

ALKES

Column Formwork



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SAEZ FORMWORKS, S.L.
B75465989

CTRA. DE BENIAJAN, 10
30570 MURCIA

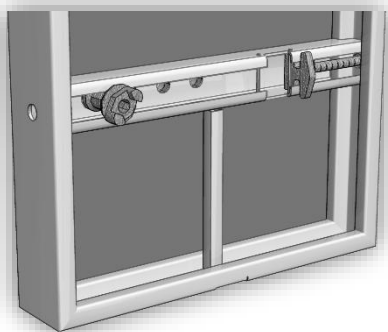
VERTICAL FORMWORK

column system Alkes
system description

Column Alkes

The formwork for **Lightweight Columns Alkes** is a system of **lightweight vertical formwork** for **square or rectangular columns**, intended for residential building. This system consists of **panels hand-portable** throughout its range.

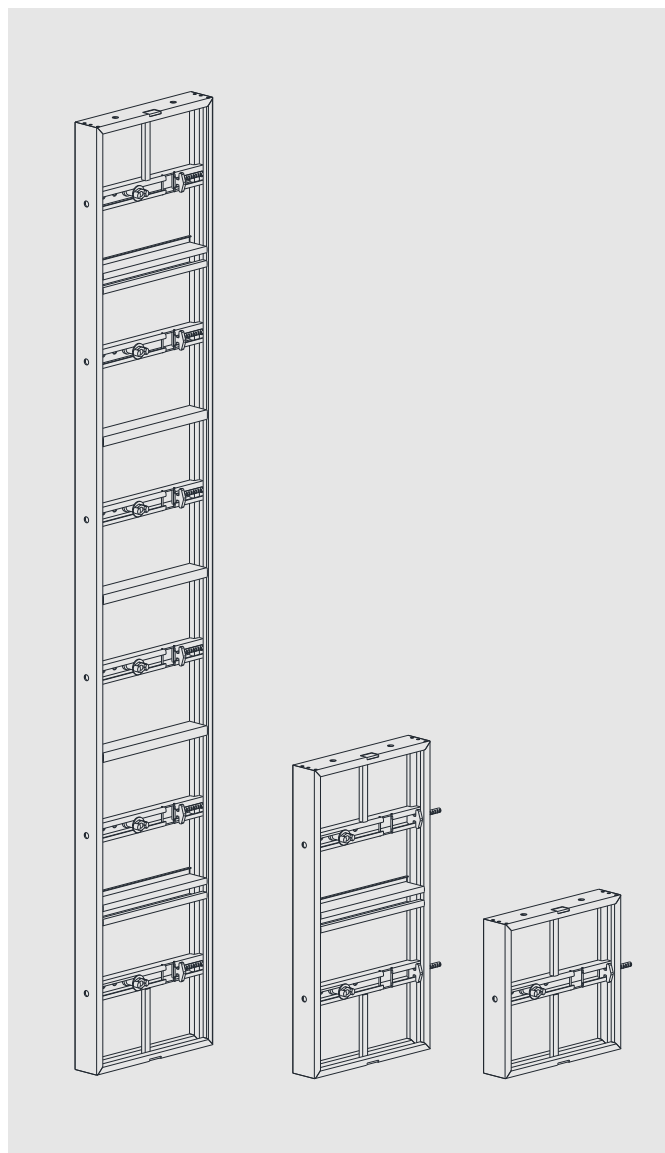
It is the ideal product for achieving **maximum profitability and site economy** in the construction of columns and low walls: the formwork for **Lightweight Columns Alkes**.



Metal frame **Hot-dip galvanized**

Lightweight Column Alkes

DIMENSIONS	WEIGHT	DESCRIPTION
3000 x 800 mm	107 Kg	Columns from 20 cm up to 70 cm
1000 x 800 mm	40 Kg	Columns from 20 cm up to 70 cm
500 x 800 mm	22,6 Kg	Columns from 20 cm up to 70 cm
3000 x 700 mm	94 Kg	Columns from 20 cm up to 60 cm
1000 x 700 mm	38 Kg	Columns from 20 cm up to 60 cm
500 x 700 mm	20,4 Kg	Columns from 20 cm up to 60 cm
3000 x 500 mm	76 Kg	Columns from 20 cm up to 40 cm
1000 x 500 mm	30 Kg	Columns from 20 cm up to 40 cm
500 x 500 mm	16,2 Kg	Columns from 20 cm up to 40 cm



System features

Simplicity

NO ACCESSORIES

Integrated connection elements, which make panel connection simple.

