



## Facility Technical Specifications

*All of our Warehouse Facilities are Fully Licensed and Registered with the authorities.*

*All our Fire Fighting Protection and Prevention Infrastructure is approved and Licensed by the relevant Civil Defense Authorities*

*All our Sites are Connected to Water, Sewage & Electricity Networks*

# Automatic Fire Alarm System



Warehouses are secured using:

- Manual Extinguishing Systems
- Automatic Alarms
- Linear Beam Heat Detectors
- Infrared Beam Smoke Detectors

All components, connections and their installation are:

- In accordance with industry standards
- Meet and fulfill the Egyptian Civil Defense Authorities approvals
- Are in accordance with the Stipulations of the Egyptian Code for the Safety of Multi-Purpose Facilities

Administrative Buildings are equipped with:

- Smoke Detectors
- Heat Detector
- Fire Alarm Circuit Breakers
- Fire Bells

*In accordance with the Stipulations of the Egyptian Code for the Safety of Multi-Purpose Facilities*

# Fire Fighting Systems

The site is secured with a complete fire extinguishing system composed of:

- 6-inch Diameter Seamless Pipe Network
- Equipped with requisite 2.50-inch Diameter Fire Sprinklers.

All the network components are connected to:

- 2 sets of Pumps

With the following capacity:

1. A Fire Pump with a minimum discharge rate of 1500 gallons / minute at 10 Bar, powered by an electric motor, equipped with an automatic operation and control panel with all the requisite accessories.
2. A Fire Pump with a minimum discharge rate of 1500 gallons / minute at 10 Bar, powered by a diesel engine equipped with a 500-liter diesel tank. The pump is equipped with an automatic operation and control panel with all the requisite accessories.
3. A Compensatory (Jockey) Pump with a discharge rate of 125 gallons / minute at 10 Bar, powered by an electric motor and equipped with an operating panel.

*All components of the pump group are manufactured in accordance with NFPA / UL / FM standards and are accredited.*

*All valves, non-return valves and pipes are compliant with the International Code for Fire Fighting Pump Rooms.*

The site has a fire-fighting network composed of:

- Polyethylene Pipes buried underground
- Iron Pipes for the above-ground fixations with standard diameters,

*All pipes are in accordance to the approved consultants design, spanning the entire site's perimeter wall, with a diameter of 6 inches which terminate at the exits of the fire boxes and sprinklers across the perimeter wall, in accordance to the hydraulic calculations of the system.*

# Fire Fighting Systems Cont.

The Manual firefighting network utilizes:

- Morris type impellers and faucets with a diameter of 2.5 inches.
- They are distributed such that distances between them do not exceed 50 meters
- Placed in easy-to-reach places and connected to fire risers with a diameter of no less than 4 inches. Ending with a pump station directly connected to the fire tank as stipulated in Section Four of the Egyptian Code for Fire Safety and in accordance to the equivalent American Code.

The tank connected to the fire room is sufficient for half an hour of continuous flow if the pumps are operating at full capacity.

The tank is designed according to the NFPA standards and specifications.

Generators are installed offsite, 15 meters away from the nearest building , and is secured using a barrier wall in case of spilled oils.

The fire system for the Control and IT rooms is:

- The FM200 extinguishing system.

This system works by means of cylinders that open automatically through their own independent alarm system in the event of a fire.

The system is UL/FM approved and conforms to international codes in its design  
The Fire Search System will be followed to secure these panels during a fire.  
System is UL/FM certified.

*The design used for all fire systems works automatically in the event of a fire.*

Site also contains:

- Fire boxes (2.5" contents) Certified
- An adequate number of manual extinguishers filled with dry powder and carbon dioxide of various capacities

*All extinguishing devices used to extinguish all types of fires that may occur conform to the required Egyptian standard technical specifications and the Egyptian fire code, and according to Law No. 58 of 1973 regarding the regulation of manual fire extinguishing devices.*

# Electricity, Power & Low Voltage Current

All electrical connections are technically executed in accordance to professional industry standards with insulated pipes inside the walls. The diameters are commensurate with the expected loads and conform to the provisions of the Egyptian Electricity Code.

All electrical panels on the site are equipped with automatic current disconnection circuit breakers, which operate automatically to switch off electric current from the panels when voltage increases beyond normal.

All electrical panels on site are equipped with automatic fire search devices with a capacity of 6KW, which conforms to the standard specifications of the Egyptian Quality Institute.

The implementation of all cable and wire works, electrical systems and lighting systems were executed according to the highest industry standard specifications, by specialized and certified companies and technicians of good standing.

All testing works were reviewed in accordance with the Egyptian Code for Electrical Works and their conformity with the Egyptian Code for Fire Fighting Works.

## Emergency Electricity to Insure Main System Function

- 500KVA Backup Generator

The capacity of the backup generator ensures so that it is able to operate the following services for a period of no less than an hour, in accordance to power and mechanical calculations required to operate them in tandem:

- Escape Routes Lighting
- Electrical Reciprocating Pumps
- Water Pressure Pumps
- Mechanical Ventilation Fans

# Ventilation Systems

Natural ventilation for all surfaces according to the standards of the Egyptian code:

- One-Sixth of the work surfaces.

