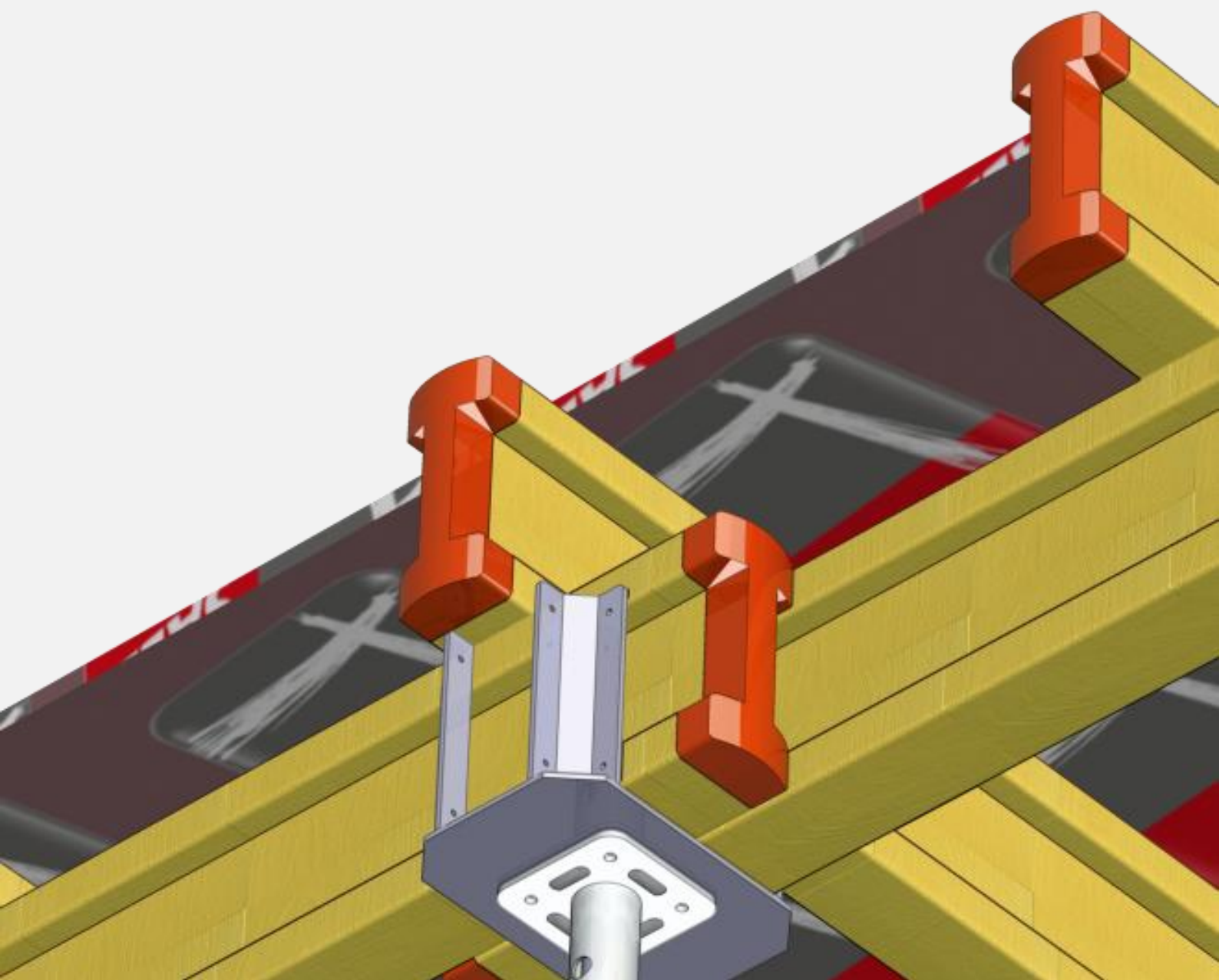


H20 SYSTEM

Slab Formwork



v.20260115

SAEZ FORMWORKS, S.L.
B75465989

CTRA. DE BENIAJAN, 10
30570 MURCIA

H20 system elements

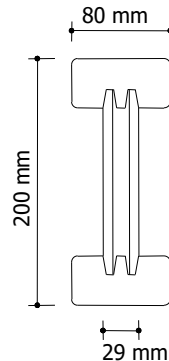
H20 beam



Made of spruce wood. The height is 20 cm and they are manufactured in different standard lengths. They are especially useful due to their low weight (5 kg/m), structural properties, and detailed, precise manufacturing method. Protective end caps on the rounded ends prevent premature beam deterioration. Excellent-quality flanges are combined with a three-layer timber web through a high-quality gluing process, ensuring a long service life.



Used as floor or slab formwork, this system adapts very easily to the space thanks to the telescopic movement of the beams (crossing or overlapping with the 4-way head), creating a flexible and especially economical system for any floor plan, slab thickness, and storey height.



TECHNICAL CHARACTERISTICS

M adm= 5 kNm

Q adm= 11 kN

E*I= 500 kNm²

Description	kg
H20 beam 1.95 m	9,75
H20 beam 2.45 m	12,25
H20 beam 2.90 m	14,50
H20 beam 3.30 m	16,50
H20 beam 3.60 m	18,00
H20 beam 3.90 m	19,50
H20 beam 4.90 m	24,50
H20 beam 5.90 m	29,50
H20 beam 6.00 m	30,00

Product	Glued timber beam		
Wood type	Spruce		
Wood moisture	12% ± 2%		
Gluing	Adhesive of melamine resin-based, type I ACC. To EN 301		
Flanges	Selected high-quality spruce, high-quality joint.		
Web	3 layers of solid wood. With the growth rings mainly in vertical position.		
Design	Certified by HFB and ZAG, SIST EN 13377		
Protection surface	The beam is fully waterproofed with a water-repellent coating		
Suitability	Thanks to the 3 web layers, the beam remains suitable when cut to different lengths.		
Dimensions	Total height	200 mm ± 2 mm	
	Flange height	40 mm ± 0,6 mm	
	Flange width	80 mm ± 0,8/-1,2 mm	
	Web thickness	80 mm ± 0,8/-1,2 mm	
Specifications Technical	Quality	DIN1052-1 :1988-04	DIN1052:2008-12 / Eurocode 5
	Stress	Values allowable	Values load limit
	Shear	Q= 11 kN	Vx= 23,9 kN
	Moment	M= 5 kNm	Mx= 10,9 kNm
	Support		Rxx= 47,8 kN
	Section modulus	Wx= 401 cm ³	
	Inertia	Ix= 4613 cm ⁴	
	Modulus of elasticity	E= 10000 N/mm ²	
	Modulus of rupture	G= 600 N/mm ²	



PROPERTIES

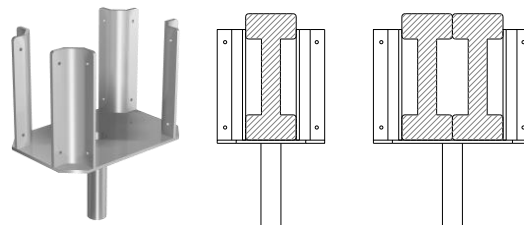
- The beams are made of spruce wood.
- The flanges are expressly selected from superior-quality timber.
- The web is made from three solid layers, ensuring high load capacity and durability in extreme climates.
- The web and flanges are assembled with a special high-quality joint.
- Special impact-protection end caps at the beam ends prevent wear and breakage.
- The beam surfaces are coated with a sealed protective layer, providing long service life.
- The beam length is marked on each beam for easy handling and use.
- H20 beams have a quality certificate issued by the construction supervisory authorities HFB ENGINEERING GmbH (Germany) and comply with SIST EN 13377.

H20 system elements

4-way head



Inserted at the top of the props to support the H20 beams.
Depending on their orientation, they can support either one beam or the connection of two beams, acting as a universal head.

