999810202 - 10/2013
en-GB

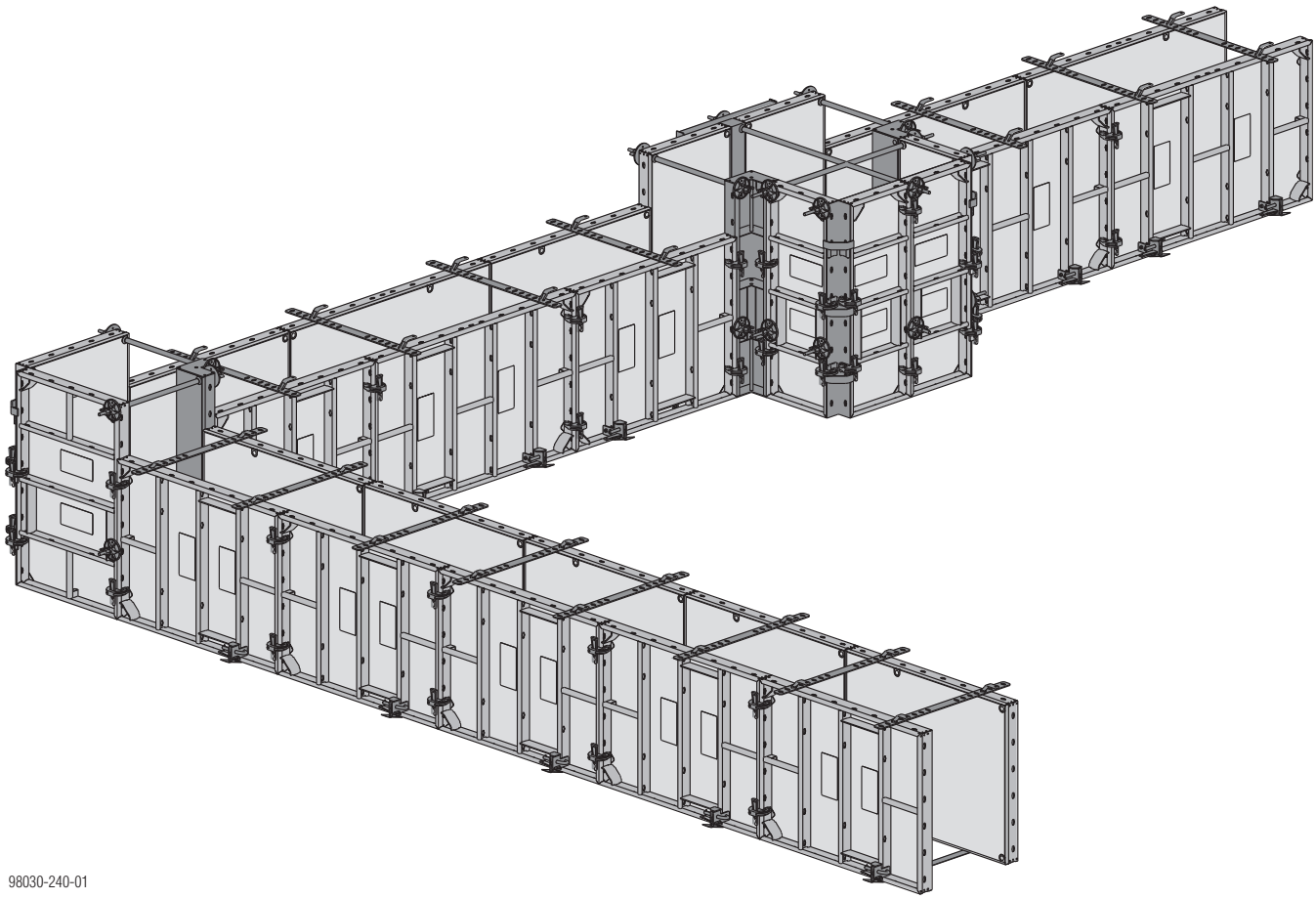
The Formwork Experts.

