

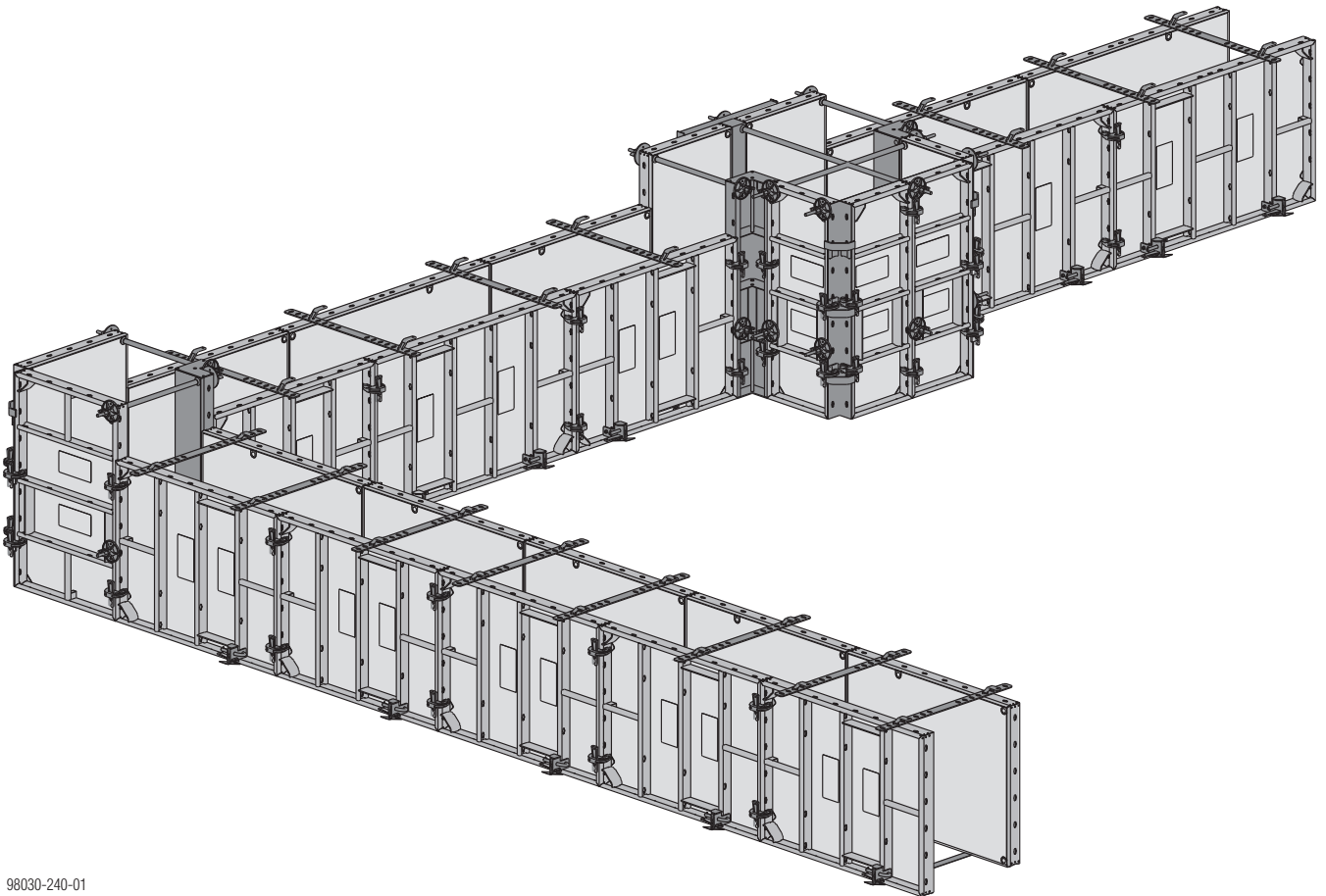
The Formwork Experts.

Foundation formwork Frami Xlife

Framed formwork Frami Xlife

User Information

Instructions for assembly and use (Method statement)