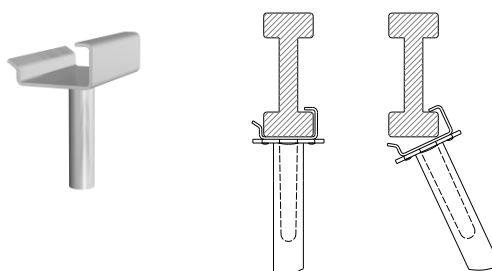


kg
3,6

Single head



Inserted at the top of the props to support the H20 beams.
The prop is inserted with a twist under the H20 beam.

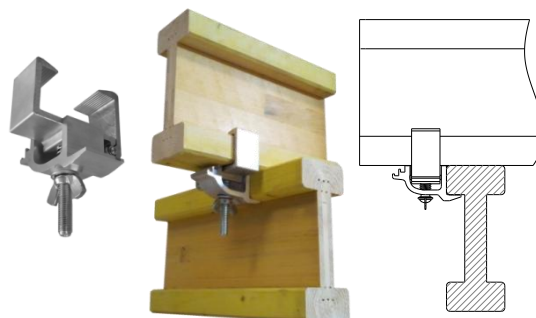


kg
0,6

H20 clip



For bracing H20 primary beams to H20 secondary beams.

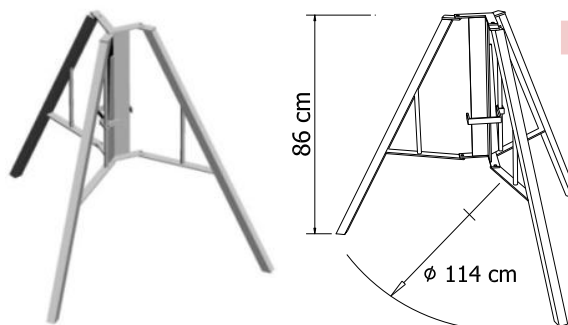


kg
0,3

Tripod



Facilitates prop fixing during formwork assembly. The tripod is installed in its open position and the prop is braced with the movable clamp using a hammer.

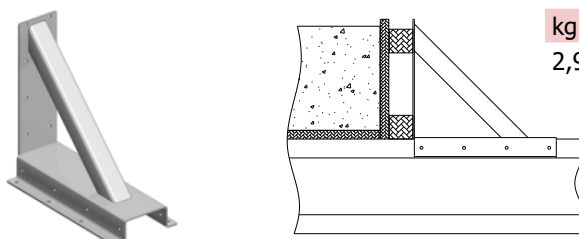


kg
12,5

Stop-end 30



Metal element designed for slab edges and horizontal beams, replacing traditional timber pieces.
Practical positioning and easy nailing to the formwork surface.



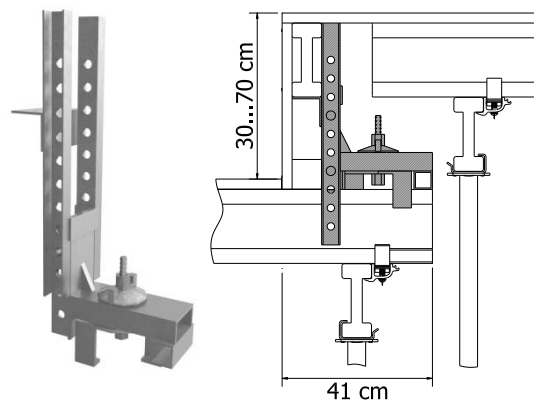
kg
2,9

H20 system elements

Drop-beam stop-end



Accessory used as a stop-end on slab edges, girders, and drop beams. It is easily fixed to the flange of the timber beams with the nut.

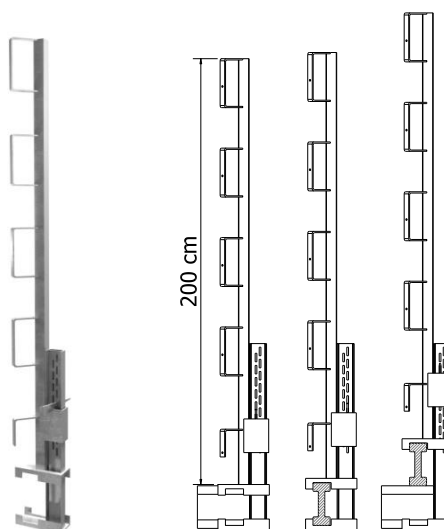


kg
12,0

H20 guardrail post



Protective railing against potential falls. Easily fixed to H20 beams in any direction with a wedge using a hammer.

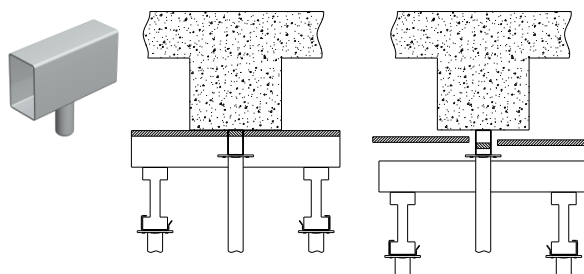


kg
15,1

Hanging support



Used for stripping drop beams, leaving the hanging support propped in the backpropping.

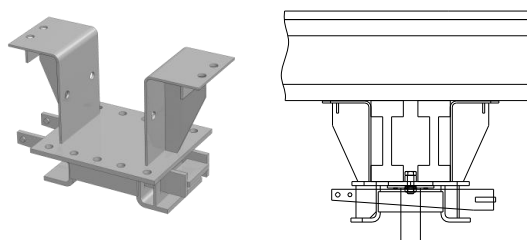


kg
1,0

Table head



Connection element between the prop and the table. Especially useful on sites where there are no obstacles around the floor perimeter.



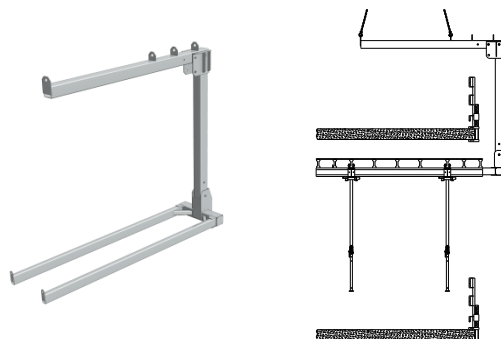
kg
14,9

H20 system elements

Transport fork



Allows vertical transport and positioning operations for props. Table positioning and removal on site is carried out quickly and reliably.

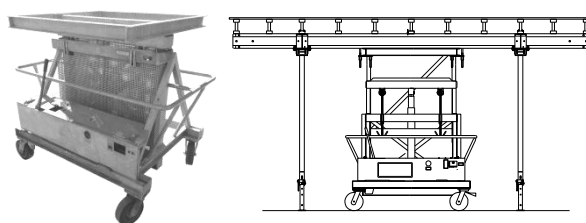


kg
508

Transport trolley



Allows stripping and horizontal transport of the tables.



kg
570



H20 system elements

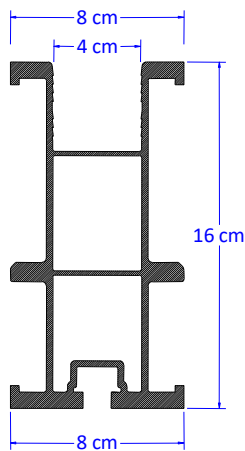
Aluminium H16 beam

Beam with high bending strength and high shear capacity, usually used as a primary beam in slab formwork.



TECHNICAL CHARACTERISTICS

Product	Al. H16 beam
Weight	6,22 kg/m
Section area	23 cm ²
Inertia	680 cm ⁴
Section modulus	73,6 cm ³
Max. moment adm..	9,2 kNm
Max. shear adm..	63 kN



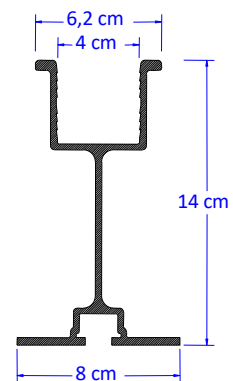
Aluminium T14 beam

Beam with high bending strength and high shear capacity, usually used as a primary beam in slab formwork.