LOW WEIGHT

Formwork system for rectangular-section columns with **panels ligeros hand-portable**.

SUITABLE SYSTEM

Possibility of constructing **low walls** quickly by joining the panels laterally **using clamps**.

SYSTEM RANGE

Reduced number of panels.
- Panel heights: 3 m and 1 m.
- Widths: 0.7 m and 0.5 m.

Safety

STRENGTH

The reinforcement of the metal frame corners guarantees a **longer panel life** and prevent deterioration.

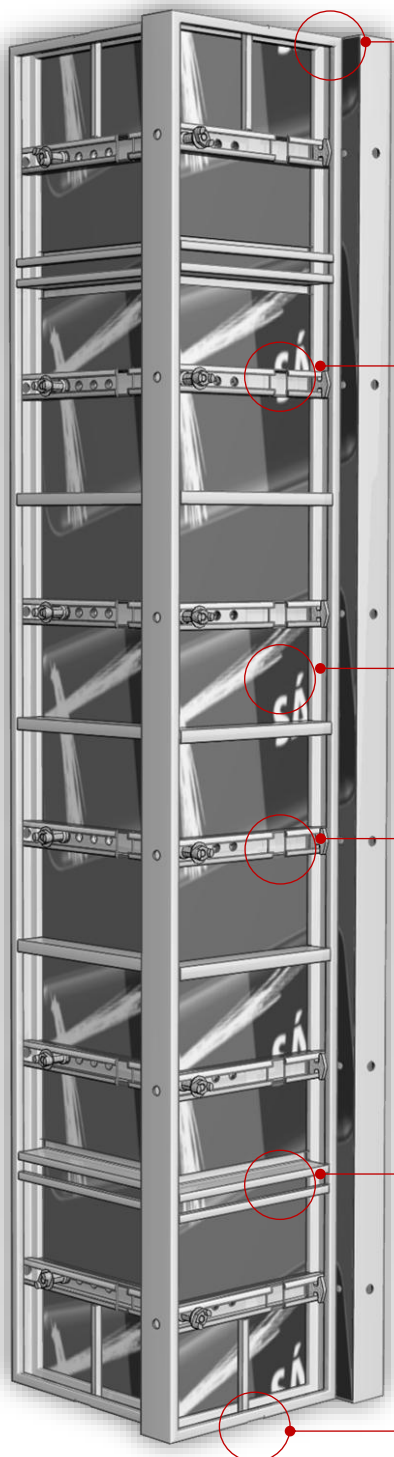
ROBUST SYSTEM

The capacity of the panels to withstand concrete pressure is **100 kN/m²**.

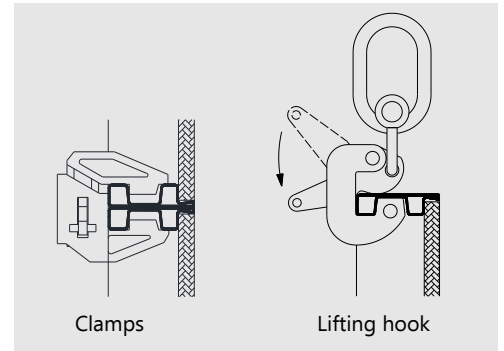
FIRM BOARD

Optional with **surface form-facing plastic**, which provides lightness to the panels and excellent finishes. This type of product increases formwork durability and service life, reduces weight, makes handling easier and is recyclable...

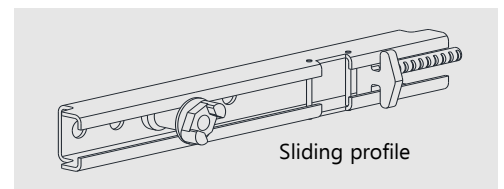
Features



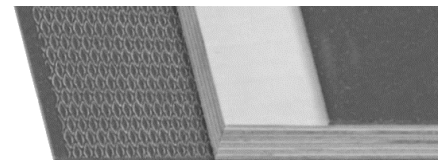
The characteristics of the perimeter frame profile allow the use of **connection clamps** between panels and **lifting hooks**



Sliding profile with holes. They house the integrated pins and nuts, which can be replaced.

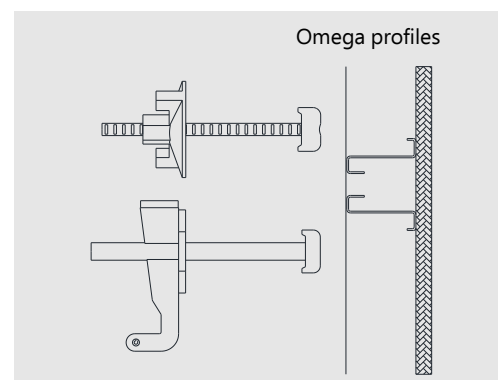


Mixed board with **face form-facing of plastic** of 18 mm. Its resistance to tears and scratches gives it high durability. Riveted to the metal frame.

