

FORMWORK



SAVINGS

ADAPTABILITY

LIGHT WEIGHT

# ECONOMICAL ALUMINIUM SLAB FORMWORK





DalpHi | Economical aluminium slab formwork







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

It can be installed at a productivity rate of  $25 \text{ m}^2/\text{person}/\text{day}$ .

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 equipment 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.

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

### 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.





### 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.



Protection identifiable by red insert

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





# **3 SIMPLE COMPONENTS**

2	Primary beam	Name	Colour	Length (cm)	Unit weight (kg)	Description
		PP 90		90	5.40	<ul> <li>Theft protection</li> <li>Can be mounted in a drawer</li> <li>30 mm timber inserts,</li> </ul>
Primary		PP 110		110	6.60	for nailing on plywood using 40 mm nails
		PP 150		150	9.00	
		PP 180		180	10.80	

3	Secondary beam	Name	Colour	Length (cm)	Unit weight (kg)	Description
ary		PS 110	-	110	3.00	<ul> <li>Theft protection</li> <li>Timer inserts for nailing on plywood using 40 mm nails</li> <li>Compatible with other</li> </ul>
Secondary		PS 150	-	150	4.10	formwork solutions
		PS 180	-	180	4.90	

# **USE CALCULATION CHARTS**

The values appearing in these charts must be complied with to ensure the safety of operators and compliance with the applicable standards (NFP 93-322 for beams and EN 1991 1-6 for all loads).

### Beams

Specified value for a superior quality as per DTU 21 guidelines for concrete floors, accounting for the site load (2.5  $kN/m^2$ ).



### ST technical supports with integrated drop-head / Étai aluminium avec tête isolée

Name	Colour	Height (cm)	Weight (kg)							Sł	nore	ed he	eight	; (m	1/	Woi	rkinę	g loa	ıd (k	N)						
		mini-maxi		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	4.3
ST1*		197-300	18.5	40	39	38	37	36	35	35	34	33	33	32	32											
ST2*		225-350	20.5				40	39	39	38	37	36	36	35	35	34	34	33	32	32						
ST3*		250-400	23.5							40	40	40	40	40	40	40	40	40	38	38	34	34	30	30	26	
ST1 Alu		164-267 + 33 for the insulated head	15			40	40	40	40	40	40	40	40	40	40											
ST3 Alu		270-400 + 33 for the insulated head	19.4									40	40	40	40	40	40	40	40	40	40	40	39	37	36	34

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

# DALPHI ACCESSORIES



	Electrogalvanize	d insulated head	Bores (mm)	Height (cm)	Unit weight (kg)	Maximum allowable load (kN)	
Additional	ľ		4 x Ø12 x 80	33	3.80	40	
Addit	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	1.15	35	<ul> <li>Bracket: butterfly fastening nut</li> <li>FSAB: hammer head screw</li> </ul>



	Rack	Ranges			
Handling		<ul> <li>Vertical storage rack</li> <li>Galvanized rack on wheels</li> <li>Galvanized handling rack</li> <li>Click here to view details of racks</li> </ul>			
Han	TransEtais Housing	Description			
and the second s		<ul> <li>Easier prop handling</li> <li>Makes it possible to pass through door openings</li> </ul>			
	1992	Click <b>here</b> to view details of TransEtais Housing			



## 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 mesh 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)







### FORMWORK

### CLAMPING

#### Skin clamp



- Skin clamp + tube system.

#### **Girder clamp**



- Girder clamp + tube system.

#### Aluminium prop frame



- The prop frame provides a rigid link between 4 props.

#### Prop clamp



- Prop clamp to be driven into the wall with concrete screws.

#### **Prop frame**



- The prop frame provides a rigid link between 4 props.





 Set up the stabilisation of the first components.
 When the stabilising is installed, you can remove the tripods.



Set up the stabilisation of the first components.
When the stabilising is installed, you can remove the tripods.



- Position the 4 props as desired then fasten the prop frame.



- This clamp can be fitted before or after positioning the prop.



- Position the 4 props as desired then fasten the prop frame.





#### Aluminium prop clamp



- Used with the wall clamp, this part stabilises props ST1 alu and ST3 alu.





# FOR YOUR SAFETY

### WARNING

- To use our products safely, please comply with the applicable regulations in each country.

The items and set-ups presented in this brochure match the characteristics of the equipment on the date on which the document is published. There may have been some changes since then.

The use of our systems in combination with other manufacturers' systems may involve some risk and requires a specific inspection.