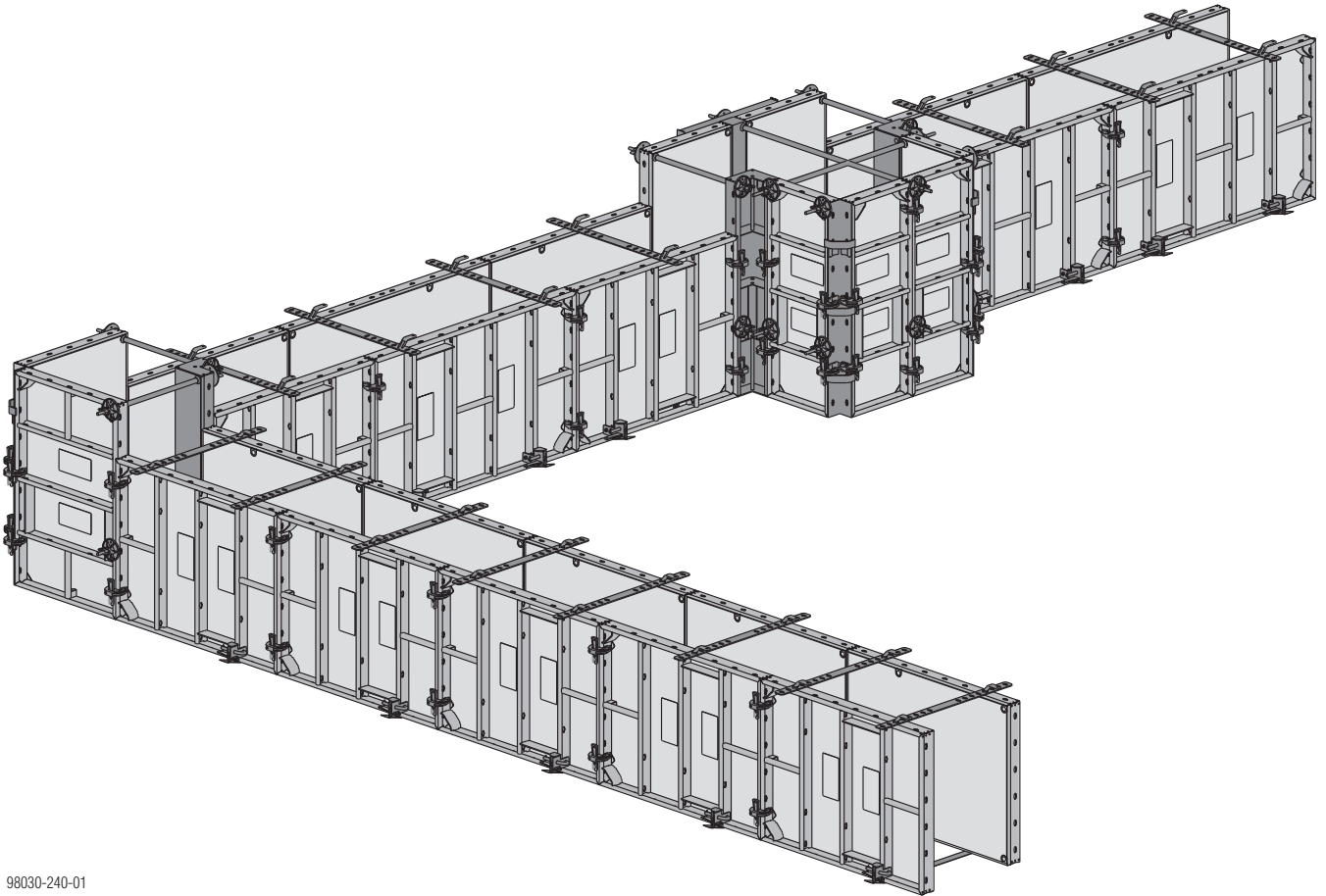
98030-240-01

System description

The Frami panels can also be used for foundations.

This is particularly advantageous where it is intended to continue forming (i.e. the walls) using the same panels. Footings and grade beams can quickly be formed with any of the Frami Xlife panels, with the panels either

upright or horizontal. Frami clamps, and a knock with a hammer, are all it takes to join the panels. Length closures and corners are just as easy to solve here as they are on "normal" walls. A range of practical accessories makes the work very much easier.



98030-240-01



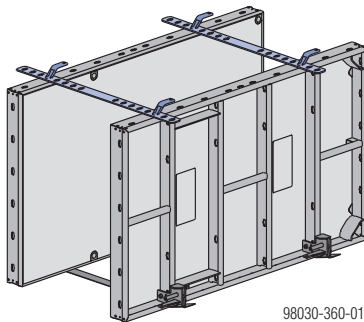
NOTICE

This document is only valid in conjunction with the following underlying document(s):
'Framed formwork Frami Xlife' or 'Frami Xlife / Frami eco' User Information booklet!