# Foundation formwork Frami Xlife

Framed formwork Frami Xlife

## User Information

Instructions for assembly and use (Method statement)



98030-240-01

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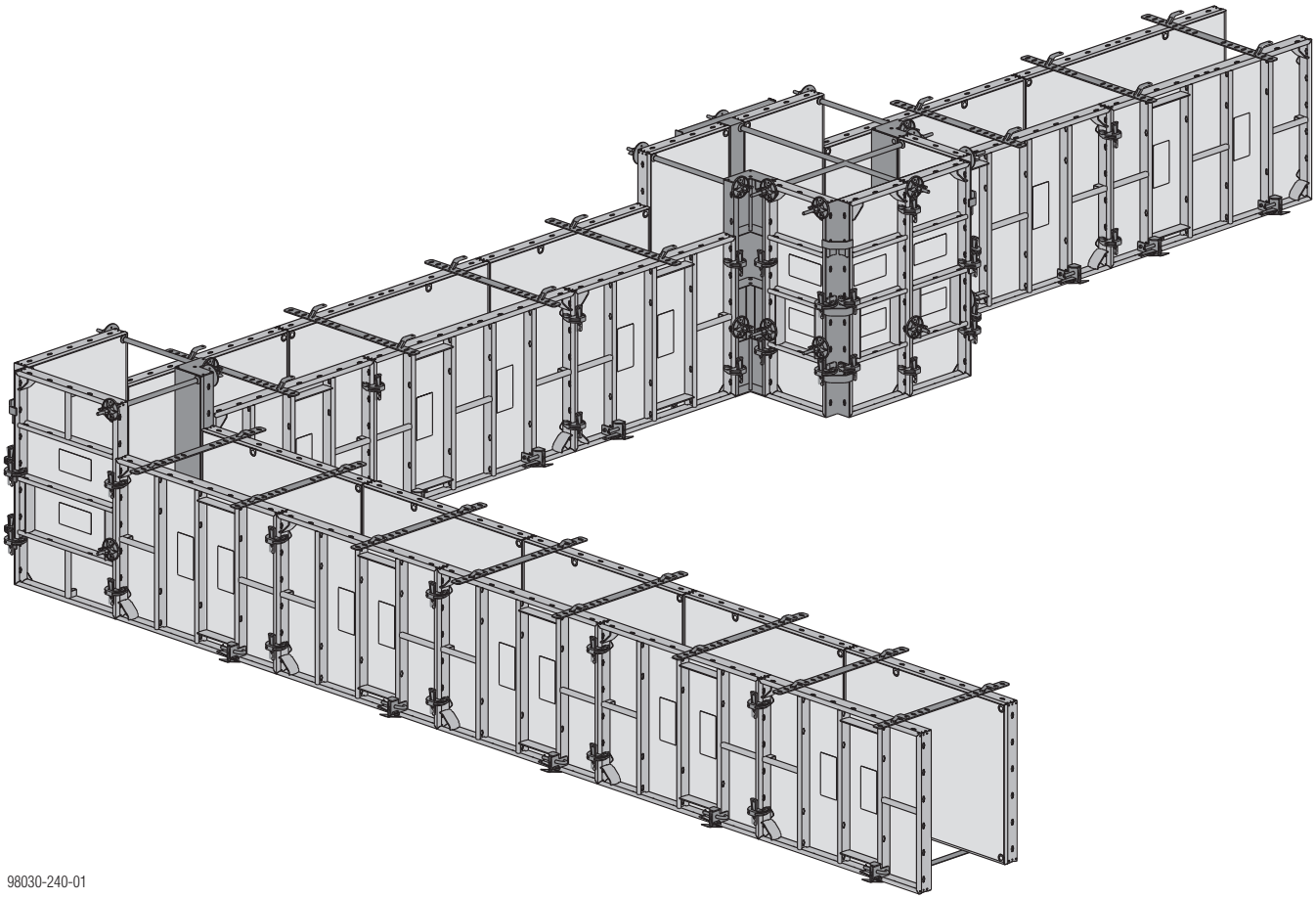
# Contents

