



ORMA

Panel formwork



// Heavy duty and high-performance with multiple applications



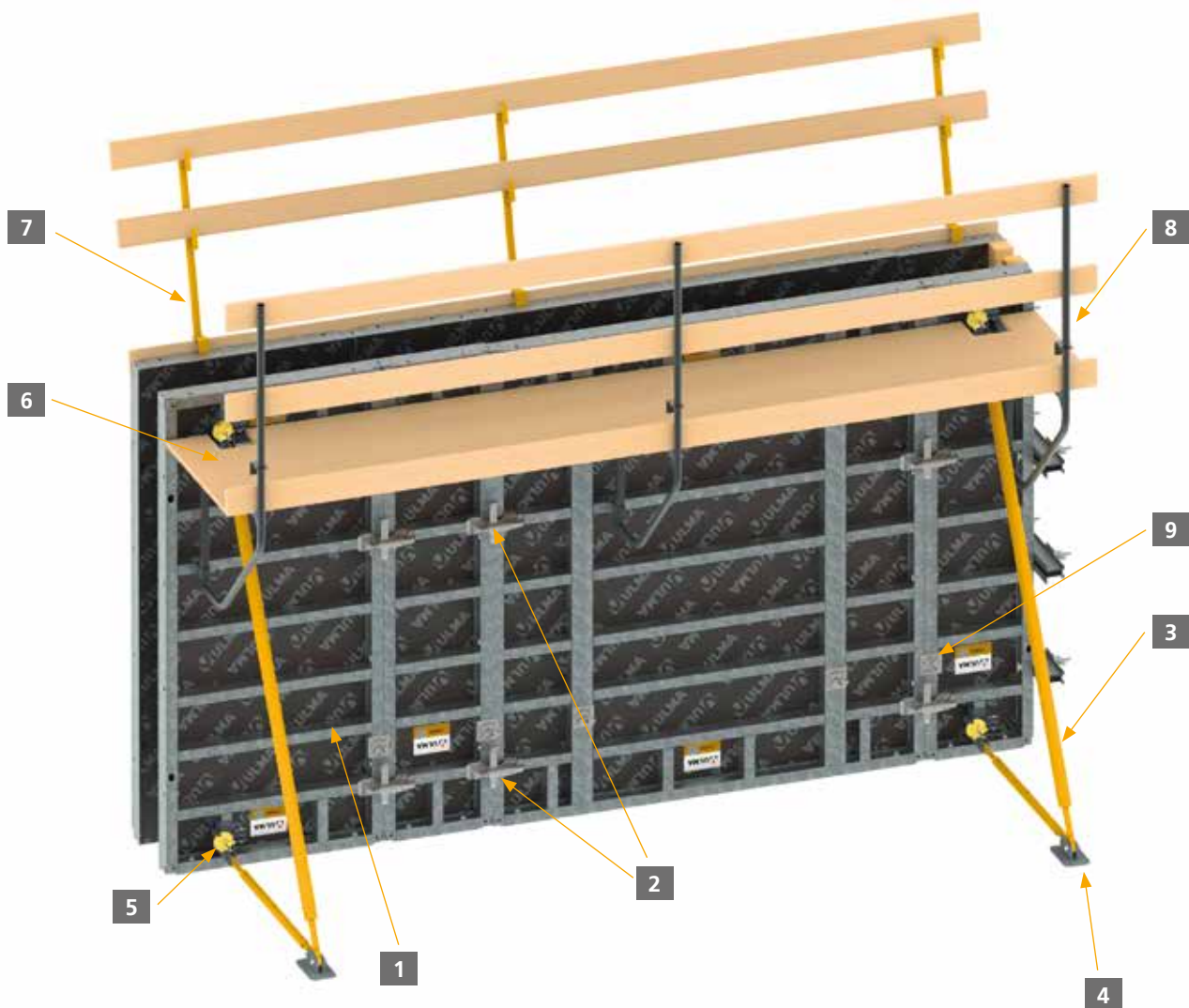
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- ▶ **High-performance-assembly formwork for walls** aimed at both the building construction and civil engineering sectors.
- ▶ Designed to withstand high concrete pressures.
- ▶ Mainly composed of panels, joined with clamps, **providing great versatility and excellent concrete finishes.**
- ▶ Ideal for building any kind of vertical concrete structure: walls, columns, abutments, footings, etc.