TECHNICAL CHARACTERISTICS

Product	Al. T14 beam
Weight	2,99 kg/m
Section area	11 cm ²
Inertia	282 cm ⁴
Section modulus	36,5 cm ³
Max. moment adm..	4,56 kNm
Max. shear adm..	18 kN



PROPERTIES

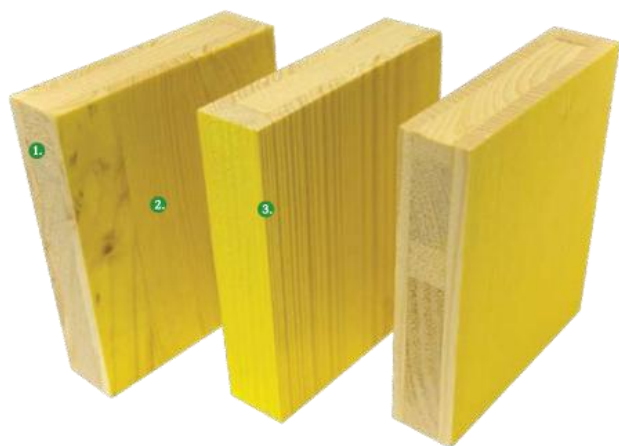
1. The compact profiles are much lighter and easier to handle than timber, as they are made of high-strength aluminium.
2. These profiles offer much greater bending and shear resistance than timber beams, allowing higher loads with fewer elements and saving time and costs.
3. They include a recess for a 40x40 mm upper timber batten for nailing phenolic plywood.
4. Phenolic boards fitted against the beams are easy to fix and quick and simple to dismantle.
5. Uniformity. Aluminium beams have a constant cross-section and are always straight, eliminating the time and drawbacks of selecting and hand-finishing timber.
6. Longevity and durability. Aluminium beams can be reused countless times. When they finally reach the end of their service life, their residual value remains around 25% of their original cost.

H20 system elements

board structure three-ply

Made of spruce wood, in a three-ply structure, and coated with a resin of melamine high resistance, giving them excellent protection against harsh weather. Used mainly for floor or slab formwork.

Product	Three-ply timber panel, coated with a protective melamine layer
Wood type	Fir, spruce
Wood moisture	12% ± 2%
Thickness	27 mm
Surface quality	high-strength melamine coating extremely smooth
Weight	12,3 kg/m ²
Packaging	40 units/package
Lengths	1000/1500/2000/2500/3000 mm. Width 500 mm



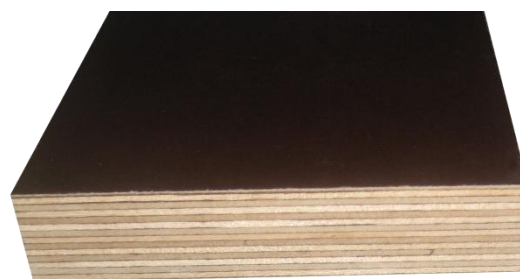
PROPERTIES

1. High-quality three-ply panel made of spruce and fir. Cross-glued layers with the perimeter frame in the central layer.
2. Surfaces on both faces coated with melamine resin, making them sealed and water-repellent.
3. Its perimeter strip is also covered with sealed material, preventing moisture penetration and reinforcing the panel.
4. An essential characteristic is its bending resistance.
5. The panels comply with DIN 68705 and the Austrian standard ÖN B 3023.

plywood phenolic film

Formwork boards made of plywood externally protected on both faces with a phenolic film which improves the finish on exposed vertical concrete surfaces. These boards are lightweight, highly resistant, and very cost-effective.

Size	1220 x 2440, 1482 x 2984 mm
Wood type	Poplar, Birch, Pine, Combined
Moisture	8% - 12%
Thickness	18 mm
Gluing	WBP, MR
Film	Dark brown film 240 g/m ²
Grade	A/A
Weight	Birch 690 kg/m ³ Poplar 500 kg/m ³ Combined 600 kg/m ³
Dimensions	Thickness 18 mm, 11 layers
Application	Preferably construction formwork



PROPERTIES

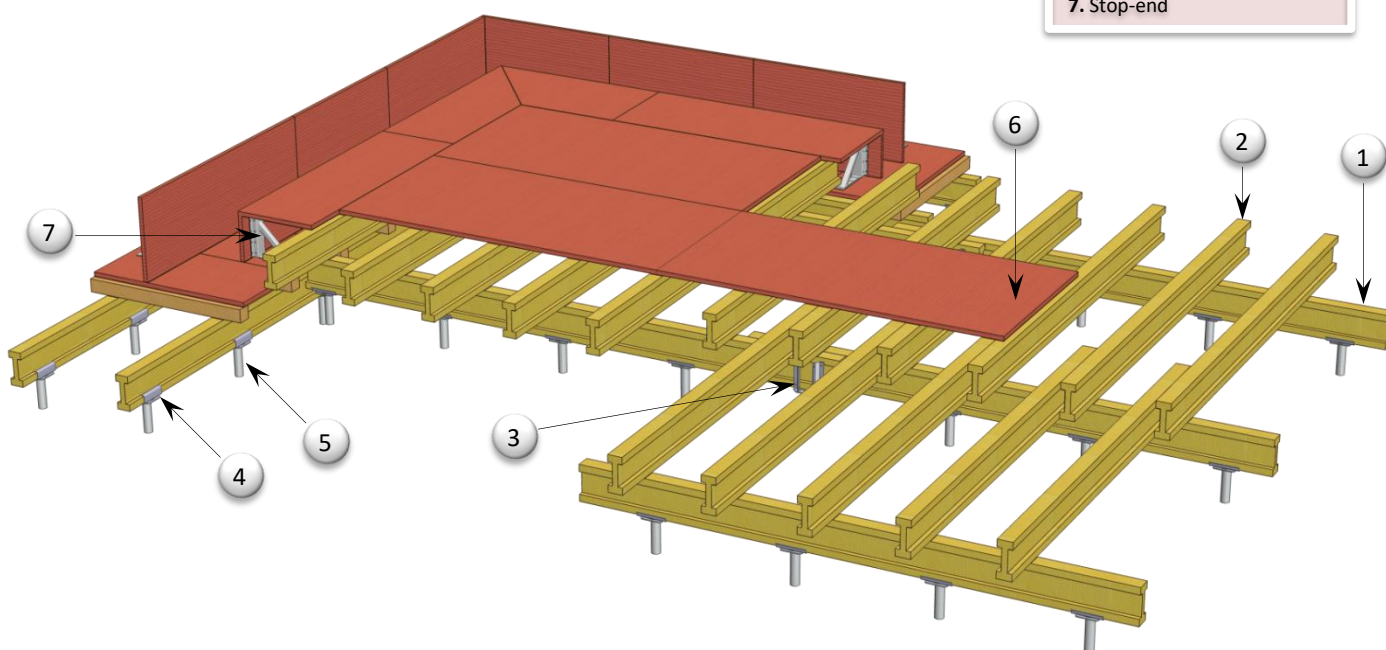
1. Made from birch or poplar wood; it is strong and stable.
2. The board's weight-to-strength ratio is very well balanced compared with alternatives such as sheet metal, and it allows nailing and renewal as often as necessary.
3. The inside of the board is built from overlapping wood veneers arranged with alternating grain direction.
4. The wood veneers are glued with phenolic adhesive, which is water-resistant and prevents moisture from entering the board.
5. The phenolic surface finish uses a 220 g/m² phenolic film on both faces, giving a glossy finish and providing a high-quality exposed concrete finish.
6. The board's perimeter sealing prevents moisture from entering through the edges.

H20 system description

basic elements

It is a clear and simple system, thanks to easy assembly and the reduced number of components.
This helps users become familiar with it quickly.