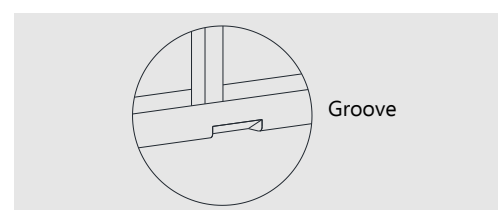


Connections every 50 cm in height.
Excellent Strength.
Max. concrete pressure **120 kN/m²**.

Profiles with **omega shape** for greater frame robustness. The characteristics of this profile allow the use of accessories such as alignment walers, brackets, etc.



Groove to facilitate movement with a lever.



VERTICAL FORMWORK

column system Alkes
columns in height

Panel Height Connection for Columns

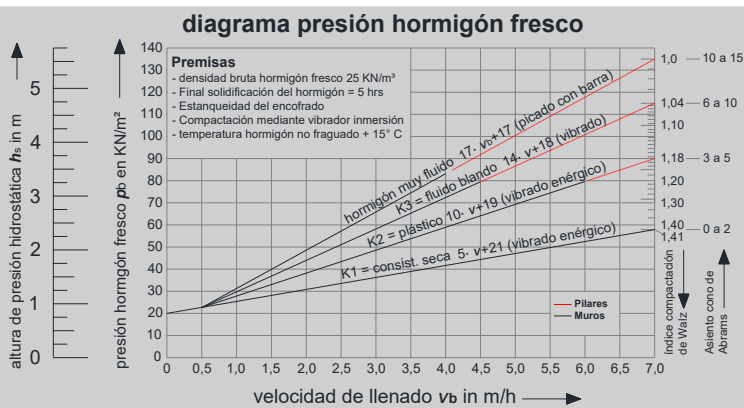
The **height connection** between panels is preferably made with **2 clamps**. For heights over 3 m, walers with wedges are preferably added.

The **maximum permitted column height is 7 m**.

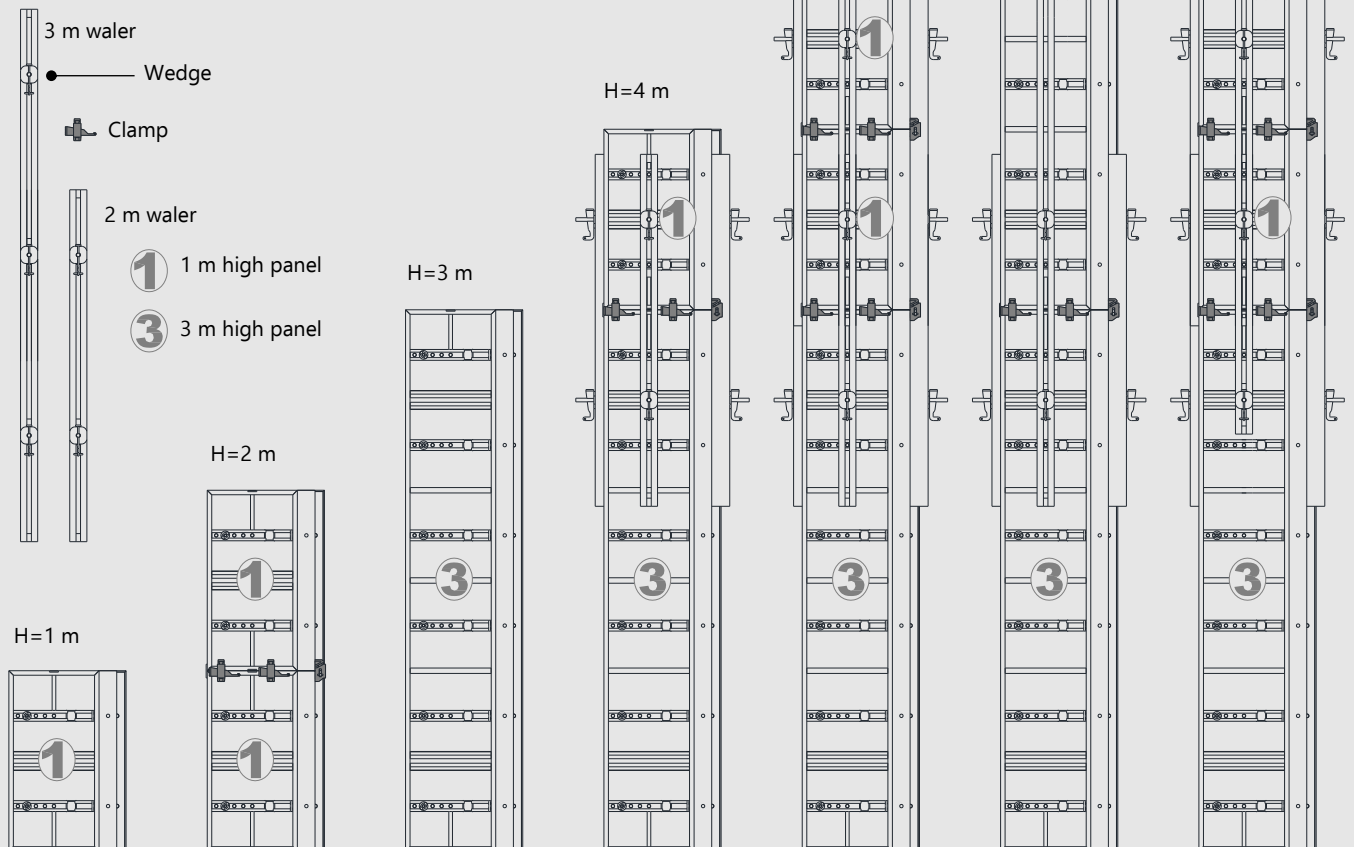
The concrete pouring speed must be limited taking into account that **the panel strength is 120 kN/m²**.