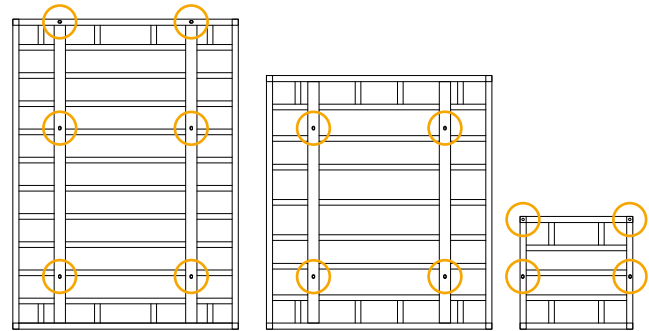
System components:



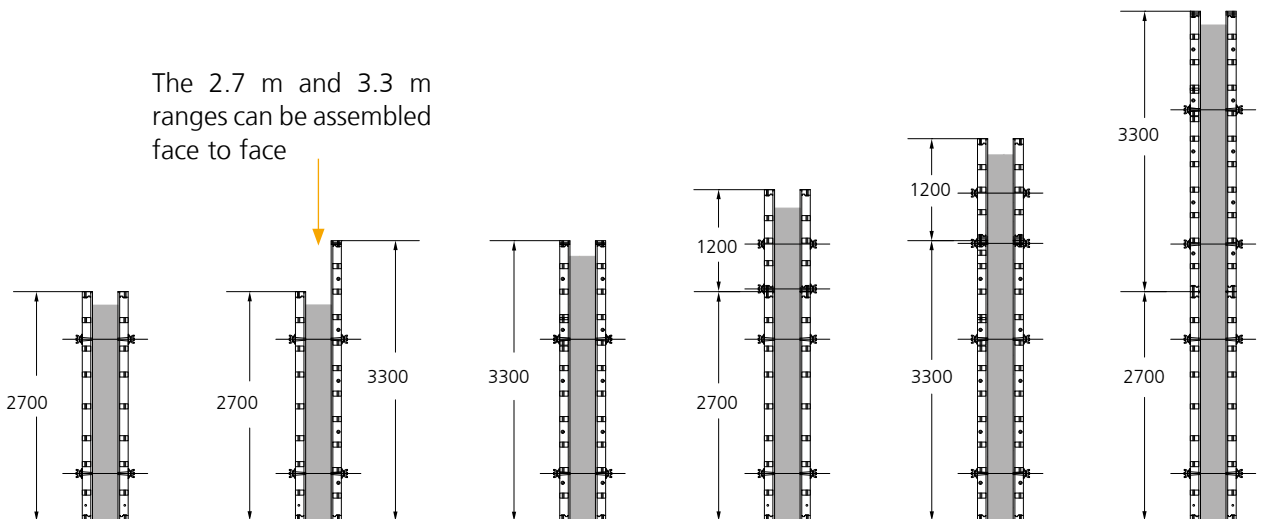
- | | |
|------------------------------|--|
| 1 ORMA panel | 6 Working platform (ORMA walkway bracket, board and toeboard) |
| 2 ORMA clamp | 7 Front handrail |
| 3 Push-pull prop | 8 ORMA walkway bracket |
| 4 Push-pull prop shoe | 9 Tying (plate washer nut and tie rod) |
| 5 Head 60 | |

// Features

- ▶ Designed **to withstand high concrete pressures (certified by GSV).**
- ▶ **Permissible concrete pressure:**
 - . Panel 3.3 m: 80 kN/m².
 - . Panel 2.7 m: 74 kN/m².
- ▶ **Maximum deflection:**
 - . 60 kN/m² (line 7, table 3 DIN 18202).
 - . 80 kN/m² (line 6, table 3 DIN 18202).
- ▶ Concrete pouring:
 - . For a **concrete pouring height ≤ 3.3 m**, 2 anchorages at heights are required.
 - . For a **concrete pouring height > 3.3 m**, 3 anchorages at heights are required.



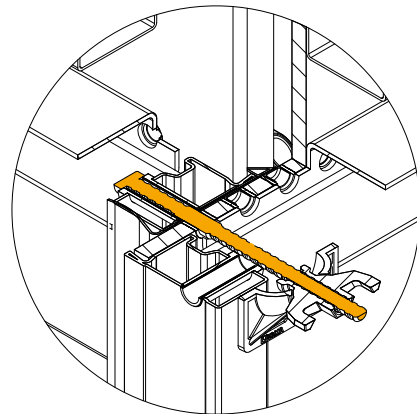
The 2.7 m and 3.3 m ranges can be assembled face to face





Columns

- ▶ Column cross-section (adjustment every 5 cm):
 - . Minimum column cross-section: 30 x 30 cm.
 - . Maximum column cross-section: 120 x 120 cm.
- ▶ Range of specific panels for columns:
 - . Panel height: 2.7 m / 1.2 m / 0.6 m.
 - . Panel width: 1.32 m / 0.92 m / 0.72 m.
- ▶ **Permissible concrete pressure: 80 kN/m².**
- ▶ Panel joints using the universal panel bolt and plate washer nut.



// Benefits

► High cost-effectiveness:

- . High number of uses. A robust panel, coated or hot-dip galvanised with reinforced steel frame on the corners, giving the panel high durability.

- . Saves assembly time thanks to clamps that make joints between panels quick and simple.

