

alpi south east asia co., Itd

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Business Profile and Future Outlook of Alpi South East Asia Co. Ltd.

alpi south east asia company limited (alpi) was registered in the Kingdom of Thailand on 29 May 1992 as a subsidiary of Alpi Casseforme Spa-AG, a worldwide renowned specialist in Formwork and Falsework Systems, located in Italy. Since its establishment alpi has been providing cost effective solutions to their Formwork and Falsework client's needs for the Civil Works, Construction Industry, Building/Hydro Power & Infrastructure (Tunnel and Bridges) Construction sector.

In early 1997 **alpi** became an independent company, licensed to use the **alpi** Formwork and Falsework Systems from Italy. During the following 20 years **alpi**, using its solid base, has gained enormous experience from a wide variety of projects and is presently successfully tackling large and complicated projects on its own strength.

alpl's strategy for growth is based on superb service to our customers and on international development. The Company expects to achieve this by adopting policies comprising the following factors:

- Assisting in the development of Formworks and Falseworks to meet the specific requirements of each Customer;
- Analysing and solving problems on site with our Customer.
- Manufacturing material locally;
- Utilizing our experience and applying our technology to propose simple, rational, and economic solutions.
- Generating interest in our products through innovative marketing.
- Working to establish a reputation among our Customers of a high quality and utterly reliable supplier.
- Providing constant on & off site follow up services to projects entrusted to us.

Mission statement

alpi aims to be a growing, profitable marketer of Quality Civil Engineering Services, focused on the East and South East Asia region, providing Customers with high quality products, creative and cost effective solutions and continuous reliable service.

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Specifically **alpi** aims to:

- Provide the most cost-effective design for standard and special Formwork and Falsework Systems.
- Satisfy any request from local and international contractors in the building and civil work sectors.
- Marketing our ability to provide alternative solutions, i.e. **alpi** can provide a full range of services and products, and can provide our Customers with tailored solutions.
- Pursue a strategy of Product and System Development and Product Sales activities, which will increase the value of our sales in the different market segments.
- Special emphasis will be placed on the successful launch of our rental system of standard equipment and to maintain and enlarge the use of our buy back policy on selected standard equipment.
- Specific attention will also be paid to developing technical and managerial support for alpi distributors and agent in their respective markets.

All of the above should bring competitive advantages to our Customers.

From our central office in Thailand, alpi offers the following services:

- Design and fabrication of standard alpi systems;
- Design and fabrication of custom-made Formwork and Falsework Systems following specifications required by individual clients and by special situations.
- Structural Steelwork solutions to the super-structure sector of the construction industry.
- Fabrication of all types of other steelwork applications.
- Engineering solutions for both Civil and Structural applications.
- Mechanical Engineering solutions.
- Technical assistance and on site training for our Clients.
- Construction services, whether using alpi systems or not, through our alpi construction arm.

The **alpi** range of Formwork and Falsework products, can also be manufactured, in other countries if size of project and/or economies of scale make such options attractive

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ABOUT US

• **alpi** is an independent and dynamic company dedicated to providing cost effective solutions for all Formwork, Falsework and other Steel Construction needs, as well as providing residential and industrial construction services. For both activities, **alpi** uses the latest technology, techniques and methodologies.



• alpi specializes in the design, manufacturing, supply and commissioning of bridge construction equipment such as Custom Made Formwork & Falsework System, Launching Gantries, Beam Launchers, Formwork Travellers, Movable Scaffolding Systems and an extensive variety of Steel Structures.

• The **alpi** team with a new strategic and experienced international partners are also experienced in construction and engineering work such as temporary design work, site and factory QA/QC, geometry controls, bar bending schedule (BBS) design checks, layout of casting yard, and reviewing construction methodology.

• For Formwork and Falsework **alpi** uses the proven and patented system originally developed by Alpi Casseforme of Italy. As each concrete design has its particular requirements, our specialized teams orchestra design refinement and completion or the development of full designs. Manufacturing takes place in carefully selected fabrication shops or in our own workshop under the constant watchful eyes of **alpi** engineers.

