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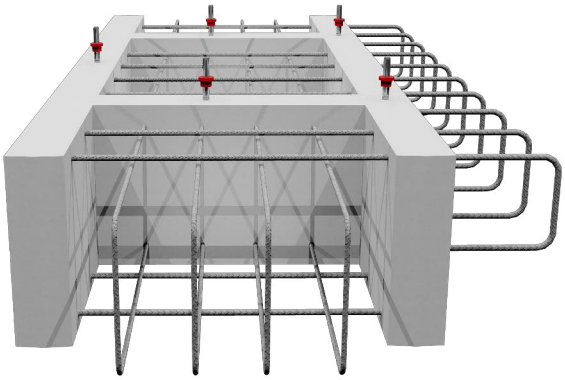
Precast Foundation for concrete SLAB

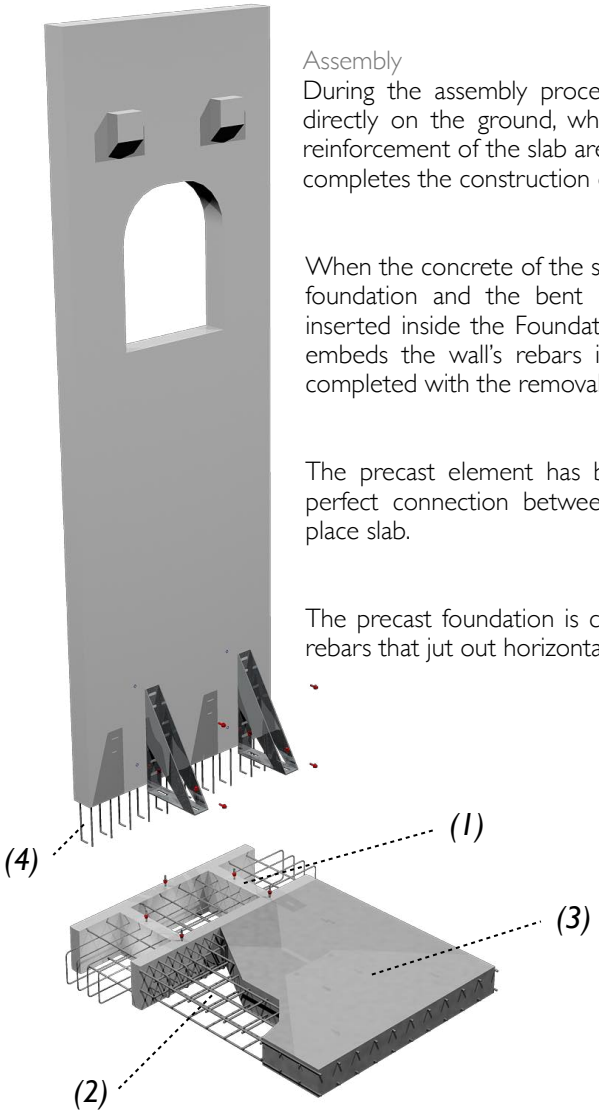


Precast foundation

The precast foundation is a reinforced concrete element made up of a tied rebar beam cage incorporated within a semi-precast concrete element which acts as formwork. The geometric dimensions and the steel area are established through static calculations elaborated according to the distributed of loads N, Mx, Tx, My, Ty and the pt pressure admissible on the terrain. The horizontal rebars, jet out from the external precast walls, are necessary to join the precast foundation to the cast in place slab.

Dimensions

The Precast Foundation" can be produced in different forms and dimensions to satisfy every design and structural need.