Panel connection clamp.



- Diagrama para determinar la presión del hormigón fresco (pb) en el encofrado con relación a la velocidad hormigonado (vb) y la consistencia "K" del hormigón fresco (acc. to DIN 18218)



Diaphragm Wall Formation

The **columns with a section greater than 60 cm** can be formed by laterally joining two or more panels with clamps and alignment walers.

The **anchoring** of the opposing panels will be established using **Dywidags and nuts**.

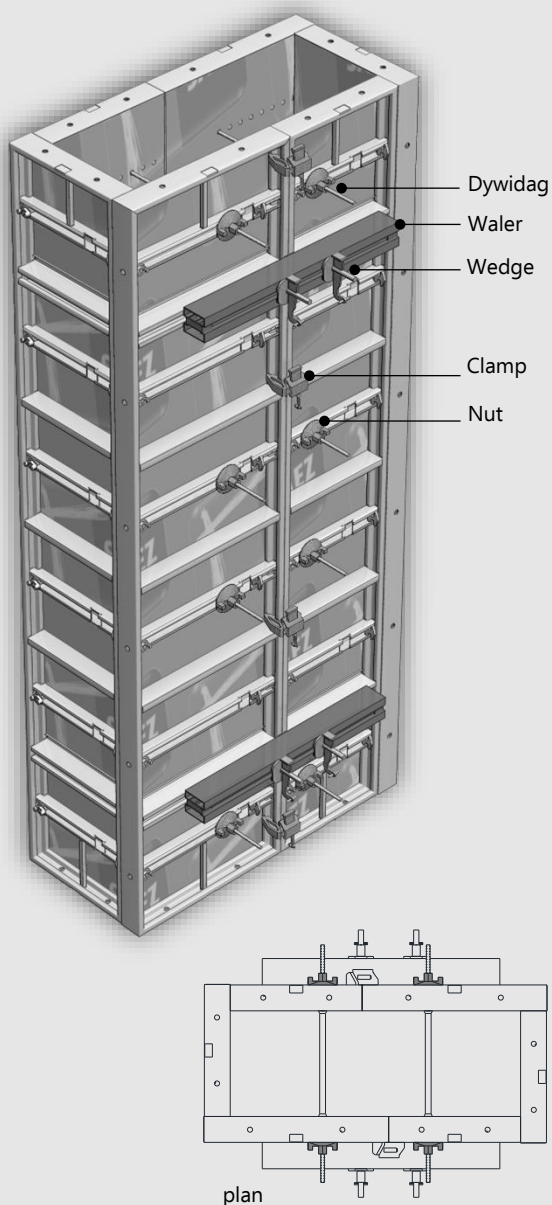
Connection of the panels in a **simple way**, with a single hammer blow.

High **performance** with minimal labour costs and installation time.