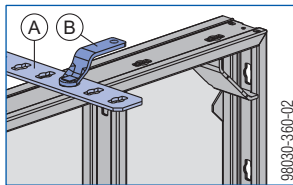
Tying horizontal Xlife panels

Top tie

with Frami flat tie-rods and Frami clips



- Tie rod is held above panel (not in the concrete)



A Frami flat tie rod 10-80cm

B Frami clip

Frami flat tie rod:

Permitted load-bearing capacity: 5.0 kN

Frami clip:

Permitted tensile force: 10.0 kN

Permitted shear force: 5.0 kN

Permitted moment: 0.2 kNm

Number of ties needed:

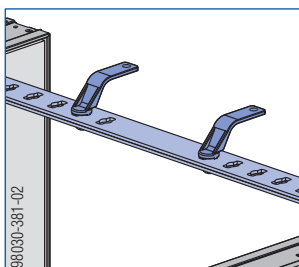
Frami Xlife panel (longside horizontal)	Number of form-tie points
1.20m	2 / 1 *)
1.50m	2 / 1 *)
2.70m	2
3.00m	2

*) In every other panel, only one tie is needed.
Two ties are needed in the first panel, and two in the last panel.

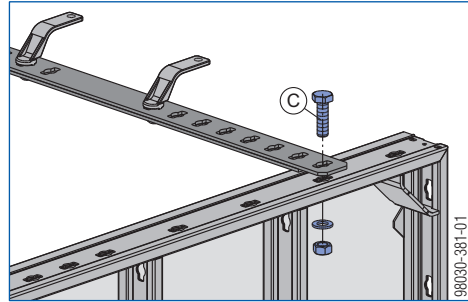
Possible wall thicknesses:

Wall thicknesses	Increment grid	Number of Frami flat tie rods
10 - 80 cm	5 cm	1 per form-tie point
85 - 115 cm		2 per form-tie point *)
121.3 - 171.3 cm		2 per form-tie point *)

*) join these flat tie rods with 2 Frami clips.



Special case where wall thickness is 85 cm:



At one end of the flat tie rod, use a bolt (instead of a Frami clip) to fix the flat tie rod to the Frami panel.

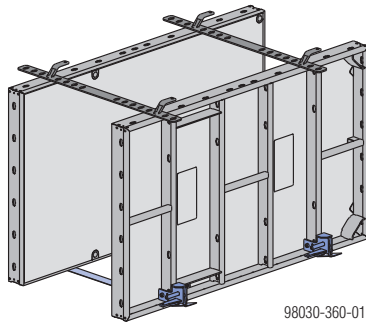
C Bolt

Threaded-fastener material required:

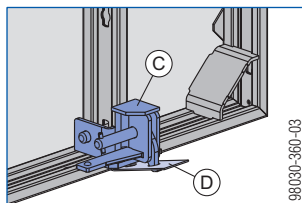
- Hexagonal bolt M16x45
- Washer 16
- Hexagon nut M16

Bottom tie

with Doka perforated tape and Frami foundation clamps



- Tie is held beneath the panel
- Wall thicknesses: in 5 cm increments



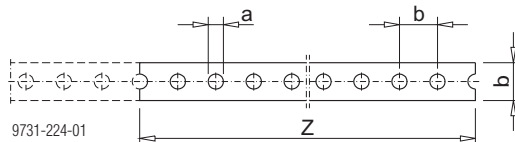
C Frami foundation clamp

D Doka perforated tape 50x2.0mm (extendable anchoring component)

Frami foundation clamp:

Permitted load-bearing capacity: 8.0 kN

Doka perforated tape 50x2.0mm 25m



a ... 18 mm

b ... 50 mm

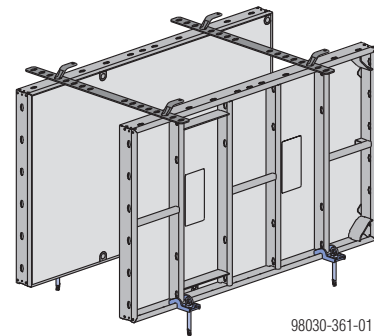
Z ... Length cut off roll: Wall thickness + 40 cm

Required numbers of Doka perforated tapes:

Formwork height	Frami Xlife panel (longside horizontal)	Number of Doka perforated tapes	Position
Up to 75 cm	1.20m	2 / 1 *)	Right next to the panel joint
	1.50m		
	2.70m	2	Each 60 cm from the panel joint
	3.00m		
Up to 90 cm	1.20m	2 / 1 *)	Right next to the panel joint
	1.50m	2	
	2.70m	2 + 1	2, one of them 60 cm and the other 120 cm from the panel joint
	3.00m		

*) In every other panel, only one Doka perforated tape is needed. Two Doka perforated tapes are needed in the first panel, and two in the last panel.

with Frami floor fixing plates and Doka Express anchors 16x125mm

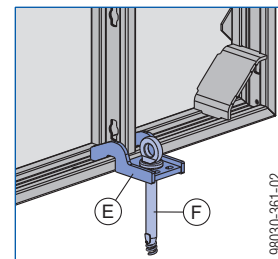


- The form tie is not in the concrete



NOTICE

Only use Frami floor fixing plates on foundation slabs and concrete floor-slabs.



