

DR. METWALLY ABU-HAMD

Professor of Steel Structures

Structural Engineering Dept.



**Faculty of Engineering
Cairo University**

CURRICULUM VITAE

Education:

Ph.D. (1977): Duke University, Durham, North Carolina, USA.

M.Sc. (1975): Duke University, Durham, North Carolina, USA.

B.Sc. (1971): Cairo University, Giza, EGYPT.

Academic Positions:

1989 - present: **Professor of Steel Structures**, Structural Engineering Dept., Faculty of Engineering, Cairo University.

1994 – 2006 : **Director**, Center of Research & Studies in Civil Engineering, Faculty of Engineering, Cairo University.

2007 - 2009 : **Head**, Structural Engineering Dept., Faculty of Engineering, Cairo University.

Professional Societies:

1984-present: Member of the Permanent Committee of the Egyptian Code of Practice for Steel Construction and Bridges.

1984- 1992: Member of the Board of Directors of the Egyptian Company for Metallic Construction (Metalco).

1993-2002: Member of the Board of Directors of the Steel Projects Company (Steelco).

1991- present: Registered Professional Engineer in the field of Steel Structures.

1997- present: Registered Control Office for the Egyptian Decennial Insurance Pool.

2006-present: Member of the Permanent Committee of the Egyptian Code of Practice for Bridges.

2012 – present, Chairman, Egyptian Society of Steel Structure.

Professional Experience:

1978 - present: **Structural Engineer:** professional work in the field of structural steel design involved the design of many major projects in Egypt. Examples are given on the attached list covering the following areas:

1. Steel Mills.
2. Power Stations.
3. Highway Bridges.
4. Industrial Buildings.
5. Miscellaneous Structures.

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- 1979 -present: **Consulting Engineer:** Structural Steel Consultant for the following firms:
- 1979– present: Egyptian German Co. for Steel Construction, DSD FerroMetalco
- 1979 – 1992: Egyptian Company for Metallic Construction (Metalco).
- 1985 – 1993: General Authority for Industrial & Mining Complexes (IMC).
- 1984 – 1996: Egyptian Sugar & Integrated Industries Company.
- 1984 – 1995: Sabbour Associates.
- 1990 – 1992: Bechtel Egypt.
- 1990-present: Alexandria National Iron & Steel Company at Dekhila (ANSDK/EZDK).
- 1994-present: International Company for Steel (INCO STEEL).
- 1980-present: Nabcontract
- 2003-present: Beshai Steel
- 2004- present: United Sugar Company of Egypt (USCE).
- 2008- present: Procter & Gamble Egypt

Engineering Awards:

1. Cairo University Award for Distinguished Research in Structural Engineering: 1985.
2. Egypt State Prize for Engineering Sciences: 1989.



Selected List Of Designed Projects

A- STEEL MILLS:

1. BESHAY STEEL:

a) Egyptian Sponge Iron Steel Company (ESISCO) Steel Complex:

- **ESISCO 1 (2007):**
- **Technology Supplier: Siemens/ Voest Alpine VAI**
- Complex contains the following buildings:
Steel Making Plant with a 240 T Charging Crane, Scrap Yard, Oxygen Plant, Pump House, Alloy Storage, Light Section Mill, and Pipe Racks. Also review and connection design of the Direct Reduction Furnace Tower (138 meter high) by Midrex.

- **ESISCO 2 (2009):**
- **Technology Supplier: Siemens/ Voest Alpine VAI**
- Complex contains the following buildings:
Steel Making Plant with a 360 T Charging Crane, Scrap Yard, Pump House, Alloy Storage, and Pipe Racks.

b) Egyptian American Steel Rolling Company EASRCO

- **Steel Melt Shop (2003):**
- **Technology Supplier: SMS Concast**
contains a Steel Making Plant with a 240 T Charging Crane.