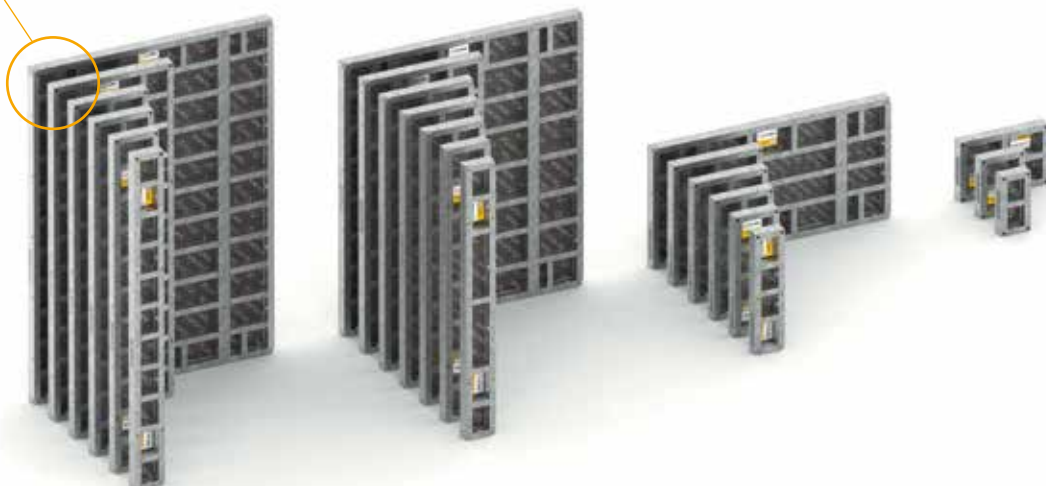
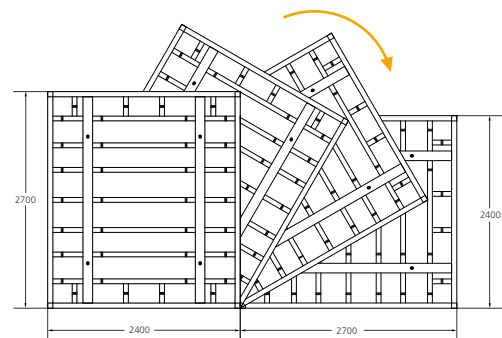
- . Minimal infilling and filler work.



► High versatility:

- . Reinforced side holes on the profiles, allowing the stopend, corner and pilaster solutions to be built.

- . Wide range of panels allowing better adaptation to each project requirement. Panels can be placed in both the vertical and horizontal positions.



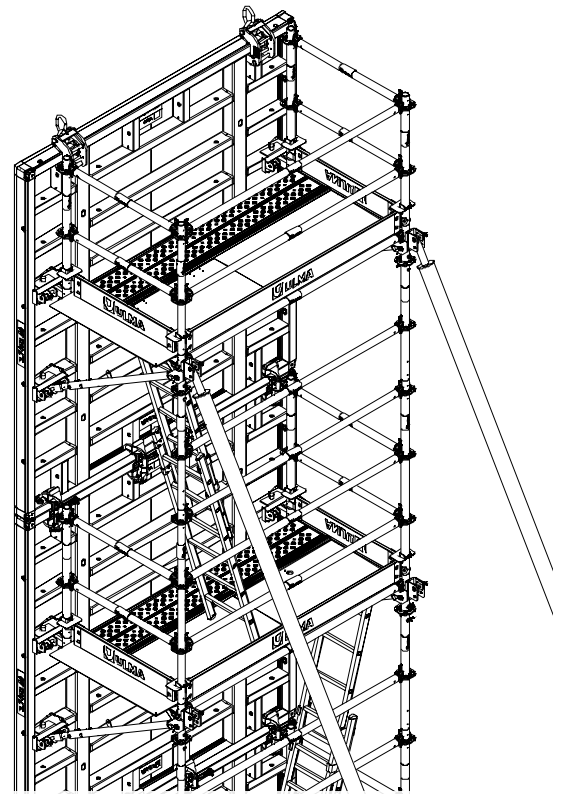


► **Guaranteed safety:**

- . Guaranteed protection for both assembly and use of the system.
- . Working platforms that can be incorporated into the panels and provide a stable and safe working space for carrying out work at heights (bracing, concrete pouring, etc.).
- . Designed to withstand high concrete pressures, certified by GSV.



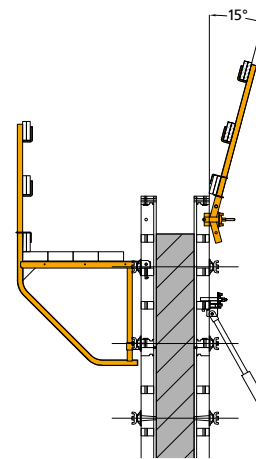
► SBU safety platform incorporated into the ORMA panels.