E Frami floor fixing plate

F Doka express anchor 16x125mm + Doka coil 16mm

Frami floor fixing plate with express anchor:

Perm. load-bearing capacity in B10 concrete: 9.2 kN

Perm. load-bearing capacity in B20 concrete: 12.9 kN

Required concrete thickness: min. 20 cm

Required distance from edge : min. 15 cm

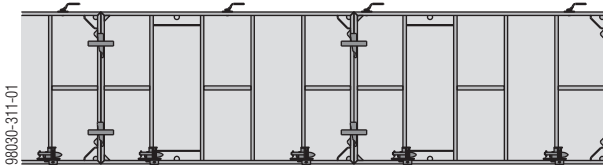
Required numbers of Frami floor fixing plates:

Concrete grade of the	Formwork height	Frami Xlife panel (longside horizontal)	Number of Frami floor fixing	Position
B10	up to 75 cm	1.20m	1	Right next to the panel joint
		1.50m		
		2.70m	2	Each 60 cm from the panel joint
		3.00m		
B20	up to 90 cm	1.20m	1	Right next to the panel joint
		1.50m	2	
		2.70m	3	2 of them each 40 cm from the panel joint, 1 of them in the middle
		3.00m		

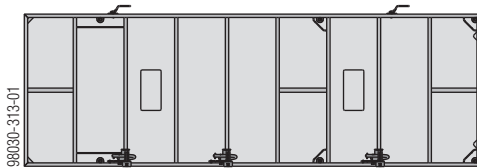
Practical example

with Doka perforated tape and Frami foundation clamps

Frami Xlife panel 0.90x1.50m

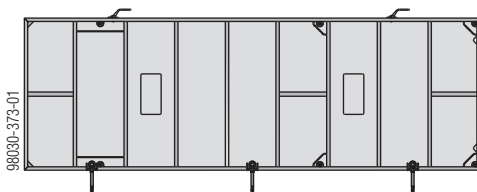


Frami Xlife panel 0.90x2.70m



with Frami floor fixing plates and Doka Express anchors 16x125mm

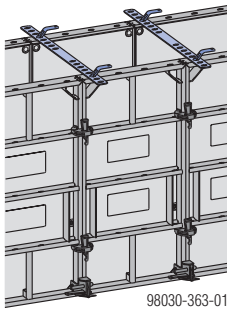
Frami Xlife panel 0.90x2.70m



Tying upright Xlife panels

Top tie

with Frami flat tie-rods and Frami clips



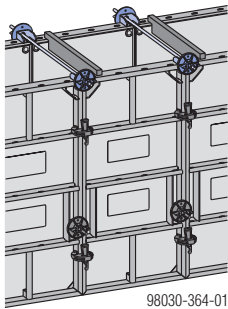
Required numbers of Frami flat tie-rods:

Frami Xlife panel (upright)	Number of Frami flat tie-rods	Position
1.20m	1 / 2 *)	Right next to the panel joint
1.50m		

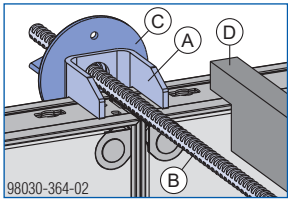
*) Two Frami flat tie-rods are needed in the first panel, and two in the last panel.

For more information, see "Tying horizontal Xlife panels".

with Frami anchoring brackets and Tie-rod system 15.0



- Tie rod is held above panel (not in the concrete)



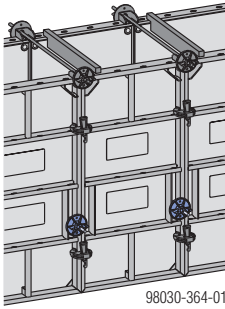
- A Frami anchoring bracket
- B Tie-rod 15.0mm
- C Super-plate 15.0
- D Wooden spacer

Required numbers of Frami anchoring brackets:

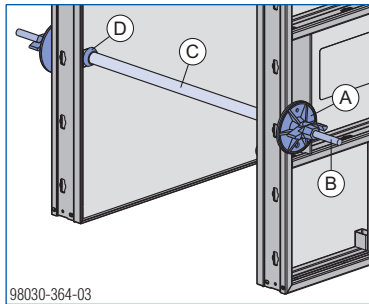
Frami Xlife panel (upright)	Number and position of Frami anchoring brackets
1.20m	Over every panel joint
1.50m	