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• For general construction work, **alpi** employs its own skilled craftsmen, as well as trusted specialized sub-contractors. **alpi** prides itself in being able to assist our clients in all aspects of the work. In this contents, we will advise our customers regarding the most appropriate construction methodologies and materials required, and that guarantees you the customer optimum value for your money.

KNOW-HOW AND EXPERIENCE

- To use our extensive experience and technological knowledge to provide rational simple and therewith economical Formwork, Falsework and general construction solutions;
- To assist our Clients in the development of Formwork and Falsework and general construction work that optimally meets the requirements of each particular situation;
- To promptly respond to inquiries from existing and potential clients;
- To maintain stocks of standard Formwork panels for sale and/or rent in order to provide the fastest possible services;
- To develop a region-side rental system of standardized elements;
- To fabricate all required systems as close as possible to the job site, in the country where the systems are going to be used, unless economical factors dictate otherwise;
- To provide technical assistance during the entire period that our Formwork and/or Falsework is being used by our Clients;
- To provide Formwork and Falsework erection and dismantling services on request;
- To provide training services to our Client's staff.

VALUE

To ensure best value for money, **alpi** provides the most cost effective solutions for Formwork/ Falsework and other Steel Construction applications.







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ALPI TIMELINE

	International	Production
1984 Creation of Alpi Casseforme S.P.A. in Valdaora Di Mezzo, Italy	1.992 Introduction to the Asian Market 29 May 1992 Creation of ALPI SOUTH EAST ASIA CO.,LTD 1992 Don Muang Tollway Project.Bangkok	1992 Alpi opened production facilities in Bangkok
1994 Second Stage Expressway Project, Bangkok 1996 Mr. Frank Michas (CED) took over ALPI SOUTH EAST ASIA CD.,LTD 1996 Hopewell BERTS Project, Bangkok 1996 Bangkok MRT Project 1999 Rama & Bridge Project, Bangkok	Corporate 2003 Alpi have now opened a full exclusive franchisee operation in THAILAND	2004 Industrial Ring Road Project, Bangkok
Corporate 2005 Alpi have now opened a full exclusive franchisee operation in Singapore with SMS CONSULTING ENGINEERS 2005 Southern Outer Bangkok Ring Road (SOBRR) Project, Bangkok 2005 Dubai Light Rail Transit Project	2005 Introduction to the Middle East Market	2006 Causeway Bridge Doha 2006 Singapore Marina Barrage Project 2006 Singapore MRT Circle Line Stage 2 Contract823Project 2007 Marina Bay Sands Singapore
2008 Introduction to the African Market	2003-2011 COJAAL Algerian East-West Motorway Project 2010-2013 Bangkok MRT-LRT Project 2012 Abu Dhabi North-South Transmission Cable Tunnel Contract NS2	Corporate 2013 Alpi have now opened a full exclusive franchisee operation in Jakarta with PT, DENSUKO KONSTRUKSI INDONESIA

Production

2013-2014 Tanjung Priok Access Road Construction Project (Phase 1), Package 2, Section E2, 2015 Jakarta Mass Rapid Transit Projects (Jakarta MRT CP 101/102/103)

2015 Jalan Layang Non Tol (JLNT) Kapten Tendean Jakarta Project

Alpi opened new production facilities in Jakarta

OPERATING WORLDWIDE



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ALPI ORGANIZATION CHART



-

Sea

FABRICATION FACILITIES



We have a partnership with a modern and well equipped fabrication yard names **NIL KHOSOL CO., LTD.** They are one of the leading fabricators in Thailand. They produce the highest quality Pressure Vessel, Storage Tanks, Heat Exchangers, Steel Framed Structures, Stacks, Silos and Boilers for Chemical, Petro-Chemical, and Energy related industries, to the strictest international construction standards, such as: JIS, API, DIN, ASME, ASTN and the Thai industrial Codes.

