 6 m tall.
- Its aim is to improve this equipment and therefore also user safety.

The guidelines concern limiting:

- falls from heights,
- repetitive strain injury,
- falls at ground level,
- towers collapsing or tipping,
- handling and manoeuvring.



ADAPTABILITY

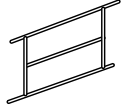
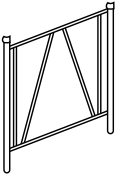
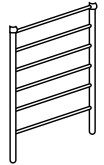
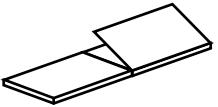

- The A120 tower exists in three sizes: 120 x 130 - 120 x 160 - 120 x 220 cm.
- It can be used with TopDalle formwork, with Alto formwork decks, and with the whole range of Alphi beams (AL200, AL100, and H20).

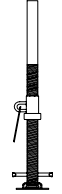
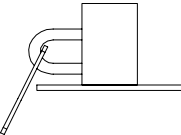

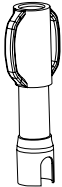

PERFORMANCE

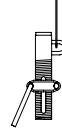
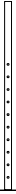
- Allowable load of 30 kN/foot.
- Can be handled with a crane.










COMPONENTS

Central structure	Guardrail	Dimensions (m)	Weight (kg)	Description
		0.75 x 1.60	8.36	<ul style="list-style-type: none"> For 1.00 m ladder
	Access guardrail	Dimensions (m)	Weight (kg)	Description
		1.25 x 1.60	6.40	<ul style="list-style-type: none"> For 1.50 m ladder
	Ladder	Height (m)	Weight (kg)	Description
	1.00	16.50	<ul style="list-style-type: none"> 4 rungs 	
	1.50	24.30	<ul style="list-style-type: none"> 6 rungs 	
Decks	Deck with trapdoor	Dimensions (m)	Weight (kg)	Description
		0.52 x 1.60	14.49	<ul style="list-style-type: none"> Aluminium and timber floor
	Deck without trapdoor	Dimensions (m)	Weight (kg)	Description
	0.50 x 1.60	13.40	<ul style="list-style-type: none"> Steel floor 	

Base	Adjustable base	Weight (kg)
		6.50
	Base plate	Weight (kg)
	1.60	
Head	2-inlet adjustable fork	Weight (kg)
		7.56
	Intermediate head jack	Weight (kg)
		2.91
	Slide 1.50 m	Weight (kg)
	6.50	

Intermediate base jack	Weight (kg)
	2.84
Slide 1.50 m	Weight (kg)
	6.50

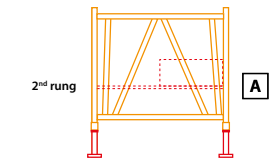
A120 TOWER ACCESSORIES

Safety	Clinch-fit beam guardrail	Dimension (m)	Weight (kg)	Description
		1.60	4.00	Fixed guardrail
		1.20	4.00	Component with hook
		1.20	4.00	Offset component with hook
	Skin clamp	Weight (kg)	Description	
		3.00	Stabilising clamp for use with 48 mm tube and collars	
	Tower clamp	Weight (kg)	Description	
	3.50	Used to secure the tower to a skin Has a safety hook		
Dywidag form panel hole clamp	Weight (kg)	Description		
	3.00	The loop is used either to stabilise a riser, or to receive a tube for holding multiple risers		
Handling	Shifting trolley with rack	Dimensions (m)	Weight (kg)	Description
		1.60 x 0.98 x 1.19	85.40	Can be used to move towers without disassembly

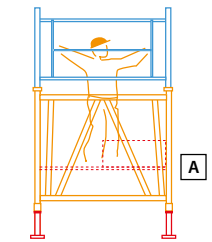
SIMPLIFIED USER GUIDE

SAFETY

- A120 Tower assembly procedure for complete safety at all times.



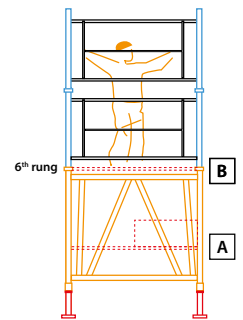
2nd rung **A**



A

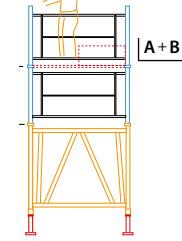
LINKING

- From 5 metres upwards, towers must be cross-braced by a planar linkage every 3 metres in height, with Ø 48.3 mm tubes and fixed Ø 49/60 mm scaffolding collars.

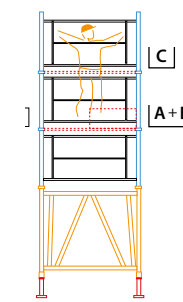


6th rung **B**

A

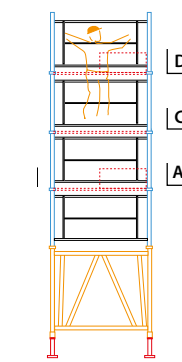


A+B



C

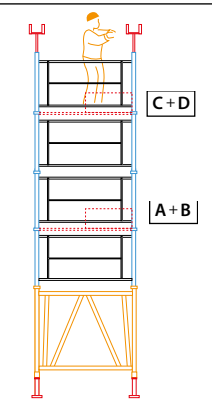
A+B



D

C

A+B



C+D

A+B

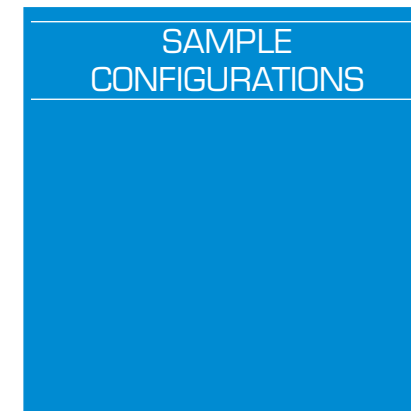
A and D: decks with trapdoor
B and C: decks without trapdoor

COMPOSITION CHARTS

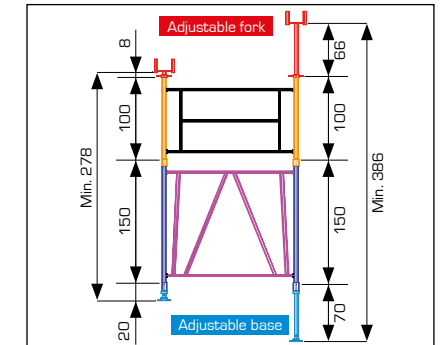
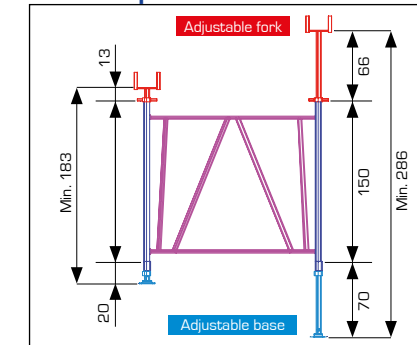
Towers with adjustable bases at the bottom and adjustable forks at the top	Height at bottom of fork min. - max. [cm]	183 - 286	278 - 386	378 - 486	478 - 586	578 - 686
	Component	Quantity				
	Adjustable base	4	4	4	4	4
	Ladder 1.50 m	2	2	2	2	2
	Ladder 1.00 m	0	2	4	6	8
	Access guardrail 1.60 x 1.25 m	2	2	2	2	2
	Guardrail 1.60 m	0	2	4	6	8
	S-pin	0	4	8	12	16
	Adjustable fork	4	4	4	4	4
	½ single plank	1	1	1	2	2
½ plank with trapdoor	0	0	1	1	2	
Weight [kg]						
Weight of a basic steel tower measuring 1.20 x 1.60 m	129.00	180.00	231.00	281.00	332.00	

Towers with base plates at the bottom and adjustable forks at the top	Height at bottom of fork min. - max. [cm]	168 - 226	268 - 326	468 - 526	468 - 526	568 - 626
	Component	Quantity				
	Adjustable base	4	4	4	4	4
	Ladder 1.50 m	2	2	2	2	2
	Ladder 1.00 m	0	2	4	6	8
	Access guardrail 1.60 x 1.25 m	2	2	2	2	2
	Guardrail 1.60 m	0	2	4	6	8
	S-pin	0	4	8	12	16
	Adjustable fork	4	4	4	4	4
	½ single plank	1	1	1	2	2
½ plank with trapdoor	0	0	1	1	2	
Weight [kg]						
Weight of a basic steel tower measuring 1.20 x 1.60 m	109.00	159.00	210.00	261.00	312.00	

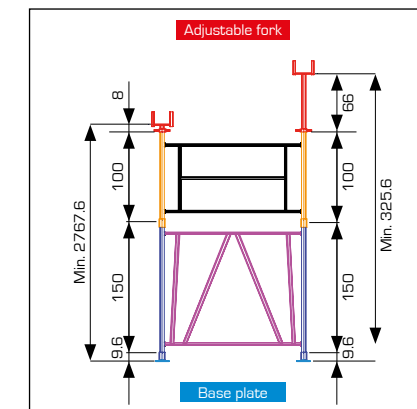
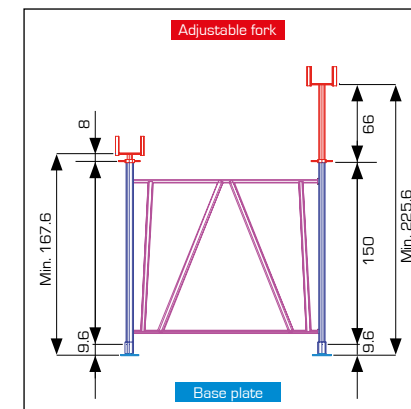
EFFECTIVE DIMENSIONS