1. H20 beam (primary)
2. H20 beam (secondary)
3. 4-way head
4. Single head
5. Prop
6. Board
7. Stop-end

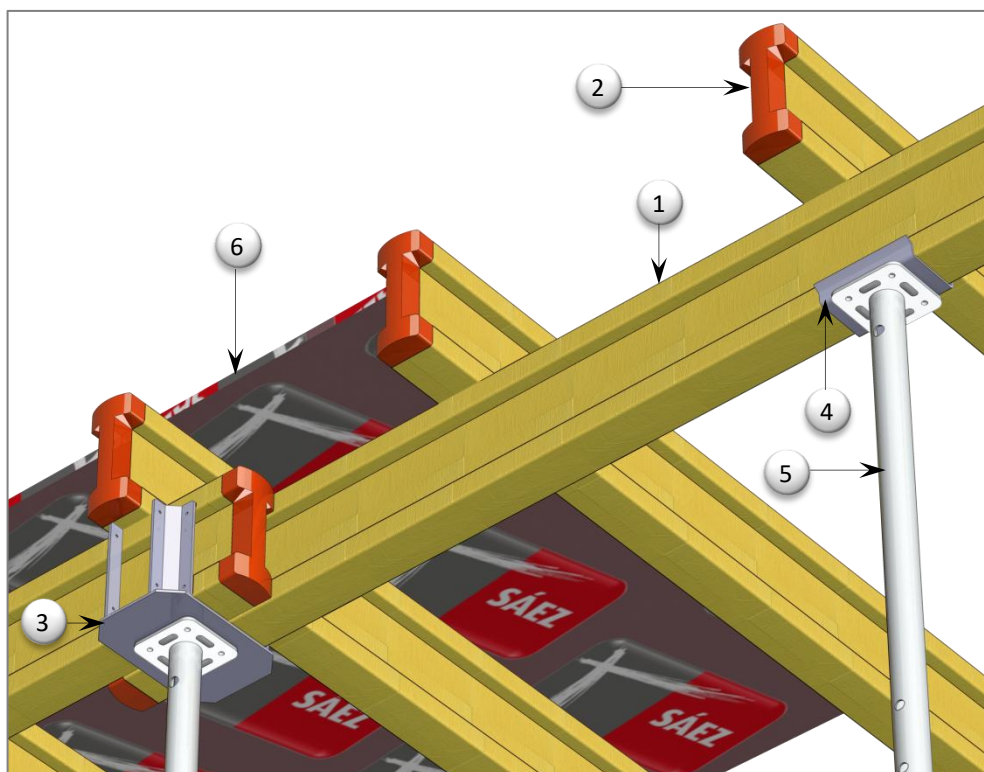


effectiveness

The H20 primary and secondary beams are the same beam type, simplifying material planning.

Fewer props and accessories improve formwork times.

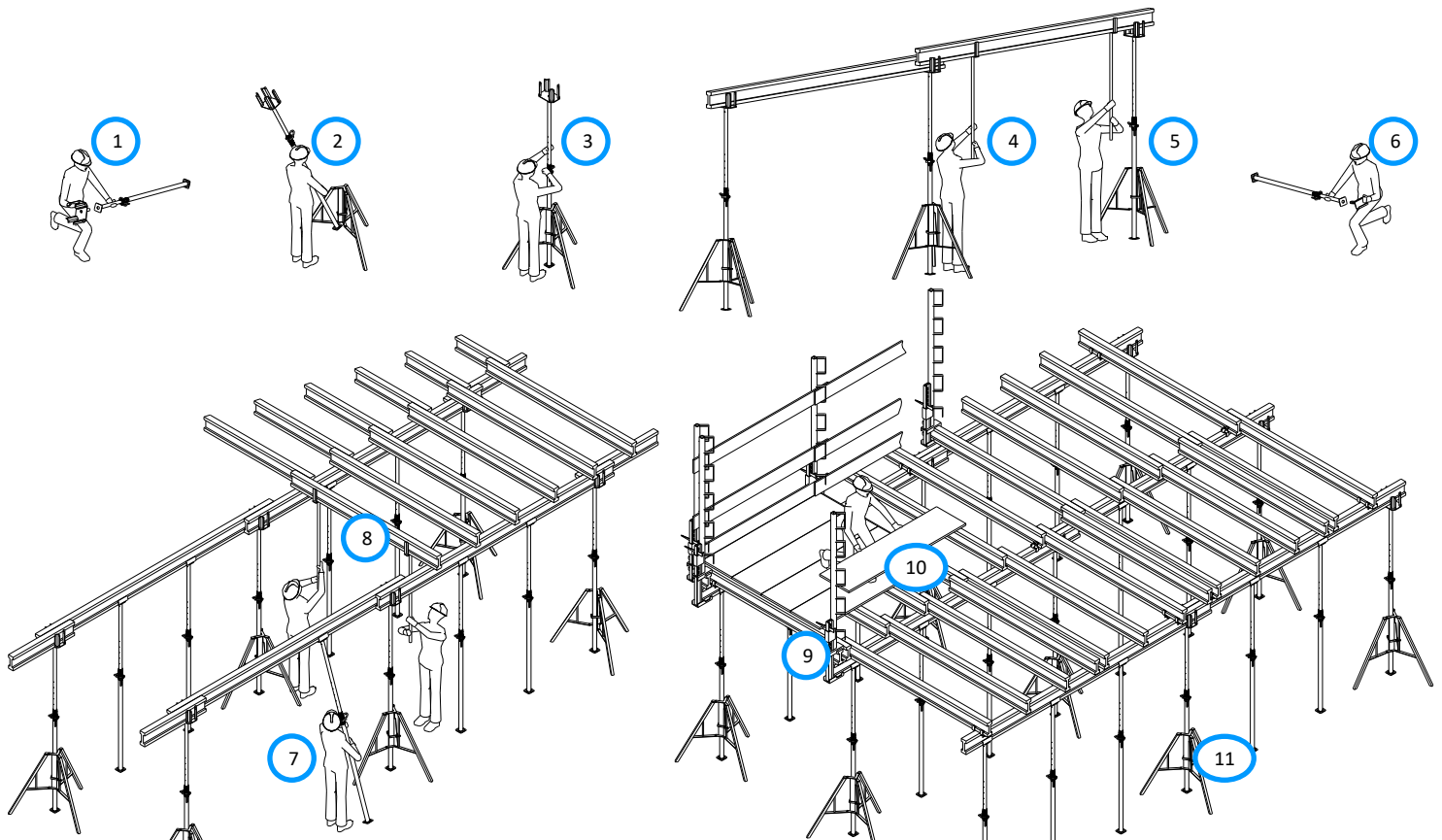
The most cost-effective solution.
The H20 beam has a long service life, representing a long-term investment.



H20 system assembly

assembly

1. Place the 4-way heads on the props.
2. Position the tripods at the slab corners and at primary beam intersections. Place the props in the tripods and secure them with the tightening lever.
3. Adjust the prop height.
4. Place the primary beams on the 4-way heads with the help of assembly bars.
5. Level the primary beams to slab height.
6. Place the single heads on the intermediate props.
7. Place the intermediate props with the single head under the primary beams.
8. Place the secondary beams over the primary beams in an overlapping arrangement.
9. Secure the assembly with the H20 clips.
10. Position the boards three-ply structure on the secondary beams. Note that an H20 beam (or double H20 beam) is placed under each board joint.
11. Once formwork assembly is complete in a given area, the tripods can be removed and taken to the next assembly location.



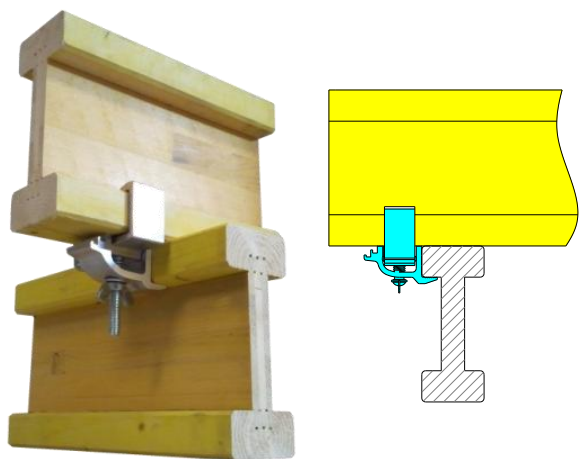
stripping

1. Remove all intermediate props.
2. Lower the formwork by about 6 cm using the remaining props.
3. Rotate and remove the secondary H20 beams. The H20 beams under the board joints remain in place.
4. Remove the boards.
5. Remove the secondary and primary H20 beams using the assembly bars.