4 System description
5 Tying horizontal Xlife panels
8 Tying upright Xlife panels
10 Tying horizontal Xlife universal panels
13 Plumbing and aligning, shoring, working platforms

**14 Component overview**

# 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.



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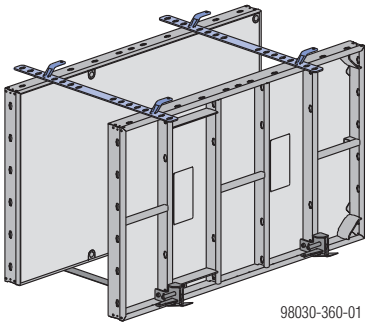
Follow the directions in the 'Framed formwork Frami Xlife' and 'Frami Xlife / Frami eco' User Information booklets!

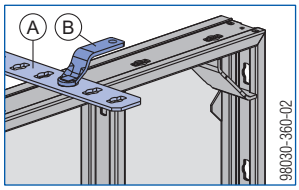
# Tying horizontal Xlife panels

## 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 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:**

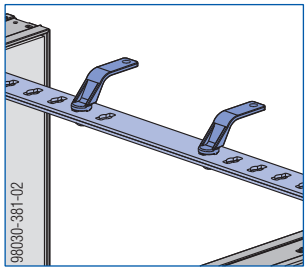
| Frami Xlife panel (horizontal) | Number of ties |
|---|---|
| 1.20m | 2 / 1 *) |
| 1.50m | 2 / 1 *) |
| 2.70m | 2 |
| 3.00m | 2 |

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

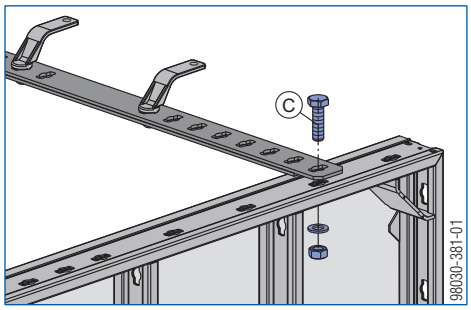
**Possible wall thicknesses:**

| Wall thicknesses | Grid | Number of Frami flat tie-rods |
|---|---|---|
| 10 - 80 cm | 5 cm | 1 per tie |
| 85 - 115 cm | | 2 per tie *) |
| 121.3 - 171.3 cm | | 2 per tie *) |

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




**Special case where wall thickness is 85 cm:**

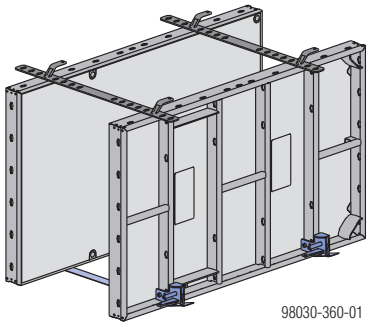



At one end of the flat tie-rod, use a bolt (instead of a Frami clip) to fix the flat tie-rod to the Frami panel.

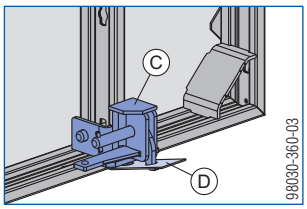
**C** M16x45 bolt (site-provided)

# Bottom tie

## with Doka perforated tape and Frami foundation clamps




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

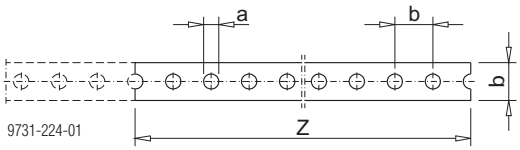



**C** Frami foundation clamp

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

**Frami foundation clamp:**
Permitted capacity: 8.0 kN

### Doka perforated tape 50x2.0mm 25m



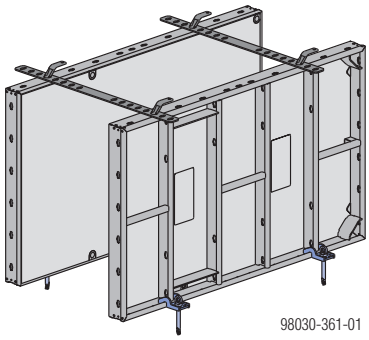

a ... 18 mm
b ... 50 mm
Z ... Length cut off roll: Wall thickness + 40 cm

### Required numbers of Doka perforated tapes:

| Formwork height | Frami Xlife panel (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 | | |