Please contact the design office for all uses not covered by the following procedure.

### **Personal protection**

- Use of PPE is mandatory.
- Operators setting up and removing equipment must be familiar with the relevant technical user documentation and have understood the steps.

#### Secure the working area

- Before starting set-up, remember to secure the area.
- Only authorised personnel are allowed to access the working area.
- Check that the collective slab edge protection has been installed.



### Installation of Alphi equipment

- Following the recommendations for using the equipment, safety instructions and load specifications ensures that a site functions properly.
- The layout drawings provided by the Alphi design office - not essential for a slab that is less than 24 cm thick - enable installation of the equipment to be optimised. Their adaptation for reasons relating to the progress of construction remains possible, by following the recommendations of the technical documentation for using the equipment.
- The stability of formwork components must be checked at each set-up stage.

- The DalpHi formwork system can be used up to a gradient of 5%.
- Use of the equipment must be appropriate for the weather conditions.
- The equipment must only be **maintained and repaired** by Alphi or by a user trained by Alphi.
- Alphi recommends that professional tools are used to install the equipment.





Click **here** or scan the QR code to view the video of the procedure.

### **PREPARATORY STAGE**



N.B.: even if they are not always shown in the image, TopDalle is to be installed by 2 form fitters.

- 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.
- Adjustment of prop height and positioning of formwork heads in formed position: locking with hammer.
- Adjust props to the correct height by positioning them horizontally.
- Do not remove pins while the props are under load.

### **INSTALLATION OF PROPS**



- Supporting surfaces must be plane and stable.



- Ensure that the prop is vertical.

Equiv	alents
Allowable offset at the foot = d (cm)	For a height of (m)
4	2.50
5	3.00
6	3.50



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

## **USER GUIDE: FORMWORK**



Starting from one corner of the room, mount one primary beam on 2 technical supports (ST) stabilised by tripods.
Start mounting a secondary beam on a third ST.
Store the plywood panels on the floor or in wheeled racks.
Use a rolling safety ladder in compliance with the regulations.
Caution: engage the primary beams on the large bushings of the technical support.



- Place a second primary beam on another ST.

Refer to calculation chart.



- Finish setting up the secondary beams. - Do not leave gaps greater than 39 cm. - Use a template to ensure compliance with 39 cm spacing.

→ Observe the layout plan.



- Set up another primary beam on ST.



- Move the secondary beams forwards from one to the next.



- Finish setting up the secondary beams.



- Set up another secondary beam on ST.



- Set up another primary beam on ST.

# **USER GUIDE: FORMWORK**



- Move the secondary beams forwards from one to the next.



- Set up another primary beam on ST.



- Move the secondary beams forwards from one to the next, keeping a gap of 39 cm.



- Finish setting up the secondary beams.

### **USER GUIDE: FORMWORK, FINISHING & CASTING**



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.
Conduct a final head locking check at this stage.



- When the structure is finished and the height has been adjusted: lay the plywood.

- Use the plywood cutting support (see Accessories p. 9).

→ Peripheral safety (skin, girder, etc.) ensured beforehand.



- Nailing using 40 mm (max.) nails. Ensure that a load-bearing member is present under the plywood

Check the sealing of the formwork between plywood sheets and edges.
It is prohibited to walk on the plywood panels, with the exception of trained personnel authorised to fit plywood panels.



- Concrete slab formation.

➔ Spread the concrete on the formwork without overloading the beams and the technical supports.

### **USER GUIDE: FORMWORK REMOVAL**



Formwork removal from slab: strike down the formwork heads from the STs as you progress.
The primary beams and the secondary beams drop by 14 cm.
The STs remain in position.





- Formwork removal from slab: remove the secondary beams and finally the primary beams as you progress. - Store them in the wheeled racks.



- Formwork removal from slab: remove the STs placed at the edge of
- Leave the other STs in place for at least 3 days (depending on the type of concrete and the external temperature).



- Lower the panel elevator to mid-height. - Remove the plywood sheet.



- Position the panel elevator and remove the corresponding ST. - Remove the plywood panel using the panel elevator.



- Install the first drying prop, allowing one prop per 5  $m^{2}$  (general case).



- Repeat steps 21 and 22.



- Repeat the operations from step 1 on a higher level.

# **DALPHI FORMWORK INSTALLATION AT EXTRA-HIGH HEIGHTS**



Starting from one corner of the room, mount one primary beam on 2 technical supports (ST) stabilised by a prop frame.
Start mounting a secondary beam on a third ST.
Store the plywood panels on the floor or in wheeled racks.
Use a rolling safety ladder.

