POWER STEEL
METAL CONSTRUCTION

DESIGN
MANUFACTURE
ERECTION
PRE-ENGINEERED BUILDINGS

www.powersteel.ae

TABLE OF **CONTENT**

WHO
WE ARE

We are Power Steel Metal Construction (PSMC) located in Abu Dhabi; PSMC was established in 2004 to facilitate its growth in Pre- Engineered buildings and steel fabrication in UAE and GCC.
We design, fabricate and install steel buildings either Pre-Engineered type or Hot Rolled sections and also we supply and install all cladding types and all kinds of steel works. We provide solutions for designing the PEB buildings and steel structures which are used for factories, workshops,warehouses,showrooms, and car parkings . We are specialized in steel structure buildings systems from design , drawings, detailing , fabrication, and erection work

We are specialized in steel construction; we are able to construct a project from start to finish. From design/build to Built-up steel building as full packages, new construction to upgrades, we aim to make each customer a life-long client by adding value to the construction process. Superior quality, attention to detail, safety, environmental awareness and a partnering approach define our blueprint for every project

OUR VISION

VISION 01

At Power Steel Metal Construction, we are dedicated to revolutionizing the way our clients achieve success in their industries. With a proven track record of excellence spanning over fourteen years, we have honed our expertise to deliver unparalleled quality and value to our clients, As pioneers in our field, we have developed an innovative approach that combines cutting-edge design, advanced engineering solutions, and seamless material supply resources. By offering a vertically integrated service, we optimize our clients' operations, reducing costs, and accelerating time to market.

VISION 02

Our commitment to comprehensive designs and engineering services allows us to meet and exceed the evolving needs of end users. We prioritize understanding our clients' unique challenges and provide tailored solutions that drive sustainable growth and competitive advantage, At Power Steel Metal Construction, we believe in fostering strong partnerships with our clients, working collaboratively to overcome obstacles and achieve shared success. Our dedicated team of industry experts brings extensive experience, passion, and creativity to every project, ensuring exceptional results and customer satisfaction.

OUR MISSION

PSMC business philosophy is best described as a dedication to customer satisfaction through professional service and personal integrity. This philosophy of placing our customer's satisfaction ahead of company profits has provided our history. Scores of satisfied clients and a frequency of repeat customers throughout.

Purpose: To be a leader in the steel industry by providing enhanced services, relationship and profitability.

Vision: To provide quality services that exceeds the expectations of our esteemed customers. We are committed to working partnerships with our clients that add value and consistently exceed expectations.

Mission: To build long term relationships with our customers and clients and provide exceptional customer services by pursuing business through innovation and advanced technology.

Our Mission is to provide the best possible service for our clients – which we accomplish through constant assessment, improvement and extensive training. We hope to deal with you soon and guarantee your satisfaction in our work!

Our mission is to develop long-term, beneficial relationships with our clients by focusing on their needs. We will provide quality, innovative, and professional construction and maintenance services

OUR AIM

To become the trusted partner in the steel industry renowned for excellence, leadership and greater values. To set benchmark for value creation and excellence, building strong relationship with clients based on tolerance understanding and mutual cooperation.

To exceed customer expectation by professional practice in engineering, delivering high quality products and service.

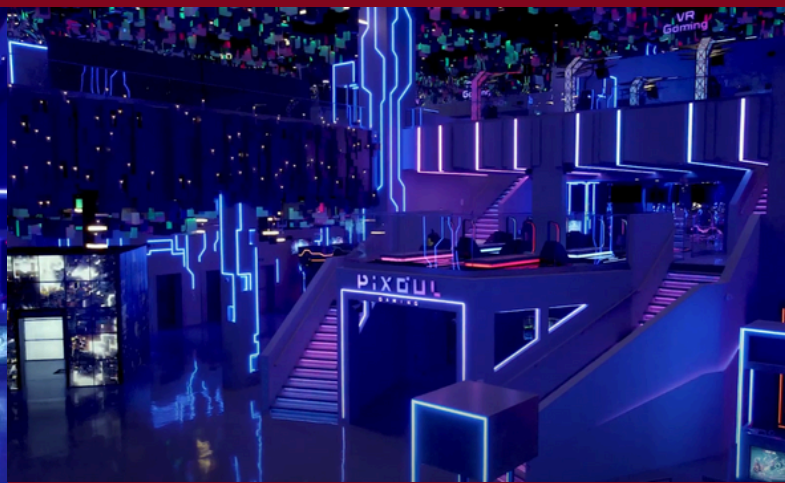
SERVICES

- Industrial Buildings construction.
- Mechanical Construction.
- Electrical Construction.
- Equipment Installation.
- Steel Fabrication.
- Steel Erection.
- Concrete Construction.
- Instrumentation / Controls.