H20 System Features

braced connections

Connections between primary and secondary beams can be made with the H20 clip accessory, preventing accidental movement of the H20 beams.



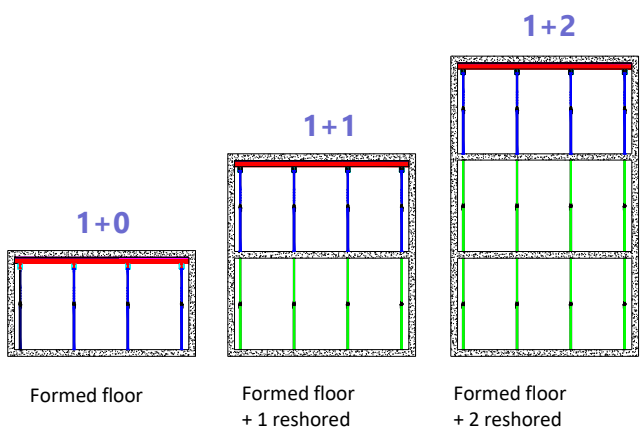
1 + (2) concept

Auxiliary propping in a partially stripped slab is necessary, depending on the site schedule, to support additional loads on an early-age slab, such as construction loads or **concreting loads** from an upper slab. This auxiliary propping distributes and transfers loads between an early-age slab and the slab below.

The concept of a fully formed floor + reshored floor is related to partial recovery of the equipment a few days after concreting. The reshored floor must remain in place until 21 or 28 days.

Recommended for projects with mainly vertical progress, concreting complete floors or by joints.

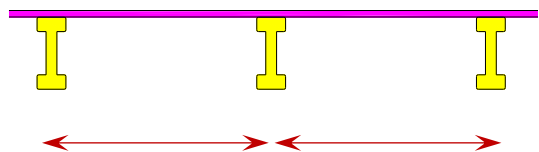
The upper floor is concreted 7/14 days after the lower floor has been concreted.



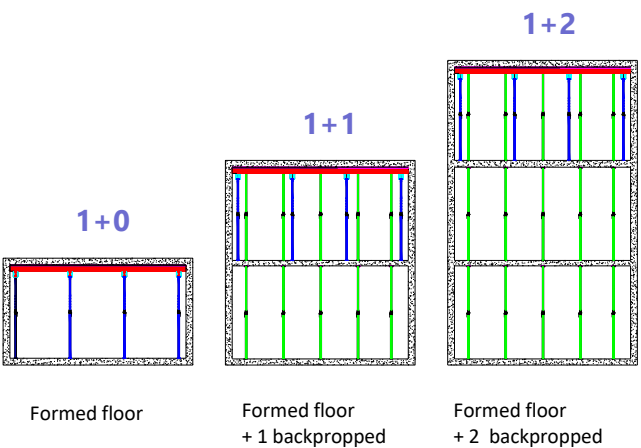
versatility in bay widths

The span between secondary beams can be determined by slab thickness and the type of board used.

Slab thickness [cm]	H20 spacing secondary beams [cm]	
	Phenolic 18 mm	Three-ply 27 mm
20 cm	61	100
30 cm	49	100
40 cm	41	67

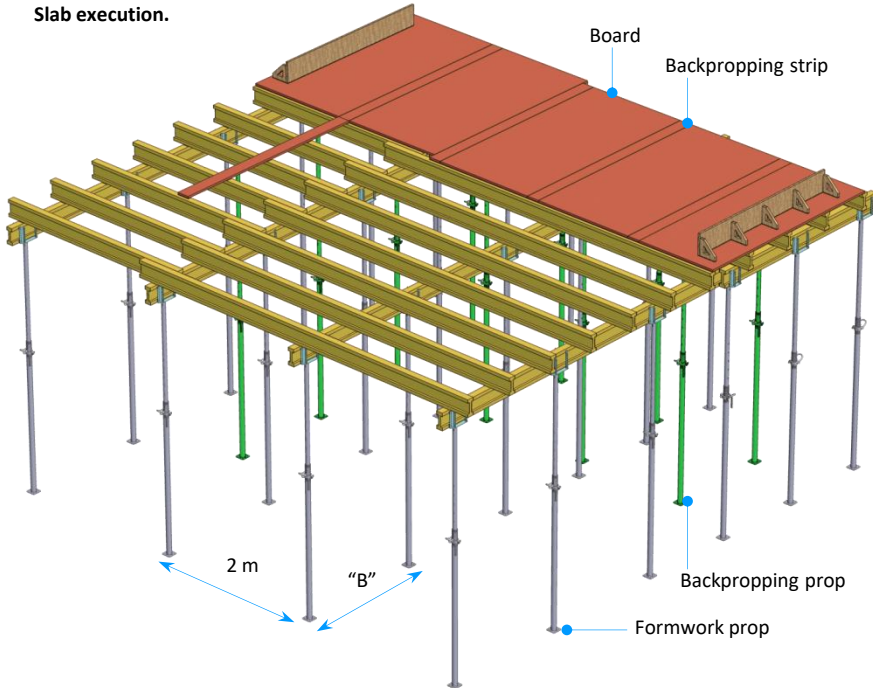


The floor concept backpropped is similar to the reshored floor, with the difference that the props on the floor backpropped were installed before concreting and will not be removed until complete stripping.

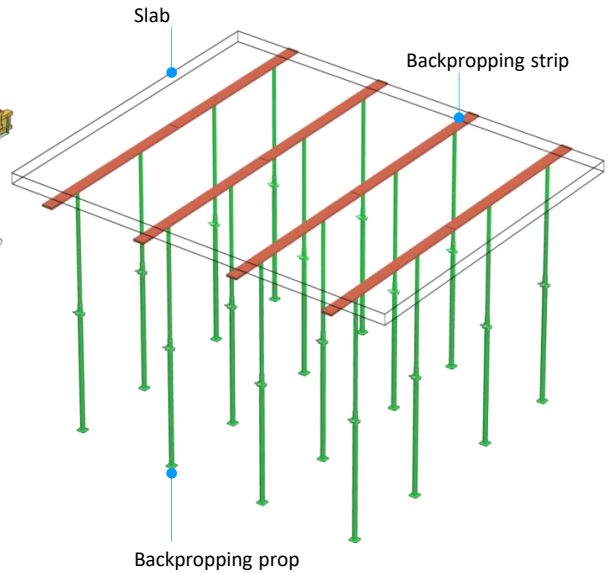


Flat slabs. Ratios

Slab execution.



After concreting and backpropping



Requirement per 1 m²:

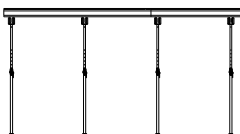
Unit	Description
2,50	linear m H20 beams
1	m ² board
*	Prop (+head)/m ²
#	Prop backpropping

Adaptable system to any slab type. The independent beams provide **great versatility**.

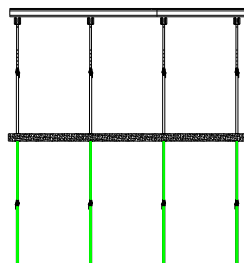
MATERIAL REQUIREMENTS

Slab		With 2000 kg prop		With 1500 kg prop		With 1000 kg prop	
Slab cm	Weight KN/m ²	Distance "B" metres	* Prop / m ²	Distance "B" metres	* Prop / m ²	Distance "B" metres	* Prop / m ²
10	4,35	2,00 m	0,25	1,50 m	0,34	1,00 m	0,50
12	4,87	1,85 m	0,27	1,35 m	0,37	0,90 m	0,56
14	5,39	1,70 m	0,30	1,25 m	0,40	0,85 m	0,59
16	5,91	1,60 m	0,32	1,20 m	0,42	0,80 m	0,63
18	6,43	1,50 m	0,34	1,10 m	0,46	0,75 m	0,67
20	6,95	1,40 m	0,36	1,05 m	0,48	0,70 m	0,72
22	7,47	1,30 m	0,39	0,95 m	0,53	0,65 m	0,77
24	7,85	1,20 m	0,42	0,90 m	0,56	0,60 m	0,84

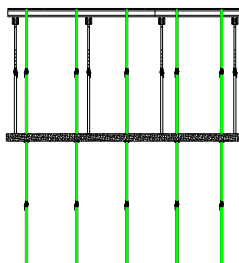
Formwork 1(+0)



Formwork 1(+1) with reshored backpropping



Formwork 1(+1) with fixed backpropping



Backpropping prop

Type	Prop backpropping/m ²
1(+0)	0
Without backpropping	
1(+1)	0,5
Reshored	
1(+1)	1,2
Backpropping fixed	

HORIZONTAL FORMWORK

H20 system
drop beams

Beam formwork



Beam execution using lightweight metal panels.