➔ Refer to calculation chart.



- Place a second primary beam on another ST.



- Finish setting up the secondary beams. - Do not leave gaps greater than 39 cm. - Use a template to ensure compliance with 39 cm spacing.

→ Observe the layout plan.



Set up another primary beam on ST.
 Repeat the operation as for standard heights.

 $\Rightarrow$  Use frames instead of tripods: 1 prop frame for 40 m<sup>2</sup> of formwork.

## **SPECIAL CASES**

### **USE WITH NON-TILT FORK**



F

#### Handling face overhangs



Fork

# SPECIAL APPLICATIONS

### PRIMARY ON PRIMARY IN-DRAWER SET-UP



In-drawer set-up enables the formwork to be adjusted as closely as possible to the walls by means of a primary beam resting perpendicularly on two primary beams.

### **IN-DRAWER SET-UP FOR POSTS**



- Where a post is present, when the latter's longest length is parallel to the primary beam, an in-drawer set-up enables gaps to be minimised.

- Conversely, where the longest length is perpendicular to the primary beam, simply attach the secondary components to the post.

## SPECIAL APPLICATIONS

### IN-DRAWER SET-UP FOR SERVICE DUCTS



In order to get as close as possible to a tank, such as a service duct, it is possible to use an in-drawer set-up to minimise gaps.

### RECESS ON THE UNDERSIDE OF THE SLAB



As the slab levels are different on the underside, it is advisable to install the 2 formwork sections as close as possible to the recess. In this way, the gap will be limited to 20 cm, in compliance with the decree of 2004 relating to falls from height.

### PRE-SLAB SHORING



Caution: engage the primary beams on the technical support's large bushings.

# PACKING

### PRIMARY BEAMS

		Rack - SWL PAN MAN 1T500	Galvanised or painted rack PAN MAN NO PAN MAN P NO
	Quantity	<b>40</b> beams	<b>40</b> beams
06dd	Storage	5 rows x 8 beams	<b>5</b> rows x <b>8</b> beams
дд	Weight (kg)	303	283
	Overall dimensions L x W x H (m)	1.23 x 1.10 x 1.21	1.16 x 1.03 x 1.04

	Quantity	35 beams	<b>35</b> beams		
10	Storage	<b>5</b> rows x <b>7</b> beams	5 rows x 7 beams		
PP110	Weight (kg)	318	295		
	Overall dimensions L x W x H (m)	1.15 x 1.10 x 1.21	1.15 x 1.03 x 1.04		

	Quantity	<b>35</b> beams	<b>35</b> beams
PP150	Storage	<b>5</b> rows x <b>7</b> beams	<b>5</b> rows x <b>7</b> beams
ЪР	Weight (kg)	415	392
	Overall dimensions L x W x H (m)	1.55 x 1.10 x 1.21	1.55 x 1.03 x 1.04

	Quantity	<b>35</b> beams	<b>35</b> beams		
PP180	Storage	<b>5</b> rows x <b>7</b> beams	<b>5</b> rows x <b>7</b> beams		
PP1	Weight (kg)	556	533		
	Overall dimensions L x W x H (m)	1.85 x 1.10 x 1.21	1.85 x 1.03 x 1.04		

	Quantity	<b>22</b> beams	22 beams
PPE90-110	Storage	1 row x 6 beams 1 row x 5 beams 1 row x 6 beams 1 row x 5 beams	1 row x 6 beams 1 row x 5 beams 1 row x 6 beams 1 row x 5 beams
PPE9	Weight (kg)	206	183
	Overall dimensions L x W x H (m)	1.23 x 1.10 x 1.21	1.16 x 1.03 x 1.04







In order to ensure optimum safety and stability, equipment handled using racks must be tethered and the weight distributed.