THE PROCESS

PSMC steel is capable to manufacture and deliver wide range of steel structures to the client's requirement:

- Industrial steel Buildings.
- Commercial Buildings.
- Green Houses.
- Villas.
- Cold Storage.
- Multi -Storied Buildings.
- Show Rooms.
- Car Parking
- Bus Shelters
- Fuel Stations.
- Malls & Hypermarkets.
- Air Crafts Hangers.
- Logistics Buildings.
- Schools & Colleges.
- Special Shuttering Works.
- Warehouses.
- Auditorium / Sports Hall.



SECONDARY MEMBERS

Bracings

The cable bracing is a primary member suitable to insure the stability of the building against forces in the longitudinal direction due to wind, cranes earth quake ...etc. Cable Bracing is designed in accordance with the latest edition of the American institute of Steel Construction AISC 2005.

Specifications

1-Cables are made of galvanized extra high strength seven strand cable of 1/2'' diameter conforming to ASTM A475-2003 Class 1 (G40).
2-Terminals are made of galvanized (G40) 25 mm diameter rods conforming to ASTM A36 Galvanized cast iron.

Advantages

- High strength 60 KN
- Better corrosion resistance (Galvanized)
- Easy packing and shipping (round packing)
- Cables can be fabricated and shipped of any required length.
- Easy erection.
- Light weight (Economical).

SECONDARY MEMBERS

Cold Formed Members.

Secondary structural framing members referring to z-purlins, girts, eave struts, wind bracing, flange bracing, c-channels, base angles, clips and other miscellaneous structural parts.
Girts and eave struts are cold formed from steel which has a minimum yield strength of 345 MPa (50,000 psi) and will conform to the physical specifications of ASTM 570 (Grade 50) or ASTM A-653 (Grade 50) or equivalent.

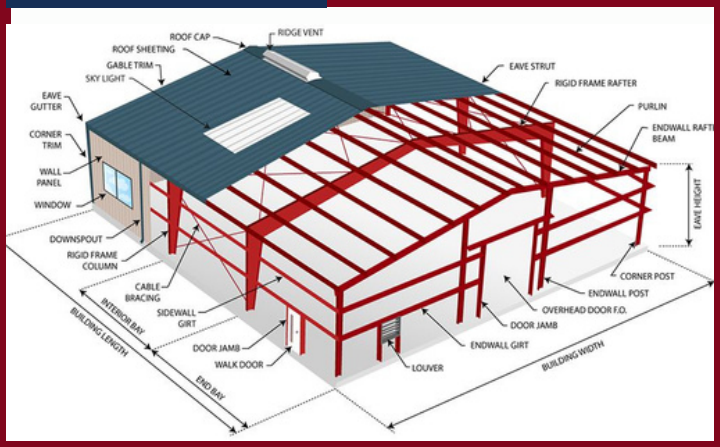
Z-PURLIN / GIRT

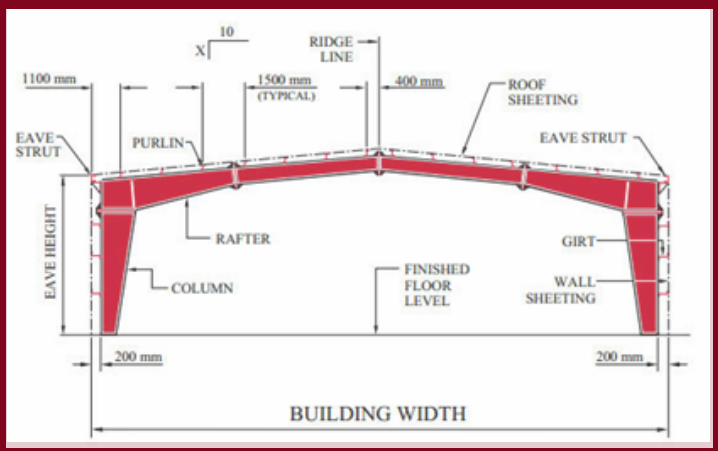
Purlins and girts shall be roll formed Z sections ,200 mm or 250 mm deep with 60 mm flanges. Each flange shall have a 16 mm stiffening lip formed.

