

Project:
New Dar Premises

Location:

Smart Village – 6th of October –
Egypt

Client :
Dar El-Handassa

Civil Consultant:
Dar Al Handasah

Period of services:
March 2011 to June 2014

Main Contractor:
Orascom Construction

Applicator:
Thyssen Krupp – Xervon
ABuild
Supervision services

Concrete Supplier
LAFARGE - EGYPT

**Master Builders Solutions System
Used :**

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

New Dar Premises



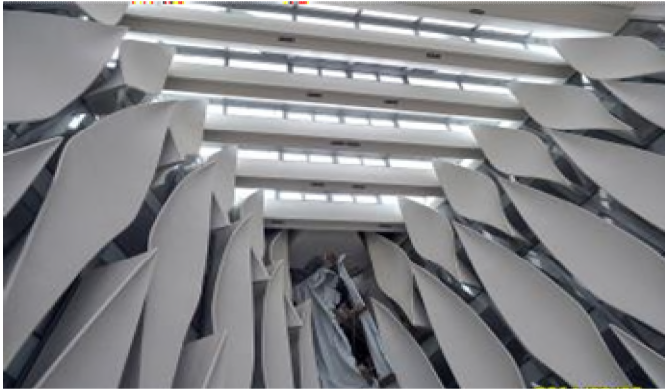
The Project Background

Footage: 42,300 m2 headquarters, located approximately 15 miles outside downtown Cairo in the Smart City high- tech office park, will provide work and amenity space for approximately 2000 employees

The project is targeting LEED-NC Gold. The six floors of the building are approximately 4000 GSM each and the below-grade parking consists of three levels. To maintain such a large floor plate while maximizing daylighting penetration and views, the team folded the building upon itself and designed a large glass atrium that draws in natural light from both the interior and exterior perimeter walls - To increase daylight penetration, the six-story atrium has a west-facing glass wall and skylights. Although these elements promote heat gain, the atrium is designed as a thermal buffer between the exterior climate and the conditioned climate of the building. The skylights double as operable passive ventilation and to further enhance comfort in the space, the monumental stair is surrounded by a six-story water wall that removes condensation from the air and cools the space through evaporation. The monumental stair has a heliostatic chandelier

that drives daylight deep into the building core and is also a visual focus in the atrium space. The warm climate of Cairo creates the challenge of reducing overall energy demands. The unique triangular shape of the building minimizes direct eastern and western exposure, which present the largest energy and comfort challenges. A vertical shading system is also used to shade approximately 75% of the building at over 50% of the total surface area. The upper floor of the building is net-zero demonstration space that utilizes sustainable elements integrated into the architecture. The rooftop event space is covered with 1000 SM of photovoltaic panels that gather solar energy while simultaneously acting as a shading device. The combined sustainable strategies result in an approximate 26% energy reduction over the ASHRAE 90.1 -





The challenge

- The main aim for this project is providing properties that are: of superior quality, financed, finished, furnished, serviced, managed .
- This was the first Project in Egypt with Orascom that will work under LEED NC
- Need hygienic & Anti-Fungus sealants in all wet areas with excellent water proofing System .
- Need Excellent Water Proofing (Cementitious & Bitumen) Product for all wet areas (Internal & External Fountain)
- Need high Quality adhesive as it contain some of the Natural Stones submerged or adhere to steel stairs

Our solution.

1- Using Tilling System :

By Using Master Builders Solutions Tilling System MasterTile 30 Combinerd with MasterTile A 200 + painting the face of the Natural stones with MasterSeal 328 , Also used MasterTile 30 for adhesion for all Ceramics in Toilets .

2- For Waterproofing system

Using two Different types of Master Builders Solutions Water Proofing : A damp Proofing System using our Product MasterSeal 622 for all Foundations and a Cementatious Proofing System which is the MasterSeal 501 and MasterSeal 599

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 (MasterEmaco N303 which is a fairing Cosmetic Fairing Coat that repairs the tolerance , pin holes for any Concrete within 2-5mm) & (MasterEmaco S488 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.

5- Epoxy & Cementitious Grout :

Using the Master Builders Solutions Epoxy Grout Mainly for grouting between the PVC & Openings , also using Cementitious Grout for closing all Small opening if needed after casting concrete

Epoxy Repairing :

By Using Epoxy Repair mortar like : MasterBrace ADH 2200 and MasterTop 1240 for any damage area or cracks or even tolerance at the floor level

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 Sealant polyurethane, Cementitious Water Proofing & Epoxy Repair Products.

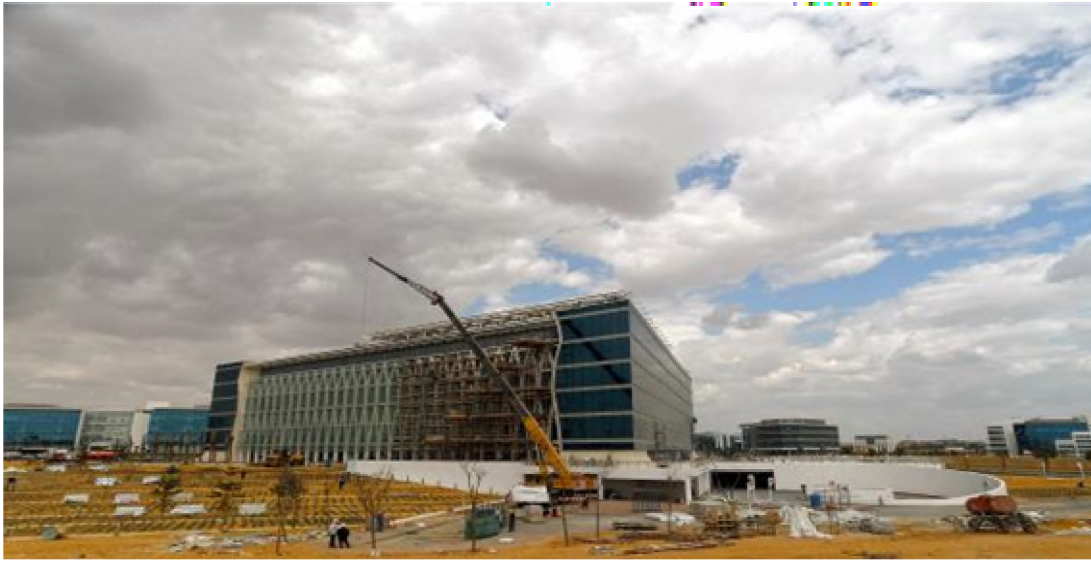
We applied our Product MasterSeal 328 which is a water repellent on the internal & External Natural stones for the whole of the building due to it's effective protection even in driving rain, Efflorescence prevention & Protection against de-icing salts .

Project used Material & Quantity:

- MasterFinish 202 (5 Tons)
- MasterSeal 622 (20 Tons)
- MasterCast 141 (10 Tons)
- MasterEmaco S 466 (60 Tons)
- MasterSeal NP1 (6000 Sausages)
- MasterFlex 472 (1500 Sausages)
- Sonolastic NP2 (80 Pails)
- MasterFlow 980 (40 Tons)
- MasterFlow 928 (50 Tons)
- MasterFlow 648 (5 Tons)
- MasterFlex 910 (100 Rolls)
- MasterBrace ADH 2200 (4 Tons)
- MasterTop 1240 (9 Tons)
- MasterSeal 599 (5 Tons)
- MasterSeal 328 (1 Ton)
- MasterSeal 501 (6 Tons)



More Pictures taken during Construction of the Building



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