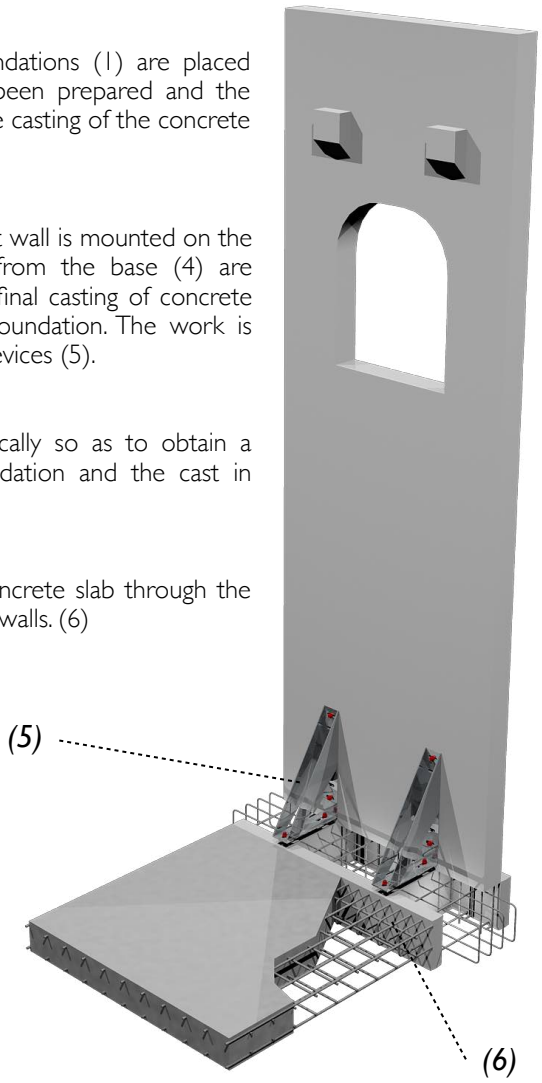
Assembly

During the assembly process, the precast foundations (1) are placed directly on the ground, which has previously been prepared and the reinforcement of the slab are assembled (2). The casting of the concrete completes the construction of the slab (3).

When the concrete of the slab is set the precast wall is mounted on the foundation and the bent rebars jutting out from the base (4) are inserted inside the Foundation element (1). A final casting of concrete embeds the wall's rebars inside the precast foundation. The work is completed with the removal of all adjustment devices (5).

The precast element has been studied technically so as to obtain a perfect connection between the precast foundation and the cast in place slab.

The precast foundation is connected to the concrete slab through the rebars that jut out horizontally from its external walls. (6)



