

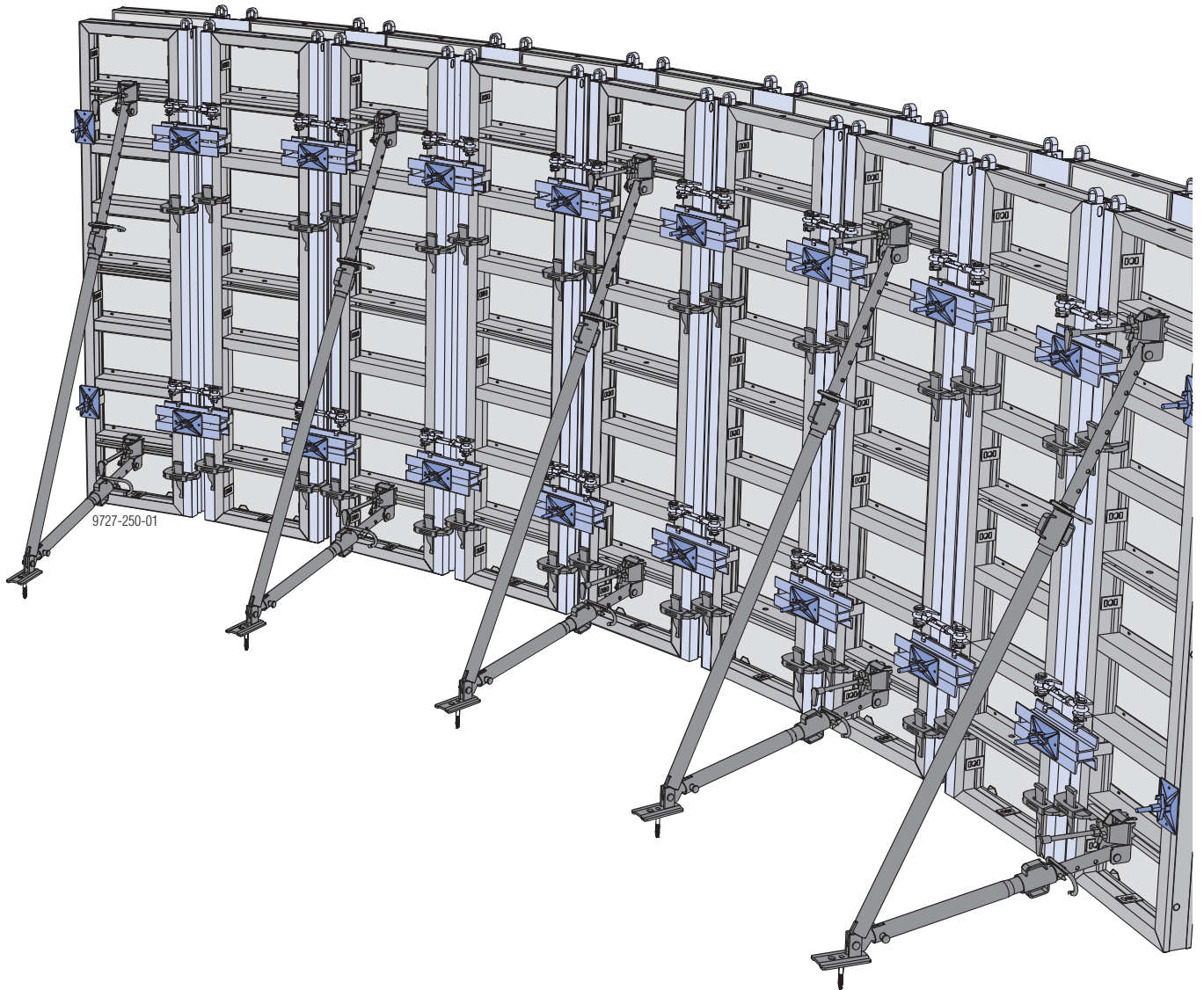
The Formwork Experts.

Circular formwork Framax Xlife

Framed formwork Framax Xlife

User information

Instructions for assembly and use (Method statement)



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System description

The quick way to form "in the round" - the Framax circular forming plates will get your framed formwork "around" any curve!