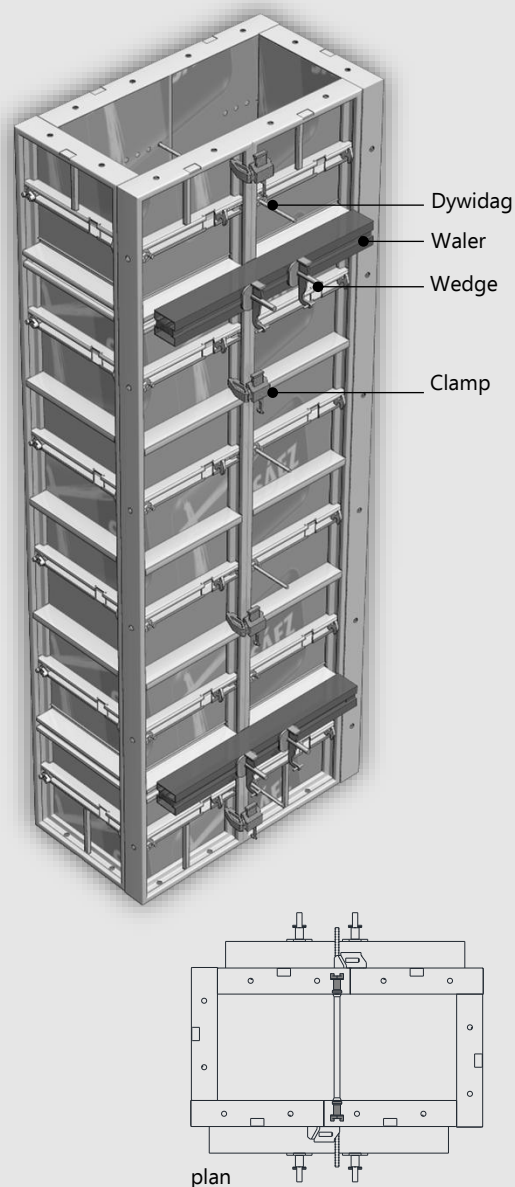
dimensions in diaphragm walls

PANEL WIDTH	0,5 + 0,5 m	0,5 + 0,7 m	0,7 + 0,7 m	0,5 + 0,5 + 0,5 m	0,5 + 0,5 + 0,7 m	0,5 + 0,7 + 0,7 m	0,7 + 0,7 + 0,7 m
wall minimum [mm]	500	500	700	1000	1000	1200	1400
maximum wall [mm]	900	1100	1300	1400	1600	1800	2000

Panel anchoring using Dywidags and independent nuts.



Panel anchoring using Dywidags and the integrated panel nuts.



Lifting hook Alkes

The **lifting hook** is the auxiliary element responsible for lifting, **by crane**, a panel or a set of panels assembled together.

The lifting hook design allows lifting a **600 kg working load** per hook unit, with a maximum sling inclination angle of 30° from vertical.

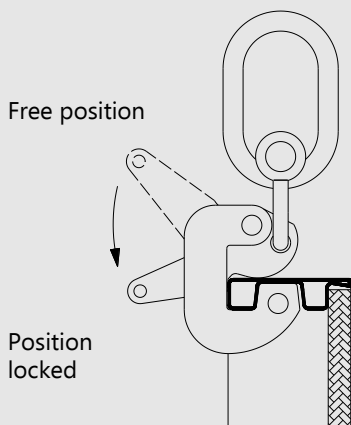
At least two lifting hooks are required to move a complete column.

Its safety is guaranteed because it has **the "CE" marking**, in accordance with the European Machinery Directive.



Lifting hook Alkes

Fixing the lifting hook to the panels



The hook fits into the side profiles of the panels and has a safety latch.



Positioning of lifting hooks on a column.

EC Declaration of Conformity Lifting Hook Alkes

(Directive 06/42/EC, Annex II, part 1, section A)

Hereby, **Gruas Saez S.L.**, declares that the Lifting Hook, model Alkes, complies with the essential safety requirements of the following Directives:

Directive 2006/42/EC, on the approximation of the laws of the Member States relating to machinery. To comply with the requirements of the above directive, the following standards and technical specifications have been applied:

UNE EN ISO 13155:2004+ A2:2009 Cranes. Safety. Non-fixed load lifting attachments.

UNE EN ISO 12100:2012 Safety of machinery. General principles for design. Risk assessment and risk reduction.

