Bekaert

Petrofer

In the bustling city of Tianjin, China, the Petrofer Tianjin Phase I project stands as a testament to innovation and precision in manufacturing hall construction. As a global leader in industrial lubricants, specialised fluids, and process technologies, Petrofer's expansion into Tianjin marked a significant milestone for the company. This automatic factory, spanning 19,400 square meters, was strategically designed to encompass a joint plant, storage tank area, and fire-pump room.

The challenge

The PETROFER Tianjin Phase I project faced a distinctive challenge due to its coastal location, where the floor foundation was built on soft soil. This presented concerns related to uneven ground settlement, requiring a robust solution to ensure structural stability. In addition, the project required a construction approach that surpassed a previous design offered by a competitor in terms of ease and efficiency.

The solution

To meet the challenges presented by the coastal setting and soft soil foundation, we implemented a highly effective jointless floor on piles (combislab) solution, leveraging Dramix® Steel Fiber Reinforcement. The specific application involved the use of the 3D 80/60BG product with a thickness of 0.28 meters and a dosage of 40kg/m^3. The jointless floor on piles (combi slab) design not only addressed the issue of uneven ground settlement but also surpassed the design offered by FACE in terms of construction

easiness. With a load-bearing capacity of 4.5T, a construction joint distance of 25m*24m, and a pile distance of 3.4m*3.25m, the Dramix® Steel Fiber Reinforcement solution proved to be the ideal choice for the Petrofer Tianjin Phase I project. The success of this endeavor highlights the adaptability and effectiveness of Dramix® in overcoming the unique challenges associated with manufacturing hall construction in coastal environments.

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Project Specifications

Project type: Manufacturing hall
Application: Jointless floor on piles
Product: Dramix® 3D 80/60BG