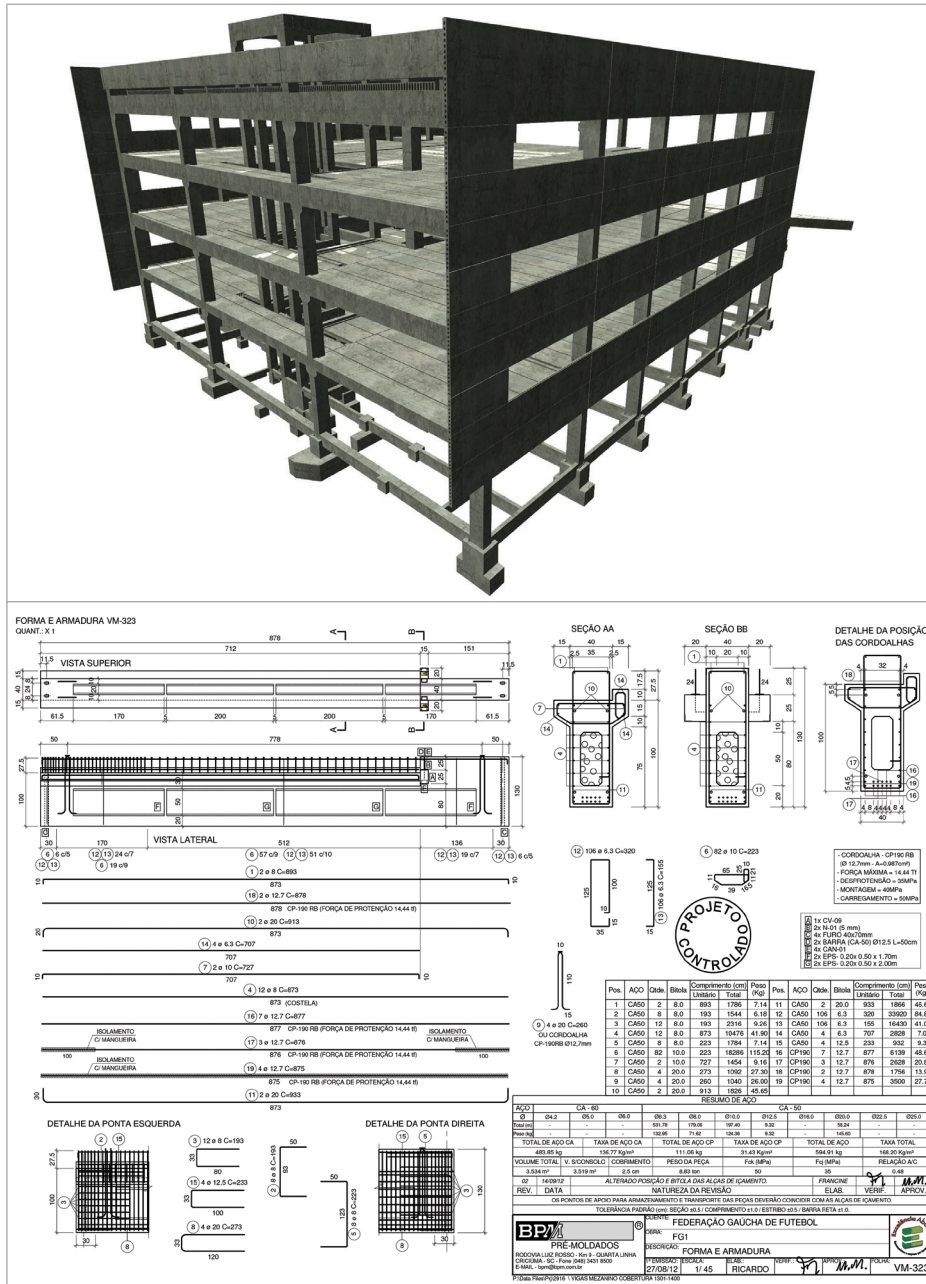


# Administrative Centre Soccer Federation - Rio Grande do Sul, Brazil



The building, designed for a regional soccer federation, has 4 floors, an auditorium, basement, podium and administrative rooms. The roofs was made with concrete slabs interconnected with steel domes

The biggest challenge in designing the project was to set all levels in the right position and the connections between the precast parts. The project had little or almost no repetition, and each precast piece demanded a specific detailing. There were concrete foundation walls, beams for bleachers, prestressed hollow core slabs, post-tensioned beams, prestressed beams, an access ramp, two elevator towers, and a facade with prestressed hollow core walls in balance, interaction with steel frames and stairs "in loco". All in all, a project extremely complex and difficult to implement in precast concrete. Besides these factors, the short deadline for the design, production and assembly of parts of the structure was a significant challenge.

A lot of information was received early in the project: information about the slabs and stairs that would be executed "in loco", the steel structures of roofs and front facade with glass skin, the machinery of elevators, etc. Unfortunately, the information was isolated, not worked into an interconnected system of information, which made us lose precious time joining and matching it.

Our strategy was to work to reconcile the initial information, check the interference and discuss them with the client and project stakeholders (structural designer for the "in loco" services, company supplier of elevators, and architects).

The project design was thorough, preventing errors in production and assembling of parts. It was possible to identify several interferences by using the 3D model Allplan Precast.

The main advantage in using Allplan Precast was error prevention and identification of interference at the time of preparing the executive project. Several cases of incompatibility were identified using the three-dimensional tool. Several pieces were detailed

quickly because we already had a library with similar pieces. The design and detailing of prestressed hollow core walls and prestressed hollow core slabs were optimised due to software facilities. Using Scia Engineer was vital for the calculation of post-tensioning beams. The beams had cables with a parabolic path in the longitudinal direction, besides the lateral movement along the length of the beam. This modelling was only possible with the use of this software.

## BPM Pré-Moldados

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BPM Pré-Moldados was founded 25 years ago in the city of Criciúma. Today it is one of the companies of reference in the segment of precast concrete in southern Brazil for public works, logistics, sports complexes, educational, industrial, malls and buildings.

With more than 1,400,000 m<sup>2</sup> of works performed and 2.8 million metres of piles produced since the launch of its activities in 1987, BPM Pré-Moldados is conquering and consolidating its market position. This success is grounded in the quest for innovation and flexibility in the solutions to projects, cost reduction, safety and timeliness. Services are provided in compliance with the technical standards and experience of our staff.

### Project information

Owner	Federação Gaúcha de Futebol
Architect	Hermes Teixeira da Rosa
General Contractor	Federação Gaúcha de Futebol
Engineering Office	BPM Pré-Moldados
Location	Rio Grande do Sul, Brazil
Construction Period	10/2012 to 08/2013

### Short description | **Administrative Centre Soccer Federation**

This project concerns the administrative centre of the regional soccer federation in the state of Rio Grande do Sul, Brazil. This building has four floors. The roof consists of precast elements, concrete and steel. The facade is realized with prestressed panels and a glass skin. The structure also has precast elements, diversified prestressed and post-tensioned beams, prestressed wall and slabs. Everything is dimensioned with Scia Engineer and detailed using Allplan Precast.