Murcia, September 3, 2018 Signed

Laura Canovas
Manager

Column Stabilization

Set of elements that provide wind resistance and facilitate plumbing once assembled. The system can withstand these loads in both tension and compression.

elements

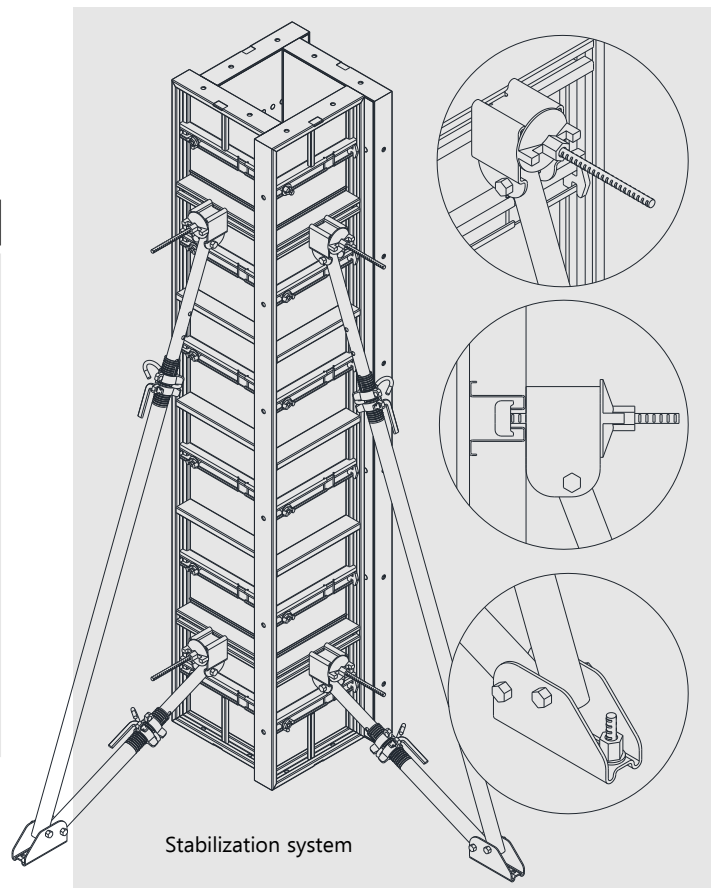
Tension prop. Prop adjustable, with an inner tube that slides until the required length is reached. The integrated nut makes the final adjustment.

The range of tension props is:

- 3.90 m
- 5.40 m

Panel head. Connection element between the panel and the tension props. The head is braced to the panel on the omega profiles. Bracing on the walers is also possible stiffeners.

Head Base. Used for anchoring to the foundation. It has a hole for fastening. Anchors using a 35 nut and rod inserted in resin (or Ø16 mechanical lag screws) are recommended.

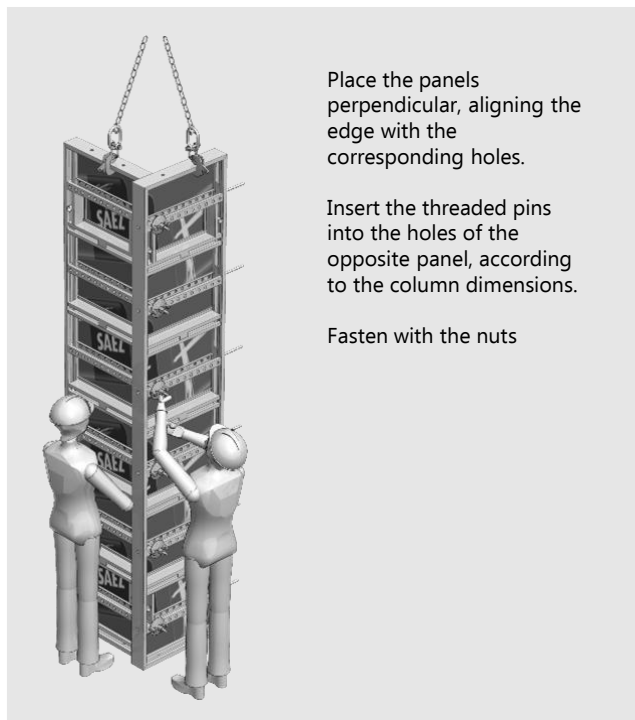


HEIGHT		PROP 3.90	PROP 5.40	DIAGRAM	
to	3 m	H= 2,5 m		(a) Bracing on panel or walers 	(b) Bracing on walers
	4 m	H= 3,5 m			
	5 m	H= 3,5 m			
b	6 m		H= 4,5 m		
	7 m		H= 5,0 m		