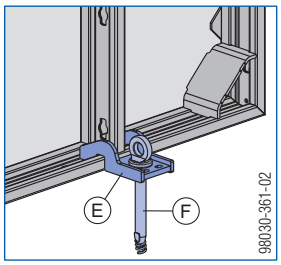
*) In every other panel, only one Doka perforated tape is needed. Two Doka perforated tapes are needed in the first panel, and two in the last panel.

## with Frami floor fixing plates and Doka Express anchors 16x125mm




- The form-tie is not in the concrete

**Important note:**
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:**
Permitted capacity in B10 concrete: 8.0 kN
Permitted capacity in B20 concrete: 11.0 kN
Required concrete thickness: min. 16 cm

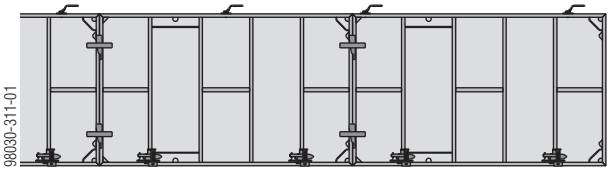
### Required numbers of Frami floor fixing plates:

| Concrete grade of the foundation slab | Formwork height | Frami Xlife panel (horizontal) | Number of Frami floor fixing plates | 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 | | |
| | 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 | | |
| B20 | Up to 90 cm | 1.20m | 1 | Right next to the panel joint |
| | | 1.50m | | |
| | | 2.70m | 2 | Each 60 cm from the panel joint |
| | | 3.00m | | |

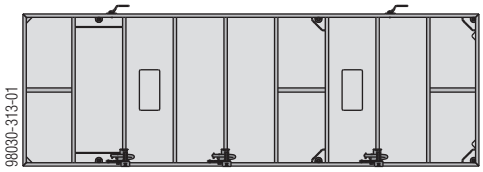
# Practical example

## with Doka perforated tape and Frami foundation clamps

**Frami Xlife panel 0.90x1.50m**

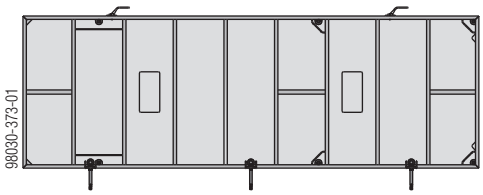



**Frami Xlife panel 0.90x2.70m**




## with Frami floor fixing plates and Doka Express anchors 16x125mm

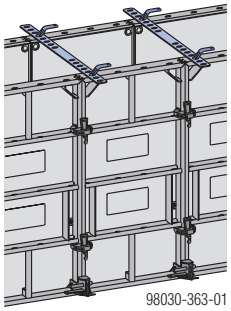
**Frami Xlife panel 0.90x2.70m**



# Tying upright Xlife panels

## Top tie

### with Frami flat tie-rods and Frami clips



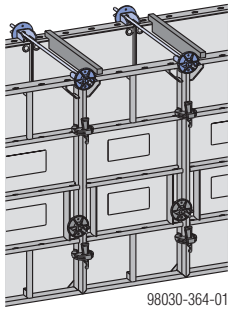

**Required numbers of Frami flat tie-rods:**

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

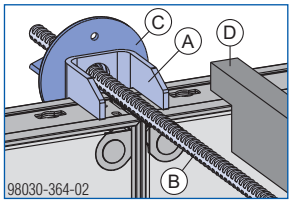
*) Two Frami flat tie-rods are needed in the first panel, and two in the last panel.