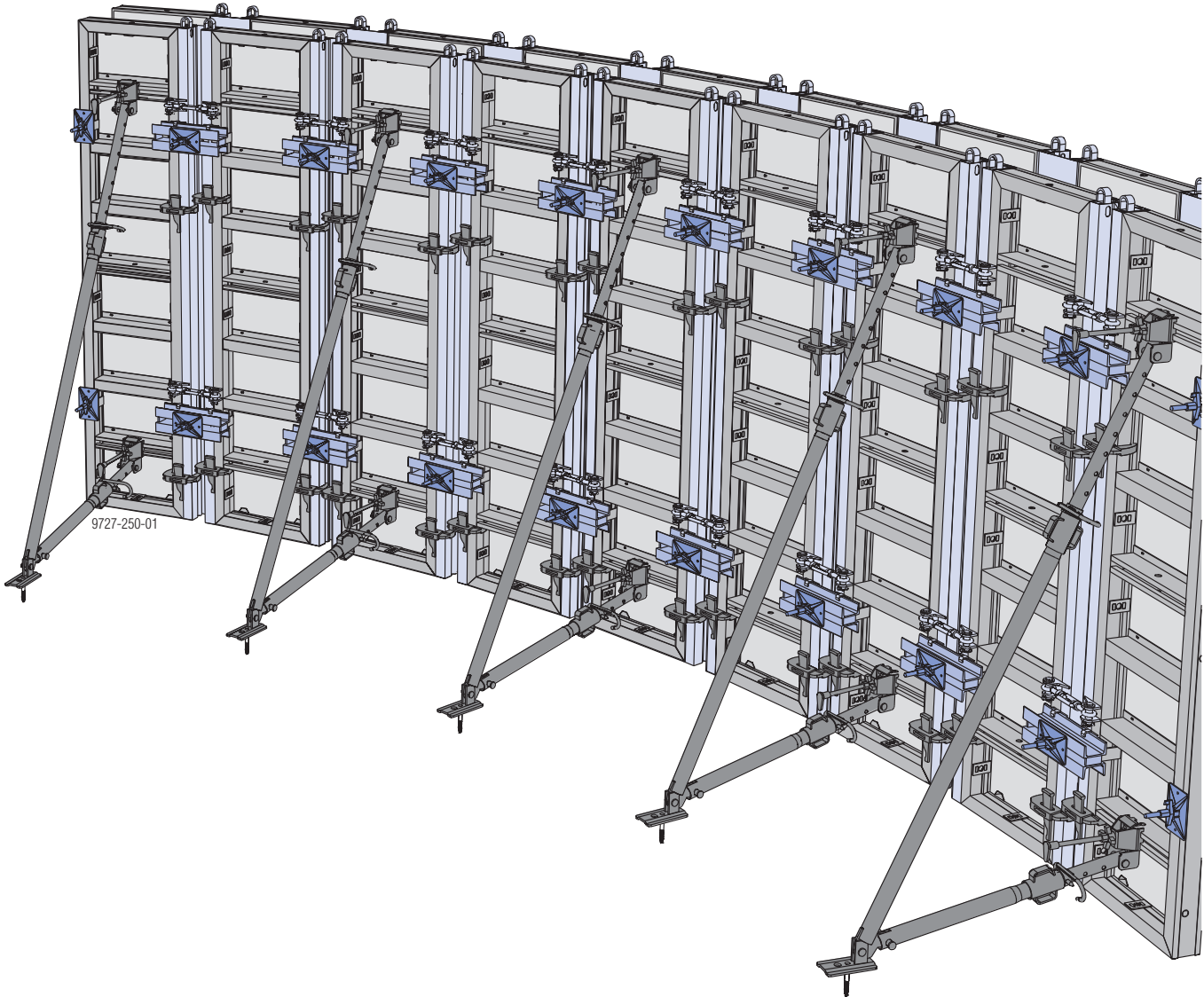
With the Framax circular forming plates and the panels of the Framax Xlife framed formwork system, "circular" (i.e. polygonal) structures can be formed.

A particularly cost-cutting factor in practice is the fact that you can use your existing Framax Xlife panels and

all accessories such as panel struts and pouring platforms from the Framax Xlife range.