Yearly production is 1,200 MT of Storage Tanks, 1,800 MT of Pressure Equipment and 6,000 MT of Steel Structures within their 10,000 m2 of workshop and 5,000 m2 of open workspace which gives a total of 15,000 m2 of total area and allows for further expansion.

Visit their website at www.nilkhosol.com





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FABRICATION FACILITIES





We have a official partnership for the Indonesian market with **EKATAMA GROUP**, made up of 3 different companies, namely PT. Ekatama Putra, that focuses on industrial maintenance and support tools, PT. Wirya Krenindo Perkasa, that specializes in Material Handling equipment such as hoists and cranes, and PT. Ekatama Prima Perkasa, a solutions provider for industrial projects.

The company has come along way with an integrated facility of its own consisting of fabrication area, training center, warehouse, crane simulation area and painting/sandblasting area.

Visit their website at www.ekatamagroup.com



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THIRD PARTY CHECKER



Our in-house engineers are fully capable of providing inspections and calculation notes duly endorsed for all our procedures, fabrications, and construction requirements.

However, should our clients require independent inspections, our Third Party Checker and partner for all design check and endorsement, is **ATC**, an italian company specialized in construction engineering, tender consulting, design and manufactoring of special equipments, management of the construction site, post tensioning and realization of complex projects of bridges.

Visit their website at: www.atcbridges.com



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SYSTEMS FOR FORMWORK AND FALSEWORK

THIRD PARTY CHECKER



Regarding Non-Destructive testing (NDT) and engineering inspection and certification services, including quality control services on the fabrication work, we have a close relationship with **Qualitech Public Company Limited** which is a Thailand-based company and the first company to achieve ISO certification of NDT by international standards – ISO/IEC 17025 (General requirements for the Competence of Testing and Calibration Laboratories) and ISO 9001 (Certificate of Quality Management System). They are primarily engaged in the provision of Non-destructive Testing Services, and Engineering Inspection and Certification Services, including quality control services. They provide inspection and testing services, especially for steel structure during construction, manufacturing, online service, and plant shutdowns.

Qualitech Public Company Limited can perform our Conventional and/or Advanced NDT procedures when necessary and where required. Qualitech Public Company Limited undertakes its business in safety engineering by providing Non-Destructive Testing, Inspection and Certification services and engineering advice as an independent third party engineering service to various organizations in order to test and evaluate equipment against international standards and requirements specified by the clients, including legal requirements.



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SYSTEMS FOR FORMWORK AND FALSEWORK

CLIENTS REFERENCES



ROADS AND BRIDGES:

PROJECTS REFERENCES

PROJECT NAM

Dywidag/GTM Consortium Bhromvivat JV Bilfinger Berger/ Ch. Karnchang JV Hopowell (Thailand) Ltd. K-Tech Engineering & Const Dywidag Consortium JV Bilfinger Berger/Ch Karnchang/ Kumagi/JV (BBCK) Bilfinger Berger/Ch Karnchang/ Kumagi/Tokyu JV (BCKT) Ital-Thai/Obayashi/Nishumatsu JV Percon-MMCE-Leighton Bilfinger Berger/Ch Karnchang/ Dywidag JV (BBCD) Italian-Thai/Takenaka/Obayashi(ITO JV)

CSCEC+PPD+BBR JV

OTHER CONSTRUCTION WORKS:

Kampangphet Viwat Constr. Co. Ltd.