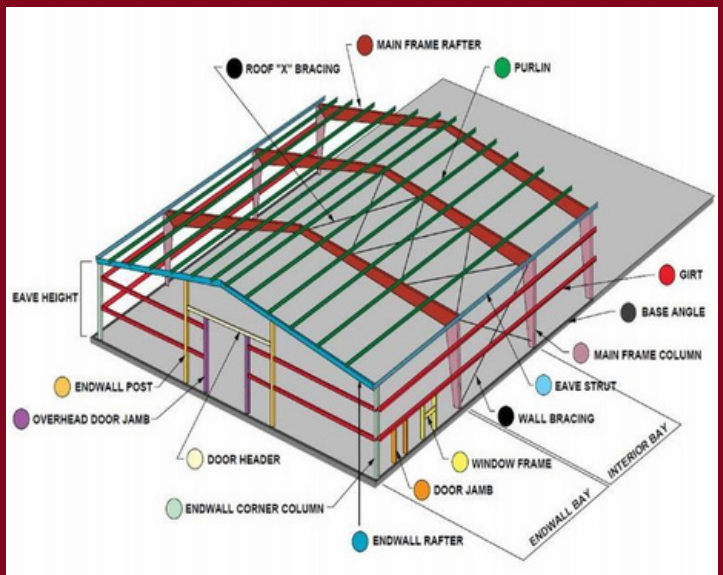
EAVE STRUT

Eave struts are 200 mm or 250 mm deep with 104 mm wide top flange, a 118 mm wide bottom flange, both are formed parallel to the roof slope.

PRE-ENGINEERED STEEL BUILDING STEEL STRUCTURE (PEBSS)







The PEB Steel Structure of a Pre-Engineered Steel Building generally accounts for over 80% of the weight of the Pre-Engineered Steel Building. This 80% is an average and may change plus or minus 10% depending on the presence of mezzanines, crane runway beams, type of Panels used and the amount of building accessories that are included in a building. The unit of measure for PEB Steel Structures is metric ton (MT). As a general average, one square meter (1 m2) of PEB Steel Structure weighs 25 kg. Thus one MT of PEB Steel Structure = 40 (1000/25) m2 of building foot print. The PEB Steel Structure is made up of frames, secondary members and steel standard buyouts.

Frames in the PEB industry often refer to primary built-up & hot rolled members. Constant depth or tapered depth built-up members generally account for over 90% of the weight of frames while hot rolled members generally account for the remaining 10%.

ENGINEERING

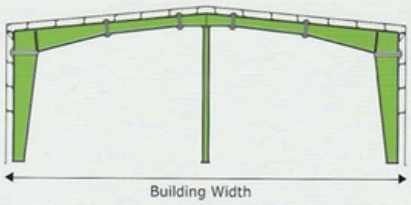
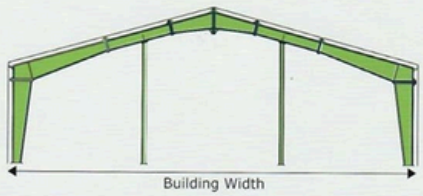
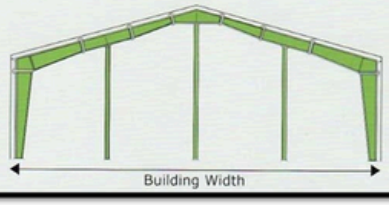
SOFTWARES

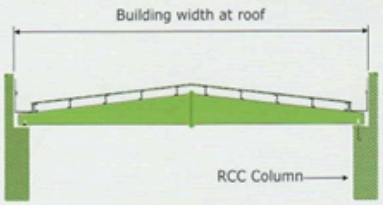
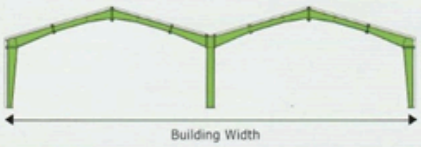
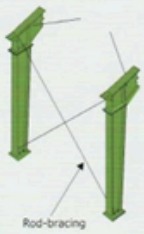
CODES