Towers with adjustable bases at the bottom and adjustable forks at the top



Towers with base plates at the bottom and adjustable forks at the top

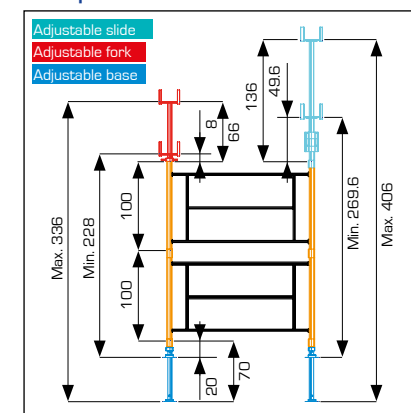


DOCUMENTATION

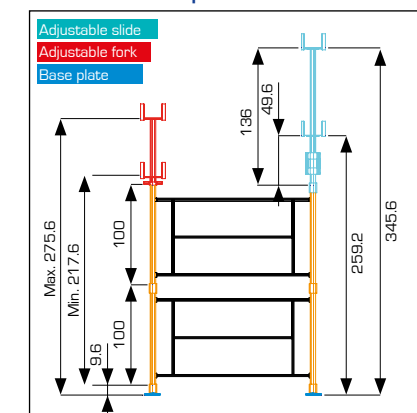


View full user guide.

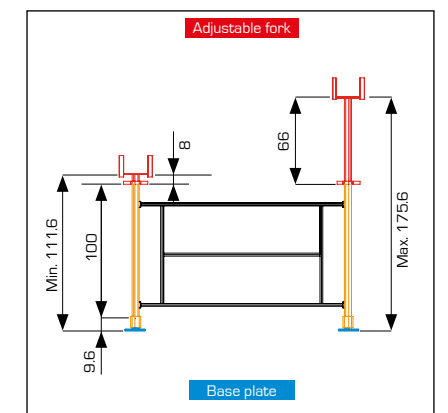
Low towers with adjustable bases at the bottom and adjustable forks or slides at the top



Low towers with base plates at the bottom and adjustable forks or slides at the top



Low towers with base plates at the bottom and adjustable forks at the top



SAFETY

SIMPLICITY

PRODUCTIVITY

INNOVATION

TourÉchaf[®]

The TourÉchaf shoring tower with built-in safety features is quick and easy to use. It can be adapted to all possible configurations. Ergonomic, it offers a proper work surface for worker safety.



TourÉchaf

Changes in French and European tower regulations have led Alphi to focus on a new shoring tower for construction work.

The TourÉchaf tower is innovative in its **safety and ease of use**, and its lightweight components.

Its compatibility with scaffolding elements means that cross-bracing, connections and decking between towers can easily be created.

Site:
National Library
of Luxembourg
Client: Tralux
Location:
Kirchberg

SIMPLICITY

Four identical frames per level

Each frame incorporates:

- safety: riser, sill, access ladder,
- automatic locking without pin,
- hoisting eye identified by yellow marking.
- The assembly kinematics are simplified by the single frame, with the same parts being used for each level.



SPEED

1 single plank

- Plank with trapdoor covering half the surface area of a level.
- Unit weight of handled parts less than 15 kg to reduce repetitive strain injury.

COMPLIANT WITH
CRAMIF NT24
GUIDELINES



STURDINESS

- The brackets enable strong load support.
- Load support of 6 tonnes per base, regardless of the configuration.

BUILT-IN SAFETY FEATURES

- Plank covering between towers for formwork and formwork removal operations. The work surface created is perfectly secure.
- Plank covering at the head of the towers to link the beams.



Brackets on TourÉchaf

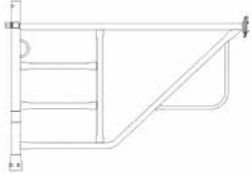

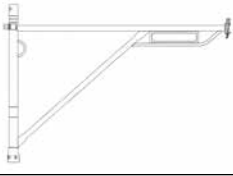
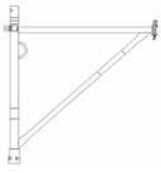
ADAPTABILITY



- All configurations are possible: height difference at head, at bases, between towers.
- The components are all compatible and make it possible to combine frames of different sizes to obtain a tower assembly as close as possible to requirements.









Height difference at bases

COMPONENTS

Frames	1.50 m frame	Catalogue Number	Dimensions h x L (m)	Weight (kg)
		011156-7	1.00 x 1.50	12.40
	1.00 m frame	Catalogue Number	Dimensions h x L (m)	Weight (kg)
		011106-2	1.00 x 1.00	10.80
	1.50 m entrance frame	Catalogue Number	Dimensions h x L (m)	Weight (kg)
		011157-5	1.00 x 1.50	11.50
	1.00 m entrance frame	Catalogue Number	Dimensions h x L (m)	Weight (kg)
	011107-0	1.00 x 1.00	8.40	

Jacks	2-inlet head jack	Catalogue Number	Stroke (cm)	Weight (kg)
		011100-5	60	9.00
	Base jack	Catalogue Number	Stroke (cm)	Weight (kg)
		011155-9	49	9.20

Traffic	Plank with trapdoor	Catalogue Number	Dimensions (m)	Weight (kg)
		011104-7	1.00	11.30
		011154-2	1.50	14.80
	Steel toeboard	Catalogue Number	Dimensions (m)	Weight (kg)
		023724-8	From 1.00 to 3.00	From 1.60 to 5.60
	Steel floor	Catalogue Number	Dimensions (m)	Weight (kg)
		110021-3	1.00 x 0.20 (Steel panel)	7.90
		115021-8	1.50 x 0.20 (Steel panel)	9.20
		025602-4	1.00 x 0.25	4.70
		023621-6	1.50 x 0.25	7.20
		023624-0	2.00 x 0.25	9.20
		023625-7	2.50 x 0.25	14.80
		023626-5	3.00 x 0.25	17.00
		023684-4	1.00 x 0.30	5.00
023680-2		1.50 x 0.30	8.00	
023681-0		2.00 x 0.30	10.50	
023682-8	2.50 x 0.30	16.70		
023683-6	3.00 x 0.30	19.50		

Additional	Diagonal	Catalogue Number	Dimensions H x L (m)	Weight (kg)	Spacing (m)
		295010-3	0.50 x 1.00	2.90	1.04
		295015-2	0.50 x 1.50	3.70	1.49
		251007-1	1.00 x 0.70	3.10	1.17
		251010-5	1.00 x 1.00	3.80	1.35
		251015-4	1.00 x 1.50	4.30	1.72
		251020-4	1.00 x 2.00	5.70	2.15
		251025-3	1.00 x 2.50	6.50	2.60
		252007-0	2.00 x 0.70	5.50	2.09
		252010-4	2.00 x 1.00	5.60	2.19
		252015-3	2.00 x 1.50	6.30	2.45
		252020-3	2.00 x 2.00	7.20	2.76
		252025-2	2.00 x 2.50	7.30	3.13
		252030-2	2.00 x 3.00	9.20	3.53
	Bracket	Catalogue Number	Description	Weight (kg)	
		011152-6	0.38 m bracket	4.40	
		250710-1	1.00 m bracket	8.00	
		250000-7	Connector	2.20	
	Connector	Catalogue Number	Dimensions (m)	Weight (kg)	
	250230-0	From 0.15 to 3.00	From 0.90 to 9.60		

TOURÉCHAF ACCESSORIES

Additional	Simple post	Catalogue Number	Dimensions (m)	Weight (kg)
		011170-8	0.50	2.80
		011171-6	1.00	5.10
	Riser	Catalogue Number	Dimensions (m)	Weight (kg)
		250101-3	1.00	5.30
		250102-1	2.00	9.60
	Base	Catalogue Number	Weight (kg)	
		011169-0	1.80	

Handling	Storage container	Catalogue Number	Weight (kg)	MWL (daN)	Description
		011165-8	110.00	1500	<ul style="list-style-type: none"> Medium capacity: 1.00 m connector: 210 1.50 m connector: 130 2-inlet head jack: 50 base jack: 100
	20-frame rack	Dimensions (m)	Catalogue Number	Weight (kg)	Description
		1.00	011159-1	77.40	<ul style="list-style-type: none"> Loading of 20 classic or entrance frames (1.00 m or 1.50 m)
		1.50	011160-9	84.00	
	13-plank rack	Dimensions (m)	Catalogue Number	Weight (kg)	Description
		1.00	011158-3	56.00	<ul style="list-style-type: none"> Loading of 13 trapdoor floor planks (1.00 m or 1.50 m)
		1.50	11161-7	60.00	
	Shifting trolley	Dimensions (m)	Catalogue Number	Weight (kg)	Description
		0.90 x 1.20	050103-1	20.00	<ul style="list-style-type: none"> Moving on a concrete slab for heights less than 3 frames

SIMPLIFIED USER GUIDE

ASSEMBLING A 1.50 X 1.50 M TOWER

- Take care regarding the ground load distribution.
- Place the base perfectly level.
- Assemble the first level of frames from inside the tower.
- Position the trapdoor opposite the ladder.
- Make sure the towers are stable.
- Centre the load in the forks.
- Make sure the jacks are vertical.