Accommodated for in the structural designs of the facilities allowing for better natural ventilation through the presence of an appropriate number of openings designated for ventilation.

All necessary calculations have reiterated that it is suitable, and in conformity with the provisions of the Egyptian Code for Fire and the Ventilation Code

Mechanical ventilation utilizes:

- Side Suction fans, with the capacity for the existing air volume in the facility and works on an Air Exchange Rate of 6 times / hour.
- Linked to work automatically in cases of fire.
- All windows are covered with disintegrating glass according to the standard surface area for natural ventilation (more than 1/6 of the air volume).

# Emergency Escape Routes

Suitable and sufficient escape routes in relation to the size and occupancy of the facility, which is determined by:

- Number of frequenters,
- Workers
- Administrators

, when the facility is at its full capacity.

There are no dead ends, with appropriate travel distances.

There are no obstacles preventing the movement of individuals in an emergency, with the presence of sufficient guiding signs, distributed appropriately to guide individuals and minimize the evacuation time frame.

Corresponds to the Egyptian Code.

- Gate Dimensions: A minimum of 6 m in Width by 4 m in Height.
- Individual Escape Doors: 1.2 m Wide, are distributed evenly over the entire perimeter of the site. with distances not exceeding 24 m between them to ensure that the travel distances do not exceed the stipulations of the Egyptian code.

*All escape doors and gates lead to an open road with a width of 20 meters, which is sufficient for the escape of individuals, as well as trucks up to a length of 24 meters. Insuring prompt evacuation and a limited possibility of stampede.*

*Escape and Traffic plans are set and designed by the site consultant and architect, taking into account the dimensions and standard specifications of the Egyptian Code.*

*Electrical supply feeding the emergency lighting and illuminating emergency paths are independent of the main network and pass-through insulated fire resistant channels.*

## Warehouse Flooring (20CM Slab Thickness)

- Jointless Concrete Floors, designed and implemented by the Egyptian Industrial Flooring Company (FloorTec).
- Designed to withstand heavy mechanical loads:
  - Distributed Load of 5 tons/m<sup>2</sup>
  - Linear Loads of 1.5 tons/m
  - Concentrated Loads of 5 tons
- Floors thickness: 15 cm, with 30 kg/m<sup>3</sup> Steel Fibers additives.
- Floor coated with Novochem Floor Hardener, in order to improve its resistance to corrosion, wear and shocks, and to prevent the formation of dust.
  - 150 Micron Thickness Polyethylene Insulation Below Flooring
  - Novo Hard Floors
  - Burnished Floor Finish
  - Epoxy Coated (Novo Guard 20)



# Steel Structure Design

## Open Warehouse Design:

- Wide Column Span 10m-20m (Optimal Rack Utilization)
- Clear Heights from 9m - 14m
- Solar Panel Application Ready

## Warehouse Roof Specifications:

- Imported Sandwich Panels: 1 meter Wide with a 5-rib roof
- Upper Outer layer is composed of colored corrugated steel sheets:
  - 5 mm Thickness
  - Colour Code RAL 5012 blue
- Lower Inner layer is composed of corrugated steel sheets:
  - Light Flanged LAMBRI
  - 4 mm Thickness
  - Colour Code RAL 9002 white
  - Insulation: PIR (Polyisocyanurate) injected between the two layers:
    - 5 cm Thickness
    - Density of 40 kg / m<sup>3</sup>

## Warehouse Side Wall Specification:

- Sandwich panel:
  - 5 cm Thickness, Width (1 m - 1.10 m) (COLD STORE)
  - Consisting of two layers of colored galvanized corrugated steel sheets:
    - Outer Layer : 5 mm Thickness, RAL 5012 Blue
    - Inner Layer: 4mm Thickness, RAL 9002 White
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- Insulation: PIR (Polyisocyanurate) injected between the two layers:
  - 5 cm Thickness
  - Density of 40 kg / m<sup>3</sup>

# Doors & Dock Levellers

## Dock Doors:

- 3.50 mm Aluminum Rolling Shutter
- Motor : Sommer – Germany
- Size W 4000mm \* H 4000mm

## Escape Doors

- Steel Hinged Door
- Panic Bar - Cisa (Italy)
- Door Closer - Cisa (Italy)
- Size: W 1100mm \* H2250mm

## Shipping Bays equipped with Dock Levellers:

- Suspended Dock Leveller With Swinging Lip
  - Powder painted in RAL 5010 (BLU)
  - Self-supporting frame
  - Loading Platform made with anti-slip plates.

## Rated for loads of up to:

- 6000 kg Dynamic
- 11000 kg Static
- Single Swinging Lip: Length 360mm made with anti-slip plates equipped with self-cleaning hinges
- Double-effect piston for lip control with separate hydraulic
- Single-effect heavy duty platform piston with safety valve to arrest anomalous platform descents
- Hydraulic pump driven by a three-phase motor
- Electronic control board with 10 mt of connecting cables
- Standard bumper pads of solid rubber measuring 56x70x460
- Equipped with lateral folding shields for feet protection