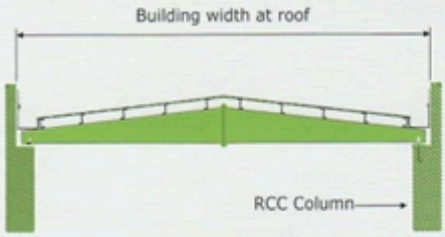
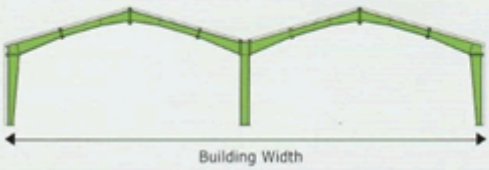
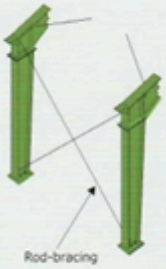
PSMC designs and manufactures in accordance with all internationally recognized codes and guidlines.
all welding is done in accordance with the American Welding Society (AWS); Structural Welding and British Standards Institute (BSI). All our welders are qualified and certified for the type of welding performed.

Some Codes that may be applied are:

- Selected ASTM standards for Metal Building Systems.
- Metal Building Systems Manual.
- American Society of Civil Engineers (ASCE 7).
- Cold Formed Steel Design Manual. AISI
- Structural Welding Code- Steel, American Welding Society (AWS).
- Metal Roof System Design Manual.
- Steel Construction Manual American Institute of Steel Construction Inc. (AISC).

Building type	
Clear span **Preferred width:** **20m - 30m**	
Multi span with one interior column **Preferred width:** **20m - 30m**	
Multi span with two interior column **Preferred width:** **45m - 80m**	
Multi span with three interior column **Preferred width:** **60m - 120m**	

BUILDING TYPE	
ROOF SYSTEM Preferred Width: 10m - 24m	
SINGLE SLOPE Preferred Width: 8m - 25m	
MULTI GABLE Preferred Width: 30m - 80m	
BRACING SYSTEM This system is required when all horizontal loads result from wind forces, seismic forces and overhead cranes on a structure must be carried to columns and to foundation	

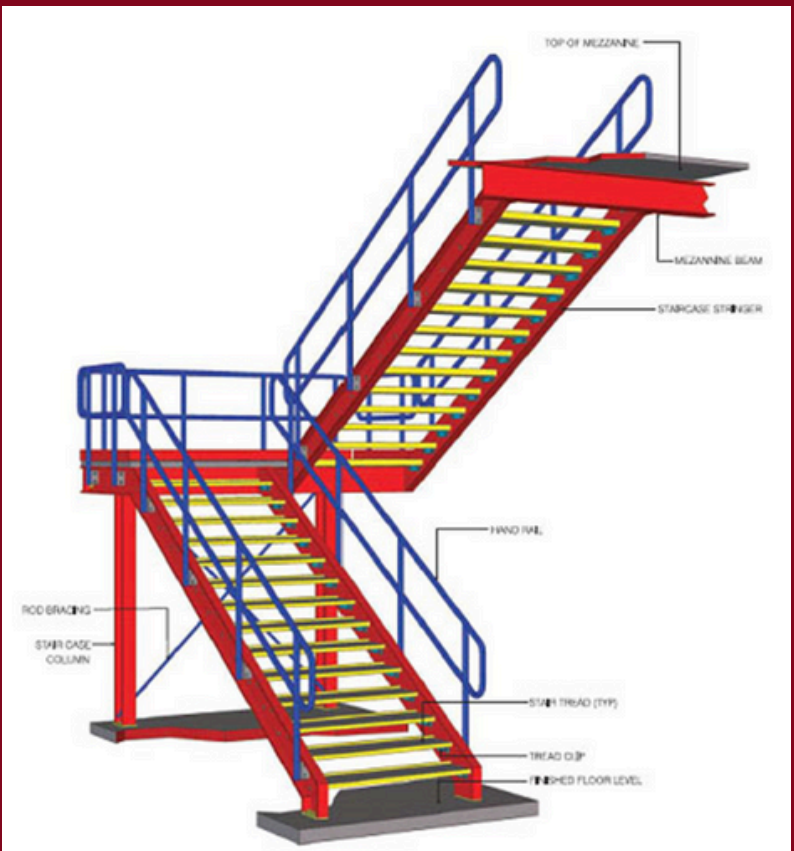
BUILDING TYPE	
ROOF SYSTEM Preferred Width: 10m - 24m	
SINGLE SLOPE Preferred Width: 8m - 25m	
MULTI GABLE Preferred Width: 30m - 80m	
BRACING SYSTEM This system is required when all horizontal loads result from wind forces, seismic forces and overhead cranes on a structure must be carried to columns and to foundation	