- Location and levelling.



- From the inside of the tower, install the 1st frame in the diagonal axis and then rotate to lock.



- Moving the 2nd plank with trapdoor from the lower level.



- The first floor level can be removed.
- Access to the upper level via the built-in ladder.



- Set up and adjust the head jacks.



- Install the entrance frame to facilitate access.



- Install two 1-m planks with trapdoor and assemble the 2nd level.



- Assemble one floor level in temporary position.
- Install a 1st 1-m plank with trapdoor.



- Access to the upper level and then installation of the 2nd plank with trapdoor.

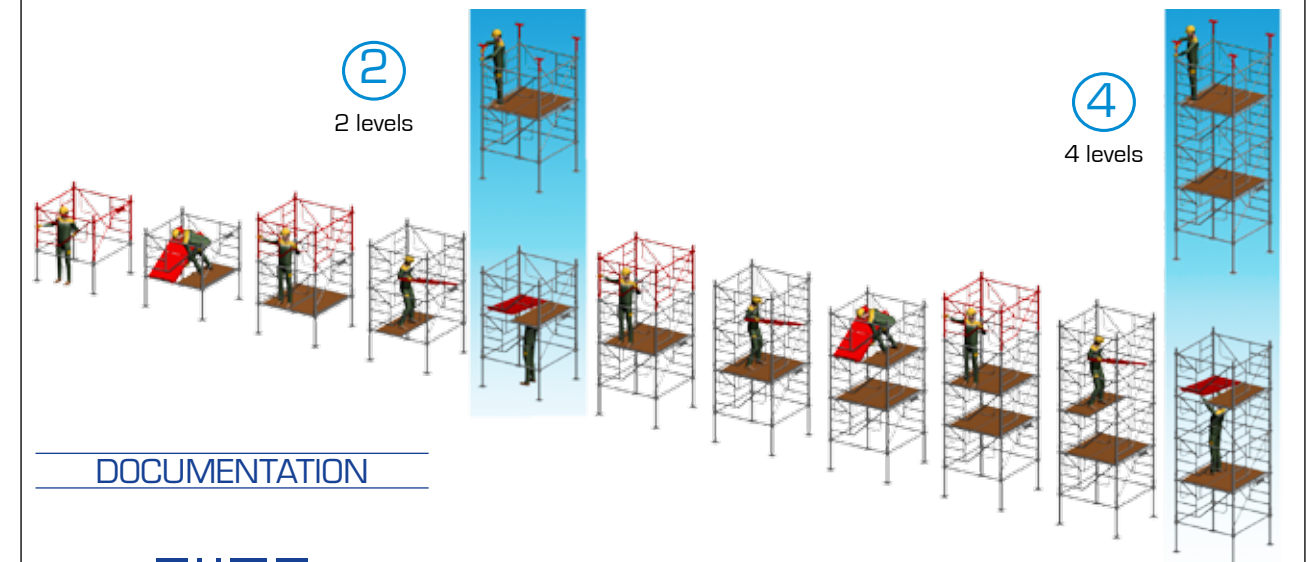


- Assemble the 3rd level.



- Reinstall the planks with trapdoor in their final position to obtain 2.00 m between floor levels.
- Moving the 1st plank with trapdoor.

Assembling a TourEchaf with 2 and 4 levels (even) of frames



DOCUMENTATION



View full user guide.

COMPOSITION CHARTS

Tower 1.50 x 1.50 m	Number of frame levels	1	2	3	4	5
	Minimum height (m)	1.82*	2.37	3.37	4.37	5.37
	Maximum height (m)	2.46	3.46	4.46	5.46	6.46
	Base jack	4	4	4	4	4
	1.50 m connector	4	4	4	4	4
	1.50 m entrance frame	1	1	1	1	1
	1.50 m frame	3	7	11	15	19
	2-inlet head jack	4	4	4	4	4
	1.50 m trapdoor plank with trapdoor	0/2	2	2**	4	4
	Weight (kg)	140/170	220	270	350	400

Tip for counting
= number of levels + 0.37 m
= number of levels + 1.46 m
= 4
= 4
= 1
= (number of levels x 4) - 1
= 4

Tower 1.50 x 1.00 m	Number of frame levels	1	2	3	4	5
	Minimum height (m)	1.82*	2.37	3.37	4.37	5.37
	Maximum height (m)	2.46	3.46	4.46	5.46	6.46
	Base jack	4	4	4	4	4
	1.50 m connector	2	2	2	2	2
	1.00 m connector	2	2	2	2	2
	1.50 m entrance frame	1	1	1	1	1
	1.50 m frame	1	3	5	7	9
	1.00 m frame	2	4	6	8	10
	2-inlet head jack	4	4	4	4	4
1.00 m trapdoor floor plank with trapdoor	0/2	2	2**	4	4	
Weight (kg)	130/150	200	250	310	360	

*Minimum height determined by the length of the two jacks
 **Allow two additional floor planks with trapdoor for assembly

Tower 1.00 x 1.00 m	Number of frame levels	1	2	3	4	5
	Minimum height (m)	1.82*	2.37	3.37	4.37	5.37
	Maximum height (m)	2.46	3.46	4.46	5.46	6.46
	Base jack	4	4	4	4	4
	1.00 m connector	4	4	4	4	4
	1.00 m entrance frame	1	1	1	1	1
	1.00 m frame	3	7	11	15	19
	2-inlet head jack	4	4	4	4	4
	1.00 m trapdoor plank with trapdoor	0	1	1	2	2
	Floor plank 0.20 x 1.0	0	1	1	2	2
Floor plank 0.30 x 1.00	0/3	0	0***	0***	0***	
Weight (kg)	130/140	190	230	290	330	

***Allow for three additional 0.30 x 1.00 m floor planks for assembly starting from 3-level towers

SPECIFIC POINTS

ERGONOMICS

- TourÉchaf was specially designed to limit repetitive strain injury.
- The weight of the most common parts is less than 15 kg and they are ergonomic to handle.
- Their design makes them easy to lift with a crane in order to limit disassembling and reassembling.

Shifting



- On a concrete slab, the towers are easy to move, with their special trolleys.
- Do not shift a tower taller than three frames (four frames with the shifting trolleys with jack).

Lifting

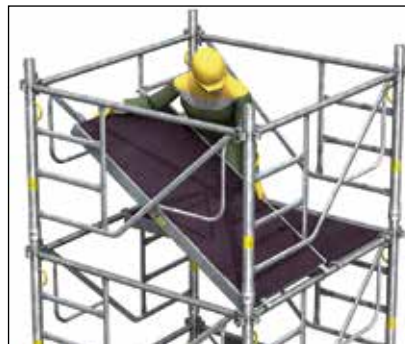


- The possibility of lifting with a crane is provided via built-in hoisting rings. This operation is facilitated and secured by the automatic locking of the tower elements, including the base jack.

Handling



- The TourÉchaf frame is installed from the inside of the tower, with just one interlocking point.



- Installing a plank**
- To facilitate installation, hold the end with the right hand and forearm.
 - Start by placing both hooks under the ladder.

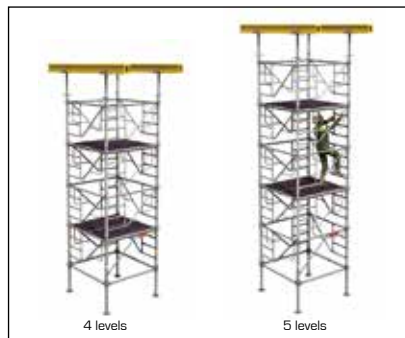


- Lower the plank, leaning on the frame.

Access



- Raise the plank**
- Two handles have been specially added under the plank to facilitate this operation.



- The two planks with trapdoor are placed every 2.00 m for a "scaffolding" type access.

Storage



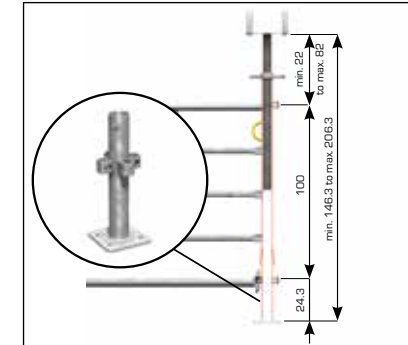
- The frames are packaged vertically, ready to be assembled to avoid having to bend down to straighten them.