Bottom tie

with Tie-rod system 15.0



98030-364-01



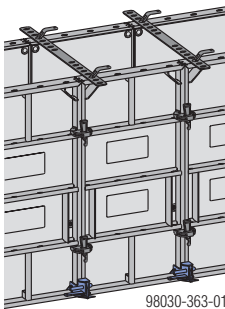
98030-364-03

- A** Super-plate 15.0
- B** Tie-rod 15.0mm
- C** Plastic tube 22mm
- D** Universal cone 22mm

Required number of form-ties:

Frami Xlife panel (upright)	Number and position of form-ties
1.20m	At every panel joint
1.50m	

with Doka perforated tape and Frami foundation clamps



98030-363-01

Max. pour-heights:

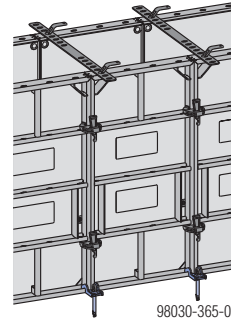
Panel width	Max. pour height	
	Panel height 1.20m	Panel height 1.50m
0.90 m	1.00 m	0.90 m
0.75 m	1.10 m	1.00 m
0.60 m	1.20 m	1.20 m

Required numbers of Doka perforated tapes:

Frami Xlife panel (upright)	Number and position of Doka perforated tapes
1.20m	Over every panel joint
1.50m	

For more information, see "Tying horizontal Xlife panels".

with Frami floor fixing plates and Doka Express anchors 16x125mm



98030-365-01



NOTICE

Only use Frami floor fixing plates on foundation slabs and concrete floor-slabs.

Max. pour-heights:

Concrete grade of the foundation	Panel width	Max. pour height	
		Panel height 1.20m	Panel height 1.50m
B10	0.90 m	1.00 m	0.95 m
	0.75 m	1.10 m	1.05 m
	0.60 m	1.20 m	1.20 m
	0.45 m		1.45 m
B20	0.90 m	1.20 m	1.10 m
	0.75 m		1.20 m
	0.60 m		1.30 m
	0.45 m		1.50 m

Required numbers of Frami floor fixing plates:

Frami Xlife panel (upright)	Number and position of Frami floor fixing plates
1.20m	Over every panel joint
1.50m	

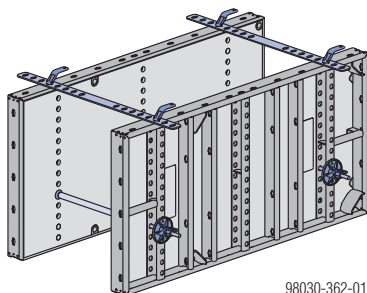
For more information, see "Tying horizontal Xlife panels".

Tying horizontal Xlife universal panels

With Frami Xlife universal panels, it is possible to tie them above a joint-sealing tape.

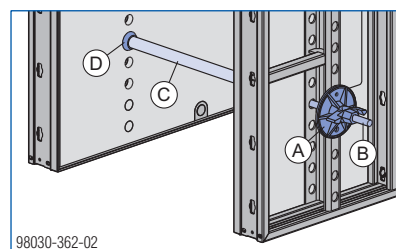
Note:

The max. tying height is 250 mm – do not place the tie higher than this!



Tying inside the panel:

with Tie-rod system 15.0



A Super-plate 15.0

B Tie-rod 15.0mm

C Plastic tube 22mm

D Universal cone 22mm

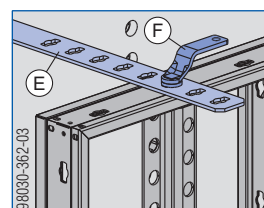
Required number of form-ties:

Frami Xlife universal panel 0.75m (longside horizontal)	Number of ties
1.20m	2
1.50m	2
2.70m	3
3.00m	3

Frami Xlife universal panel 0.90m (longside horizontal)	Number of ties
1.20m	2
1.50m	2
2.70m	4
3.00m	4

Pressure bracing at top

with Frami flat tie-rods and Frami clips



E Frami flat tie-rod 10-80cm

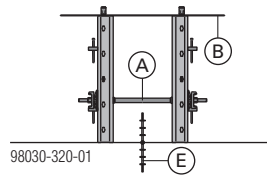
F Frami clip

Required numbers of Frami flat tie-rods:

Frami Xlife universal panel (longside horizontal)	Number of Frami flat tie-rods
1.20m	2 / 1 *)
1.50m	2 / 1 *)
2.70m	2
3.00m	2

*) In every other panel, only one Frami flat tie-rod is needed. Two Frami flat tie-rods are needed in the first panel, and two in the last panel.