Crab clamp 0.10.
For joining panels in a
horizontal position

External compensation
corners

Internal compensation
corners

Finishing with
compensation plates

Backpropping support

Panel

Steel plate

Strip

Prop

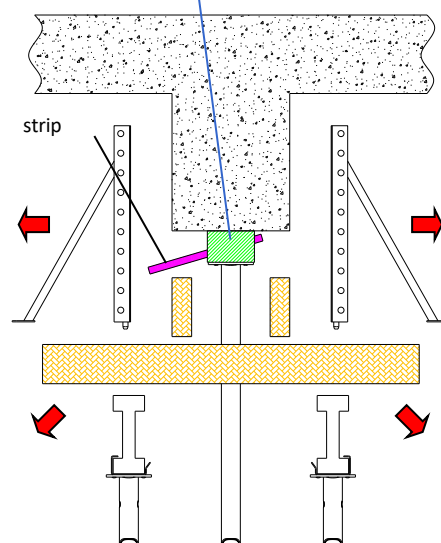
4-way head
(at beam intersections)

Single head

H20 beam

Backpropping prop

Backpropping
support



HORIZONTAL FORMWORK

H20 system

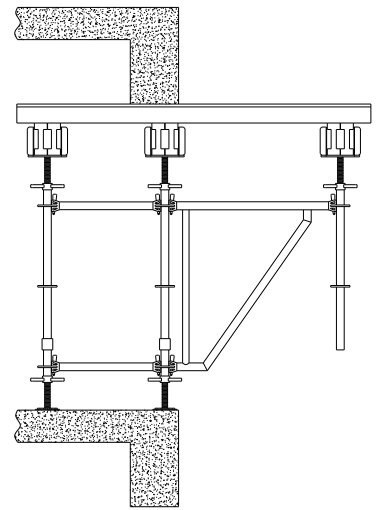
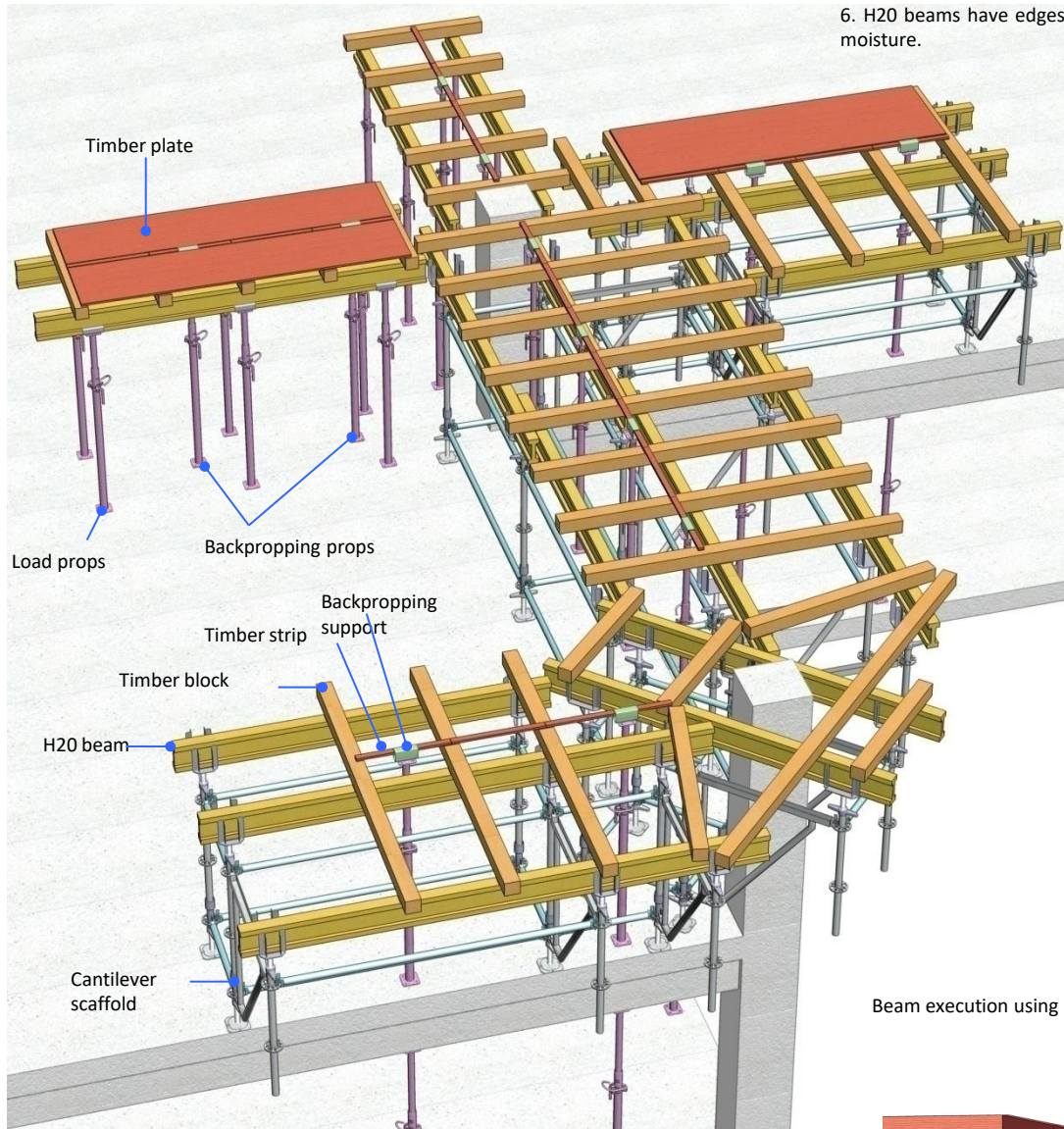
perimeter beams

Perimeter beams

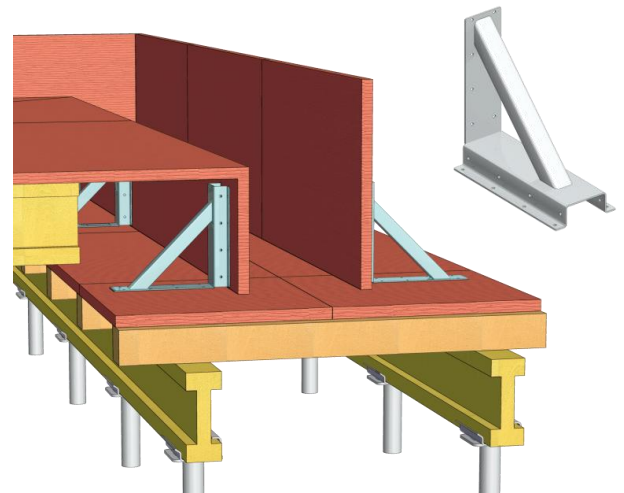


PROPERTIES

1. Simple and easy to assemble.
2. Few elements: timber beams, heads, boards.
3. Meets the most demanding concrete finish requirements. No grout loss.
4. Great versatility for different slabs and heights depending on the beam grid and backpropping used.
5. Can be executed with props or shoring towers, depending on height and load.
6. H20 beams have edges protected with caps against impacts and moisture.