EFFECTIVE DIMENSIONS

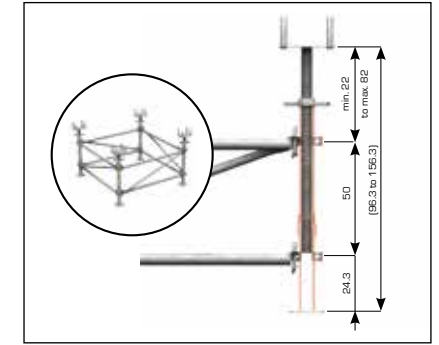
TECHNOLOGY AND STRENGTH

- The allowable vertical load is 6 tonnes per post for a tower height below 6 m.
- Beyond that height, a special strength and stability calculation must be performed.

Low TourÉchaf

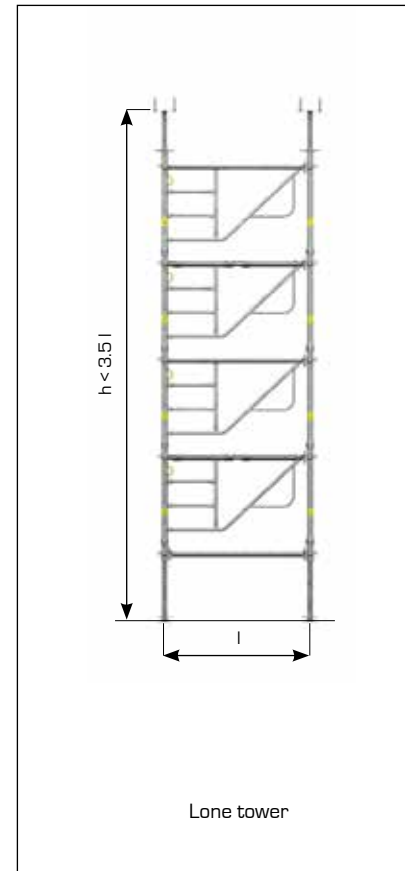


- Standard TourÉchaf with 2-inlet head jacks and stud-free bases**
- Variable height: 1.46 to 2.06 m.

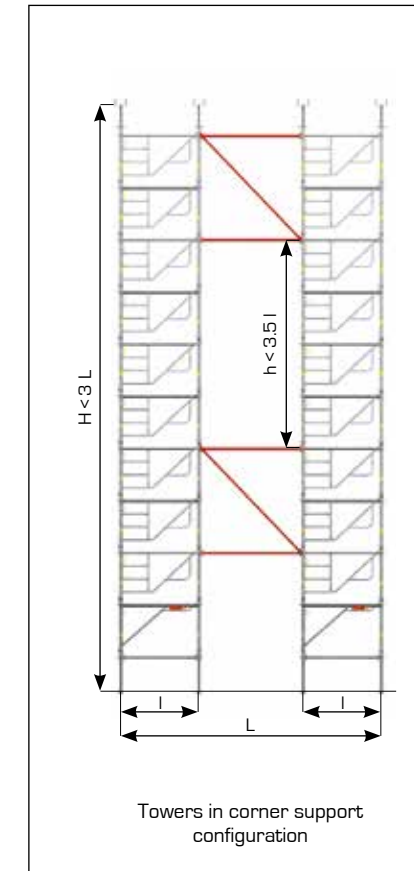


- TourÉchaf with 2-inlet head jacks and stud-free bases**
- Tower consisting of single 0.50 m posts and diagonal braces.
 - Variable height: 0.96 to 1.56 m.

Stability

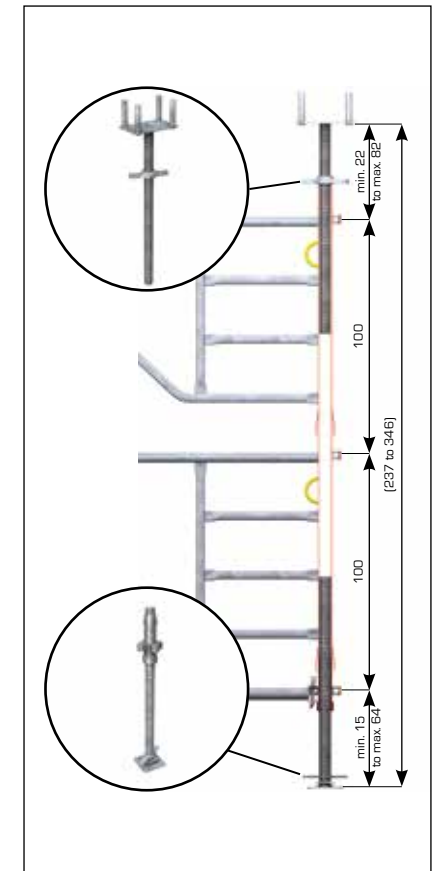


- Because of the wind, technical stabilisation measures must be applied, particularly during assembly and disassembly.
- For normal wind conditions, limit the height of the light tower hoist to 3.5 times the smallest side of the base, three times for mobile equipment.



- Beyond that, towers must no longer be isolated, but connected to each other or the existing structure in order to stabilise them in all directions.

Functional dimensions



- Standard TourÉchaf with 2-inlet head jacks and base jacks**
- With a single frame level: variable height of 1.82 to 2.46 m.
 - Minimum height determined by the length of the two jacks.



SAFETY

SLINGING

ADAPTABILITY

Alto[®]

Alto decks can be used to create platforms on shoring towers and work surfaces for form panels, material stockpiles, prefabricated components and front face overhangs.



Alto

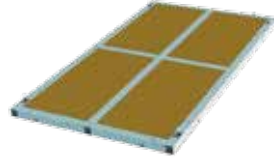
Alto decks come in **3 sizes**. All decks are equipped with **safety** features and accessories that facilitate **handling**.

The **AlphiSafe** safety system can be mounted at ground level.

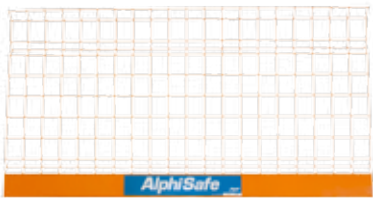


Retractable **hoisting rings** are built into the deck. The slinging procedure is completely safe, from laying on the ground to the definitive positioning of the deck.

*Site: Comurhex II
conversion plant
Client: GTM Sud,
SM Entreprise
Location:
Narbonne*






COMPONENTS

Decks	Alto	External dimensions (m)	Total surface area (m ²)	Weight of panel (kg)	Plywood type	Maximum allowable load (kN/m ²)
		4.40 x 1.40	6.16	225.00	Multi-ply 27 mm thick	15
		2.40 x 2.26	5.42	235.00		
		4.40 x 2.40	10.56	435.00		

ALTO ACCESSORIES

Safety	Grid	Dimensions w x h (m)	Weight (kg)	Description
		1.25 x 1.30	7.60	The wire grid is galvanised, with polyester powder coating
		2.40 x 1.30	13.90	
		2.50 x 1.30	14.50	
Galvanised post	Cross-section (cm ²)	Height (m)	Weight (kg)	
	3.5 x 3.5	1.34	3.50	
Adapter	Name	Weight (kg)		
	Alto adapter	1.96		

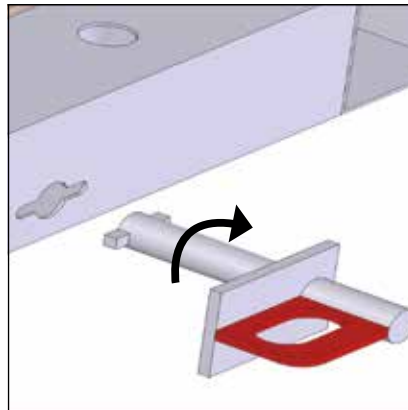
ALTO ACCESSORIES

Handling	Hoisting eye	Description	
		<ul style="list-style-type: none"> Lifting/sliding 	
	Lifting beam	Description	
	<ul style="list-style-type: none"> For lifting and moving Alto deck 		
Deck clamp	Description		
	<ul style="list-style-type: none"> Securing Alto deck to a skin 		
Extension	Bracket	Description	
		<ul style="list-style-type: none"> To create a plank covering between two decks, extension brackets are installed to hold battens which accommodate 18, 21, or 27 mm plywood 	
	Batten	Compensating plywood thickness (mm)	Batten cross-section (mm)
		18	60 x 89
21		60 x 86	
27		60 x 80	

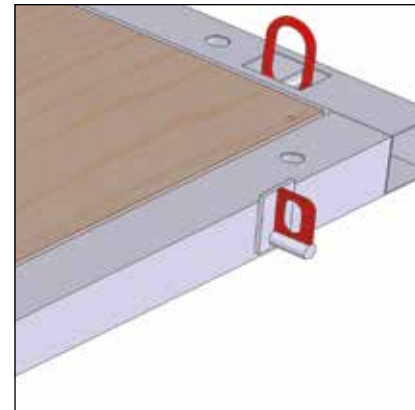
SIMPLIFIED USER GUIDE

LIFTING/SLINGING

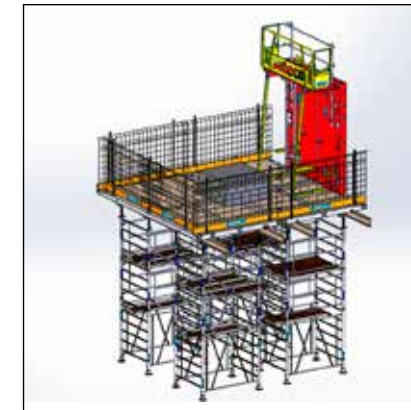
- When slinging the panel, make sure no material or equipment is stored on the Alto deck.