STAIRCASES

Staircases are designed to firm and rigid. They can accommodate checkered plate, grating or Concrete filled Pans as stair treads.
The standard Staircase is a double flight staircase with an intermediate [mid) landing. The main structural members are shop assembled to facilitate erection. This leaves only the simple task of connecting the mail members of staircase to the floor framing, attaching the selected type of stair treads and installing the handrails.
Green Scope Steel Industries / Power Steel Metal Construction also offers staircases with the following characteristics:

- Single flight staircase with top landing/ Mid Landing
- Double flight staircase with top landing/Mid Landing
- Multi flight staircase with/without top Landing

The paint applied to staircases match the paint specified for the primary members of the structure.



DOUBLE FLIGHT STAIRCASE WITH STAIR COLUMN FROM FFL

Pre-Engineered Building (PEB) Factory

Facility

Our joint venture Factory is dedicated for either the production of built-up members and Hot Rolled Steel.

The factory has an onsite built-up sections production capacity of 700 MT/month meaning that we can serve all our Customers in a unique way. Built-up sections generally constitute 60% of the total weight of Pre-Engineered Steel Buildings. Their engineering and fabrication is the determining factor in the delivery of a Pre-Engineered Steel Building.

Raw Materials

•The raw materials used by Power Steel Metal Construction to fabricate flanges and webs are 6 m long plates that are stocked in thicknesses of 4. 5, 6, 8, 9, 10, 12, 16, 20,25 and 30 mm.
•4-6 mm plates are generally stocked in widths of 2m while 8-30 mm plates are generally stocked in widths of 2 m.
•The welding consumables, used in different stages of fabrication, include the following:
•E7018 stick electrodes for assembly tack welding SAW wire + fluxes for auto weld fillets GMAW solid wire * ArC02 mixed gas for manual Mig welding FCAW wire + C02 gas for self-shielding manual welding

MANUFACTURING PROCESS

The built-up “I” member is assembled from two flanges and a web that connects both flanges at their centers. The 2 flanges are fillet welded simultaneously on one of side of the web, using a submerged arc welding process in an semi-automatic submerged arc welding machine, to produce a semi-fabricated built-up plate “I” section member. The top & bottom flanges of a built-up section (member) are normally identical, but may differ depending on the magnitude of the stress each flange is subjected to (Advantage of PEBS).

Following the assembly of the two flanges and the web to produce a semi-fabricated built-up section, end plates, stiffeners, etc. are fitted and manually welded to produce a fabricated built-up section.This section is then shot blasted and painted to produce a coated ready to ship built-up section.

Fabricated webs can be either constant depth rectangular shape or varying depth (tapered) trapezoidal shape. Web depth, along a fabricated web. generally varies from a minimum of 200 mm to a maximum of 1800 mm and it is not uncommon to have 2 web thicknesses in a fabricated web. As an example, a 12 m long fabricated web may be made of two web segments: the first being 6 m long x 6 mm thick, the second being 6 m long x 8 mm thick. Web segments are stored and retrieved when needed. After retrieval web segments are connected using a submerged arc full penetration butt welding process which is done in the auto welding machine just prior to the assembly of the flanges and the web.

Fabricated flanges are rectangular plates, made of 1, 2 or 3 flange plate segments. The flange segments of a fabricated flange have the same width but may vary in length and thickness. The ideal flange segment length is 3 m or 6 m. fabricated flanges vary in length with the maximum and ideal length being 12 m. Flange segment thickness varies from 6 mm to 25 mm. As an example, a 12 m long fabricated flange may be made up of four 200 mm wide x 3 m long flange segments each having a different thickness. Flange segments are connected using full penetration butt welds. Fabricated flanges are stored and retrieved when needed.