► SBU safety platform with steel platform and trapdoor platform.



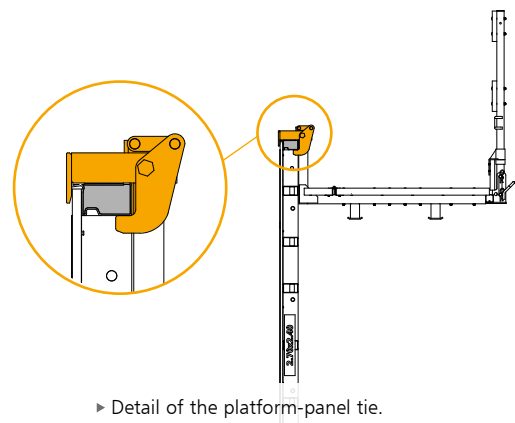
► Working platform with ORMA Walkway Brackets at different levels.



► Working platform and front handrail.



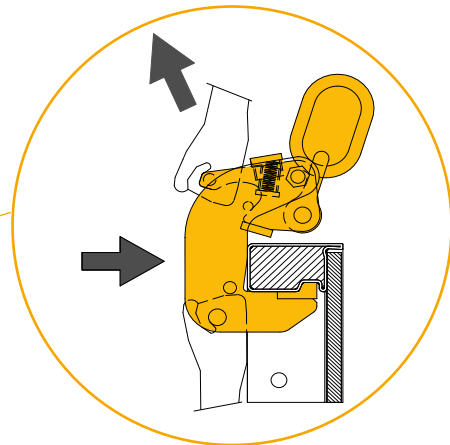
► 2.4 x 1.2 ORMA platform for concrete pouring.



► Detail of the platform-panel tie.



. Lifting of sets of panels with the ORMA lifting hook, certified according to the UNE EN 13155 and UNE EN 729 standards. With a maximum capacity of 1500 kg per unit, two hooks are used for lifting each set.



► Detail of the anchorage between the hook and the ORMA panel.



► Lifting of large sets with two lifting hooks per panel.



► **Excellent finishes:**

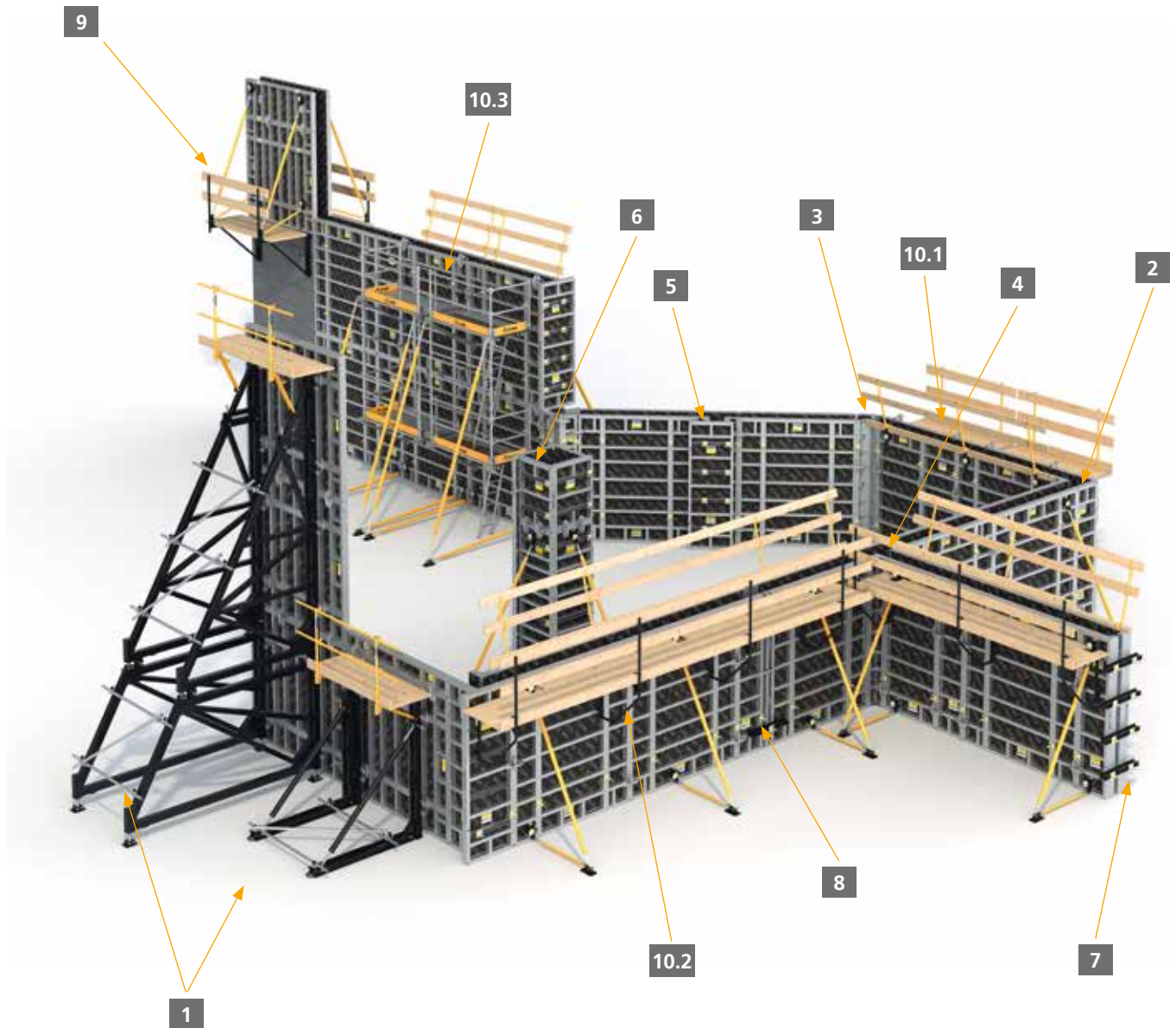
. High-quality phenolic birch plywood shuttering face.