### SECONDARY BEAMS



		Rack - SWL PAN MAN 1T500	Galvanised or painted rack PAN MAN NO PAN MAN P NO
	Quantity	<b>120</b> beams	<b>110</b> beams
PS110	Storage	7 rows x 16 beams + 8 flat beams	6 rows x 16 beams + 14 beams
PS(	Weight (kg)	517	455
	Overall dimensions L x W x H (m)	1.15 x 1.10 x 1.21	1.15 x 1.03 x 1.04

	Quantity	120 beams	<b>110</b> beams	
PS150	Storage	Storage 7 rows x 16 beams + 8 flat beams		
PS1	Weight (kg)	679	604	
	Overall dimensions L x W x H (m)	1.55 x 1.10 x 1.21	1.55 x 1.03 x 1.04	

	Quantity	<b>120</b> beams	110 beams	
PS180	Storage	7 rows x 16 beams + 8 flat beams	<b>6</b> rows x <b>16</b> beams + <b>14</b> beams	
PS1	Weight (kg)	803	718	
	Overall dimensions L x W x H (m)	1.85 x 1.10 x 1.21	1.85 x 1.03 x 1.04	





## PACKING

### TECHNICAL SUPPORT (ST) PROPS

		Props rack PAN ETAI	Rack - SWL PAN MAN 1T500
	Quantity	<b>48</b> props	72 props
Σ	Storage	<b>6</b> rows x <b>8</b> props	<b>9</b> rows x <b>8</b> props
ST1	Weight (kg)	997	1,043
	Overall dimensions L x W x H (m)	1.95 x 1.05 x 0.95	1.95 x 1.10 x 1.21

	Quantity	<b>48</b> props	64 props
សុ	Storage	<b>6</b> rows x <b>8</b> props	<b>8</b> rows x <b>8</b> props
ST2	Weight (kg)	1,035	1,371
	Overall dimensions L x W x H (m)	2.25 x 1.05 x 0.95	2.25 x 1.10 x 1.21

	Quantity	<b>48</b> props	<b>64</b> props
N	Storage	<b>6</b> rows x <b>8</b> props	<b>8</b> rows x <b>8</b> props
ST2N	Weight (kg)	1,099	1,456
	Overall dimensions L x W x H (m)	2.25 x 1.05 x 0.95	2.25 x 1.10 x 1.21

	Quantity	<b>48</b> props	<b>56</b> props	
ST3	Storage	<b>6</b> rows x <b>8</b> props	<b>7</b> rows x <b>8</b> props	
S	Weight (kg)	1,235	1,440	
	Overall dimensions L x W x H (m)	2.50 x 1.05 x 0.95	2.50 x 1.10 x 1.21	

	Quantity	<b>48</b> props	64 props
ST3N	Storage	<b>6</b> rows x <b>8</b> props	<b>8</b> rows x <b>8</b> props
ST	Weight (kg)	1,213	1,414
	Overall dimensions L x W x H (m)	2.50 x 1.05 x 0.95	2.50 x 1.10 x 1.21





In order to ensure optimum safety and stability, equipment handled using racks must be tethered and the weight distributed.

# PRIMARY BEAM GRID

P180         P150         P110           0         0         0           0         0         1           0         1         0           1         0         0           0         0         1           0         1         0           0         0         0           0         0         1           0         0         2           0         1         0           0         1         1	P90 1 0 0 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Distance between walls (in cm) 120 140 180 210
O         O         1           O         1         O           1         O         O           0         O         O           0         O         O           0         O         1           0         O         O           0         O         1           0         O         2           0         1         O	0 0 0 2 1	140 180 210
O         1         O           1         0         0           0         0         0           0         0         1           0         0         2           0         1         0	0 0 2 1	180 210
1         0         0           0         0         0         0           0         0         1         0         2           0         1         0         0         2           0         1         0         0         0	0 2 1	210
O         O           O         O           O         O           O         O           O         O           O         O           O         O           O         O	2	
O         O         1           O         O         2           O         1         O	1	000
0 0 2 0 1 0		220
0 0 2 0 1 0		240
0 1 0		260
	1	280
0 1 1	0	300
	1	310
	3	320
1 0 1	0	330
0 2 0	0	340
0 0 1	2	340
0 0 2	1	360
1 1 0	0	370
0 1 0	2	380
0 0 3	0	380
2 0 0	O	400
O 1 1	1	400
1 0 0	2	410
0 1 2	0	420
0 0 0	4	420
1 0 1	1	430
0 2 0	1	440
0 0 1	З	440
1 0 2	0	450
0 2 1	0	460
	2	460
1 1 0	1	470
	3	480
	1	480
1 1 1	0	480
	1	
2 0 0		500
0 3 0	0	500
	2	500
0 0 4	0	500
1 0 0	3	510
2 0 1	0	520
0 1 2	1	520
0 0 0	5	520
1 2 0	0	530
1 0 1	2	530
0 2 0	2	540
0 1 3	0	540
0 0 1	4	540
1 0 2	1	550
2 1 0	0	560
0 2 1	1	560
0 0 2	3	560

