



Industrial Wastewater Treatment Plant Cervecería Águila



ABOUT THIS PROJECT:

Market Segment:
Wastewater Treatment

General Contractor:
CIP SA - Ingeniería
para el Concreto

Products Used:
Xypex Patch'n Plug
Xypex Concentrate

Location:
Barranquilla, Colombia

The wastewater treatment plant at Cervecería Águila in Barranquilla, Colombia, encountered significant leaks in its treatment tank shortly after commissioning. The severity of these leaks was exacerbated by the corrosive nature of the leachates and chemicals present in the brewery's wastewater, threatening the tank's structural integrity.

Brewery wastewater typically contains a mixture of caustic soda, phosphoric acid, nitric acid, and organic compounds such as ethanol and volatile fatty acids, which accelerate concrete degradation. An inspection revealed considerable corrosion and erosion of the concrete structure, especially in areas exposed to the effluent.

CIP SA - Ingeniería para el Concreto was contracted to solve this issue. After a detailed assessment, they selected a two-product system, using the Xypex Crystalline Technology as the optimal solution for restoring the tank's integrity.



Xypex technology works by reacting with moisture and unhydrated cement particles in the concrete to form insoluble crystals, which block the ingress of water and harmful chemicals.

The proprietary Xypex Crystalline Technology also endows the concrete with self-healing properties, as the crystals grow and heal micro-cracks when exposed to moisture, ensuring permanent waterproofing and enhanced chemical resistance. This, in turn, reduces maintenance costs and significantly extends the structure's service life.

To address the active leaks, Xypex Patch'n Plug—a fast-setting hydraulic cement compound—was applied. Renowned for its ability to stop severe leaks instantly, Patch'n Plug ensured that the immediate problem was contained effectively.



For long-term protection and waterproofing, Xypex Concentrate was applied as a slurry coat. This surface-applied cementitious material is highly versatile, capable of being applied to damp surfaces and effective in both positive and negative side applications, even under extreme hydrostatic pressure. Xypex Concentrate is designed to penetrate deeply into the concrete, becoming an integral part of the structure rather than serving as a mere surface coating.

Due to the use of Xypex Waterproofing by Crystallization technology and CIP SA's precise execution, the repairs were completed successfully, restoring the tank to full functionality within few weeks. Xypex Patch'n Plug and Xypex Concentrate ensured the structural integrity of the tank while offering lasting protection against the aggressive chemicals in the wastewater, significantly reducing future maintenance requirements and greatly extending the lifespan of the structure.