// Solutions

- Thanks to the versatility offered by the system, it can be adjusted to various geometries.



- 1** Single-sided wall formwork
- 2** 90° corner
- 3** Corner making an angle other than 90°
- 4** T wall intersection
- 5** Pilaster
- 6** Column
- 7** Bulkhead

- 8** Filler
- 9** Wall climbing
- 10** Working platforms
 - 10.1 2.4 x 1.2 ORMA Platform
 - 10.2 ORMA Walkway Bracket
 - 10.3 SBU Platform

Wall geometry

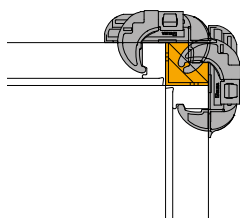
90° corner:

The components of the system itself allow building this type of corners for wall thicknesses between 15 cm and 60 cm, with 5 cm variations.

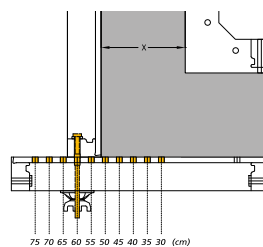
The solution for the inside uses the Inside Corner Panel, while the solution for the outside can employ the Outside Corner, Universal Panel or Panel at the Edge.

* Outside:

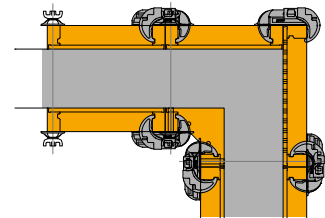
/ Outside corner:



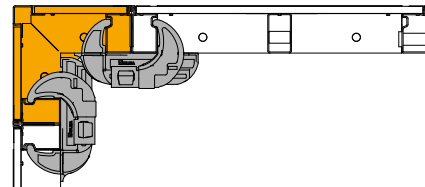
/ Universal panel:



/ Panel at the edge:



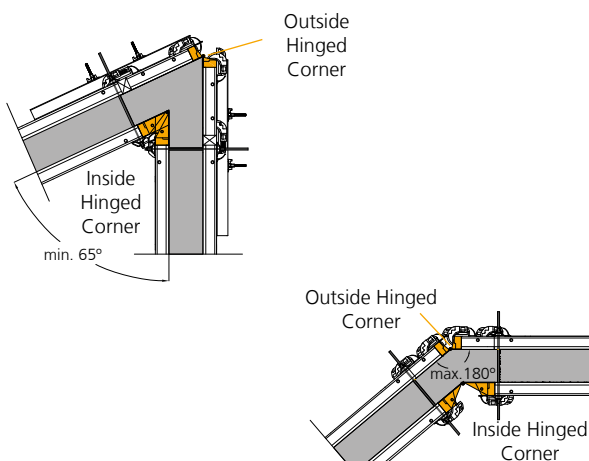
* Inside:



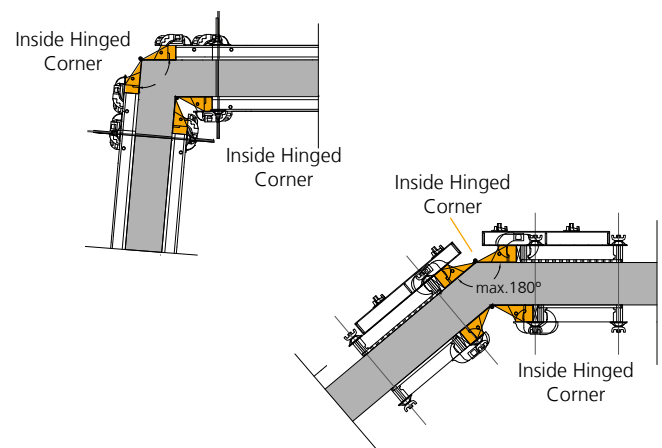
Corner making an angle other than 90°:

The various components of the system allow it to be adapted to any angle. To do so, Hinged Outside and Inside Corners can be combined.