- Eight keys are located all over the Alto panel to insert quarter-turn hoisting eyes.



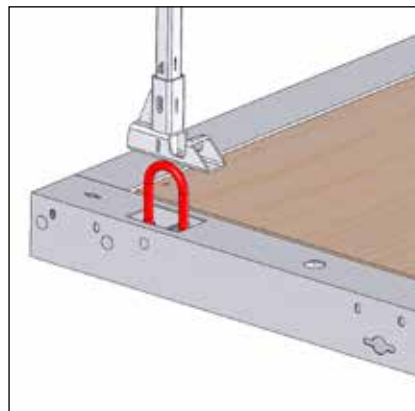
- Installation of the form panel ballast.



- Form panel installation



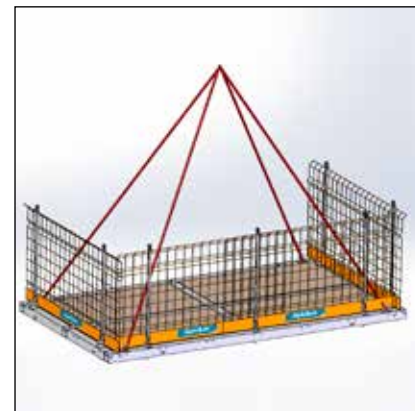
- **WARNING (stability):** in the context of a point load such as form panel ballast, comply with the plans provided and the specific procedures.



- Built-in retractable hoisting rings.

POSITIONING WITH SLING

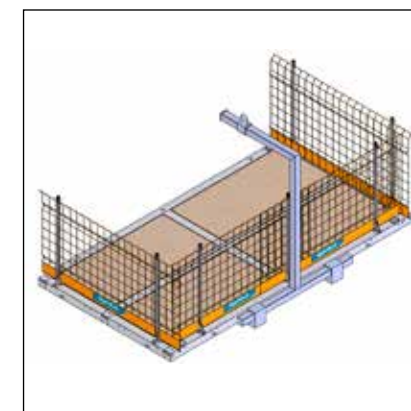
- Use of a sling with four 4-m long strands.
- Each strand and its hook should have a minimum MWL of 1 tonne.



- Sling the Alto deck, with safety system mounted on the ground.

POSITIONING WITH LIFTING BEAM

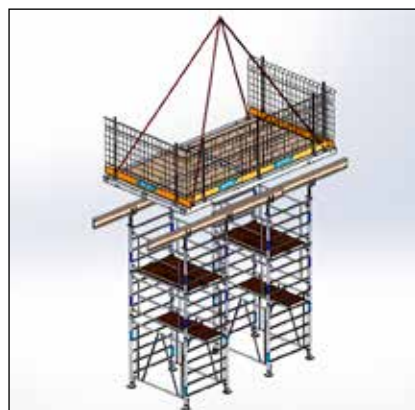
- A lifting beam should be used when the use of slings is not authorised.
- However, installation with slings is the preferred method.



- The position of the Alto deck should be centred on the lifting beam forks so as to balance the loads.



- **Warning (stability):** limit overhangs to prevent the risk of tipping.



- Set up towers according to the plan provided and position the Alto decks on the primaries.



- Check that the deck is correctly positioned on the towers [distance from base to edge of deck < 60 cm].



- **Warning (stability):** comply with the layout plan and Alphi recommendations.

DOCUMENTATION



View full user guide.

AlphiSafe®

The AlphiSafe collective protection system is set up safely from below. The grid is designed with two layers increasing its stiffness. A comprehensive range of adapters which make all assembly configurations possible.



AlphiSafe

AlphiSafe is a collective protection system for formwork and slab edges.

The system's technical innovations allow, in particular, **safe installation** and **automatic locking**.

Robust AlphiSafe is certified by Ginger CEBTP, **as per the EN 13374 standard**, classes A and B for certain elements.

AlphiSafe is distinguished by its **height of 1.30 m**, which is above the minimum height of one metre set by the standard, and protects traditional slab formwork up to 30 cm thick.

AlphiSafe is the first certified system to have a protective grid of **less than 15 kg**, for a length of 2.50 m.

*Site: New hospital
in Libourne
Client: GTM
Bâtiment Aquitaine
Location: Libourne*



SAFETY

- Safe installation from bottom.
- Height of 1.3m.
- Compliant with the EN 13374 standard or July which specifies that safety systems must be designed "to avoid accidental removal or displacement of any component in any direction during use".



SIMPLICITY

- Anti-dropout.
- Automatic locking of the grid.
- Inseparable components.

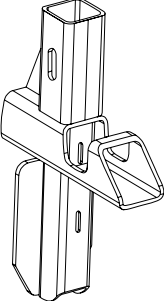
ERGONOMICS


- Weight of components: less than 15 kg for the grid and less than 7 kg for the other elements.
- Helps to reduce repetitive strain injuries.



COMPLIANT WITH EN 13374 STANDARD












3 SIMPLE COMPONENTS

1	Primary adapter	Weight (kg)	Description
		1.40	<ul style="list-style-type: none"> ▪ A comprehensive range of adapters which make all assembly configurations possible

2	Galvanised post	Cross-section (cm ²)	Height (m)	Weight (kg)	Description
		3.5 x 3.5	1.34	3.50	<ul style="list-style-type: none"> ▪ The clips are incorporated into the posts which means they cannot be lost.

3	Grid	Dimensions w x h (m)	Weight (kg)	Description
		1.25 x 1.30	7.60	<ul style="list-style-type: none"> ▪ The grid is available in 3 lengths: 1.25, 2.40 and 2.50 m ▪ Other lengths on request ▪ It is designed with 2 layers that increase its stiffness and 1 low baseboard (solid board) ▪ It is customisable to the client's colours
		2.40 x 1.30	13.90	
		2.50 x 1.30	14.50	

ALPHISAFE ACCESSORIES

Adapters	Primary adapter	Weight (kg)				
		2.30				
	Prop adapter	Weight (kg)				
		2.10				
	MaxiDalle adapter	Weight (kg)				
		3.60				
	Slab base	Weight (kg)				
		1.40				
	Adapter Ø 25 mm	Weight (kg)				
		1.00				
	Adapter Ø 40 mm	Weight (kg)				
		1.30				
	Adapter for town barrier application	Weight (kg)				
		3.60				
	Slab clamp adapter	Weight (kg)				
		6.50				
	Table die adapter	Weight (kg)				
		2.20				
	Beam adapters	Weight (kg)				
	Universal		H20			
				7.20 / 3.60		
Handling	Rack	External dimensions h x w x d (m)	Empty weight (kg)	Number of grids carried	Handling	Maximum working load (kg)
		1.65 x 1.58 x 1.03	103.00	20	Welded hoisting rings	500

AUTOMATIC LOCKING



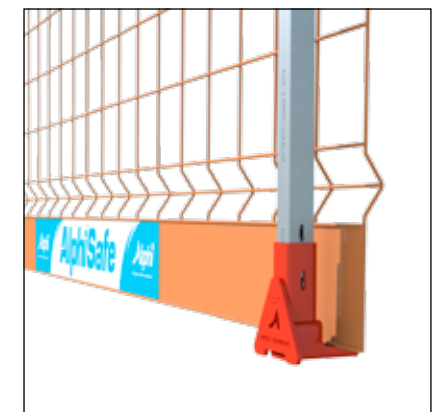
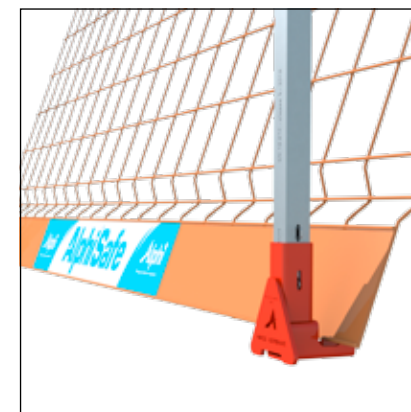
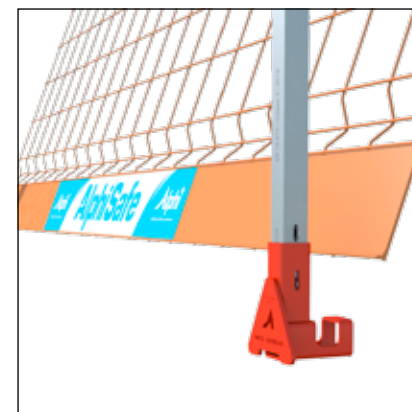
INNOVATIONS

The system's main technical innovations:

- automatic head locking,
- lift protection,
- base locking in rotation.



- The grid is locked at the top by the anti-lifting pin and is locked at the base.



SIMPLIFIED USER GUIDE

ON SLABS

- A tensile force of 8.85 kN shall be applied to the screw with an ultimate load combination.
- For more information concerning use of the screw, please refer to the screw manufacturer's recommendations.



