

Tunnel 45



2022

ABOUT THIS PROJECT:

Market Segment:
Tunnels

Location:
Alexandria, Egypt

Products Used:
Xypex Admix C-1000 NF

Contractor:
Al-Gharabli for the integrated engineering works company "GIECO"

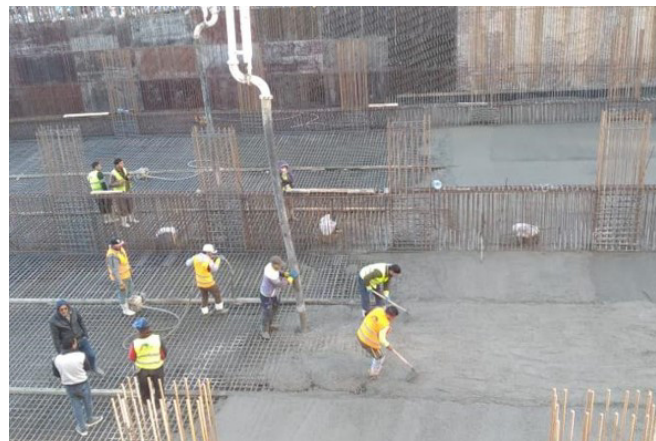
Consultant:
Engineering Center at the Faculty of Engineering, Alexandria University

Waterproofing Specification:
Beton technical office, Xypex Egypt, Eng/ Amr Saad

Located next to the Mediterranean, the tunnel faced several challenges due to chemicals in the water and extreme hydrostatic pressure. Tunnel 45 was constructed using Xypex Admix C-1000 NF, which was added to the concrete mix at the time of batching, speeding up the construction schedule. This admixture was chosen for its superior ability to provide complete waterproofing and protect the concrete from chlorides, sulfites, salts, and acids, significantly extending the structure's lifespan.

The goal of waterproofing and protection of concrete in tunnels is to prevent water passage due to hydrostatic pressure, safeguard the sub-structure's interior from water damage, and protect reinforcing steel from corrosion. Concrete structures, inherently porous and prone to defects such as cold joints, honeycombs, and shrinkage cracks, are vulnerable to leaks and accelerated deterioration. Xypex Admix C-1000 NF addresses these issues by becoming an integral part of the concrete matrix, reducing the damaging effects of water penetration and withstanding extreme hydrostatic pressure.

The Central North Coast Construction Authority supervised the project and consulted the Engineering Center at the Faculty of Engineering, Alexandria University. The main contractor, Al-Gharabli, for the Integrated Engineering Works Company (GIECO), executed the construction with waterproofing specifications meticulously developed by Beton Technical Office, Xypex Egypt, under Engineer Amr Saad.





Xypex Crystalline is known for its advanced concrete waterproofing and protection solutions. The successful integration of Xypex Admix C-1000 NF in Tunnel 45 underscores its effectiveness in providing durable, long-lasting protection for concrete structures, reinforcing Xypex's commitment to enhancing the performance and longevity of infrastructure projects worldwide.