/ Angle between 65° and 180°:

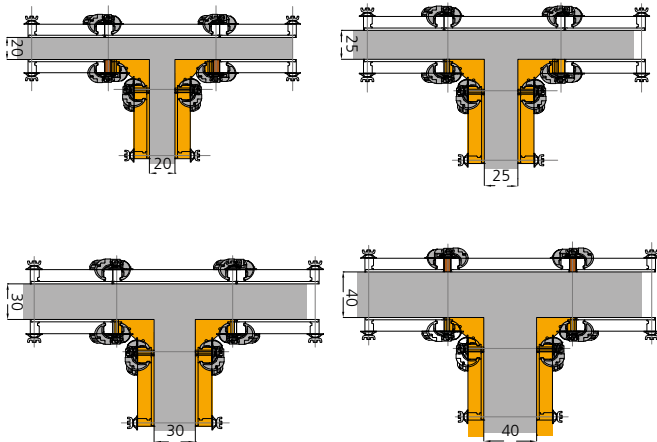


/ Angle between 95° and 180°:



**T wall intersection:**

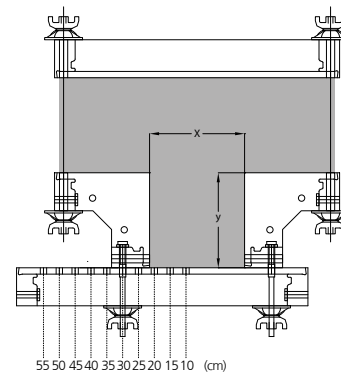
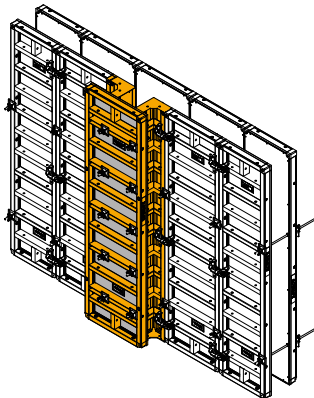
The combination of the Inside Corner with the various panel sizes allows various wall thicknesses.

**Pilaster:**

Depending on the depth of the pilaster, various system components can be used.

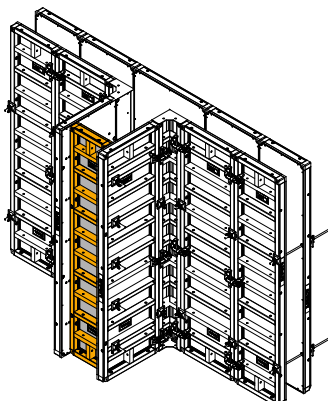
/ Universal Panel with Inside Corner:

Column depth (y) ≤ 300 mm // Column width (x) 10-55 cm

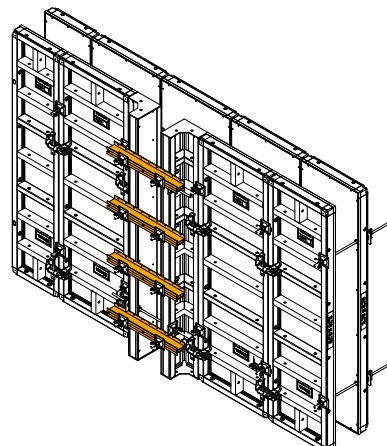


/ Universal Panel with Standard Panel:

Column depth (y) > 300 mm



/ With Waler:



Column formwork

The wide range of column panels and their various combinations allow a range of geometries to be created.



- / Panel joints using the Universal Panel Bolt:
Maximum column cross-section: 115 cm x 115 cm
(adjustment every 5 cm).



- / Panel at the edge using Adjustable Clamps:
Columns: 60 cm x 60 cm / 80 cm x 80 cm / 120 cm x 120 cm
with a maximum height of 3.3 m.

Technical solutions

Filler between panels

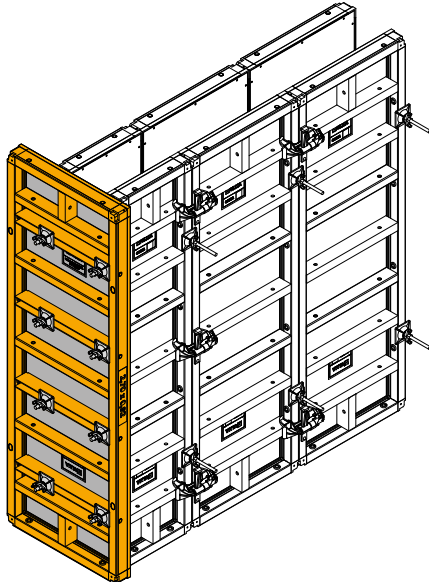
- / Filler < 10 cm.
 - . Tie rod and plate washer nut for filler.
 - . Tie rod with waler through the panel.
 - . Tie rod with plate washer nut through the panel.
- / Filler > 10 cm.
 - . Compensation plate.
 - . Wooden profile.