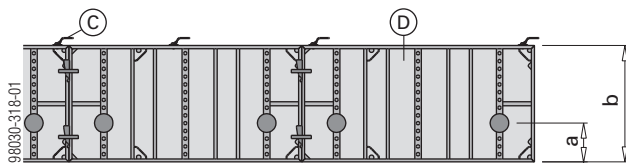
Practical example



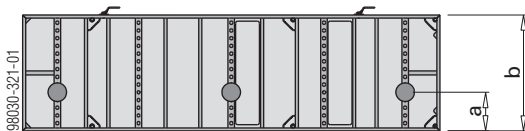
- A Form-tie 15.0
- B Frami flat tie-rod
- C Frami clip
- D Frami Xlife universal panel
- E Joint-sealing tape

Frami Xlife universal panel 0.75m

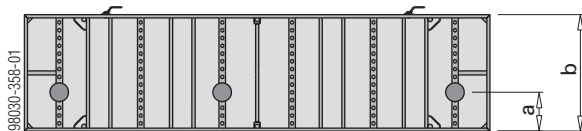
Frami Xlife universal panel 0.75x1.50m



Frami Xlife universal panel 0.75x2.70m



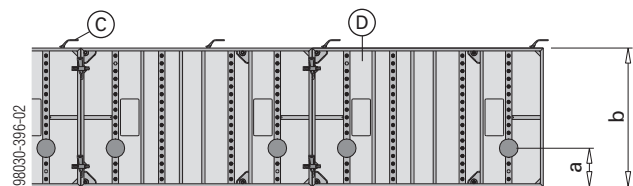
Frami Xlife universal panel 0.75x3.00m



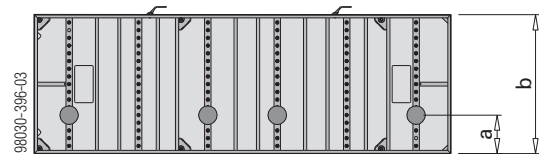
- a ... Max. tying height = 250 mm
- b ... 750 mm

Frami Xlife universal panel 0.90m

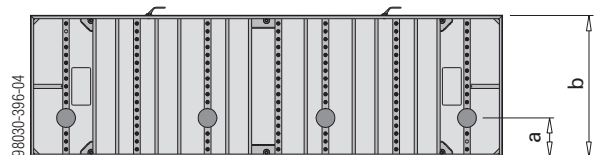
Frami Xlife universal panel 0.90x1.50m



Frami Xlife universal panel 0.90x2.70m



Frami Xlife universal panel 0.90x3.00m

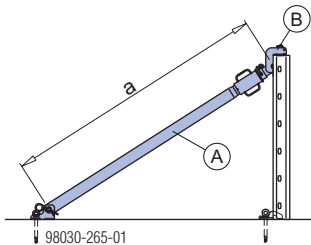


- a ... Max. tying height = 250 mm
- b ... 900mm

Plumbing and aligning, shoring, working platforms

Plumbing the panels with the Plumbing strut 260

The panels of the foundation formwork can be safely parked and plumbed with the aid of the Plumbing strut 260.



a ... min. 147 cm, max. 256 cm

A Plumbing strut 260 IB

B Strut head EB



For more information, please refer to the 'Framed formwork Frami Xlife' or 'Frami Xlife / Frami eco' User Information booklets.

Working platform / shoring with Frami adjustment frame

For lower formwork heights, the Frami adjustment frame is an optimum solution, enabling you to put up a working platform and brace the formwork in one single operation.

Deck-boards: Per 1 metre length of platform, 0.8 m² of deck-boards are needed (site-provided).

Board thickness for support centres of up to 2.50 m:

- Deck-boards min. 20/5 cm

Note:

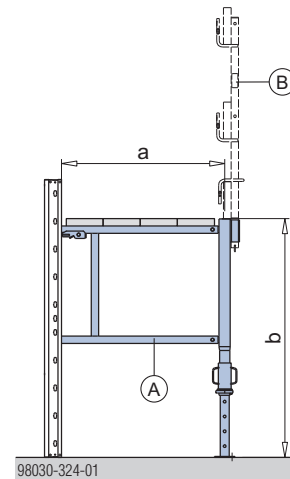
The plank and board thicknesses given here comply with the C24 category to EN 338.

Observe all national regulations applying to deck-boards and guardrail boards.