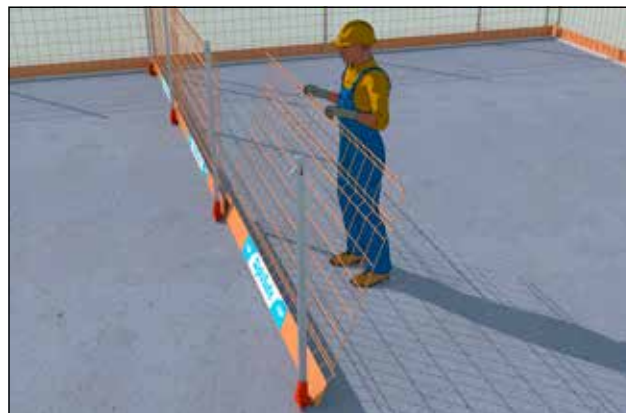
- Secure the adapter to its support. A concrete screw of at least 12 mm in diameter is recommended.



- Clip the post in the adapter.

CANTILEVER CONFIGURATION ON MAXIDALLE FORMWORK

- The collective protection is set up from ground level, so that users can walk on the formwork in complete safety.



- Lift the grid so that it locks automatically into the posts.



- The grid is locked at the top by the anti-lifting pin and is locked at the base.

WITH THE TOPDALLE SYSTEM ON PROPS

- The AlphiSafe system helps secure worksite phases progressively.
- Once the first area is secured, the formwork set-up can continue.

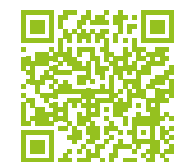


IN CANTILEVER CONFIGURATION ON DALPHI, TOPDALLE AND TOPDALLE ECO FORMWORK

- The collective protection is set up from ground level, so that users can walk on the formwork in complete safety.



DOCUMENTATION



View full user guide.

SAFETY

PRODUCTIVITY

ARDUOUSNESS

SIMPLICITY

Monte-Tour

The Monte-Tour systems offers a revolutionary tower assembly system, in the opposite direction from traditional assembly. This removes the risks of falls form height and falling objects.

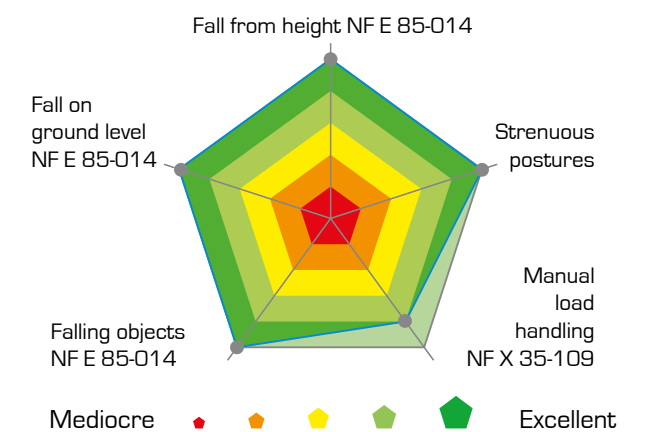




Monte-Tour

Traditionally, a shoring tower is assembled from the lowest level upwards, finishing at the top.

Alphi innovates and offers a new way to assemble towers, **in the opposite direction from traditional assembly**. The workers start by assembling the top, and finish at the bottom.



SAFETY AND ARDUOUSNESS PERFORMANCES

All handling operations are carried out by two workers from ground level. Safety is ensured and the work is less arduous. The hands are never higher than heart level.

Monte-Tour
in use



PRODUCTIVITY

- The clear increase in productivity is 52%, for both assembly and disassembly.
- Beyond 6 m, sections can be erected and assembled using a crane.
- The Monte-Tour can be used in any weather because it is watertight.

SAFETY

- Falls from heights are eliminated: the worker no longer needs to climb the tower before its assembly is complete.
- The tower cannot be assembled without all of its safety elements (pins, frames, etc.)
- Disassembly takes place under the same safety conditions.

HANDLING

- Can be used to move an assembled tower up to 6 m in height.
- The stability of the system allows it to be moved on uneven surfaces.

ARDUOUSNESS

- Reduced arduousness and repetitive strain injury: no element is lifted higher than the heart.



SAFETY INSTRUCTIONS

RECOMMENDATIONS

- The useful recommendations for handling the Monte-Tour are indicated on the apparatus.

ONLY duly authorised operators can use this machine.

Keep your distance from the machine work area.

Do not pass under the load.

BEFORE USE

Visually inspect the machine in order to detect any damage.

Check that there are no obstructions or overhead hazards.

USE

The machine **MUST** be stabilised before use.

Never move over soil, but only over concrete slabs.

CRANE HANDLING

Lower the mast and use the crane handling hooks located on either side of the mast (yellow colour).

Avoid significant shocks when positioning on the ground.

The water level bubble should be centred.

SIMPLIFIED USER GUIDE

ASSEMBLY

- This guide indicates the various stages of use of the Monte-Tour.
- In order to find out the assembly drawing for a shoring tower, refer to the document provided by the shoring tower supplier.
- Do not pass under the load.



- Position a 1 metre ladder with its guardrails.
- Assemble the guardrails: ensure that the keys lock (automatic).



- Position a second 1 metre ladder.
- Position the pre-set forks as desired.

DISASSEMBLY

- Take care to position the forks correctly in the final tower ladder level.



- Lift the tower from the ground using the Monte-Tour.



- Disassemble the cross-members.
- Disassemble the ladders.



- Using the Monte-Tour, raise the first level so as to be able to insert a second 1 metre ladder.



- Assemble a second ladder under the first level using pins.
- Repeat the operation for the other ladder.



- Assemble the guardrails: ensure that the keys lock (automatic).
- Position the working planks in the tower.



- Lower the tower as disassembly progresses.
- Remove the guardrails.
- Remove the decks.



- Remove the ladders.
- Repeat the operations.

DOCUMENTATION



View full user guide.



- Repeat the operations to the desired height.
- Pre-set and position the base jacks on 1.5 metre ladders.



- Insert the first followed by the second 1.5 metre ladder.
- Assemble the 2 levels using the pins.



- Fit an entrance frame.
- Position the final working planks in the tower.

SAFETY

PRODUCTIVITY

SIMPLICITY

QUALITY

Escalib MDS

Escalib MDS is a metal spiral staircase with side exit. Access to levels is easy and secure, by means of a triangular step acting as a landing. Assembly and disassembly are performed in complete safety, with collective protection.



Escalib MDS

Escalib MDS (Safe Assembly and Disassembly) is a metal spiral staircase with **side exit**. The triangular step then acts as a landing.

Simply arrange Escalib MDS by rotating by a quarter-turn so that one of the steps is aligned with the slab to be served. It is formed from a base, 1 to 8 modules that are easy to stack with a crane and a head guardrail closing the passage (maximum height 20.10 m).

Set-up under collective protection (harness-free) is quick and easy: 4 nuts per module. Each module is equipped with collapsible guardrails, hinged about a non-detachable end.

Escalib can be moved using a crane.

Its small footprint facilitates its installation, even on small sites.

Site in Switzerland
Client: Induni
Location: Geneva

SAFETY

Easy, secure access

All levels are accessible without adaptation.

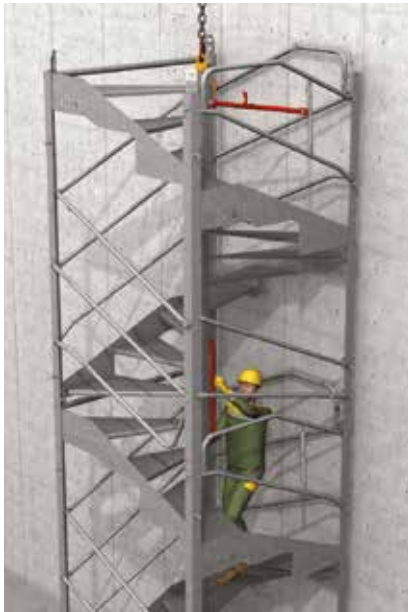
Assembly and disassembly with collective protection

The guardrails are built-in (harness-free).



PRODUCTIVITY

- Quick installation and movement.
- Compact footprint.
- Only 3 different single-block elements.
- Can be handled with a crane.
- Compatible with 2- and 3-rail Escalib.