Bulkheads:

There are several options for building bulkheads.

/ Universal Panel with Universal Panel Bolt and Plate Washer Nut:



/ Panel at the edge:



/ Waler:



/ Outside Corner:



Climbing formwork



| Single-sided wall formwork



| Foundations



| Other solutions

Inclined wall:



Polygonal wall:



Circular wall:



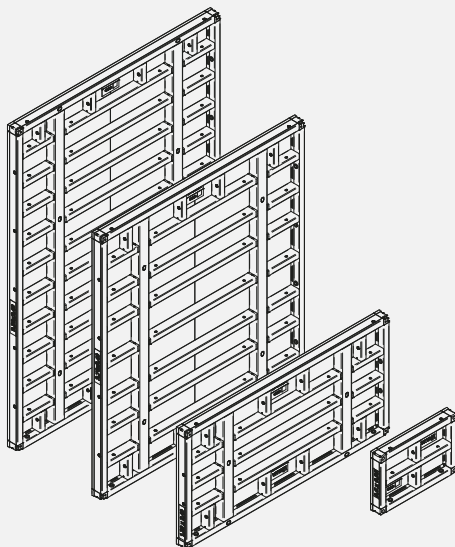
Compatibility with other ULMA systems:





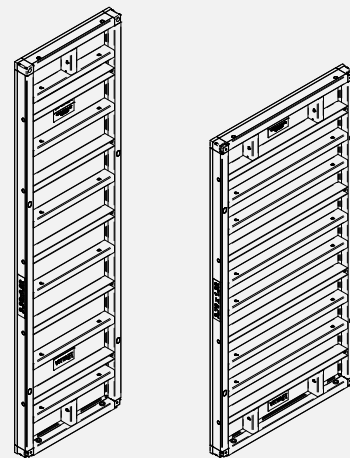
ORMA Basic elements

		kg
PANELS		
Panel 3.3x2.4 (7.92 m ²)	1908247	449
Panel 3.3x1.2 (3.96 m ²)	1908250	208
Panel 3.3x0.9 (3.97 m ²)	1908253	167
Panel 3.3x0.75 (2.47 m ²)	1908256	148
Panel 3.3x0.6 (1.98 m ²)	1908259	130
Panel 3.3x0.45 (1.48 m ²)	1908262	107
Panel 3.3x0.3 (0.99 m ²)	1908265	89
Panel 2.7x2.4 (6.48 m ²)	1900002	361
Panel 2.7x1.2 (3.24 m ²)	1900005	167
Panel 2.7x0.9 (2.43 m ²)	1900008	134
Panel 2.7x0.75 (2.03 m ²)	1900487	119
Panel 2.7x0.6 (1.62 m ²)	1900011	105
Panel 2.7x0.45 (1.21 m ²)	1900020	86
Panel 2.7x0.3 (0.81 m ²)	1900029	69
Panel 1.2x2.4 (2.88 m ²)	1908680	188
Panel 1.2x1.2 (1.44 m ²)	1900032	89
Panel 1.2x0.9 (1.08 m ²)	1900035	70
Panel 1.2x0.75 (0.9 m ²)	1900490	62
Panel 1.2x0.6 (0.72 m ²)	1900038	54
Panel 1.2x0.45 (0.54 m ²)	1900047	42.6
Panel 1.2x0.3 (0.36 m ²)	1900056	34.8
Panel 0.6x0.9 (0.54 m ²)	1908695	41.3
Panel 0.6x0.45 (0.27 m ²)	1908691	23.9
Panel 0.6x0.3 (0.18 m ²)	1908687	19.2



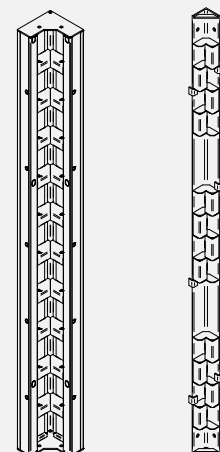
* Coating: galvanised or painted
 * Shuttering face: phenolic or mixed

		kg
Universal Panel 3.3x0.92	1908268	185
Universal Panel 3.7x0.92	1908372	154
Universal Panel 1.2x0.92	1908381	80
Column Panel 2.7x1.32 (3.56 m ²)	1900341	213
Column Panel 2.7x0.92 (2.48 m ²)	1900509	159
Column Panel 2.7x0.72 (1.94 m ²)	1900354	134
Column Panel 1.2x1.32 (1.58 m ²)	1900344	100
Column Panel 1.2x0.92 (1.1 m ²)	1900515	74
Column Panel 1.2x0.72 (0.86 m ²)	1900357	63
Column Panel 0.6x1.32 (0.79 m ²)	1900347	58
Column Panel 0.6x0.92 (0.55 m ²)	1900518	43.3
Column Panel 0.6x0.72 (0.43 m ²)	1900360	35