2. Alexandria National Iron & Steel Company (ANSDK (Now EZDK)):

- **Technology Supplier: NKK (Japan)**
 - a) Extension of Steel Making Plant (1994).
 - b) Extension of Rolling, Mill Plant (1994).
 - c) New Bar Mill (1996).
 - d) Flat Steel Project, Review of NKK structural steel design (1997)
Contains Steel making Plant and Rolling Plant to produce 1.5 M ton per year of flat steel.
 - e) Process Center , Review of NKK structural steel design (1999)



3. Arab Company for Special Steel (ARCO STEEL):

- **Technology Supplier: DASTUR (India)**

Review of DASTUR structural steel design of the entire complex which included a Steel Making Plant and a Rolling Plant (1997).

4. Suez Steel Mill:

- **Technology Supplier: Voest Alpine**

Preliminary design of a Melt Shop for tender quotation (1997).

5. Egyptian Iron & Steel Company (HADISOLB):

Structural Design of the following:

- Rehabilitation of Rolling Mills (1982).
- Air Separation Plant (1982).

B- POWER STATIONS

- 1. Bechtel Egypt: Cairo West Power Station (1990).**
Review of structural steel design and design of connections
- 2. Sabbour Assoc.: Cairo South Power Station (1992).**
Design of steel structure and connections
- 3. Sabbour Assoc.: Assiut Power Station (1988).**
Review of structural steel design
- 4. Petrojet: Damanhour & El Mahmoudia Power Stations (1991).**
Review of structural steel design

C- HIGHWAY BRIDGES

- 1. Metalco: Ramsis / Ahmed Said Flyover, Cairo**
Structural steel design (1984).
- 2. ANSDK: a) Southern Bridge, Alexandria.**
Structural steel design (1997).
c) Western Bridge, Alexandria.
Structural steel design (1999).
- 3. Cairo Governorate: Galaa & Tagneed Highway Bridges, Cairo (1986)**
Review of structural steel design.
- 4. Roads & Bridges Authority: Ring Road Bridge at Km 4.5 (1992).**



- 5. Roads & Bridges Authority:** Structural Study of Kafr El Zayyat Road Bridge (2002).
- 6. Egyptian National Railway:** Structural Rehabilitation of Qanater Railway Bridge (2002).

D- INDUSTRIAL BUILDINGS

1. Sugar Integrated Company (1984 - 1996):

Structural steel design of the following sugar factories:

- Dakahlia Sugar Factories.
- Armant Sugar Factories.
- Kum Umbo Sugar Factories.

2. Egyptian Cables Company (1992):

Structural steel design of a new production line in Cairo.

3. Fosroc Chemical Company (1994):

Structural steel design of the factory extension at 6th of October City.

4. Advanced Chemical Technology 'ACT' (1995):

Structural steel design of a new factory at 6th October City.

6. Elsewedy Company (1996):

Structural steel design of a new factory at 10th Ramadan City.

7. Zoo Control Egypt (1996):

Structural steel design of a new factory at 6th of October City.

8. International Company of Steel 'INCO-STEEL' (1992-1998)

Structural steel design of the following buildings:

- Training Center.
- Factory for Non-Standard Equipments.
- Repair Workshop.
- Galvanization Plant
- Pipe Rolling Workshop.

8. Venus International (1998 - 2004):

Structural steel design of a bagging station at El Dekhila port.

Structural Steel Design of Flat Stores.

8. United Sugar Company of Egypt (2006):

Review of Structural steel design of the Sugar Refinery Complex at El-Sukhna port; EGYPT.



E- MISCELLANEOUS STRUCTURES

1. Fuel Tanks:

Structural steel design of fuel tanks for Abu Qir & Assiut Power Plants with capacities up to 15000 m³.

2. Grain Silos:

* Structural steel design of Grain Silos for Venus International in Dekhila Port.

* Structural Steel design of Grain Silos for General Company for Silos

3. Transmission Line Towers:

Structural steel design of transmission line towers for 220 kv and 500 kv Transmission lines.

4. Antenna Towers:

Structural steel design of microwave antennas with heights up to 110 m.

5. Crane Structures:

Review of structural steel design of:

Container Unloader Gantry Crane for El Dekhila port.

Ship Loading Slewing Crane for El Dekhila port.

6. Commercial Centers:

* Structural steel design of El Maadi City Center in Cairo (2003).

* Structural Steel Design of World Economic Forum International Congress Center at Sharm El-Sheikh (2005).