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)



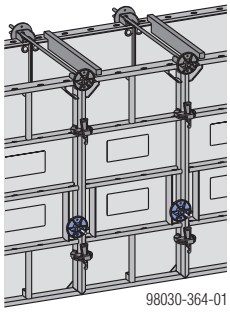

| | |
|---|---|
| **A** | Frami anchoring bracket |
| **B** | Tie-rod 15.0mm |
| **C** | Super-plate 15.0 |
| **D** | Wooden spacer |

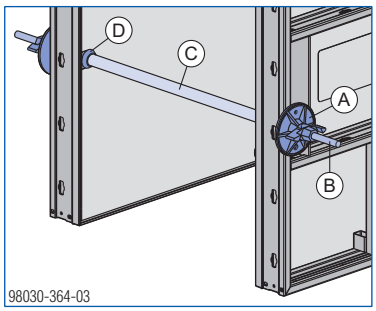
**Required numbers of Frami anchoring brackets:**

| 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



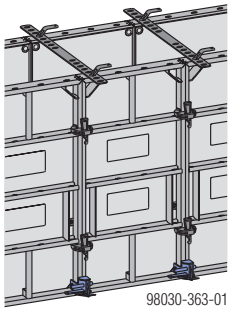




| | |
|---|---|
| **A** | Super-plate 15.0 |
| **B** | Tie-rod 15.0mm |
| **C** | Plastic tube 22mm |
| **D** | Universal cone 22mm |

### 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




### Max. pour-heights:

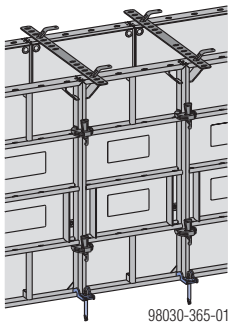
| Panel width | Max. pour height | |
|---|---|---|
| | Panel height **1.20m** | Panel height **1.50m** |
| 0.90 m | 1.00 m | 0.90 m |
| 0.75 m | 1.10 m | 1.00 m |
| 0.60 m | 1.20 m | 1.20 m |

### 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




**Important note:**
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:

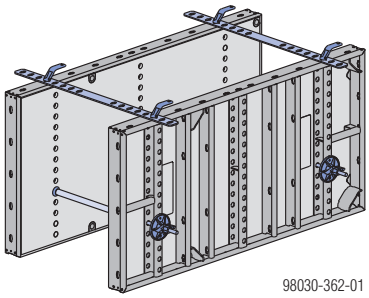
| Frami Xlife panel (upright) | Number and position of Frami floor fixing plates |
|---|---|
| 1.20m | Over every panel joint |
| 1.50m | |

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

# Tying horizontal Xlife universal panels

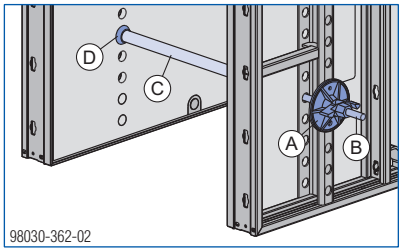
With Frami Xlife universal panels, it is possible to tie them above a joint-sealing tape.

**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

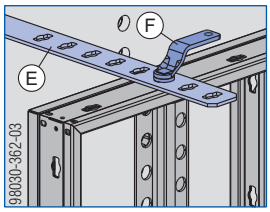
**Required number of form-ties:**

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

| Frami Xlife universal panel **0.90m** (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



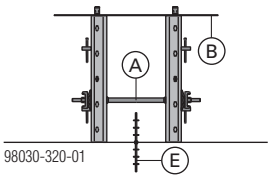

**E** Frami flat tie-rod 10-80cm
**F** Frami clip

**Required numbers of Frami flat tie-rods:**

| Frami Xlife universal panel (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.