This makes circular forming of curved concrete structures with Framax circular forming plates **universal, economical and fast.**

Perm. concrete pressure: 50 kN/m²



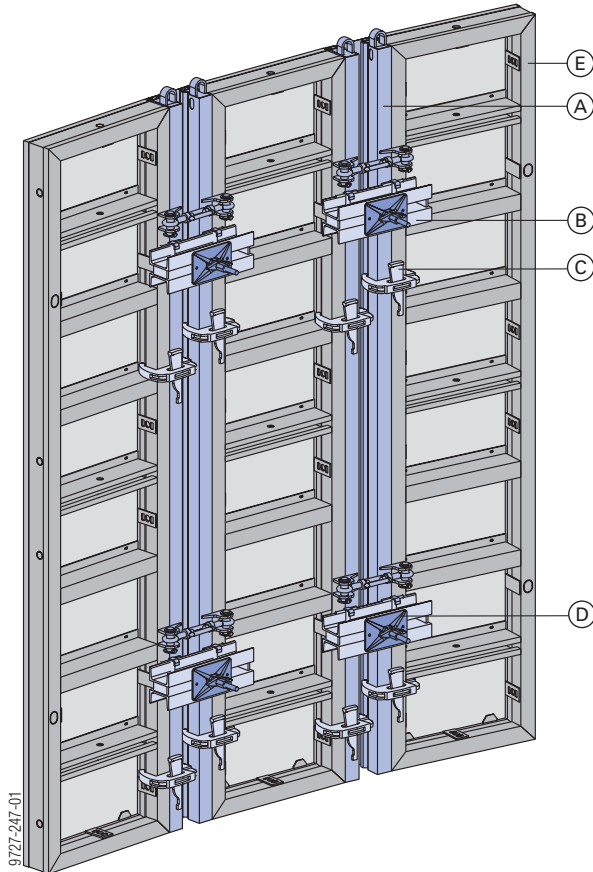
Follow the directions in the "Framed formwork Framax Xlife" User Information booklet!

Design of the circular formwork

By combining the Framax circular forming plates with the Framax Xlife panels, round structures - of any radius - can be formed.

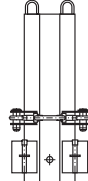

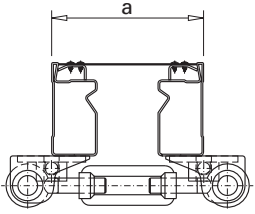
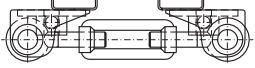
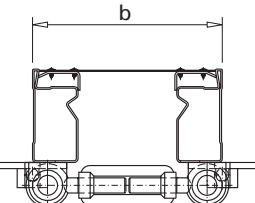

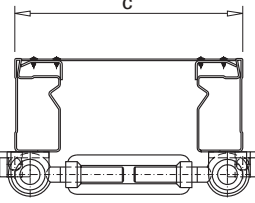
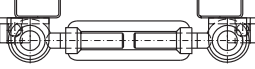
 **Minimum inside radius: 1.80 m**

In the same way as with the wall formwork, all that is needed to connect the Framax circular forming plates to the Framax Xlife panels is the **Quick-acting clamp RU** - and a blow of the hammer.



- A Framax circular forming plate
- B Framax steel waling RD 0.40m
- C Framax quick-acting clamp RU
- D Angle anchor plate 12/18 with Wing nut 15.0
- E Framax Xlife panel