QUALITY

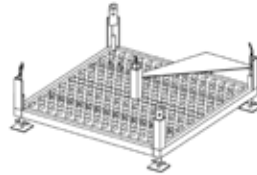
Robust and galvanised

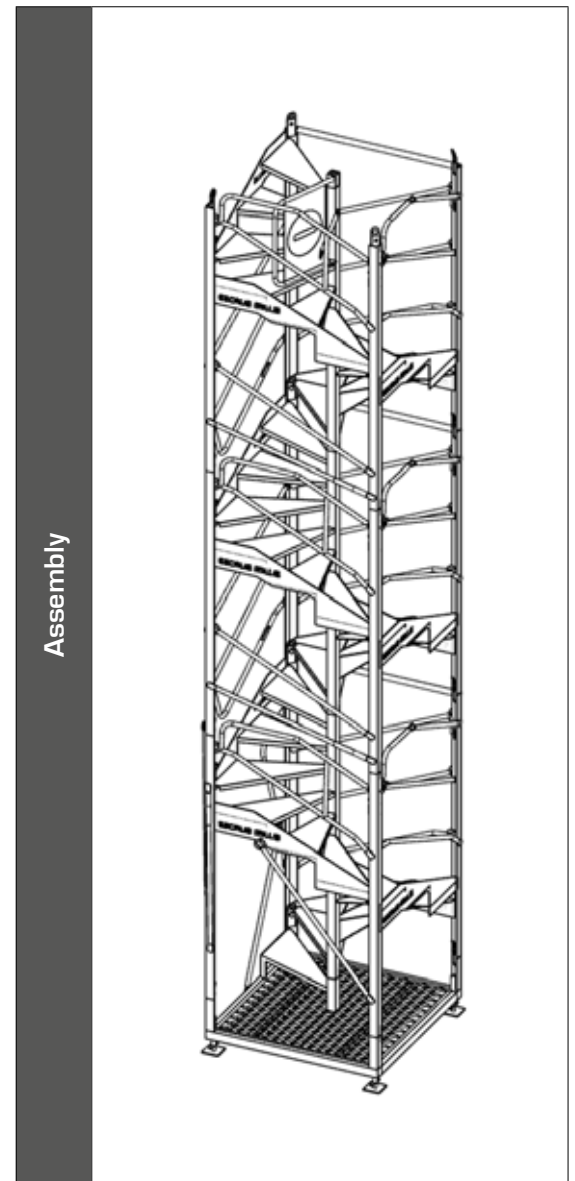
Powder-coated paint version available.








COMPONENTS

Head module	Module	Weight (kg)	Catalogue Number
		380.00	013252-2
	Closing guardrail	Weight (kg)	Catalogue Number
		15.00	013119-3
Assembled module	Weight (kg)		
	395.00		

Base	Base	Weight (kg)	Catalogue Number
		184.00	013045-0



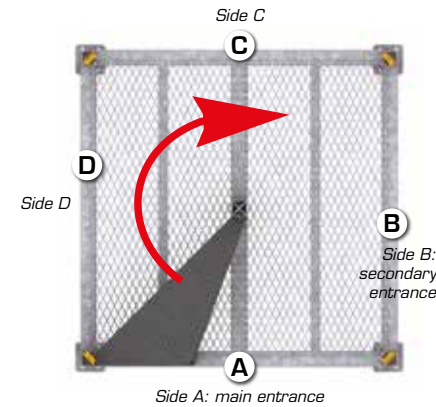
ESCALIB MDS ACCESSORIES

Tethering and anchoring equipment	Collar	Weight (kg)	Catalogue Number
		2.0	013049-2
	Tethering half-collar	Weight (kg)	Catalogue Number
		0.66	018570-2
	Petzl ring	Weight (kg)	Description
	0.06	<ul style="list-style-type: none"> Use to secure the tower clamp onto a skin 	
Tower clamp	Weight (kg)	Description	
	3.50	<ul style="list-style-type: none"> Used to secure the tower to a skin Has a safety hook 	
Additional	Plastic folder for verification report	Weight (kg)	Catalogue Number
		0.30	NC0410 NC0411

SIMPLIFIED USER GUIDE

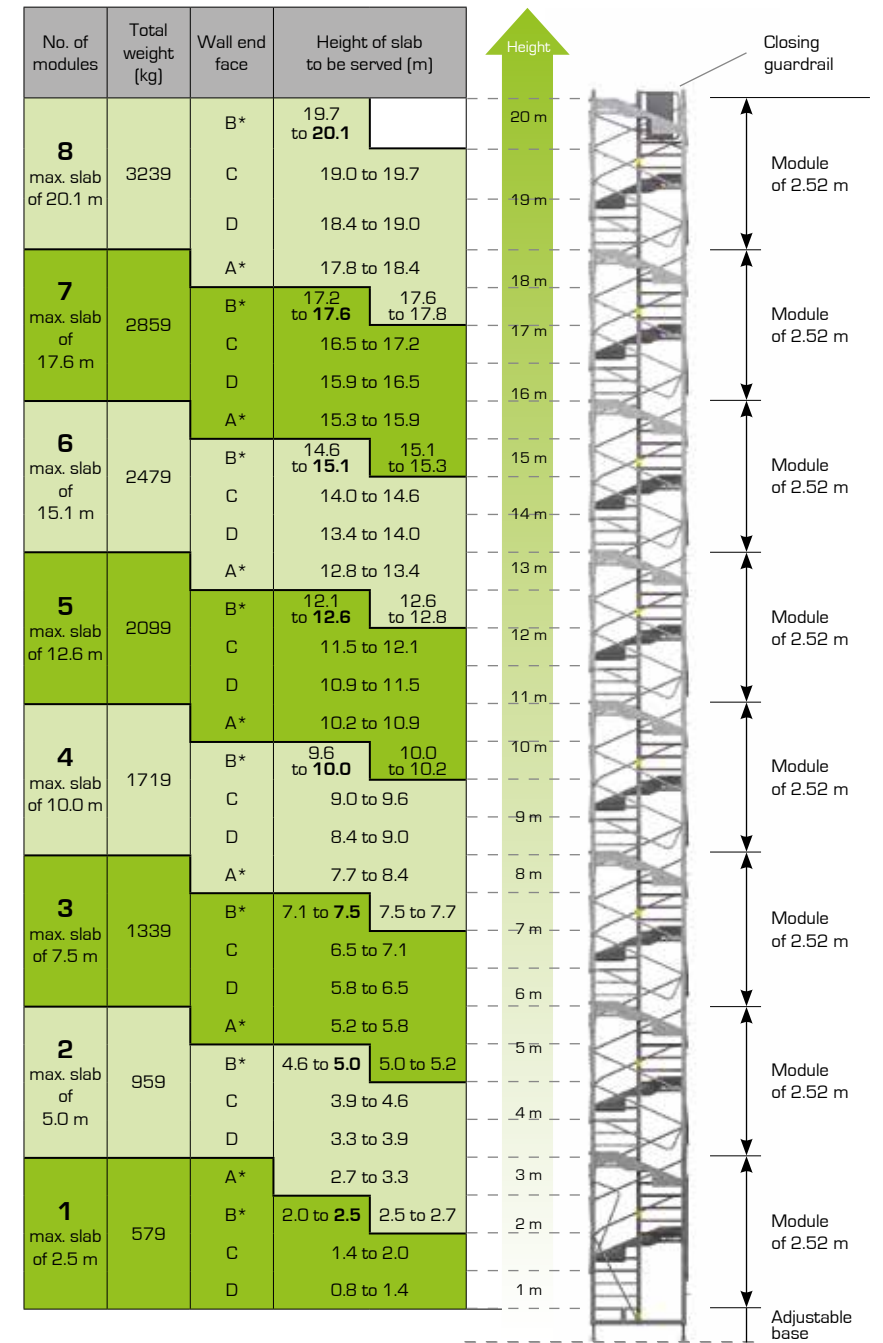
HEIGHT COMPOSITION

- Not more than 8 stacked modules. Above this value, please contact the design office.
- 8 users per module, limited to 20 on Escalib MDS.
- Make sure that the ground level intended to receive the Escalib MDS is capable of withstanding the loads.
- Tethering mandatory for winds above 72 km/h.
- Tethering mandatory from 3 modules, then every 3 modules for winds below 150 km/h.



Example 1: Height of slab to be served 4.50 m, Escalib MDS consisting of 2 modules. Exit side C on second module.

Example 2: Height of slab to be served 5.50 m, Escalib MDS consisting of 3 modules. Exit side A on second module.

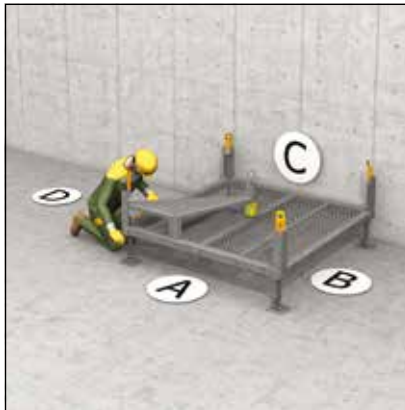


A*, B*: Position the upper module to access the last 4 steps

SIMPLIFIED USER GUIDE

ASSEMBLY & DISASSEMBLY

- Fit tethers as assembly progresses.
- Perform disassembly in the reverse order of assembly.
- Make sure that the ground level intended to receive the Escalib MDS is capable of withstanding the loads.
- General handling and stability guidelines must be adhered to.
- The assembly rail cannot act as a substitute for the closing guardrail.



- Orient the base according to height of slab to be served and level.
- Installation 8 cm from the wall to facilitate tilting of the guardrail at the exit.



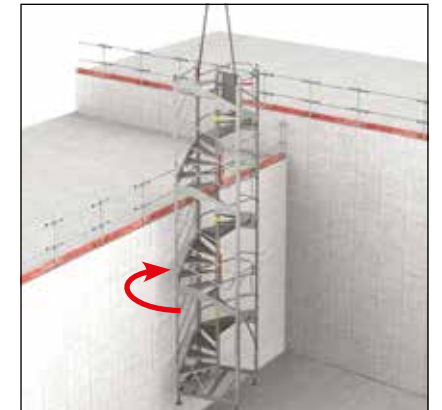
- In the module, attach the sling, with the guardrail in the closed position and the assembly rail in the horizontal position.