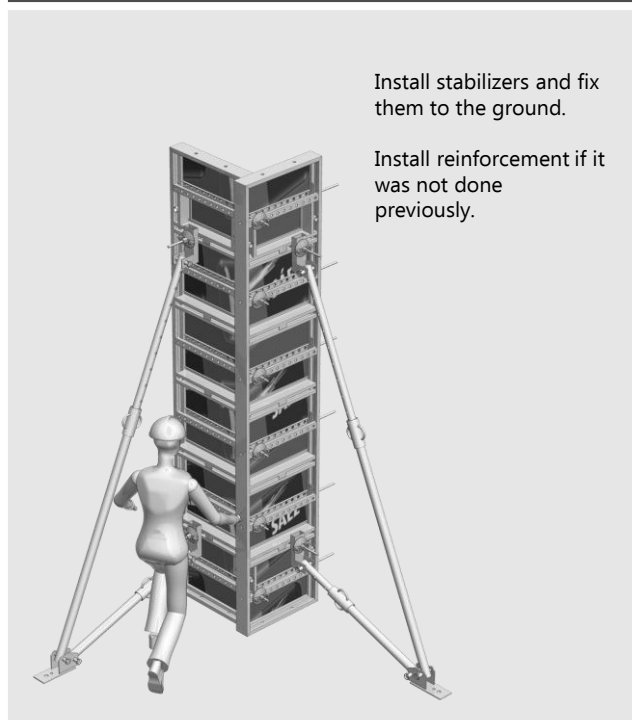
Assembly

The column formwork system Alkes allows assembly and dismantling both manually and by crane.

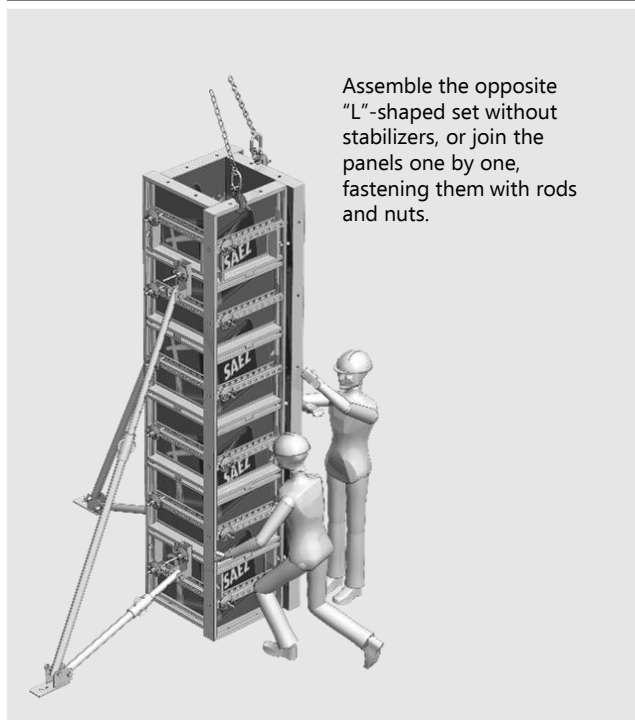
1 positioning



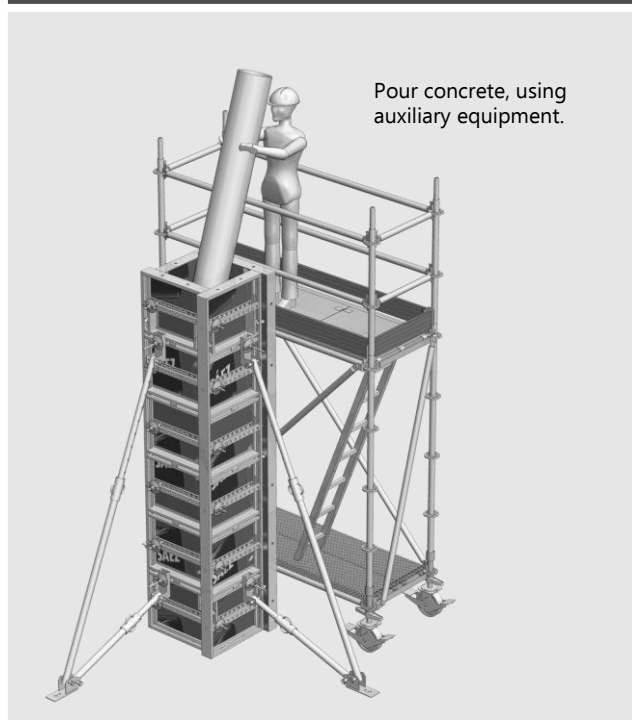
2 stabilization



3 completion



4 concrete pouring



Dismantling

The column formwork system Alkes allows assembly and dismantling both manually and by crane.