Framax circular forming plates

Heights		Widths	
2.70 m	1.35 m	a	0.20 m
			
9727-435-01	9727-469-01	9727-432-01	9727-433-01
		b	0.25 m
			
		9727-433-01	9727-434-01
		c	0.30 m
			
		9727-434-01	

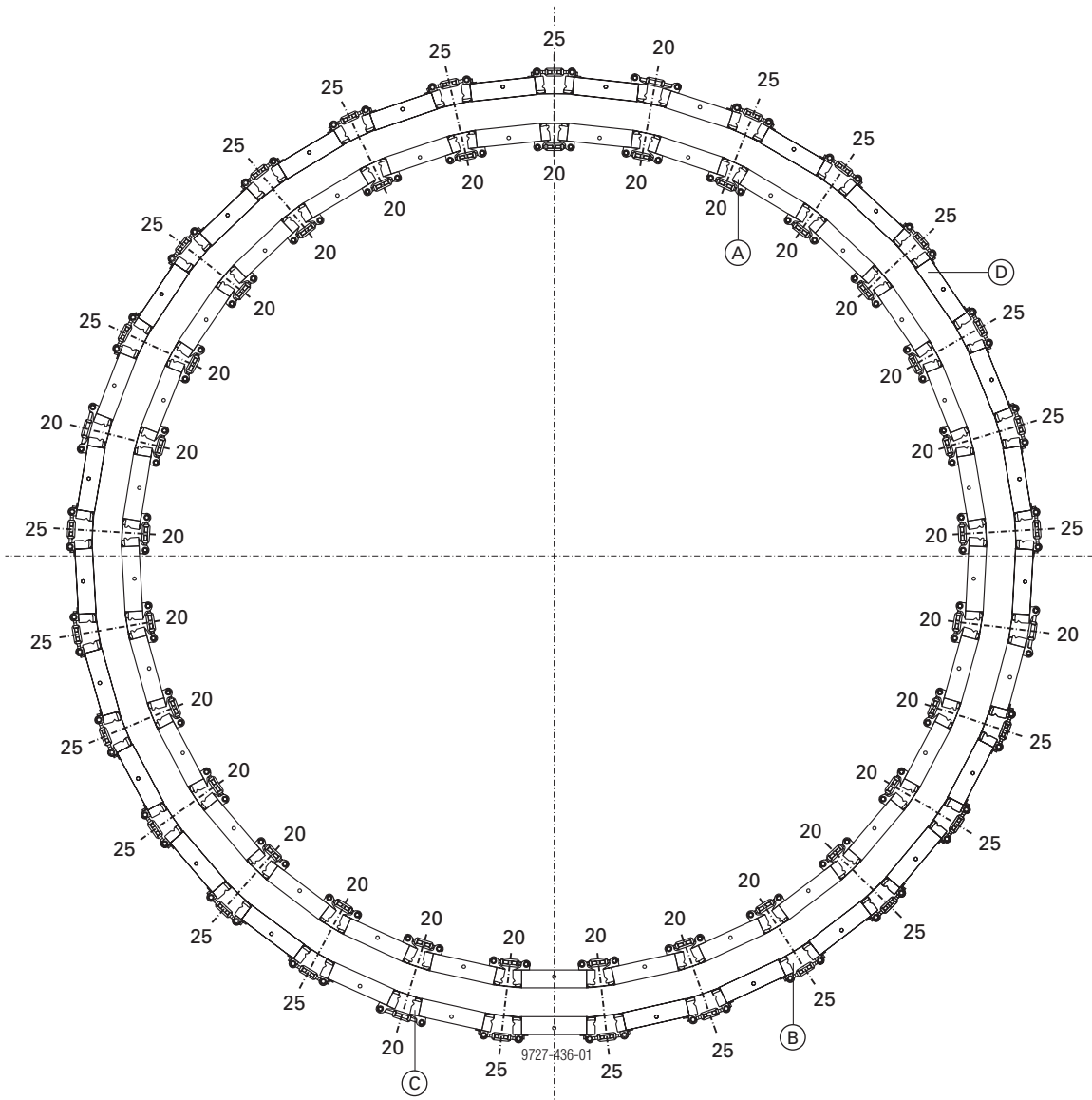
a ... 20 cm, b ... 25 cm, c ... 30 cm

Using the different widths of circular forming plate:

- **0.20 m**
 - Inside circular forming plate
 - Outside circular forming plate (for length adjustment)
- **0.25 m**
 - Outside circular forming plate
- **0.30 m**
 - Outside circular forming plate

Example of formwork

- Type of structure: Circular tank
- Inside radius of structure: 3.00 m
- Wall thickness: 0.20 m

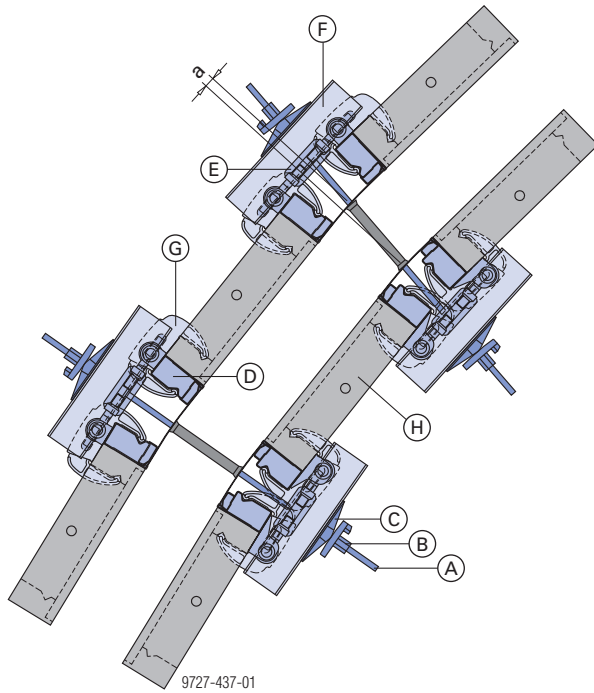


Simplified representation, without details of form-ties or panel struts.