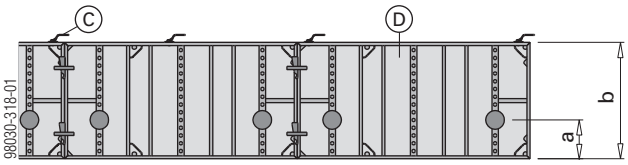
# Practical example



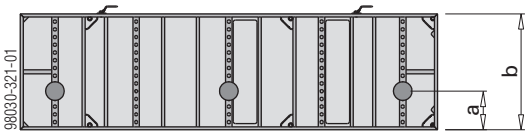

| | |
|---|---|
| **A** | Form-tie 15.0 |
| **B** | Frami flat tie-rod |
| **C** | Frami clip |
| **D** | Frami Xlife universal panel |
| **E** | Joint-sealing tape |

## Frami Xlife universal panel 0.75m

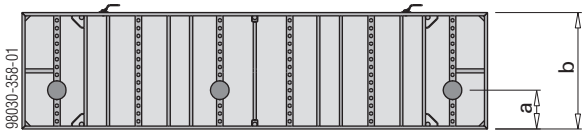
### Frami Xlife universal panel 0.75x1.50m




### Frami Xlife universal panel 0.75x2.70m



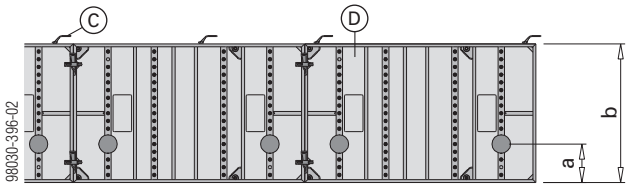

### Frami Xlife universal panel 0.75x3.00m



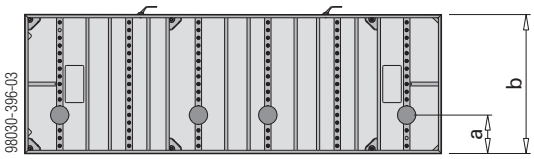

a ... Max. tying height = 250 mm
b ... 750 mm

## Frami Xlife universal panel 0.90m

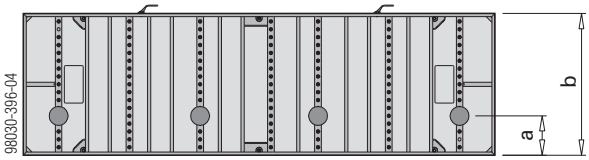
### Frami Xlife universal panel 0.90x1.50m




### Frami Xlife universal panel 0.90x2.70m




### Frami Xlife universal panel 0.90x3.00m

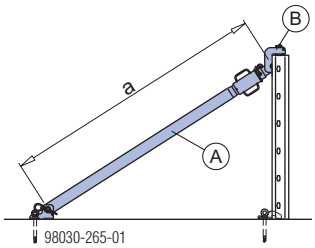



a ... Max. tying height = 250 mm
b ... 900mm

# 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 shore 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. 20x5 cm

**Note:**

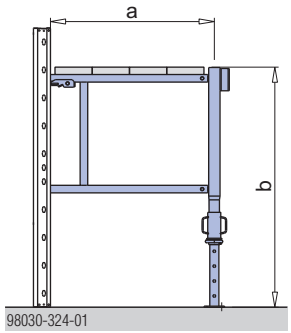
The plank and board thicknesses given here comply with the C24 category of EN 338.

Observe all national regulations applying to deck-boards and guard-rail boards.

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

Load Class 2 to EN 12811-1:2003

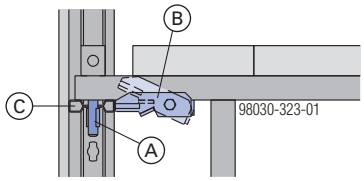
Max. influence width: 1.50 m



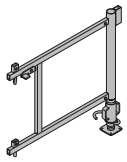
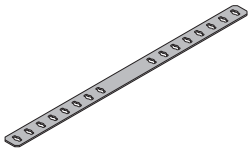
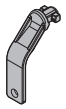
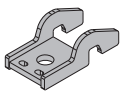
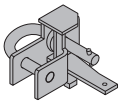

a ... 880 mm
b ... 1000 to 1300 mm

It can also be combined with the Handrail post 1.00m.

