



Pinheiros Sewage Pumping Station

ABOUT THIS PROJECT:

Market Segment:
Wastewater Treatment
Plant and Collection

Owner:
SABESP

Products Used:
Xypex Bio-San C500

Location:
São Paulo, Brazil



2022

THE CHALLENGE

The concrete at the Estação Elevatória de Esgoto Pinheiros, a wastewater pumping station in São Paulo, Brazil, was showing advanced deterioration caused by microbial induced corrosion (MIC). Due to the continuous operation of the structure, it was crucial to find a solution to repair the concrete without interrupting day-to-day operations.



Addressing concrete deterioration head-on at Pinheiros sewage pumping station, Xypex-BioSan provided a crucial solution to combat microbial induced corrosion (MIC) while ensuring uninterrupted operations.

THE XYPEX SOLUTION

Xypex Bio-San C500 was selected due to its ability to permanently waterproof the concrete and increase the structure's resistance to sulfates and sulfuric acid attacks while preventing the growth of the bacteria that causes MIC.



Construction workers tackle concrete repairs at Pinheiros sewage pumping station, ensuring the structure's integrity while keeping essential operations flowing.

The Xypex-treated concrete was cast in segmental ring sections to restore the concrete cover and surface while the station remained in operation. This marked the first project in Brazil to proactively combat the biogenic attack of concrete, becoming a national reference for sanitation works and ushering in a new era of engineering innovation.

Upon completion, a chemical analysis of the water was carried out according to CETESB Standards. (Companhia Ambiental do Estado de São Paulo) with the following results:

(L1.007/88) - Determination of the degree of aggressiveness of aqueous media to concrete (Revoked on 12/22/2016) and classified as "Risk to concrete regarding the aspect of leaching accompanied by carbonation or ion exchange," with a pH of 7, 24, concentration of chlorides of 110.45 mg/l and sulphates of 28.81 mg/l.

The revitalization of Estação Elevatória de Esgoto Pinheiros water treatment plant showcases how innovation and engineering proficiency can overcome challenges. The combination of Xypex technology with strategic repair methodologies saved the station from further deterioration, significantly extending its useful service life.



A view of concrete treated with Xypex Bio-San at the Pinheiros sewage pumping station, ensuring protection against microbial induced corrosion.