

Project:
Ismalia Suez Canal Tunnel

Location:
Ismalia

Project completed:
2018

Owner:
Egyptian Army

Contractor:
Petrojet Jv Concord

Sub contractor:
Razel, CMC

Market sector:
UGC

Products used:
MasterGlenium ACE 3383
MasterLife CI 222
MasterRheobuild 850
MasterGlenium RMC315
MasterRoc AGA 155
MasterMatrix UW 404

Ismalia Suez Canal Tunnel

The most innovative technologies for Egypt's largest national projects.



The background

One of Egypt's largest national projects constructed recently, is the Suez Canal Tunnels. It's one of the most important shipping lanes in the world. Master Builders Solutions Egypt Team is proud to be amongst the major companies participating in the implementation of this project. Two road tunnels with a total length of 11.6km crossing the old & new Suez Canal with a durability period of 120 years

The challenge

To complete a new incision for the Suez Canal in a period of 12 months. To find innovative solutions concerning the durability for concrete diaphragm walls at the entrances of the tunnels and optimize the mix design in concrete segments inside the tunnel ; moreover casting concrete under water ground level with 6-7 bars with concrete washing.



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The most innovative technologies for Egypt's Mega Strategic & national projects



Our solution

Master Builders Solutions Egypt Team was committed to provide innovative solutions for concrete additives used for concrete segments, diaphragm walls & casting concrete slabs underwater for all Inspection Shafts as well as the Admixtures for Annular Grouts behind the segments at the tunnel.

MasterGlenium ACE 3383 is used to help precast concrete producers to rationalize their production process by having an early compressive strength that reached 15Mpa after 10-12 hours for earlier demoulding & save energy costs.

For permanent structure in the diaphragm walls in the entrance of the tunnels to ensure durability of the structure , Master Builders Solutions introduce the solution for using :

MasterLife CI 222 which is the state-of-the-art corrosion inhibiting admixture; it's dual mechanism system by making blocking to the pores of the concrete that slow down the ingress of moisture & chloride to the steel & provides additional protective film on the reinforced steel which extends the service life of the reinforced concrete.

In combined with MasterRheobuild 850 which is high range , water reducing superplasticiser for Rheoplastic concrete .

For Annular Grout, Master Builders Solutions designed with the client the most appropriate design mix using their grout admixture: MasterGlenium RMC315, MasterRoc AGA 155 & MasterMatrix UW 404 were used to increases the density and reducing permeability & resists water ingress from coming in the TBM chamber during excavation

The customer's benefit

Master Builders Solutions responded to the projects' technical requirements and ensured true sustainability for all the solutions it offered.

Projects facts at a glance

- Suez Cannel is one of world most important shipping lanes in the world.
- The challenge was to find innovative solutions to complete a new incision for the Suez Canal in a period of 12 months.
- MasterGlenium ACE 3383 is used to help precast concrete producers to rationalize their production process & save energy costs.
- MasterLife CI 222 was used to inhibit the corrosion of steel in concrete.
- MasterGlenium RMC315, MasterRoc AGA 155 & MasterMatrix UW 404 were used to increases the density and reducing permeability & resists water.

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