PRADO MOVES UP THE LOGISTICS MAP

PRADO is completing the construction of two new buildings to be used for logistics purposes in Catalonia. The first one, 10,000 m^2, is in the Camp de Tarragona CIM (Integrated Freight Centre) and the second, 7,000 m^2, at the new Vilagrassa industrial estate in Lleida.

PRADO's experience and its ability to provide technical solutions to meet every need mean that it is a leading company in building logistics platforms, with many projects behind it and many more to come.

Now more than ever, the logistics sector is looking for competitive prices, short turnaround times and optimised processes. Therefore, when it comes to building new infrastructures, the companies in this sector turn to suppliers that, apart from experience, offer flexibility, streamlined processes and an ability to keep pace with the market. PRADO meets these criteria. It has an expert Technical Department and is able to work side by side with the best engineering companies and architectural firms in the country, adapting to their specific requirements and providing construction solutions, both in the field of buildings with truss beams with varying cross-sections, a field in which the company is already the first choice, and standard commercial beams, in which is also provides excellent solutions.

Two good examples of PRADO's ability to fully optimise in terms of costs and structure calculation are two of its latest projects in Catalonia. One is at the Camp de Tarragona CIM and the other at the Vilagrassa industrial estate in Lleida, made with reinforced beams and standard beams respectively. Both projects used the Catalan construction company Acsa, which belongs to the Sorigué group, in conjunction with two well-known engineering companies, Integral, from Barcelona, for the Tarragona building and Ibber, the consultancy firm belonging to the Aurela group, with corporate headquarters in Pontevedra, for the Lleida building.

According to the PRADO Delegate for Catalonia: **"In the logistics platform sector PRADO has a solid footing. Recent examples include these two buildings, both in Catalonia, although there are other works in the pipeline and we are continuing to negotiate large areas for logistics uses".**

El Camp CIM Building: flexibility and new solutions

This project, which was won in a tender, was built for Cimalsa, a public company belonging to the Generalitat de Catalunya in charge of promoting and managing plants and infrastructures for freight transportations and logistics. These areas were specifically designed for logistics purposes. They were therefore equipped with the most advanced services and facilities and are strategically located, with direct access to major road links. One of them is the el Camp de Tarragona CIM

(Integrated Freight Centre), which will be the second largest logistics centre in Catalonia after the ZAL at Barcelona Port. Here, PRADO has built a logistics distribution platform consisting of a 10,000 m^2 building in a 19,500 m^2 plot of land, which will be available for modules between 1,000 and 1.500 m^2. The platform is especially designed for transport companies since it includes loading and unloading bays on both sides of the building. The building, which was built in just 4 months, is in the final finishes stage.

It is a truss beam building made in Munguía using the traditional system of reinforced double T beams with varying cross sections. Prado contributed all of its experience to this project, perfectly integrating the engineering, production and assembly processes.

According to the engineer in charge of the project: **"The effort put into this project was focussed in two directions: firstly we fully adapted to the construction solutions that the engineering company included in its project and we also proved that there is another way of solving minor details that make the building process more simple".** An example of the first point were the bracing straps on the sides of the building, since this time the solution in the project had to be adopted and the main bean pillars reinforced as this dictated, because the aim was minimal visual impact. As for the second aspect, the project proposal was to take the side enclosure panel with a rectangular tube around the perimeter, and we had to prove to the engineering company that an eave finish was sufficient and much easier to install".

With regard to the building's technical specifications, it is a PRADO "LF" model with a gable roof without middle pillars, with 2.46 m roof overhang on both sides. It is 50.58 m wide, 197.9 m long, the eave height is 9 m and the total roof surface 10,986 m^2. The building also has a mezzanine floor for miscellaneous use, using pillars and main beams to form a construction slab that can bear a total load of 500 kg/m^2, forming 9.31 m x 5.55 m grids, with an approximate floor area of 51 m^2. The roof and side enclosures are PRADO standard, the roof made from pre-fabricated panels with a polyurethane core and the sides from sandwich panels, positioned on a 3.15-m wall. The building also includes the necessary finishes, as well as 44 static fans with bird nets.

Maximum savings on materials and minimum assembly times

After this excellent experience, PRADO proved that it can optimise a proposed project even further. This time it did so using a hot-rolled steel structural beam made at its new plant in Ponferrada (León). Here PRADO contributed its structural calculation experience, optimising both the components and raw material used and considerably reducing the construction firm's offer price. Thanks to this work and after lengthy, complex negotiations, the company won the project for this 7,000 m^2 building used for logistics purposes, which was built in a record time of two months.

The building was for Sió Logística, a company from Lerida in the perishable goods sector. It is in Vilagrassa, 35 km from Lleida city centre, in an area used for industrial, logistics and tertiary activities.

The manager of this project at Prado Ponferrada explained how the beams were optimised to reduce the structure weight to a minimum: **"In conjunction with the engineering company Ibber, the project was completely recalculated, reducing the material initially proposed by 30%".**

The design of this building was also determined by its use, since by storing perishable goods it needed to be one big cool room, and so it required some special solutions. He went on to add: **"The most complex aspect about the structure design was that the pillars needed to be aligned inwards instead of outwards, which is normally the case, due to the building's cooling requirements. Therefore, to avoid the cold affecting the foundations, the building floor had to be raised between 500 and 600 mm from ground level".**

In addition, the pillars are 12-15 m tall. This meant that for the bolt system used to mount the entire building the foundations needed to be millimetrically accurate. Coordination during the manufacturing process in mountable areas also had to be millimetrically precise. The structure was organised so that as the parts arrived on site they could be mounted immediately. This allowed the building enclosures to be finished in just two months, meaning that the building will be complete in mid-February.

Regarding this building's technical specifications, it is a conventional gabled-roof structure. It is 75.45 + 41.15 m wide, 114 m long, the eave height is 14.25 and 7 m, and the total roof surface 7,192 m2. It consists of a main building, reception area, office area and technical rooms. For the technical rooms, which have a mezzanine floor and the roof, special bedplates were designed for the cooling machinery to be installed. For the main building, bedplates were also designed to support vapour jets that will be installed in lower chord of the roof trusses. Finally, to comply with the measurements and position of the industrial doors to receive goods in lorries in the loading bay area, a load beam was designed to support the roof trusses. The roof and side enclosures and the necessary finishes were PRADO standard for this type of building.