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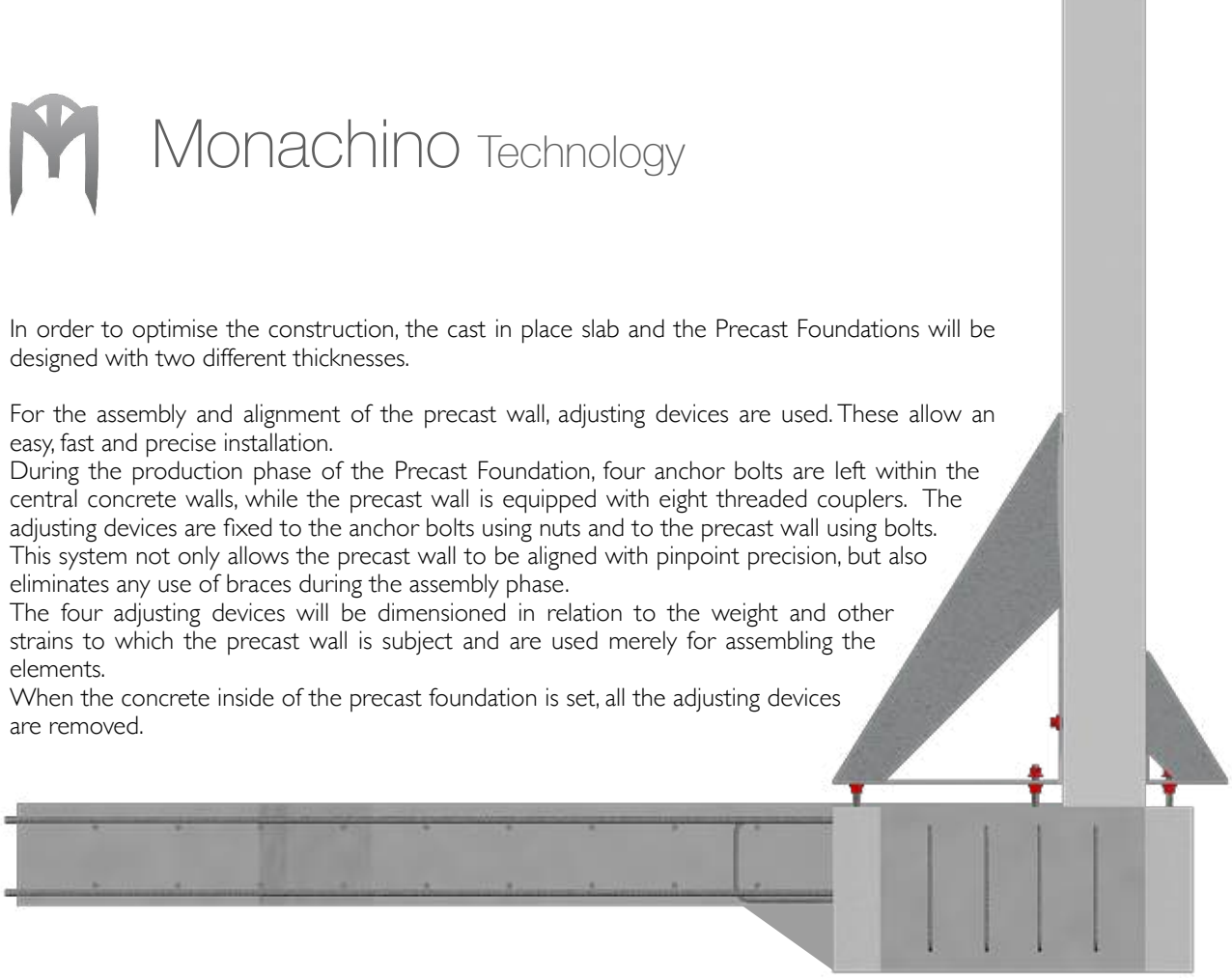
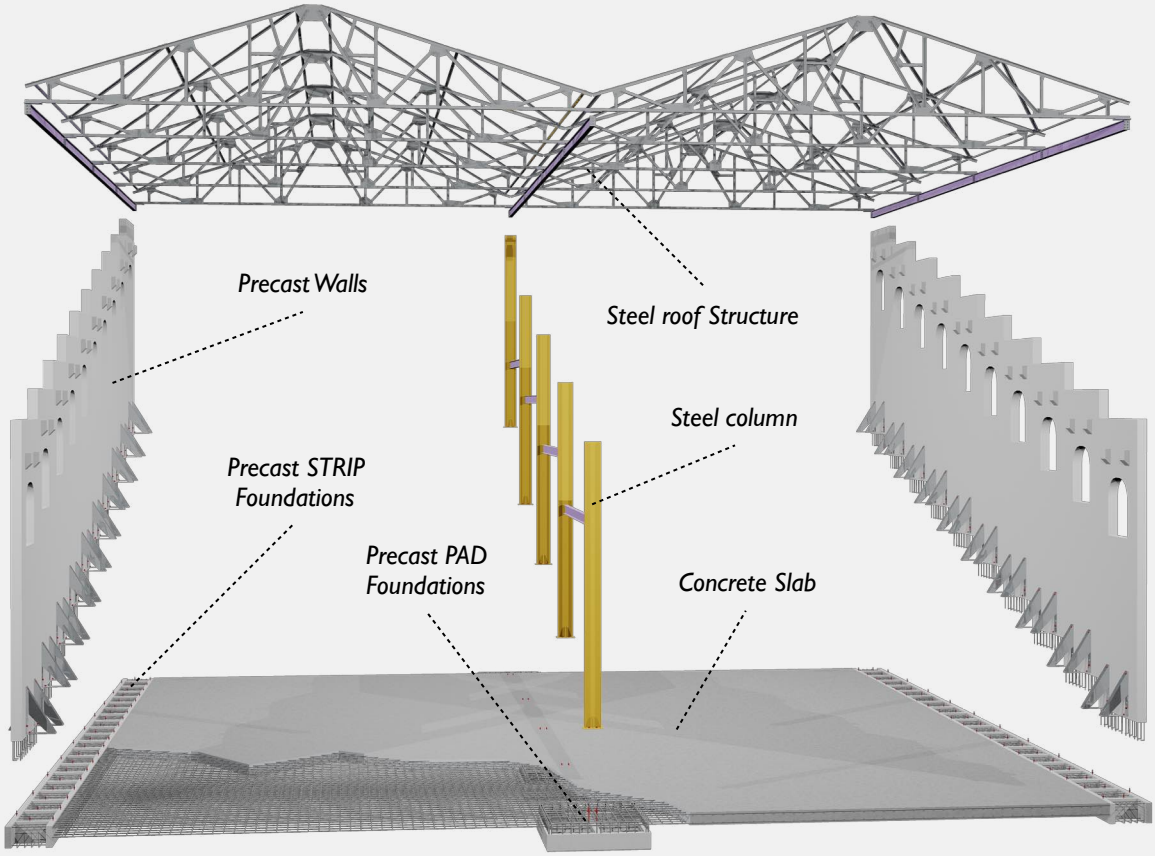
In order to optimise the construction, the cast in place slab and the Precast Foundations will be designed with two different thicknesses.