P180	P150	P110	P90	Distance between walls (in cm)
1	1	0	2	570
1	0	3	0	570
0	2	2	0	580
0	1	0	4	580
0	0	3	2	580
З	0	0	0	590
1	1	1	1	590
2	0	0	2	600
0	3	0	1	600
0	1	1	3	600
0	0	4	1	600
1	1	2	0	610
1	0	0	4	610
2	0	1	1	620
0	3	1	0	620
0	1	2	2	620
0	0	5	2	620
0	0	0	6	
			1	620
1	2	0		630
1	0	1	3	630
2	0	2	0	640
0	2	0	3	640
0	1	3	1	640
0	0	1	5	640
1	2	1	0	650
1	0	2	2	650
2	1	0	1	660
0	4	0	0	660
0	2	1	2	660
0	1	4	0	660
0	0	2	4	660
1	1	0	3	670
1	0	3	1	670
2	1	1	0	680
0	2	2	1	680
0	1	0	5	680
0	0	3	3	680
З	0	0	1	690
1	З	0	0	690
1	1	1	2	690
1	0	4	0	690
2	0	0	3	700
0	3	0	2	700
0	2	3	0	700
0	1	1	4	700
0	0	4	2	700
3	0	1	0	710
1	1	2	1	710
1	0	0	5	710
2	2	0	0	720
2	0	1	2	720
0	3	1	1	720
0	1	2	3	720
	· ·	_		0

Using the non-tilt safety fork provides an additional adjustment allowance of 15 cm (see page 22).

## **PRIMARY BEAM GRID**

P180	P150	P110	P90	Distance between walls (in cm)		P180	P150	P110	P90	Distance between walls (in cm)
0	0	5	1	720	1	3	0	2	0	830
0	0	0	7	720	1 1	1	2	0	3	830
1	2	0	2	730	1	1	1	3	1	830
1	1	3	0	730	1	1	0	1	5	830
1	0	1	4	730	1	2	2	1	0	840
2	0	2	1	740	1	2	0	2	2	840
O	3	2	0	740	1	0	3	2	1	840
0	2	0	4	740		0	2	0	5	840
0	1	З	2	740		0	1	3	3	840
0	0	6	0	740	1	0	0	6	1	840
0	0	1	6	740		0	0	1	7	840
3	1	0	0	750		3	1	0	1	850
1	2	1	1	750		1	4	0	0	850
1	0	2	3	750		1	2	1	2	850
2	1	0	2	760		1	1	4	0	850
2	0	3	0	760		1	0	2	4	850
0	4	0	1	760		2	1	0	3	860
O	2	1	3	760		2	0	3	1	860
O	1	4	1	760		0	4	0	2	860
O	0	2	5	760		0	3	3	0	860
1	2	2	0	770		0	2	1	4	860
1	1	0	4	770		0	1	4	2	860
1	0	3	2	770		0	0	7	0	860
4	0	0	0	780		0	0	2	6	860
2	1	1	1	780		3	1	1	0	870
0	4	1	0	780		1	2	2	1	870
0	2	2	2	780		1	1	0	5	870
0	1	5	0	780		1	0	3	3	870
0	1	0	6	780		4	0	0	1	880
0	0	3	4	780		2	3	0	0	880
3	0	0	2	790		2	1	1	2	880
1	3	0	1	790		2	0	4	0	880
1	1	1	3	790		0	4	1	1	880
1	0	4	1	790		0	2	2	3	880
2	1	2	0	800		0	1	5	1	880
2	0	0	4	800		0	1	0	7	880
0	3	0	3	800		0	0	3	5	880
0	2	3	1	800		3	0	0	3	890
0	1	1	5	800		1	3	0	2	890
0	0	4	3	800	-	1	2	3	0	890
3	0	1	1	810		1	1	1	4	890
1		1	0	810 810	-	1	0	4	2	900
1	1	2	2			4	0	1	0	
1	0	5	6	810		2	1	2	1	900
1	0	0	1	810 820		2	0	0	0	900
2	2	1	3	820		0	3	0	4	900
2	5	0	0	820		0	2	3	2	900
0	3	1	2	820		0	1	6	0	900
0	2	4	0	820		0	1	1	6	900
0	1	2	4	820		0	0	4	4	900
0	0	5	4	820		3	2	4	4	910
0	0	0	8	820		3	0	1	2	910
	5				]			<u> </u>		0.0