1 loosen nuts



Attach the lifting hooks to the panel assembly using auxiliary equipment.

Loosen the nuts and separate the panels without fully releasing them.

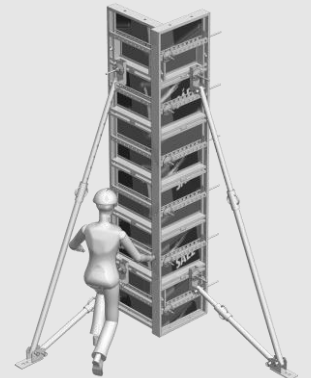
Use the pry bar to separate the panels from the poured column.

2 move

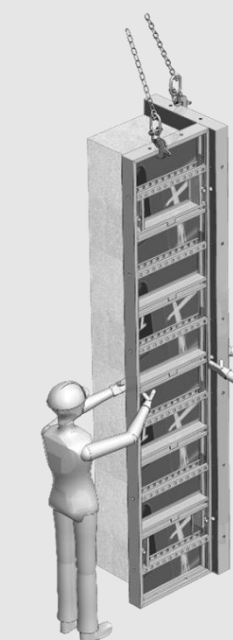


Move the column panel assembly with the crane for reuse on other columns or for dismantling.

The assemblies can be partially dismantled for cleaning before a new use.



3 dismantle



Once the concrete has set and no further uses are required, proceed with stripping.

Dismantle the panels by releasing the nuts.

Carry out panel cleaning and maintenance work.



Vertical elements must be stripped from top to bottom.



The material must be checked and formwork surfaces cleaned before concrete pouring.

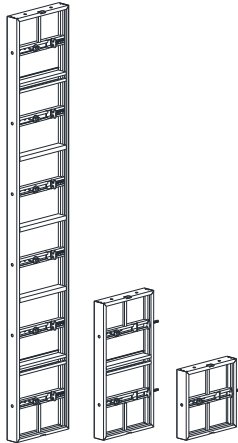
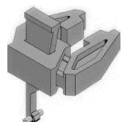
Panels must be cleaned after each use with a cloth or brush impregnated with release agent. Wire brushes that may damage the board film should be avoided.

Application of the release agent must be done in thin, even layers.

For material storage:

- Place pieces of the same type and dimensions in their corresponding storage system.
- Straps must be applied with the appropriate pressure to prevent pieces from moving or being damaged.
- Elements must be protected from excessive strap pressure with protectors. Avoid striking pieces during movement.

System elements

	ALKES COLUMN PANELS			
	DIMENSIONS (mm)	CODE	WEIGHT (kg)	DESCRIPTION
	3000 x 800 1000 x 800 500 x 800	700004-E2-331 700004-E2-332 700004-E2-374	107 40 22,6	Panels for columns from 20 to 70 cm.
	3000 x 700 1000 x 700 500 x 700	700004-E2-298 700004-E2-307 700004-E2-373	94 38 20,4	Panels for columns from 20 to 60 cm.
	3000 x 500 1000 x 500 500 x 500	700004-E2-296 700004-E2-297 700004-E2-372	76 30 16,2	Panels for columns from 20 to 40 cm.
		ALKES LIFTING HOOK		
DIMENSIONS (mm)		CODE	WEIGHT (kg)	DESCRIPTION
320 x 140		700004-E2-106	3,7	Lifting accessory for loading, unloading and moving formwork panels with lifting equipment (crane).
	ALKES CLAMP			
	DIMENSIONS (mm)	CODE	WEIGHT (kg)	DESCRIPTION
	150x40	700004-E2-111	2,3	Accessory for panel connection and alignment.
	STIFFENING WALER			
	DIMENSIONS	CODE	WEIGHT (kg)	DESCRIPTION
	0,9 m 2 m 3 m	700004-E2-142 700004-E2-143 700004-E2-144	8,6 18,5 27,5	Accessory that ensures the solidity and strength of the panel assembly.
		WEDGE FAST FIXING		
DIMENSIONS (mm)		CODE	WEIGHT (kg)	DESCRIPTION
200x150x100		700004-E2-145	1,5	Accessory for fixing walers to panels.
	PVC PLUG 21			
	DIMENSIONS (mm)	CODE	WEIGHT (kg)	DESCRIPTION
	21x14	600008-E2-047	0,001	Plug for sealing holes not used in the panel.
	DOUBLE STABILIZER			
	DIMENSIONS (mm)	CODE	WEIGHT (kg)	DESCRIPTION
	Duplex 3900 Duplex 5400	700004-E2-364 700004-E2-365	36,4 49,4	Adjustable prop for plumbing columns.

