

Cairo International Airport – New control tower

Project:

Cairo International Airport- New control tower

Location:

Cairo-Egypt

Client :

National Air Navigation Service Company

Civil Consultant:

Dar Al Handasah

Period of services:

January 2005 to January, 2012

Main Contractor:

Orascom Construction

Applicator:

Thyssen Krupp – Xervon

Area :

Control tower cab - 80/85 sqm

Technical services area:

3,000 sqm

Construction cost:

20 M €

Height:

110 L.M (361 ft)

Type: Control towers

Services:

Design services Supervision services

Solutions Used :

- . Surface improvement System
- . Epoxy Flooring System
- . Repairing System
- . Joint Sealant System

- . Tilling System



The background

The Egyptian airport authorities have decided to build a third runway parallel with the first two in order to increase movement capacity at Cairo International Airport. However, the position and height of the existing control tower cannot ensure safe operation of the new runway at a level acceptable to the air traffic control services.

ADPI has therefore been commissioned to provide overall project management and technical support services to construct one of the highest control towers in the world.

The Project

The architectural concept adopted takes its cues from the plant world and Ancient Egypt: the facade of the tower alternates concrete shafts with glazed sections bound by coloured ceramic rings in colours ranging from green to blue to evoke the material of papyrus. ADPI has also been appointed to provide technical support to the client and to supervise installation of air traffic control equipment. ADPI has therefore completed all the standard stages involved in such a complex and demanding project (reviewing contractor design documents, providing client support for the factory acceptance stage of systems manufacture, attending technical meetings, providing technical inspection services, inspecting installations, supporting systems acceptance





procedures, assisting in the transition to the operational phase, etc.) in full compliance with client specifications and requirements

The challenge

- The main aim for this project is providing properties that are: of superior quality, financed, finished, furnished, serviced, managed .
- Tilling Adhesive for Small Mosaic that can resist Wind Speed up to 90 MPH = 145Km/h
- Need hygienic & Anti-Fungus sealants in all wet areas with excellent water proofing System .
- Need Epoxy Floor for all Control Room .
- Need Excellent Water Proofing Product for Tower Concrete Body

Our solution.

1- Using Tilling System :
Using our Tilling System MasterTile 30M for all Mosaic adhere around the tower Ring after pass all the tests that were done on our product against all Competitors

2- For Waterproofing system
Using two Different types of Proofing : A damp Proofing System using our Product MasterSeal 422 for all Foundations and a Cementitious Proofing System which is the MasterSeal 501 on the Tower concrete Body .

3- For Mortar Additives :
Using MASTER BUILDERS SOLUTIONS Products Rheomix 141 which is SBR that gives a high Bond Strength & Rheomix 720 which is a Powder Plasticizer that gave a high Workability & increase in Mortar Volume through an air molecules to the Mortar .

4- For Repair System :

Using the Emaco Range (Emaco R303M which is a fairing Cosmetic Fairing Coat that repairs the tolerance , pin holes for any Concrete within 2-5mm) & (Emaco S88 which is a Non-Shrinkage , thixotropic repair mortar , fiber polymer modified that possess excellent bond characteristics to steel reinforcement and to concrete. that subject to a repetitive Loading.



Customers Benefit

The Client was satisfied with the performance of MASTER BUILDERS SOLUTIONS products, as per the many contractors work in the project the main common item with them is using MASTER BUILDERS SOLUTIONS product in all ranges and Specially for our Tilling Products as when we did a Pull off Test on the adhesive , the result was extremely good (2.23 MPA) & the failure happened in the Concrete Cover itself .

Project used Material & Quantity :

- MasterSeal 422 (40 Tons)
- MasterSeal 501 (10 Tons)
- MasterTile 30M (50 Tons)
- EMACO S-88 (20 Tons)
- Sonolastic NP1 (2000 Sausages)
- MasterFlow 980M
- BondRing N6 (7*20mm)

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