Circular formwork Framax Xlife
Framed formwork Framax Xlife

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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

NOTICE

This document is only valid in conjunction with the following underlying document(s):
‘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.

Note:
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.

Framax circular forming plates

<table>
<thead>
<tr>
<th>Heights</th>
<th>Widths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.70 m</td>
<td>1.35 m</td>
</tr>
</tbody>
</table>

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

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
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

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

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

**Note:**
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:

### Closing the full-circle formwork

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

**NOTICE**
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.

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

### Closure with Framax Xlife panel

![Closure with Framax Xlife panel diagram]

- 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

![Closures with wedged timbers diagram]

- 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.

Example:
- Radius: 6.0 m
- Permitted deviation from circular arc: 1.0 cm
=> Max. panel width: 60 cm
Determining the best distribution of the panels

**Key data of structure:**

<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inside radius [cm]:</td>
<td>580</td>
</tr>
<tr>
<td>Outside radius [cm]:</td>
<td>600</td>
</tr>
<tr>
<td>Permitted deviation from circular arc [cm]:</td>
<td>1.0</td>
</tr>
<tr>
<td>Length of concreting section [cm]:</td>
<td>911 (1/4 of the inside circumference)</td>
</tr>
</tbody>
</table>

**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.

  \[
  \text{Panel width} = 60 \text{ cm}
  \]

**Width of circular forming plates for inside formwork:**

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

  \[
  \text{Width of circular forming plate} = 20 \text{ cm}
  \]

**Number of circular forming plates and panels for inside formwork:**

- \[
  \left( \frac{\text{Length of concreting section} - \text{panel width}}{\text{Panel width} + 20} \right) = \ldots
  \]

  \[
  \left( \frac{911 - 60}{60 + 20} \right) = 10.64
  \]

- Number of circular forming plates = Rounded-up result

  \[
  \text{Number of circular forming plates} = 11
  \]

- Number of panels = Number of circular forming plates + 1

  \[
  \text{Number of panels} = 12
  \]

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

- \[
  \left( \frac{\text{Outside radius} + \text{inside radius}}{\text{Panel width} + 20} \right) - \text{Panel width} = \ldots
  \]

  \[
  \left( \frac{600 + 580}{60 + 20} \right) - 60 = 22.76 \text{ cm}
  \]

- Select the next smaller Circular forming plate to be the "Type A" Circular forming plate.

- Calculate the difference.

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

- Number of Circular forming plates · (1 - (Difference ÷ 5)) = \ldots

  \[
  11 \cdot (1 - (2.76 ÷ 5)) = 4.93
  \]

- Number of "Type A" Circular forming plates = Rounded-up result

  \[
  \text{Number of "Type A" Circular forming plates} = 5
  \]

- Number of "Type B" Circular forming plates = Number of Circular forming plates - number of "Type A" Circular forming plates = \ldots

  \[
  11 - 5 = 6
  \]

- Select the next larger Circular forming plate to be the "Type B" Circular forming plate.

  \[
  \text{Width of "Type B" Circular forming plate} = 25 \text{ cm}
  \]
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.

Pouring platform

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

Repositioning

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

NOTICE

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.

NOTICE

- 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.
<table>
<thead>
<tr>
<th>Article</th>
<th>Description</th>
<th>[kg]</th>
<th>Article n°</th>
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<td>588240000</td>
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<td>Framax-Bogenblech</td>
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<tr>
<td>Framax steel waling RD 0.40m</td>
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<tr>
<td>Framax-Stahlwandriegel RD 0.40m</td>
<td>Painted blue</td>
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</tbody>
</table>
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