Don Muang Tollway, Bangkok (Thailand)
Ramindra Expressway, Bangkok (Thailand)
2nd Stage Expressway, Bangkok (Thailand)
Bangkok Elevated Road & Train System (BERTS) (Thailand)
Bangkok Elevated Road & Train System (BERTS) (Thailand)
Don Muang Tollway, Northern Extension Bangkok. (Thailand)

ang-Klo – Chaengwattana Bangkok (Thailand)

MRTA Subway system, Bangkok (Thailand)
 MRTA Subway system, Bangkok (Thailand)
 Kuala Lumpur Elevated Highway (Malaysia)

PROJECT NAME

Bangna-Bang-Pli-Bang Pakong Expressway (Thailand)
 Suvarnabhumi International Airport, Bangkok (Thailand)
 Rama 8 Bridge Project, Bangkok (Thailand)
 Rama 8 Bridge, Access Road, Bangkok (Thailand)

Taisie, Nishimatsu, NKK, Sino-thai JV Kajima, Tokyu, Unique JV Vichitbhan Group / Krungthong Eng Etic Link Middle East (L.L.C) Obayashi-Kajima-Yapi Merkezi (J/T J.V) Tipakorn Co., Ltd / Freyssinet Thailand. Lum Chang/Nishimatsu J.V ASEA Formwork & Construction (L.L.C) Consortium (COJAAL) Itochu Thailand Ch Karnchang /Tokyu J.V (CKTC J.V) Sino-Thai Eng & Const Public Co., Ltd. Kajima-Waskita (KAWA J.O) Obayashi-Jaya Konstruksi Joint Operation Obayashi-Shimizu-Jaya Konstruksi J.V Tokyu-Wika Joint Operation (TW J.O) Industrial Ring Road Contract No.1&2 Project (Thailand)
Industrial Ring Road Contract No.3 Project (Thailand)
Southern Outer Bangkok Ring Road Project (Thailand)
Dubai Light Rail Transit Project (Dubai)
Dubai Light Rail Transit Project (Dubai)
Lampao Dam Bridge Project (Thailand)
MRTA Project, Singapore (Singapore)
Several different Projects (Dubai)
Algerian East-West Motorway Project. (Algeria)
Algerian East-West Motorway Project. (Algeria)
MRT Purple, Red, Blue Line Project. (Thailand)
Tanjung Priok Section E2 Access Road Construction Project
Phase 1 & 2 Jakarta, (Indonesia)
Jakarta MRT CP101 & 102, (Indonesia)

Non-Toll Project Tandean Cileduk (Indonesia)

IENTS NAME

SAE (Thailand) Ltd. Girola/Lodigiani JV. Girola Thailand VS Engineering Maculan International BKK Contractor GTM International Thai Gammon IDW JV C/O GTM Thai Gammon Thailand Impregilo/Girola(Thailand) Ltd. Hummex Bonna NVPSKG JV Bangsean Construction Co.,Ltd

Central Dept. Store, Pinklao, Bangkok (Thailand) Chiang Mai SEA Games Stadium (Thailand) Hat Yai SEA Games Stadium (Thailand) Rojana Tower, Bangkok (Thailand) Water Treatment Plant, Pakse, (Laos) Muang Thong Suksawad Townhouse, Bangkok (Thailand) Grand Hanoi Lake View Hotel, Hanoi, (Vietnam) Grand Hanoi Lake View Hotel, Hanoi, (Vietnam) Berjaya Star City Project, Kuala Lumpur (Malaysia) Thai Copper Plant, Rayong, (Thailand) Hat Yai Stadium, Hat Yai, (Thailand) Supply of machined flange and Mould Dia 0.80m to 3.00 Samut Prakarn Wastewater Treatment Plant (Thailand) Scandinavian Village, Chonburi (Thailand) DHAMAKHAI Temple Project (Thailand)

MBF Eastern Star Co. Ltd. Nishimatsu Construction Co.,Ltd. Logans Thailand Co. Ltd. Kho Brothers Building & C.E Contractor. Qatar Dredging Company Lum Chang/Nishimatsu J.V Züblin (Thailand) Co., Ltd. ASEA Formwork & Construction (L.LC) Sembawang Engineers & Constructor QDVC Doha "Subsidiary of VINCI Construction Grands Projets." Vichitbhan Construction Co.,Ltd QDVC Doha "Subsidiary of VINCI Züblin International/CCI.