- A** Framax circular forming plate 0.20m (for the inside formwork)
- B** Framax circular forming plate 0.25m (for the outside formwork)
- C** Framax circular forming plate 0.20m (for length adjustment, distribute evenly around circumference)
- D** Framax Xlife panel 0.45m (**Note:** same-sized panels are always used both inside and out.)

Tying the circular forming plates

Closing the full-circle formwork



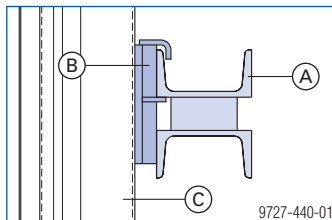
a ... maximum tie-rod displacement = ± 2.5 cm

- A Tie-rod 15.0mm
- B Wing nut 15.0
- C Angle anchor plate 12/18
- D Framax circular forming plate
- E Turnbuckle
- F Steel waling RD 0.40m
- G Quick-acting clamp RU
- H Framax Xlife panel

If the tie-rod displacement is any bigger than this, move up to the next size of circular forming plate.

When adjusting the Framax circular forming plates, ensure that the top and bottom turnbuckle are turned uniformly!

Close-up view showing fixing of steel waling RD 0.40m:



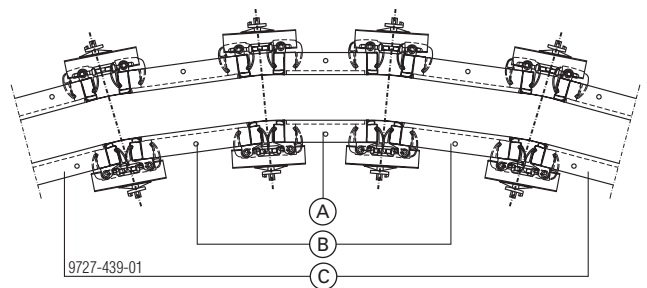
- A Steel waling RD 0.40m
- B Support and retainer for steel waling RD 0.40m
- C Framax circular forming plate

The remaining areas for closing a full circle can be formed in a number of different ways.

- Around the perimeter, use panels of equal width wherever possible.
 - In order for the load transferred via the steel waling RD 0.40 m to be as uniform as possible, adjacent panels may not have bigger width differences than those of the standard width grid.
 - This also applies to transition zones to straight walls, and to stop-ends.

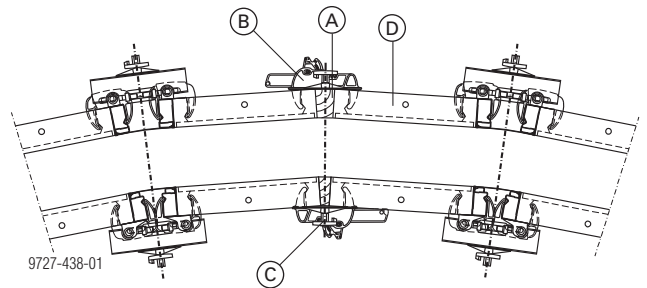
With circular formwork, it is particularly important to ensure uniform pouring.

Closure with Framax Xlife panel



- A Framax Xlife panel e.g. 0.45m
- B Framax Xlife panel e.g. 0.60m
- C Framax Xlife panel e.g. 0.90m