For the assembly and alignment of the precast wall, adjusting devices are used. These allow an easy, fast and precise installation.
During the production phase of the Precast Foundation, four anchor bolts are left within the central concrete walls, while the precast wall is equipped with eight threaded couplers. The adjusting devices are fixed to the anchor bolts using nuts and to the precast wall using bolts.
This system not only allows the precast wall to be aligned with pinpoint precision, but also eliminates any use of braces during the assembly phase.
The four adjusting devices will be dimensioned in relation to the weight and other strains to which the precast wall is subject and are used merely for assembling the elements.
When the concrete inside of the precast foundation is set, all the adjusting devices are removed.





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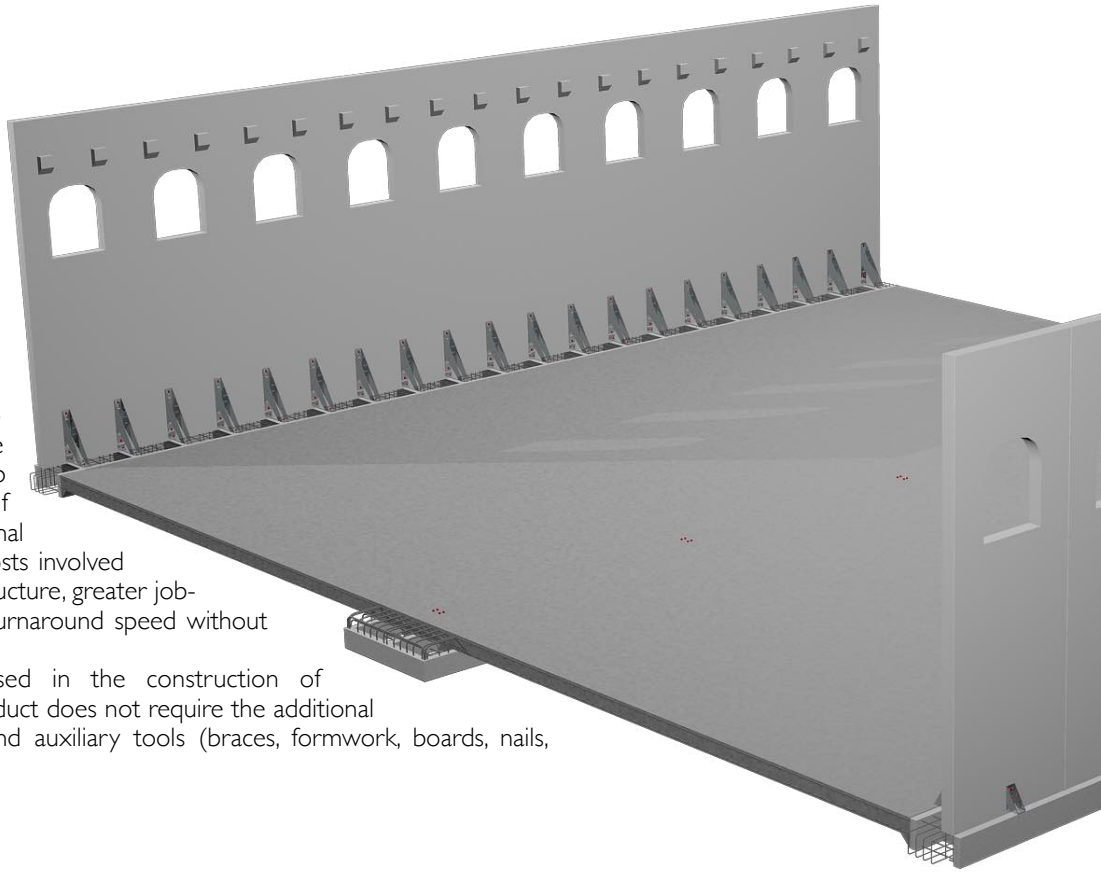