Permitted service load: 1.5 kN/m² (150 kg/m²)

Load Class 2 to EN 12811-1:2003

Max. influence width: 1.50 m



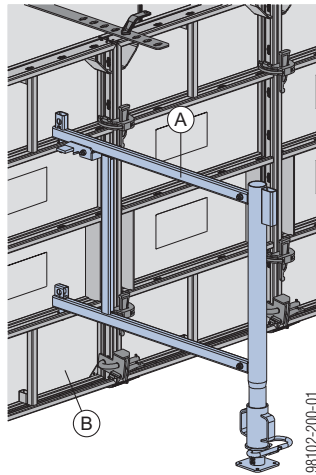
a ... 880 mm

b ... 1000 to 1300 mm

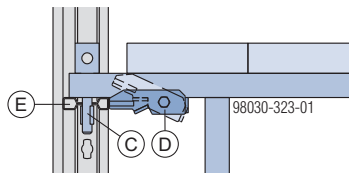
A Frami adjustment frame

B Handrail post 1.00m (optional)

Connector in cross profile of Frami Xlife panels



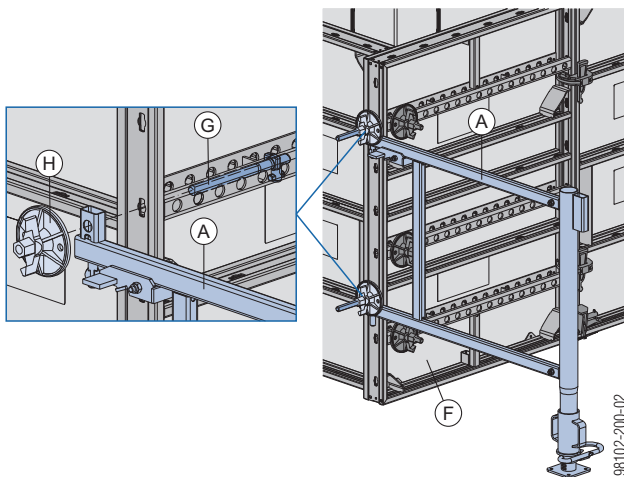
Self-locking connector:



- A Frami adjustment frame
- B Frami Xlife panel
- C Fastening bolt
- D Self-locking connector
- E Cross profile of the Frami Xlife panel

Connector in short side of Frami Xlife universal panels

e.g. for outside corners



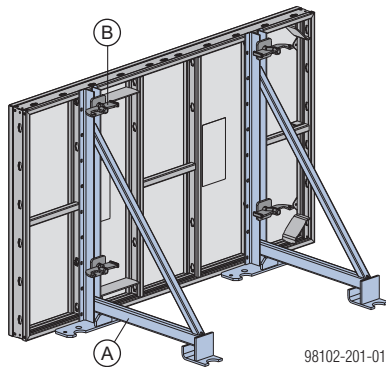
- A Frami adjustment frame
- F Frami Xlife universal panel
- G Frami universal fixing bolt 5-12cm
- H Super plate 15.0

Note:

Universal panels of panel height 1.20m must be set longside horizontal.

Slab stop-end with Supporting construction

The Supporting construction is used for erecting non-tied, single-sided formwork up to 1.20 m high (e.g. stop ends of floor slabs).



98102-201-01

A Supporting construction

B Frami wedge clamp

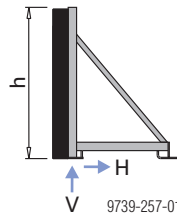


NOTICE

Transfer the vertical and horizontal forces by suitable means!

e.g.:

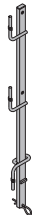
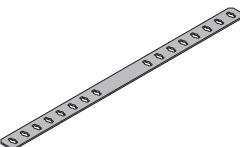
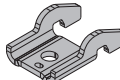
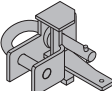
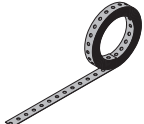
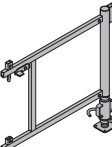
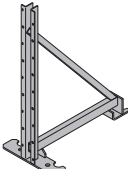
- 2 ground nails per Supporting construction.
- Anchoring with dowel in the blinding layer.



9739-257-01

Pour height h [m]	Influence width [m]	Vertical force V [kN]	Horizontal force H [kN]
0.30	3.00	0.00	3.40
0.45	3.00	0.20	7.60
0.60	1.80	1.00	8.10
0.75	1.15	1.80	8.10
0.90	0.80	2.60	8.10
1.05	0.60	3.40	8.10
1.20	0.45	4.10	8.10

Support at minimum every second panel with a Supporting construction.