Beam execution using boards and H20 stop-ends

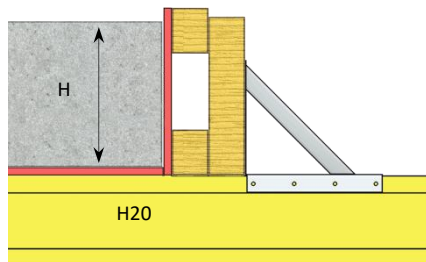


Stop-ends

H20 stop-end

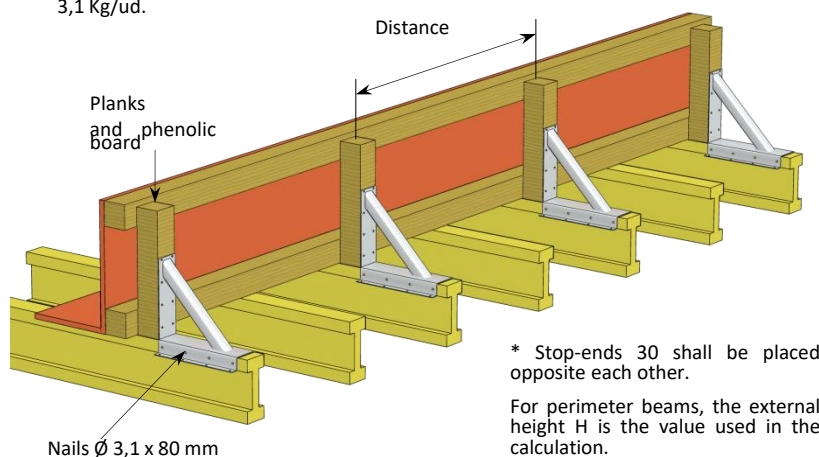
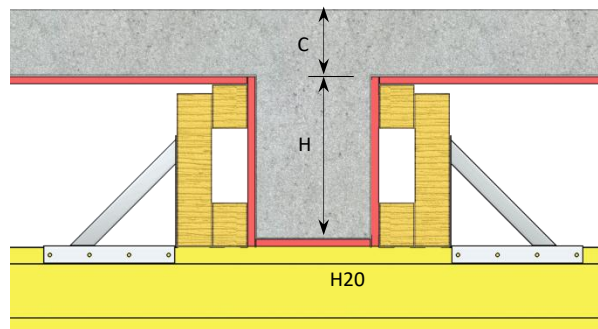


H20 stop-end
3,1 Kg/ud.



As perimeter stop-end

As drop-beam stop-end

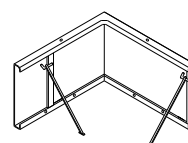
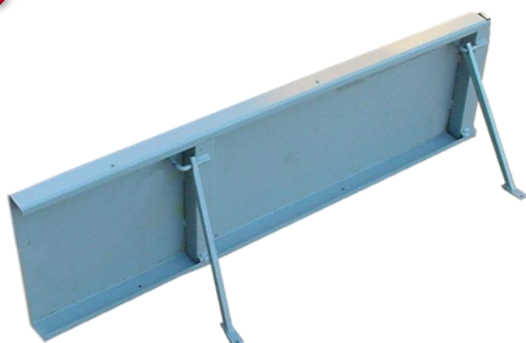


* Stop-ends 30 shall be placed opposite each other.

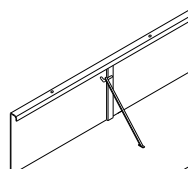
For perimeter beams, the external height H is the value used in the calculation.

Beam height H (cm)	Maximum distance between 30/25 stop-ends		
	Without slab (cm)	With slab C= 20 cm	With slab C= 30 cm
20	250	250	180
25	250	180	140
30	250	140	110
35	160	110	90
40	105	90	70
50	70	65	55
60	55	50	40
70	45		
80	35		

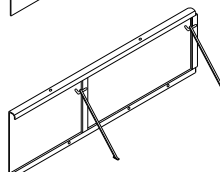
pressed perimeter stop-end



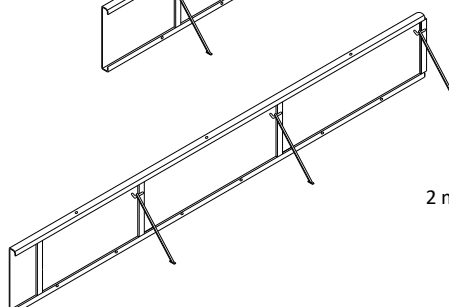
Hinged



Extendable



1 m



2 m

Description	Thicknes s	Depth	Weight kg
1 m stop-end. Double folded	2 mm	30 cm	8,5
2 m stop-end. Double folded	2 mm	30 cm	17
1 m extendable stop-end. Double folded	2 mm	30 cm	8
0.5x0.5 m hinged corner stop-end. Double folded	2 mm	30 cm	11
1 m stop-end. Double folded	2 mm	35 cm	9
2 m stop-end. Double folded	2 mm	35 cm	18
1 m stop-end. Double folded	3 mm	30 cm	12
2 m stop-end. Double folded	3 mm	30 cm	24

HORIZONTAL FORMWORK

H20 system
table formwork

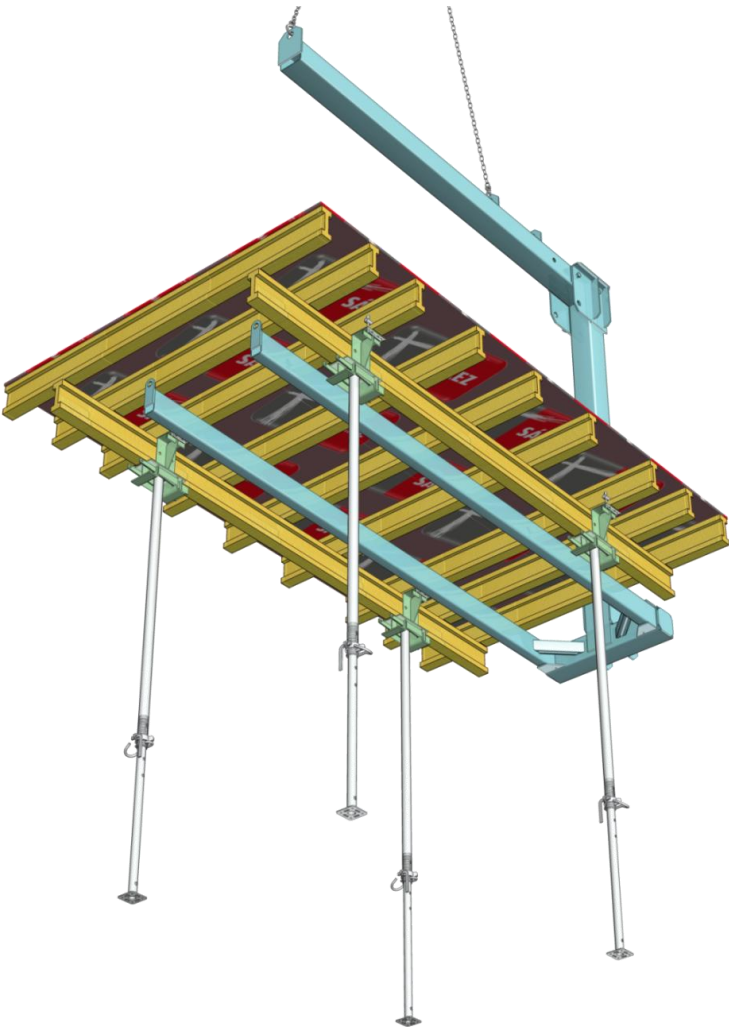
H20 tables

Adaptable to any type of project.
Ideal for building projects with high finish, safety, and productivity requirements.