Closures with wedged timbers

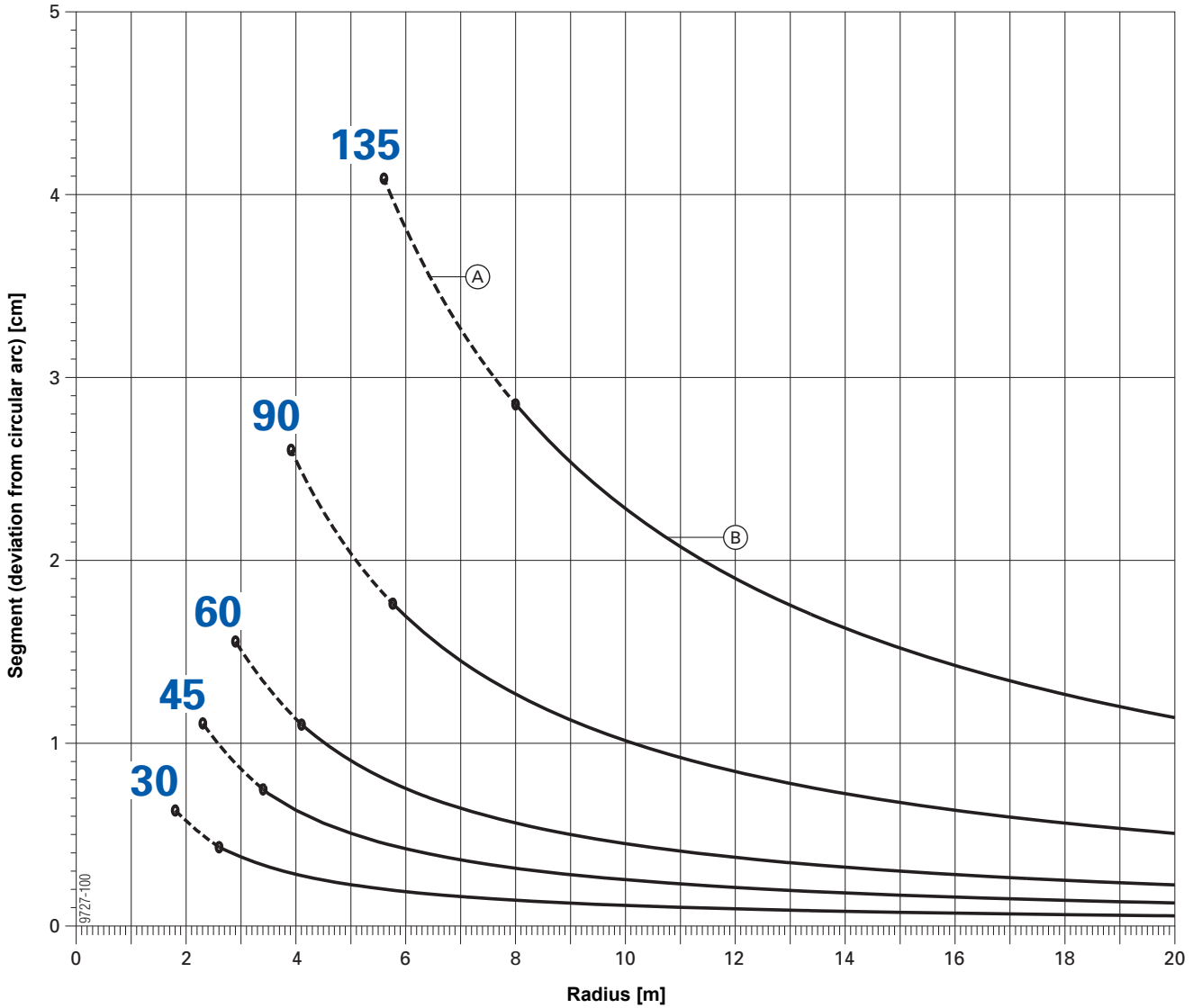


- A Wedged timber
- B Framax multi-function clamp
- C Angle anchor plate 12/18 + Wing nut 15.0
- D Framax Xlife panel

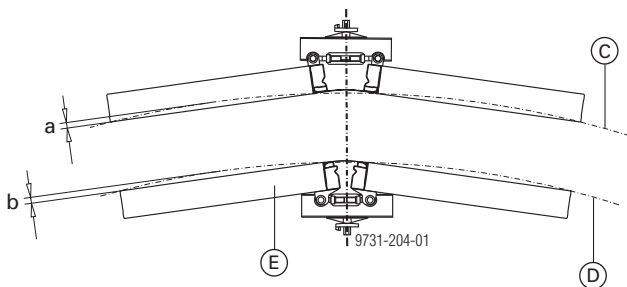
Determining the max. panel width

Radius segment diagram for the various widths of panel

The radius segment diagram is for determining the max. panel width as a function of the radius and the permitted deviations from the circular arc.



