Press Release
Banco de la Ciudad de Buenos Aires

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Undulating roof construction efficiently formed

Administration Building, Banco de la Ciudad de Buenos Aires, Argentina

An undulating roof structure is being formed by means of longitudinally movable slab tables at a height of 20 m. The project solution developed by PERI´s Argentine engineers fulfils the high architectural concrete requirements as well as maintaining the short construction period from an economic point of view.

The new headquarters of the Banco de la Ciudad de Buenos Aires bears the signature of the London architect, Norman Foster. The four floors of the prestigious office complex in the Parque Patricios district are covered by a 9,000 m² undulating roof structure. Slender circular columns in generous grid dimensions of 16 m x 24 m seem to allow the filigree appearance of the architectural concrete construction to float in the air at a height of over 20 m. The building is 94 m wide, more than 100 m long and opens up to the outside through the use of large glazed areas.

Architectural concrete accurately and quickly formed

A dimensionally-accurate design, flawless architectural concrete quality and high working operations speed – in order to bring these three essential requirements into line during construction, project engineers from PERI Argentina have developed a customized formwork and scaffolding concept. The longitudinally-moved table solution is positioned on an intermediate platform and facilitates fast cycle sequences for constructing the 16 m long casting segments across the entire width of the structure.

The form-giving formwork units are mounted on slab tables which can be moved on an intermediate level to the next section by hand with the help of the PERI transportation trolley. On the basis of the VARIO system, using timber formers and a VARIO raised formwork construction, the precisely-shaped formwork elements were delivered prefabricated to the construction site. These are connected to form large-sized, up to 24 m² table moving units using MULTIPROP shoring towers. Articulated couplings ensure extremely tight connections between the VARIO elements.

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Flexible scaffold sub-structure

A PERI UP Rosett Flex scaffolding structure and the MULTIFLEX girder slab formwork system form large working and support levels at heights of 13 m and 16 m. The supporting system is based on type-tested PERI UP shoring towers which are connected across the entire width of the building and form a 96.50 m long framework unit. While the 1.00 m standard width of the shoring sections remain largely constant, the bay widths of between 0.75 m and 1.50 m – using the 25 cm grid system – in the direction of the sections were flexibly adapted to accommodate the loads that have be carried. Through the modular design, not only can the variously stepped, partially-inclined contact surfaces be taken into consideration, but also two different platform heights can be formed without having to break up the spatial bracing system. As a result, transferring the horizontal loads also takes place in the system which means time-consuming tube and coupler assembly is not required.

In agreement with the site management, on-site material requirements for the sub-structure could be limited to only two section lengths as the PERI UP scaffolding system can be dismantled and re-assembled in a new position extremely quickly. Thus, the scaffold sub-structure which has been freed up is moved to the next area while a 16 m long concreting section is shuttered across the complete width.



Image 1
A standardized construction kit system as well as the planning and delivery of formwork and scaffolding from a single source makes the PERI project solution very cost-effective along with greatly accelerating construction progress.
(Photo: PERI GmbH)



Image 2
Rentable VARIOKIT and MULTIPROP system components form the site-compliant basis for the movable, form-giving slab tables.
(Photo: PERI GmbH)

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Image 3
Due to the metric basic grid dimensions, the PERI UP Rosett Flex scaffolding sub-structure could be optimally adapted to suit the different contact areas.
(Photo: PERI GmbH)



Image 4
For forming the undulating roof construction, movable slab tables on PERI UP intermediate platforms are being used.
(Photo: PERI GmbH)

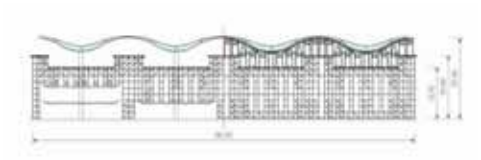


Image 5
The PERI project solution features two platform levels at heights of 13 m and 16 m on which the slab tables can be easily moved in a longitudinal direction.
(Drawing: PERI GmbH)

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