Concreting

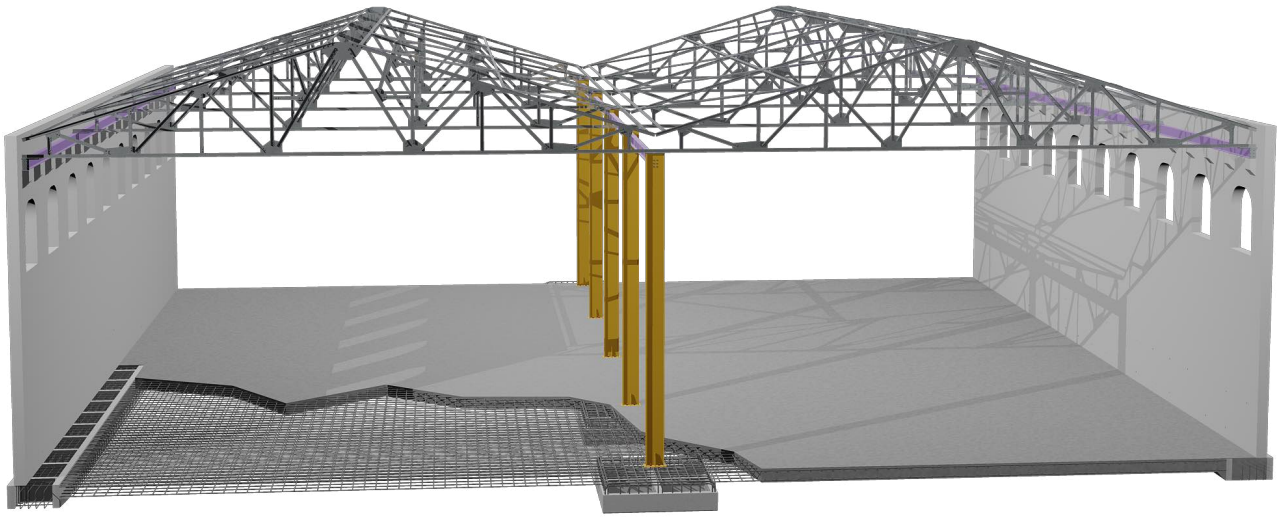
The work is completed with a final casting of concrete into the Precast Foundations, thereby connecting walls and foundations.

Conclusions

The use of the Precast strip Foundation eliminates all those inconveniences that crop up during the construction of foundation slab using traditional method, aiming to halve the costs involved in constructing a foundation structure, greater job-site safety for workers and a turnaround speed without precedence.
Unlike traditional systems used in the construction of foundations, the use of our product does not require the additional presence of skilled workers and auxiliary tools (braces, formwork, boards, nails, hammers, pincers, shears, etc.).

ADVANTAGES COMPARED TO THE CURRENT SYSTEM

1) 50% savings on the time and cost necessary for the assembly of the precast walls.
2) Savings on the purchase or rent the braces.
3) Savings on the placement, fixing and disassembly of the braces.
4) Pinpoint precision during the assembly of the precast walls.
5) 100% Savings on the carpentry works.
6) 50% saving on skilled and qualified workers.
7) Better fire resistance
8) No clutter either inside or outside the construction, given by the use of braces.
9) Very safe worksite.



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