Pre-Build Public Co..Ltd

ROJECT NAME

Garden International School, Rayong (Thailand)
Nam Theum 2 Hydro-Electric Project (Laos)
Sunflower Housing Project, Rayong (Thailand)
The Marina Barrage Project, Singapore (Singapore)
The Poarl Qatar Project, Doha (Qatar)
MRTA Project, Singapore (Singapore)
Precest Yard of Kabinburi Industrial Estate (Thailand)
Several different Project (Dubai)
Marina Bay Sands Casino Project (Singapore)
The Dahlak Archipelago Housing Project (State of Eritrea)

 Theun-Hinboun 2 Hydro-Electric Expansion Project. (Laos The Sheraton Park Project, Doha (Qatar) Strategic Tunnel Enhancement Programme Link Sewer Contract LS-01, Abu Dhabi (UAE) - Unixx South Pattaya Project(Thailand)

NEWSPAPERS RECOGNITION



BANGKOK POST OCTOBER 1ST, 2012

• On the main page of the famous newspaper "BANGKOK POST" from October 1st, 2012, the first two pages were dedicated to us.



SOUTHEAST ASIA CONSTRUCTION MAY/JUNE 2005

• A page was dedicated to us in the famous magazine **"SOUTHEAST ASIA CONSTRUCTION"** who lists all the best companies in South-East Asia.

• This magazine features the engineering aspects of civil and structural projects worldwide. It also covers the latest on construction equipment.





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CUSTOM MADE ELEMENTS

CUSTOM MADE

Beyond its standard products, **alpi** offers "our signature" custom made Formwork and Falsework Systems for in-situ methods of construction.

alpi has left its mark on the world of design and supply of steel custom made Formwork and Falsework Systems, and we have played a significant role in the realization of some of the most significant worldwide projects. alpi's custom made Formwork and Falsework Systems involves the entire alpi design team in solving the client's problems by designing the most cost-effective reliable, easy to commission and the safest solutions of Formwork Systems for all our client's needs.

alpi is a leading world class specialist in finding the optimum solutions for large portals and cross beams, for the avoidance of traffic interruption for complex forms, and for every other possible concrete casting problem such as Pier, Pier Head, Tunnel, Box Culverts (self-moving for arch or tunnel lining).



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alpi's Engineers & Partners has the necessary experience and capabilities to successfully work with Designers and Contractors in the development of the most COST EFFECTIVE equipment which promotes safety, effective construction sequences and methods while achieving the most optional productivity. **alpi's** Engineers & Partners are recognized as one of the top specialist in-situ & precast segmental erection. **alpi** has worked with international contractors worldwide in almost 50 projects during almost 30 years.

MOVEABLE SCAFFOLDING SYSTEMS (MSS)

alpl's system of operating is the Movable Scaffolding Systems or MSS This system is designed as an Overhead and/or Underslung Systems which consist of a cost-effective Self Movable Formwork and Falsework System. MSS is designed to reduce cycle time and manpower with safety being a paramount concern for all types of bridges designed with cast-in-situ methods of construction and simplicity of commissioning. Our MSS can be configured to many bridge cross-sections, including single, double, and even triple Box Girder, U-section, T-section and more.

Our systems are designed upon the following criteria:

- Light weight,
- Easy to commission,
- Safety,
- Cost effective,
- Fast span construction





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LAUNCHING GANTRY "LG" / BEAM LAUNCHER

alpi designs and supplies the right size and type of Launching Girder for every type of concrete or steel spans. As is the case with our Custom Made elements, our goal is to provide the most efficient and user-friendly design for the job at hand, while ensuring optimum use of material. Whether your requirements are for 5 ton or 200 ton capacity, we will propose an economical and technically sound solution.

SEGMENTAL LAUNCHING GANTRY / BEAM LAUNCHER

alpl's Launching Gantry System or L.G Overhead and/or Underslung Gantry for precast segmental and/or beam method of construction can be used for both, Balanced Cantilever as well as for an INFILL SPAN by SPAN, FULL SPAN method of erection. The choice depends on the project specification whether it be dry or wet: joint erection will be required.