	[kg]	Article N°		[kg]	Article N°
Frami tie-holder bracket Frami-Ankerhaltewinkel  Galvanised	0.58	588453000	Handrail post 1.00m Geländer 1,00m  Galvanised Length: 124 cm	3.8	584335000
Frami flat tie rod 10-80cm Frami-Flachanker 10-80cm  Galvanised Length: 97 cm	2.1	588475000			
Frami clip Frami-Stecker  Galvanised Width: 3 cm Height: 12 cm	0.26	588434000			
Frami floor fixing plate Frami-Bodenhalter  Galvanised Length: 12.7 cm Width: 6.7 cm	0.53	588495000			
Frami foundation clamp Frami-Fundamentspanner  Galvanised Height: 9 cm	1.6	588452000			
Doka perforated tape 50x2.0mm 25m Doka-Lochband 50x2,0mm 25m 	17.0	588206000			
Frami adjustment frame Frami-Standkonsole  Galvanised Length: 103 cm Height: 94 - 143 cm	14.3	588451000			
Supporting construction Abstützwinkel  Galvanised Length: 66 cm Width: 37 cm Height: 91 cm	10.7	588477000			

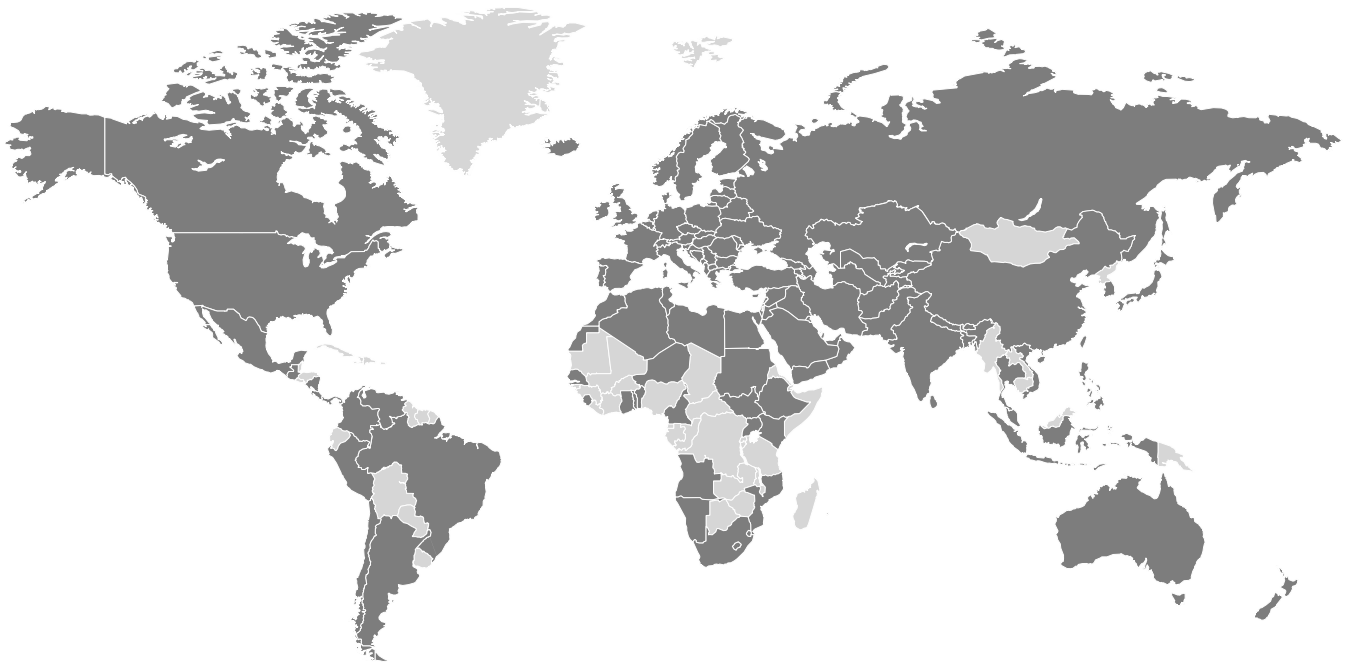
Near to you, worldwide

Doka is one of the world leaders in developing, manufacturing and distributing formwork technology for use in all fields of the construction sector.

With more than 160 sales and logistics facilities in over 70 countries, the Doka Group has a highly efficient distribution network which ensures that equipment and

technical support are provided swiftly and professionally.

An enterprise forming part of the Umdasch Group, the Doka Group employs a worldwide workforce of more than 6000.



www.doka.com/frami-xlife