Projects Pictures

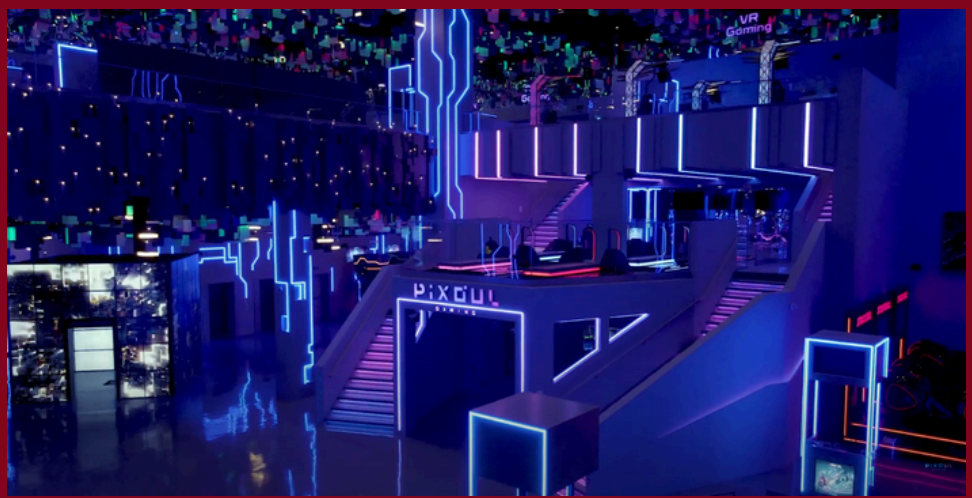
NMDC Group Hydraulic laboratory

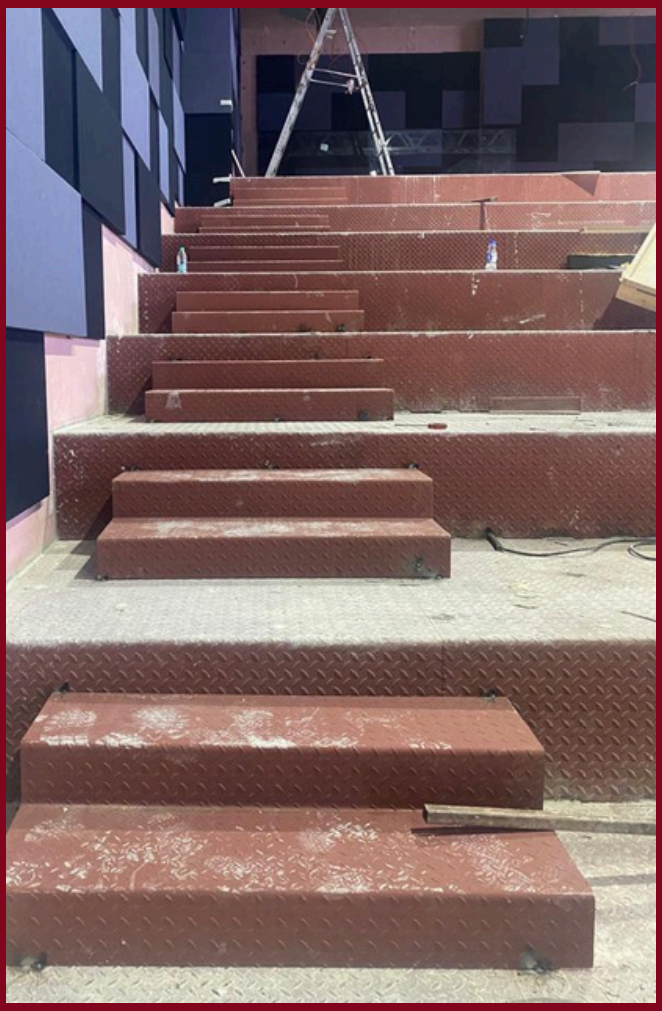
INDUSTRIAL BUILDING IN DJIBOUTI

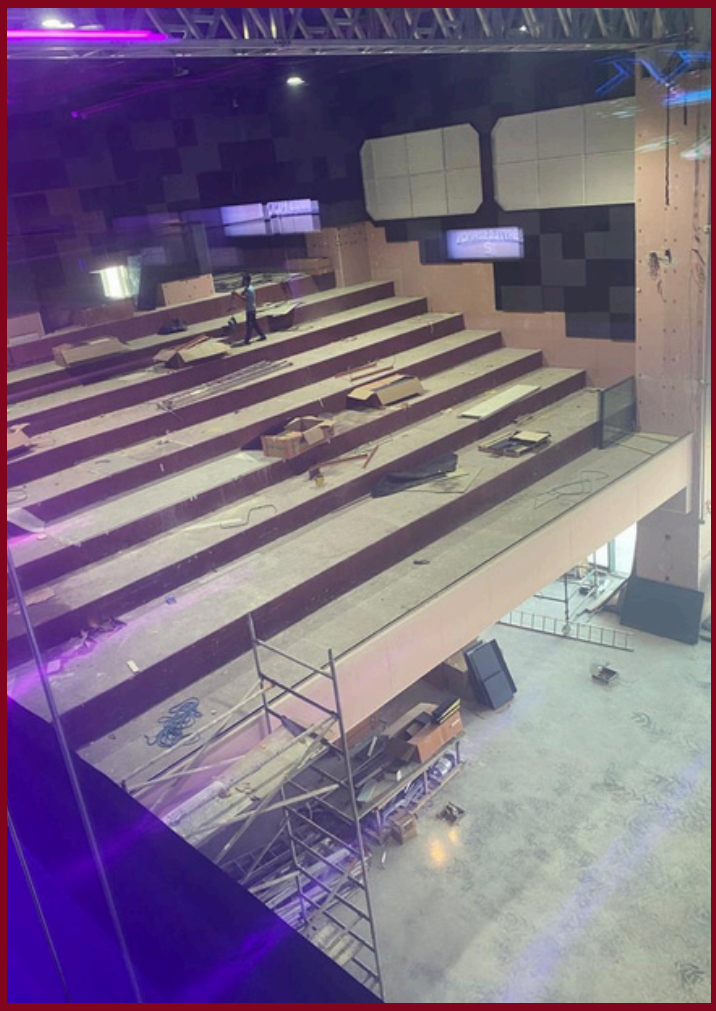
Salt Factory in ABU DHABI

Poultry Farm in AL SAD ABU DHABI

Al Qana Project/ Al Barakah Holding







Stadium in Al Qana Project/
Al Barakah Holding

Steel Factory in ETHIOPIA

Steel Factory in ETHIOPIA

Al Ain Zoo/ Petrol Station

Private Villa/ Al Kaznah

MBR Project for EEMAR DUBAI

Arabian Farms/ Al Ain

SWEEHAN POULTRY FARM

SLAUGHTER HOUSE/
AL AIN

SLAUGHTER HOUSE/ AL AIN

Feed Mill Tower/ Alsaad, Abu Dhabi

Hatchary Building

Rendering