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MOULDS

SEGMENT BOX GIRDER (SBG) MOULDS

alpi designs and builds SBG Moulds for Full Span, Long Line and/or Short Line methods of casting for single, double, or triple Box Girder. **alpi** can also provide calculation of theoretical segment joint coordinates and software to use with these coordinates to control the actual casting of the segments in the short line casting mould and calculation of span pre-cambers. **alpi** utilizes an in-house Precast Segment Casting Geometry Control Software with and/or without requirement of survey tower for the casting of the spans in the short-line moulds.

alpi can offer an introduction instructional course regarding Segment casting as follow:

- 1. Introduction-Terminology of precast segmental bridge,
- 2. Long line & Short Line Casting method,
- 3. Dry joint & Glue Joint match casting,
- 4. Span by span vs Balanced cantilever erection method,
- 5. Setting up a Casting Yard (what are the considerations ?),
- 6. Casting yard working flow,

- 7. Concrete mix/method of concrete placing/ placing sequence,
- 8. Concrete vibrating,
- 9. Concrete Curing,
- 10. Segment repair & store,
- 11. Geometry control for casting yard,

12. QA/QC for casting of segment,



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FORM TRAVELLER / BALANCED CANTILEVER / SEGMENT LIFTER / LIFTING FRAME

alpi 's Form Traveller System are used for in-situ post-tensioned segmental method of construction, and this system can be used for bridges such as free cantilever, cable stayed bridge and/or arched.

The structural components of Formwork Traveller System are designed with optimized weights. The Formwork Traveller System can be designed as underslung or overhead type to adapt to many bridge cross-sections, including single, double or triple box girder, U, T section, and more. The whole system is designed so that it can be easily assembled and adjusted during operation to variations in segment length, section height, web thickness and deck width.



alpi's Balanced Cantilever Formwork System is a cast-in-situ and/or segmental method of construction based on the following strengths:

- Flexible Design,
- Light Weight equipment,
- Minimum of Deflection,
- Rapid and Easy Commissioning,
- Cost effective

Our Systems are based on a European Engineering Standards.(EES)

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TUNNEL

CULVERT

alpl's Tunnel Form is a Formwork System which allows you to cast cellular walls and slabs in one operation on a daily cycle. The system creates an efficient load-bearing structure for use in a wide variety of applications. It combines the speed, quality and accuracy of onsite production with the flexibility and economy of in-situ construction. This approach is recognized as a contemporary method of construction. The result is a cellular reinforced concrete structure; the surfaces of which are of sufficiently high quality to require only minimal finishing for direct decoration.

BOX



CUT AND COVER METHOD



FULL ROUND



HORSE SHOE



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TUNNEL

SEGMENT LINING MOULDS

designs and builds Precast Formwork "Mould" solutions for every conceivable precast concrete element for large elements for bridges. If needed, our designs will take into account special features required for pre stressing concrete elements. also supplies Precast Moulds for concrete decks and T-Girders which includes all hydraulic equipment required for the construction process.







PIPE JACKING MOULD

























BOX CULVERT MOULDS









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PRECAST TECHNOLOGIES

alpi prides it's self with being at the forefront of innovative, user-friendly, high quality, and cost effective Formwork and Falsework Systems. Not limited to Formwork and Falsework Systems, **alpi** supplies the Asia-Pacific with high quality and cost effective Precast Mould & Precast Concrete Products.

Our Precast Segments value is second to none due to cheaper raw materials, labour costs and shipping. **alpi** has all the correct certifications for end user and a fantastic track record with QC/QA. **alpi** is capable of producing various precast element such as I, U, T Girders, Cross Beam, Segment Lining just to name a few. **alpi** is able to supply full turnkey services.

alpi is committed to being service minded and we provide supports for our products by utilising our key engineering and manufacturing staff to instruct the client foremen and crew. The results is that you the customers are able to get the very best from your investment, saving time on site and saving time to project milestones.

alpi's world philosophy gives clientele the ability to save costs due our unique location in South East Asia and local resources, infrastructure, support, and knowledge of the region.