* Coating: galvanised or painted
 * Shuttering face: phenolic or mixed

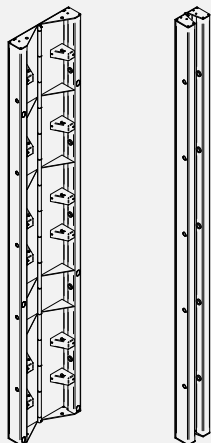
CORNERS		
ORMA Inside Corner 3.3 (1.98 m ²)	1908271	123
ORMA Inside Corner 2.7 (1.62 m ²)	1900089	100
ORMA Inside Corner 1.2 (0.72 m ²)	1900156	48.7
ORMA Inside Corner 0.6 (0.36 m ²)	1908700	27
ORMA Outside Corner 3.3	1908273	60
ORMA Outside Corner 2.7	1900932	51
ORMA Outside Corner 1.2	1900936	23.1



* Coating: galvanised or painted
 * Shuttering face: phenolic or mixed

ORMA Basic elements

		 kg
ORMA Hinged Inside Corner 3.3 (1.91 m ²)	1908346	146
ORMA Hinged Inside Corner 2.7 (1.57 m ²)	1900096	118
ORMA Hinged Inside Corner 1.2 (0.7 m ²)	1900164	55
ORMA Hinged Outside Corner 3.3 (0.66 m ²)	1908357	93
ORMA Hinged Outside Corner 2.7 (0.54 m ²)	1900110	76
ORMA Hinged Outside Corner 1.2 (0.24 m ²)	1900194	35



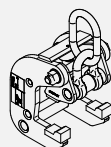
* Coating: galvanised or painted

ORMA Stripping Corner 3.3	1908770	194
ORMA Stripping Corner 2.7	1908771	162
ORMA Stripping Corner 1.2	1908722	80

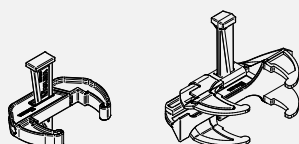




CONNECTORS - LIFTING

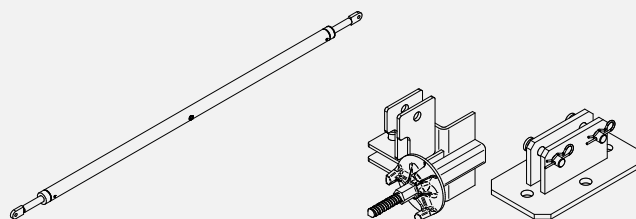
ORMA Lifting Hook	1900179	10.6
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ORMA Fixed Clamp	1900894	2.9
ORMA Clamp	1900170	5.4

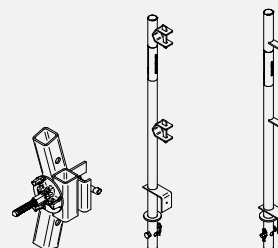


		 kg
PUSH-PULL PROPS		
Push-pull Prop 1.1-1.7	1900134	7.7
Push-pull Prop 2.4-3.5	1900123	24.1
Push-pull Prop 3.6-4.8	1908168	43.3
Push-pull Prop 5-6	1900147	51
Head 60	1900119	4.5
Push-pull Prop Shoe	1900144	5

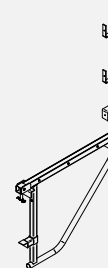


WORKING PLATFORMS - SAFETY

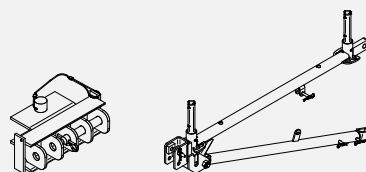
ORMA Post Bracket	1900941	5.6
Handrail Post S-V	1860516	3.9
Safety Handrail Post	1902210	3.4



ORMA Walkway Bracket	1861094	16
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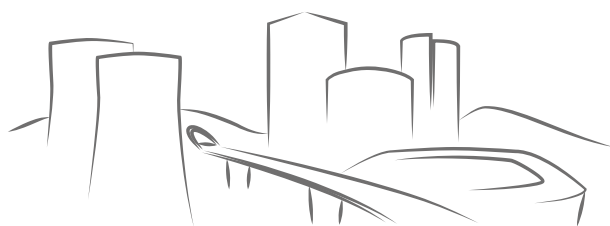
Head SBU ORMA	1908950	5.6
Bracket SBU	1908910	17.1



TYING ELEMENTS

Plate Washer Nut 15	1900256	1.4
ORMA Bulkhead Hook	1900227	1.5





From the beginning of your projects



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