**Self-locking connector:**




| | |
|---|---|
| **A** | Fastening bolt |
| **B** | Self-locking connector |
| **C** | Cross profile of the Xlife panel |

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

| [kg] | Article n° |
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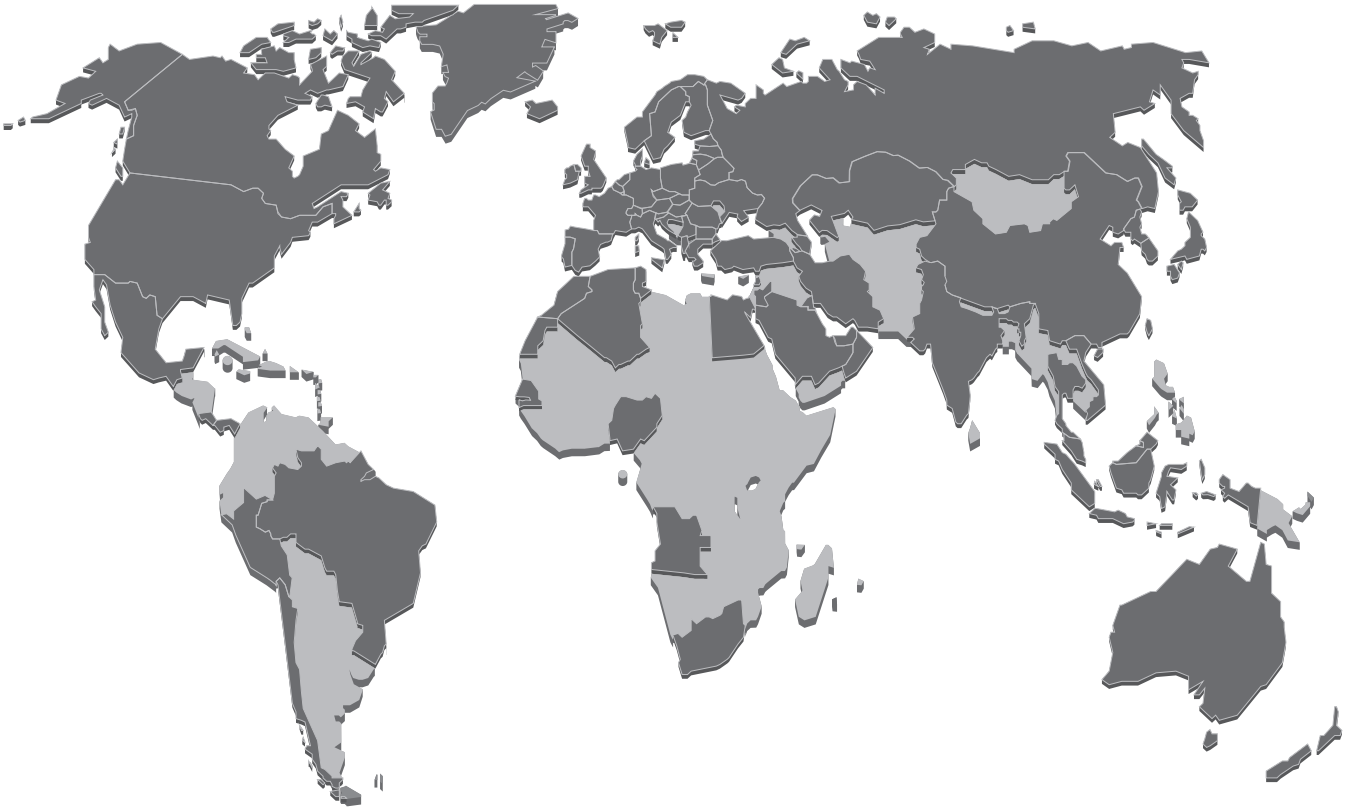
Doka is one of the world leaders in developing, manufacturing and distributing formwork technology for use in all fields of the construction sector.

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 5600.