- A Minimum wall thickness = 20 cm
- B Minimum wall thickness = 15 cm



Example:

- Radius: 6.0 m
- Permitted deviation from circular arc: 1.0 cm
- => Max. panel width: 60 cm

- a ... Outside segment dimension
- b ... Inside segment dimension

- C Ideal circular arc (outside radius)
- D Ideal circular arc (inside radius)
- E Framax Xlife panel

Determining the best distribution of the panels

Example

Key data of structure:

Inside radius [cm]:	580
Outside radius [cm]:	600
Permitted deviation from circular arc [cm]:	1.0
Length of concreting section [cm]:	911 (1/4 of the inside circumference)

Width of panel:

- Determine the max. panel width in the radius segment diagram, with reference to the radius of the structure and the permitted deviation from the circular arc.

Panel width = 60 cm

Width of circular forming plates for inside formwork:

- As a general rule, use the Circular forming plate 0.20m with the inside formwork.

Width of circular forming plate = 20 cm

Number of circular forming plates and panels for inside formwork:

- $(\text{Length of concreting section} - \text{panel width}) \div (\text{Panel width} + 20) = \dots$
- Number of circular forming plates = Rounded-up result
- Number of panels = Number of circular forming plates + 1

$$(911 - 60) \div (60 + 20) = 10.64$$

Number of circular forming plates = 11

Number of panels = 12

Widths of circular forming plates, and numbers needed for outside formwork:

- $(\text{Outside radius} + \text{inside radius}) \cdot (\text{Panel width} + 20) - \text{Panel width} = \dots$
- Select the next smaller Circular forming plate to be the "Type A" Circular forming plate.
- Calculate the difference.
- Number of Circular forming plates $\cdot (1 - (\text{Difference} \div 5)) = \dots$
- Number of "Type A" Circular forming plates = Rounded-up result
- Number of "Type B" Circular forming plates = Number of Circular forming plates - number of "Type A" Circular forming plates = ...
- Select the next larger Circular forming plate to be the "Type B" Circular forming plate.

$$(600 + 580) \cdot (60 + 20) - 60 = 22.76 \text{ cm}$$

Width of "Type A" Circular forming plate = 20 cm

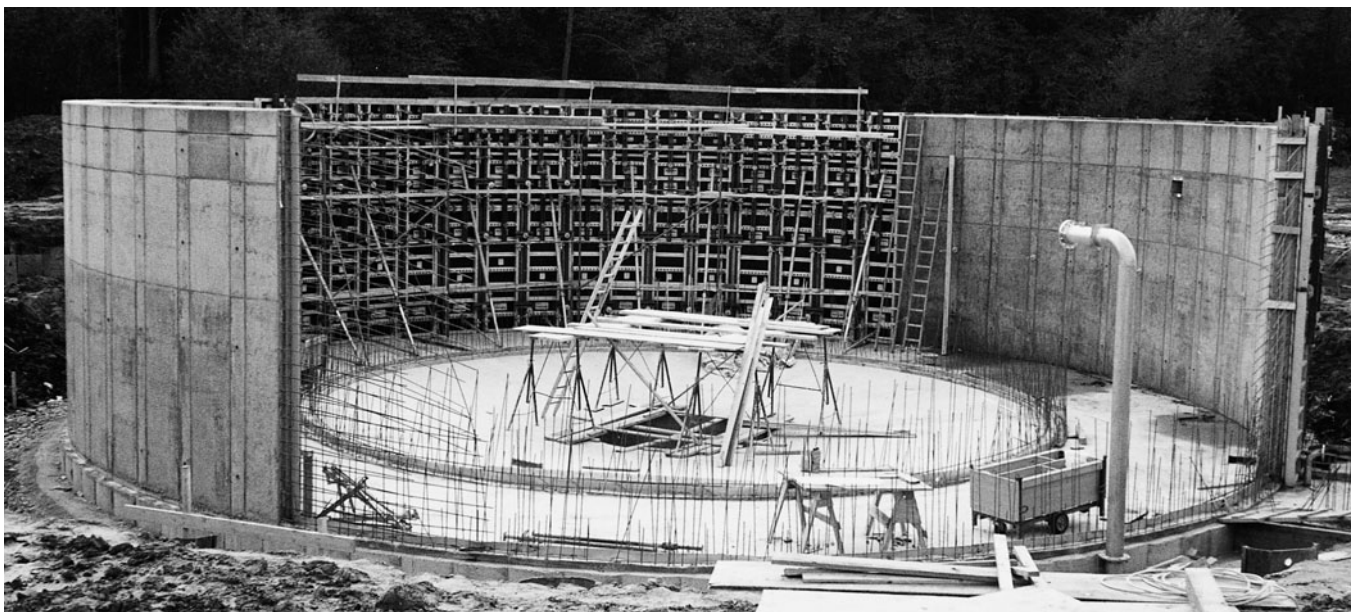
$$\text{Difference} = (22.76 \text{ cm} - 20 \text{ cm}) = 2.76 \text{ cm}$$