P180	P150	P110	P90	Distance between walls (in cm)
1	3	1	1	910
1	1	2	3	910
1	0	5	1	910
1	0	0	7	910
2	2	O	2	920
2	1	3	0	920
2	0	1	4	920
0	5	0	1	920
0	3	1	3	920
0	2	4	1	920
0	1	2	5	920
0	0	5	3	920
0	0	0	9	920
3	0	2	1	930
1	3	2	0	930
1	2	0	4	930
1	1	3	2	930
1	0	6	0	930
1	0	1	6	930
4	1	0	0	940
2	2	1	1	940
2	0	2	3	940
0	5	1	0	940
0	3	2	2	940
0	2	5	0	940
0	2	0	6	940
0	1	3	4	940
0	0	6	2	940
0	0	1	8	940
3	1	0	2	950
3	0	3	0	950
1	4	0	1	950
1	2	1	3	950
1	1	4	1	950
1	0	2	5	950
2	2	2	0	960
2	1	0	4	960
2	0	3	2	960
0	4	0	3	960
0	3	3	1	960
0	2	1	5	960
0	1	4	3	960
0	0	7	1	960
0	0	2	7	960
5	0	0	0	970
3	1	1	1	970
1	4	1	0	970
1	2	2	2	970
1	1	5	0	970
1	1	0	6	970
1	0	3	4	970
4	0	0	2	980
2	3	D	1	980

P180	P150	P110	P90	Distance between walls (in cm)
2	1	1	3	980
2	0	4	1	980
0	6	0	0	980
0	4	1	2	980
0	3	4	0	980
0	2	2	4	980
0	1	5	2	980
0	1	0	8	980
0	0	8	0	980
0	0	3	6	980
3	1	2	0	990
3	0	0	4	990
1	3	0	З	990
1	2	3	1	990
1	1	1	5	990
1	0	4	3	990
4	0	1	1	1000
2	3	1	0	1000
2	1	2	2	1000
2	0	5	0	1000
2	0	0	6	1000

# SECONDARY BEAM GRID

Grid for secondary beams from 0 to 10 m				
PS180	PS150	PS110	Distance between walls (in cm)	
0	D	1	140	
0	1	0	180	
1	0	0	210	
0	0	2	260	
0	1	1	300	
1	0	1	330	
0	2	0	340	
1	1	0	370	
0	0	3	380	
2	0	0	400	
0	1	2	420	
1	0	2	450	
0	2	1	460	
1	1	1	490	
0	3	0	500	
0	0	4	500	
2	0	1	520	
1	2	0	530	
0	1	3	540	
2	1	0	560	
1	0	3	570	
0	2	2	580	
3	0	0	590	
1	1	2	610	
0	3	1	620	
0	0	5	620	
2	0	2	640	
1	2	1	650	
0	4	0	660	
0	1	4	660	
2	1	1	680	
1	3	0	690	
1	0	4	690	
0	2	3	700	
3	0	1	710	
2	2	0	720	
1	1	3	730	
0	3	2	740	
0	0	6	740	
3	1	0	750	
2	0	3	760	
1	2	2	770	
4	0	0	780	
0	4	1	780	
0	1	5	780	
2	1	2	800	
1	3	1	810	

PS180	PS150	PS110	Distance between walls (in cm)
1	0	5	810
0	5	0	820
0	2	4	820
3	0	2	830
2	2	1	840
1	4	0	850
1	1	4	850
0	3	3	860
0	0	7	860
3	1	1	870
2	3	0	880
2	0	4	880
1	2	3	890
4	0	1	900
0	4	2	900
0	1	6	900
3	2	0	910
2	1	3	920
1	3	2	930
1	0	6	930
4	1	0	940
0	5	1	940
0	2	5	940
3	0	3	950
2	2	2	960
5	0	0	970
1	4	1	970
1	1	5	970
0	6	0	980
0	3	4	980
0	0	8	980
3	1	2	990
2	3	1	1,000
2	0	5	1,000

### ALPHI, THE LEADING FRENCH MANUFACTURER OF SLAB FORMWORK



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 includes the Alphi-patented integrated drop-head for fast removal.

#### Head office

Savoie Hexapole - Building A 129, rue Nicolas Copernic - 73420 Méry FRANCE Tel. +33 (0)4 79 61 85 90 - **info@alphi.fr** Design Office: be@alphi.fr

### **Paris Agency**

Tel. +33 (0)1 30 52 24 30 - info.paris@alphi.fr Design Office: be.paris@alphi.fr





Designed in France