SAFETY

- 1. **Assembly** of the formwork (with board) and guardrails at ground level, except for finishing work at height.
- 2. **Integrated guardrails** on the perimeter tables.
- 3. Fixed elements. **No possibility of falling.**



MATERIAL
REQUIREMENTS



Productivity

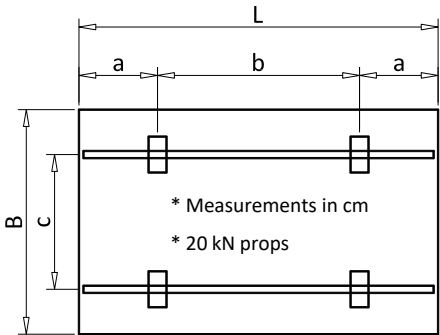


- 1. **Transferable** from one area to another without dismantling, **minimising potential risks** during assembly and dismantling.
- 2. **Speed** in formwork, stripping, and material movement.
- 3. **Without dismantling props** during stripping or transfer.
- 4. **Easy setting** to height and levelling of the tables (few props).

Flexibility



- 1. **Tables** with dimensions **predefined** and specific solutions.
- 2. **Simple finishing** (boards supported on projecting table beams).
- 3. Execution of **drop beams, capitals**, etc.
- 4. **Cantilever solution** simple and safe



Slab thickness	L	300	350	400	450	500
a	b	62,5	75,0	87,5	100	100
B	c	175	200	225	250	300
250	150	30	26	24	20	16
275	150	28	24	20	18	14
300	175	26	22	18	16	---
350	210	20	18	14	---	---

HORIZONTAL FORMWORK

H20 system
system layout

H20 ratios

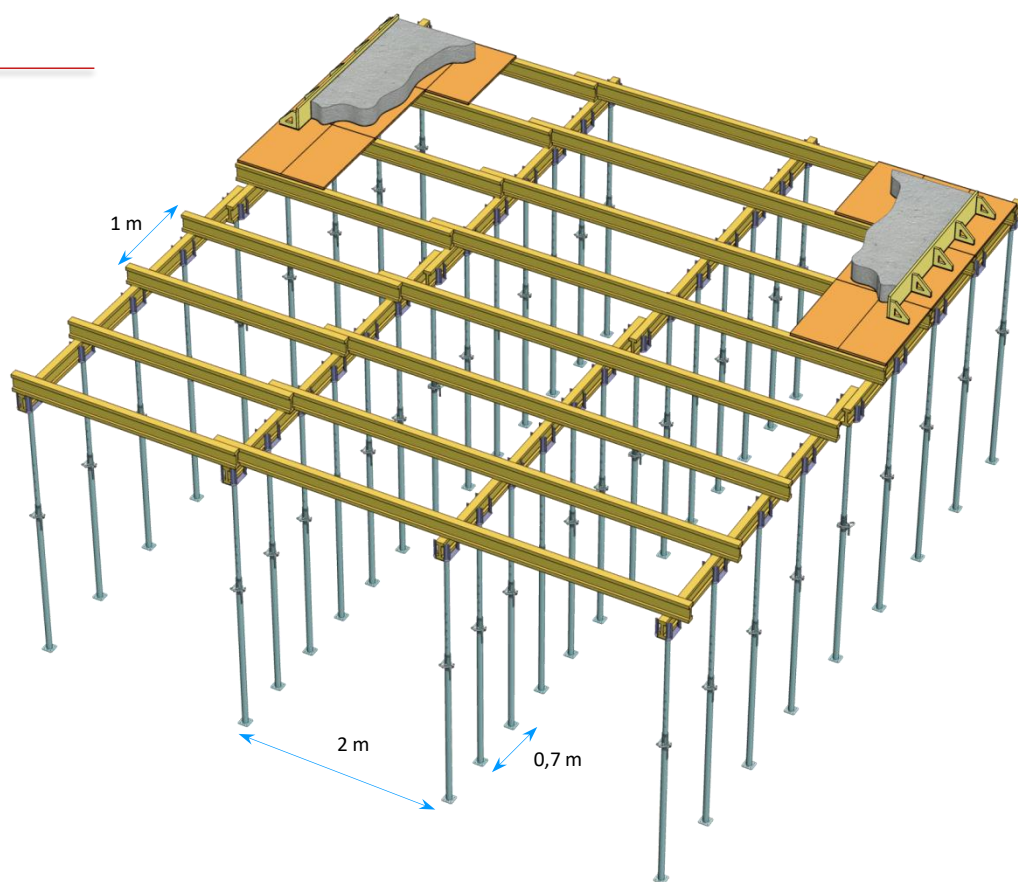


MATERIAL REQUIREMENTS

- With 1 or 2 metre three-ply board
- With 1000 kg load props
- 1 m spacing between secondary beams
- Slab depth 20 cm. 1(+0)

Requirement per 1 m2:

Unit	Description
1,65	linear m H20 beams
0,72	1000 kg prop
0,72	Head
1	m2 board

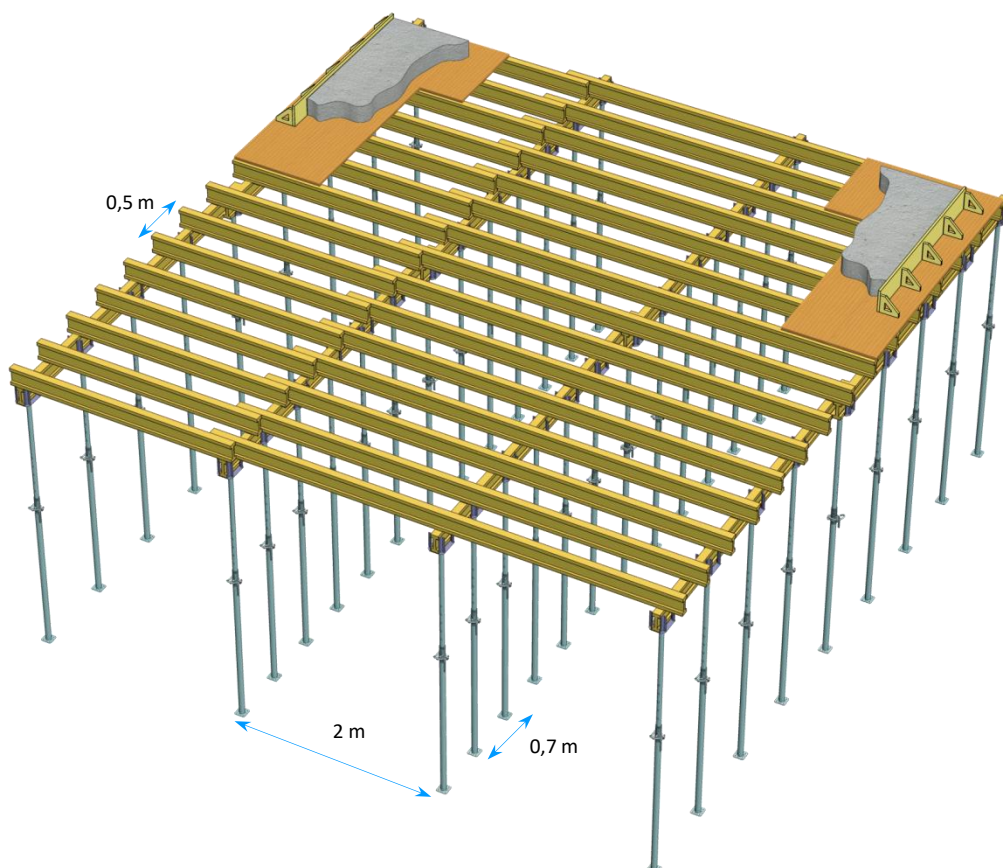


MATERIAL REQUIREMENTS

- With board phenolic film of 1 or 2 metres
- With 1000 kg load props
- 0.50 m spacing between secondary beams
- Slab depth 20 cm. 1(+0)

Requirement per 1 m2:

Unit	Description
2,75	linear m H20 beams
0,72	1000 kg prop
0,72	Head
1	m2 board



HORIZONTAL FORMWORK

H20 system
system layout

H20 ratios



MATERIAL REQUIREMENTS

- With 2.44 metre phenolic board
- With 1000 kg load props
- 0.61 m spacing between secondary beams
- Slab depth 20 cm. 1(+0)

Requirement per 1 m2:

Unit	Description
2,35	linear m H20 beams
0,72	1000 kg prop
0,72	Head
1	m2 board