HOISTING & MOVING

- Fit tethers as assembly progresses.
- Perform disassembly in the reverse order of assembly.
- Make sure that the ground level intended to receive the Escalib MDS is capable of withstanding the loads.
- General handling and stability guidelines must be adhered to.



- Put the guardrails back in place to prevent any side exit.
- Check that the M24 screws are fastened.
- Attach the crane hooks onto the 2 hoisting rings and remove the tethers.



- Moving the Escalib MDS.
- Orientation according to the height to be served by pivoting in 90° steps.
- Installation 8 cm from the wall.



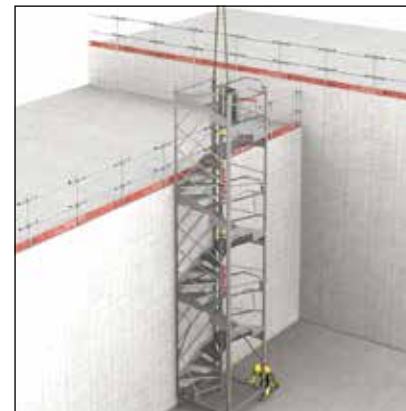
- Fit the module onto the base.
- Assemble the 4 risers.
- Detach the sling.



- Position a new module.



- Rotate the assembly rail into the vertical position and lock on the top step.
- Assemble the risers.
- Detach the slings.
- Repeat the previous steps and tether.



- Ground positioning and levelling of Escalib MDS.



- Tether the Escalib MDS before detaching the slings from the crane.



- At the entrances, position the rails, prioritising the main entrance on side A.



- Position and bolt the closing guardrail: the assembly rail is in the horizontal position.



- With the slings attached to the 2 hoisting rings, position the head module.
- Assemble the 4 risers.

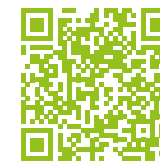


- At the entrances, position the rails, prioritising the main entrance on side A.



- Make sure that the tethers are fitted before detaching the slings.
- Tilt the guardrails to create the exit at the desired level.

DOCUMENTATION



View full user guide.

ARDUOUSNESS

SAFETY

ERGONOMICS

STRENGTH

Pro-Tools

The professional tools designed by Leborgne help make work less arduous. The nanovib® range consisting of hammers and prop keys meets Alpha requirements in respect of safety, and vibration and noise reduction.

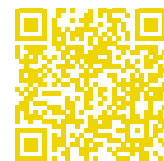


Alphi's ongoing innovation process is aimed at making work less arduous and reducing repetitive strain injuries. For this reason, the company has naturally joined forces with Leborgne, a company specialised in professional tools for the construction sector to **prevent arduous worksite conditions**.

Of the various ranges offered by Leborgne, Alphi is particularly impressed with the hand tool range, **nanovib®**. The tools in this range are the result of a process conducted with various prevention bodies such as OPPBTP, CARSAT or SIST-BTP, and offers a solution for every professional in the construction sector.

The partnership signed in 2012 between Leborgne, CAPEB and IRIS-ST makes it possible to test tools and ensure the impartiality and objectivity of the results obtained.




DOCUMENTATION






View full Leborgne documentation.



EQUIPMENT

	Formwork hammer	Specific features	Description
Hammers		<ul style="list-style-type: none"> Rounded claw angles 	<ul style="list-style-type: none"> 40% less vibrations Steel barrel with high resistance to off-target blows Ergonomic handle Non-slip grip Flared handled end to prevent slippage Magnetic nail holder Lateral hammering surfaces Sharp top edges
	1-tooth carpentry hammer	Specific features	
		<ul style="list-style-type: none"> Straightening lug Hammering surface with 2 rounded angles 	
	Wood-frame house assembly hammer		
			

	Prop key	Specific features	Description
Other tools		<ul style="list-style-type: none"> Eliminates 100% of the noise caused by hammering prop nuts 	<ul style="list-style-type: none"> Universal key for fastening prop nuts, shoring towers Extends the service life of prop nuts Curved handle with cladding
	Long-range form stripping tool	Specific features	
		<ul style="list-style-type: none"> Prevents risks of bad postures and accidents 	
	Hammer holder	Specific features	Description
		<ul style="list-style-type: none"> Its 45° angle prevents the hammer from falling when the worker crouches down 	<ul style="list-style-type: none"> Universal hammer holder For right- and left-handed use Built-in 100% graphite carpentry pencil

PREVENTION

SAFETY

SIMPLICITY

TransÉtais[®] housing

The TranÉtais housing trolley is particularly suitable for residential building sites. Its angle of inclination and its four steerable wheels make it easy to pass through doors and travel through corridors.





TransEtails housing

Alphi has designed the TransEtails Housing trolley, which facilitates the work of form fitters and helps to reduce **repetitive strain injury**.

It can carry enough props to **create a 20 m² surface area**.

It is especially suitable for **residential building sites**. Travel through corridors is easy thanks to the four steerable wheels.

An **automatic prop locking** system has been developed to **prevent the risk of falling objects** during handling.

DOCUMENTATION



[View full user guide.](#)

*TransEtails
Housing
trolley in use*

SAFETY

ARDUOUSNESS

ERGONOMICS

SLINGING

TransEtais[®]

The TransEtais trolley is particularly suitable for transporting long props. Its design helps ensure form fitters' safety and reduce repetitive strain injuries.



TransEtais

For **long props**, Alphi has designed the TransEtais trolley to facilitate the work of form fitters.

The low raising of the props (only 10 cm), the various compartments of the trolley, the non-skid system, and the ergonomic bar of the TransEtais contribute to **the safety of personnel** and the **reduction of repetitive strain injuries**.

DOCUMENTATION



[View full user guide.](#)

*TransEtais
trolley in use*

ARDUOUSNESS

ADAPTABILITY

SLINGING

handling **Racks**



Alphi offers a wide range of galvanised, stackable or wheeled racks adapting to all handling requirements and to all of its products.



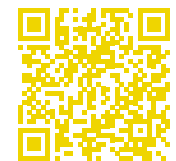
handling **Racks**

Alpha handling racks have been designed to reduce **repetitive strain injuries**.

The wheeled racks make it possible to store Alpha products **effortlessly** and make it easier to travel through worksites.

The entire Alpha rack range can be transported using **cranes** or using **slings** thanks to four hoisting rings.

DOCUMENTATION






[View full user guide..](#)

The vertical storage rack in use


EQUIPMENT

Special racks	Vertical storage rack	External dimensions W x L x H (m)	Number of TopDalle secondaries carried	Empty weight of trolley (kg)	Handling	Maximum allowable load (kg)	Description
		0.83 x 1.04 x 1.60	18	85.00	Can be handled by the crane when full thanks to four hoisting rings	400	<ul style="list-style-type: none"> Wheels: 4 steerable (including 2 with brakes)
	AlphiSafe rack	External dimensions H x W x D (m)	Number of grids carried	Empty weight of trolley (kg)	Handling	Maximum working load (kg)	Description
	1.65 x 1.58 x 1.03	20	103.00	Welded hoisting rings	500	<ul style="list-style-type: none"> It allows the adapters, posts, and grids to be stored at the same time Thanks to the bar at the top, the grids are protected when being strapped for road haulage 	

All-purpose racks	Rack on wheels	External dimensions W x L x H (m)	Empty weight of trolley (kg)	Handling	Maximum working load (kg)	Description
		0.77 x 0.95 x 1.09	40.00	Slinging using 4 hoisting rings	1000	<ul style="list-style-type: none"> 4 steerable wheels (including 2 with brakes) positioned in the corners for optimum handling and stability

Stackable racks	Beam rack	External dimensions W x L x H (m)	Empty weight of trolley (kg)	Handling	Maximum working load (kg)
		1.10 x 1.23 x 1.04	50.00	Slinging using 4 hoisting rings	1,500
	Prop rack	External dimensions W x L x H (m)	Empty weight of trolley (kg)	Handling	Maximum working load (kg)
	0.85 x 0.97 x 1.26	50.00	Slinging using 4 hoisting rings	1,500	

EQUIPMENT

Stackable racks	Painted rack	External dimensions W x L x H (m)	Empty weight of trolley (kg)	Handling	Maximum working load (kg)
		1.07 x 1.15 x 1.04	25.00	Slinging using 4 hoisting rings	900
	Galvanised rack	External dimensions W x L x H (m)	Empty weight of trolley (kg)	Handling	Maximum working load (kg)
		1.07 x 1.15 x 1.04	28.00	Slinging using 4 hoisting rings	900
	Small-format sheet metal rack	External dimensions W x L x H (m)	Empty weight of trolley (kg)	Handling	Maximum working load (kg)
		1.07 x 1.15 x 0.70	115.00	Slinging using 4 hoisting rings	900
Standard sheet metal rack	External dimensions W x L x H (m)	Empty weight of trolley (kg)	Handling	Maximum working load (kg)	
	1.07 x 1.15 x 1.04	65.00	Slinging using 4 hoisting rings	900	

Alphi®

Formwork and solutions



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