House

Rendering
House

Rendering
House

Al Ain Dairy farm

Al Ain Dairy farm

Bio Security Building/ Al Ain

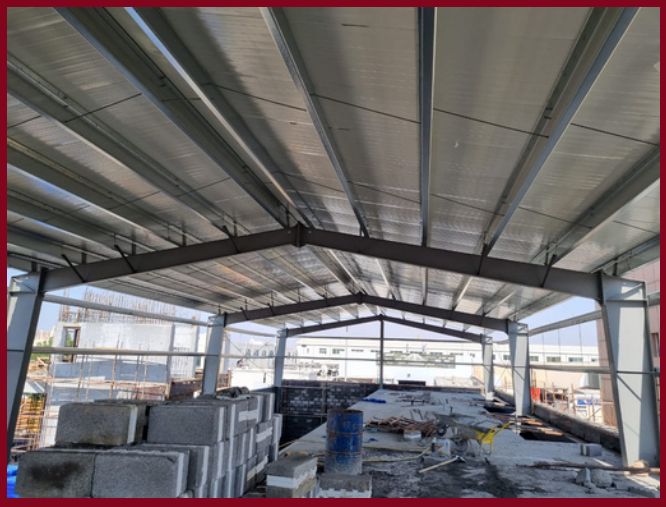
Broiler House/
Al Ain

Steel ready for export to Iraq/ Busra Port by containers

Aluminum factory and offices in Kenya

ATI Water Treatment offices and workshop

NMDC Special Structure (Laboratory)



Offices and workshop building in musaffah consultant : Adnan Al Safareeni

KIZAD Huawei Data Center

IRAQ/ AL BUSRA PROJECT

Boat Factory in Abu Dhabi

NMDC infra Factory upgrade

GET
IN TOUCH

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PSMC

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