$$11 \cdot (1 - (2.76 \div 5)) = 4.93$$

Number of "Type A" Circular forming plates = 5

Number of "Type B" Circular forming plates = 11 - 5 = 6

Width of "Type B" Circular forming plate = 25 cm

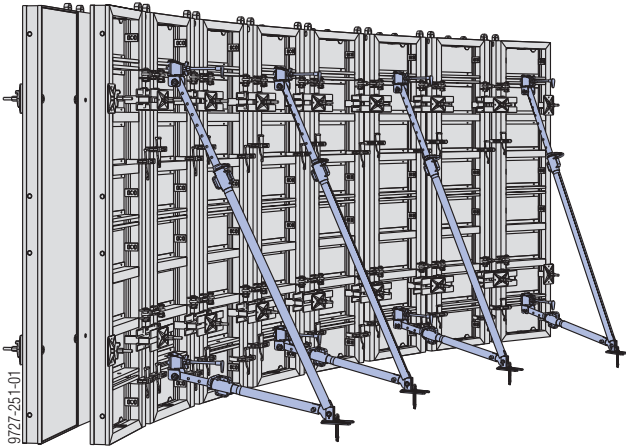


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Erecting and plumbing / Pouring platform / Resetting

Erecting and plumbing

Panel struts ensure that the formwork remains stable against wind loads, and make it easier to plumb and align the formwork.



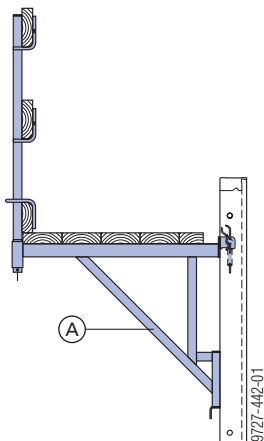
Important note:

The formwork panels must be held stable in **every** phase of the construction work!
Please observe all applicable safety regulations!

For more information, see the 'Framed formwork Framax Xlife' User Information booklet.

Pouring platform

The **Framax brackets 90 (A)** can be used to make a universal pouring scaffold.

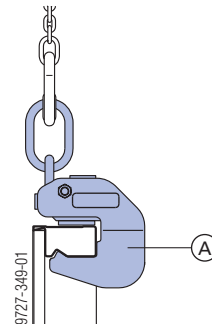


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Resetting

Thanks to the spindle-lock, the formwork can be moved with the **Framax lifting hook (A)** even when assembled in a curved configuration.



- The maximum size of the unit for resetting will depend - among other things - on the radius that has been set.
- When resetting large gang-forms, ensure that these are sufficiently stiffened.
- Prevent oblique pull, by using long transfer cables (spread-angle β : max. 30°).
- Check that the slip-out guard of the Framax lifting hook has engaged!

Follow the directions in the Operating Instructions!

For more information, see the 'Framed formwork Framax Xlife' User Information booklet.

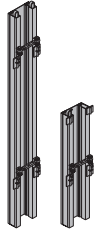
[kg] Article n°

[kg] Article n°

Framax circular forming plate 0.20x2.70m	56.5	588235000
Framax circular forming plate 0.25x2.70m	63.5	588236000
Framax circular forming plate 0.30x2.70m	67.4	588237000
Framax circular forming plate 0.20x1.35m	30.3	588238000
Framax circular forming plate 0.25x1.35m	32.3	588239000
Framax circular forming plate 0.30x1.35m	34.8	588240000

Framax-Bogenblech

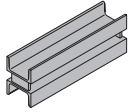
Galvanised, powder-coated

**Framax steel waling RD 0.40m**

Framax-Stahlwandriegel RD 0,40m

8.7 588189000

Painted blue



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