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MINI LIGHTWEIGHT PANELS

LIGHT WEIGHT FOR LIGHT WORK

Lightweight panels are the answer when placing concrete in confined spaces which limit maneuvering space and the use of mechanical equipment. Lightweight panels, which use the same patented locking/alignment system, can be supplied with steel plate or as a frame, to be fitted with a plywood covering.



Light Weight Panels are easy to place:

- Coupling/separating is done with just one blow of
- a hammer
- Range of sizes
- Usable without the need of a crane

Mini panels are the best answer to requirements of site operators when dealing with:

- Small simple structures
- Confined spaces
- Perfect surface concrete

Panel structures are easy to move, therefore minimizing labor costs and the need for highly skilled labor.

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MIDI REGULAR PANELS

FUNCTIONAL SIMPLICITY

Standard panels are available for any application. A patented alignment/locking system is used which perfectly aligns and tightly ties adjacent panels. **alph** Standard Panels can be used vertically as well as horizontally, to build walls, columns, floors etc.

Thanks to its ingenious design of using specially fabricated profiles, standard **alpi** Panels can be used to form columns of different sizes with only one size of panels.



Midi panels are the best answer to requirements of site operators when dealing with:

- Very high structures
- High casting pressures
- Perfect surface concrete

Panel structures are easy to move, therefore, minimizing labor costs and the need for highly skilled labor.

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CAPLOCK SCAFFOLDING

alpi's Caplock Scaffolding System is the result of over 20 years experience acquired on major projects throughout the world.

<u>SIMPLICITY</u>

alpi's Caplock Scaffolding System is an universally established prefabricated scaffolding system. Its inherent simplicity is what makes **alpi's** Caplock a versatile, efficient and cost effective alternative to traditional tube and coupler scaffolds.





ALL TYPES OF ACCESS

alpi's Caplock Scaffolding System is an extremely versatile modular system that can be used for all types of scaffolding access requirements. Components are lightweight, therefore erection and dismantling is accomplished easily by a small crew.

ONE SINGLE ACTION

The Principal feature of **alpi**'s Caplock Scaffolding System is the unique node pointlocking up to four horizontals in one single action without the use of nuts, bolts or even wedges. The locking device is formed by a fixed lower cap, which is welded to the vertical at 0,5m intervals, and a sliding upper cap. The forged blade ends of the horizontals are located in the lower cap. The upper cap is moved down and rotated by hammer blows to give a positive and rigid connection.

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RINGLOCK SCAFFOLDING

alpi's Ringlock Scaffolding System is the simplest method of connecting horizontals and diagonals to verticals in one single action without the use of loose fittings such as, nuts & bolts etc. Just one hit of a hammer on the wedges is sufficient to obtain complete stability and safety of the connecting component.

8 CONNECTIONS IN 1

alpi's experienced engineering team have designed a ingenious connector technology made of 8 connections in one, automatic right-angles and flexible angle selection, selflocking (by mean of wedges) during assembly. The tight connection between the rings is the key to the entire scaffolding system. Lateral side forces on the verticals are transferred to horizontals and diagonals to achieve the maximum loading and even distribution of loads throughout the shoring.





HIGH LEG-LOAD CAPACITY

The Principal feature of **alpi**'s Ringlock Scaffolding System is the unique node point-locking up to four horizontals in one single action without the use of nuts, bolts, or even wedges. The locking device is formed by a fixed lower cap, which is welded to the vertical at 0,5m intervals, and a sliding upper cap. The forged blade ends of the horizontals are located in the lower cap. The upper cap is moved down and rotated by hammer blows to give a positive and rigid connection.

alpi's Ringlock Scaffolding System provides high leg-load capacity which provides greater versatility in both high and low support levels.

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