



**UNIVERSAL  
STRUCTURAL  
STEEL LTD.**

Concept to Construction

# COMPANY PROFILE

[WWW.UNIVERSALSTEELBD.COM](http://WWW.UNIVERSALSTEELBD.COM)



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# GENERAL INFORMATION

UNIVERSAL STRUCTURAL STEEL LTD. was established in the year 2016. The company has developed into a premier development, construction and consultancy which providing the service in the stage of conceptualization to detailed planning, design, construction and engineering for varied and diverse discipline of projects. Its professional achievements include a large number of consultant & construction assignments spread all over Bangladesh.



**UNIVERSAL STRUCTURAL STEEL LTD. is a construction and consultant company based on steel, civil, architectural, electrical, plumbing, land survey and sub-soil investigation engineering. We provide different consultancy services in survey works, building, commercial complex, industrial building, bridges and steel structure as per international standard. Our technical experts are blessed with global expertise.**

# OUR MISSION & VISION

## Mission Statement

Our mission is to provide workmanship and customer service to maintain the highest level of professionalism honesty. We keep a professionalism and fairness in our relationship with our customers, employees and vendors. To grow by continually providing useful and significant products, services and solutions to markets, we already serve and to expand new areas that build on our competencies and customer interests.

## Vision Statement

Our vision is to be the preferred contractor of choice. A company that our customers want to work with and our employees are proud to work for.



## MESSAGE FROM MD



Assalamu Alaikum,

Dear valued clients, take my warmest welcome to my company UNIVERSAL STRUCTURAL STEEL LTD. Our honest and dedicated vision of offering high-tech along with high quality metal buildings at an affordable price in all sector of constructions. As a civil engineer, I believe that a proper synchronization of project planning, design, materials fabrication, constructions supervision must lead to a classy and fabulous creation after all.

My whole team & specially I directly participate in all program related to my project before starting it. Our superior design policy, experienced & skilled engineers, well & skilled trained erection and technical teams are the basic rhythm & strength of our company. We practice and follow all of the latest design codes and computer aided structure analysis & design softwares.

Thank You

**Engr. Md. Sultan Mahmud**

B.Sc. Engineer (Civil), KUET, MIEB.

Managing Director

Universal Structural Steel Ltd.

Cell No: +880 1729 298919

E-mail: engr.smahmud@gmail.com

# INTRODUCTION

Registered Company Name: **UNIVERSAL STRUCTURAL STEEL LTD.**

**Sister Concerns of the Company:**

- 1. VERSATILE CONSTRUCTION SOLUTIONS LTD.**
- 2. VERSATILE DESIGN CONSULTANTS.**

**Business Highlights:** Concept to Construction.

**Business Goals:** Customer's satisfaction is our first choice ensuring quality full materials, in time project completion, proper management, maintaining a good relation with clients to be market leader in the relevant field.

**Head Office:** 16/6 (2nd Floor), Babor Road, Shyamoli, Mohammadpur, Dhaka.

**Hotline :** +880 1537 528399

**E-mail address:** universalssltd@gmail.com

**Website:** [www.universalsteelbd.com](http://www.universalsteelbd.com)



## OUR TEAM OF PROFESSIONALS

SL No.	NAME	DESIGNATION	QUALIFICATION OF PROFESSIONAL BODIES
01	Engr. Md. Sultan Mahmud	Managing Director	B.Sc. in Civil Engineering (KUET), Member: MIEB
02	Engr. Raisul Karim	Structural Design Engineer	B.Sc. in Civil Engineering (DUET), Member: IEB
03	Engr. Sudipto Kumar Debnath	Structural Design	B.Sc. in Civil Engineering (KUET)
04	Engr. Md. Rayhan Tushar	Bridge Design Engineer	B.Sc. in Civil Engineering (KUET), Member: IEB
05	Engr. Mohammed Sujan Miah	Project Coordinator	B.Sc. in Civil Engineering (SU)
06	Engr. Md. Kaosar Ali	Assistant Engineer	B.Sc. in Civil Engineering (EUB)
07	Kamrul Hasan	CAD Operator	Diploma in Civil Engineering
08	Md. Mujahid	Tekla Detailer	Diploma in Civil Engineering
09	Milon Khan	CAD Operator	Diploma in Architecture
10	Md. Asaduzzaman	Sr. Executive (Business & Development)	Hon's
11	Sultana Rabeya	Sales Executive	Master's (Economics)
12	Foysal Ahamed	Marketing Executive	Hon's
13	Md. Shofiqul Islam	Accounts & Admin	Hon's

# OUR SERVICES

## Architectural:

1. High-rise building
2. Urban and physical planning
3. Housing
4. Commercial complex
5. Institutions
6. Banks
7. Industrial complex

## Structural & Civil Engineering:

1. Public, residential and commercial building
2. Bridges
3. Municipal structures, Road, Market, culverts, sewerage etc.
4. Industrial plant building and structures
5. ETP structures
6. Land development services



# PRE-ENGINEERED BUILDING

## Pre-Engineered Building Concept:

Pre-Engineered Building (PEB) use a pre-determined inventory of raw materials that has proven over time to satisfy a wide range of structural and aesthetic design requirements. This flexibility allows PEB to fulfill an almost unlimited range of building configurations, custom designs, requirements and application. A pre-engineered building is a building, shell utilizing three distinct product categories:



1. Built-up 'I' shaped primary structural framing members (Columns and Rafters)
2. Cold formed "Z" and "C" shaped secondary structural members (Roof Purlins, Eave Struts and Wall Girts)
3. Roll formed profiled sheeting (Roof and Wall panels)

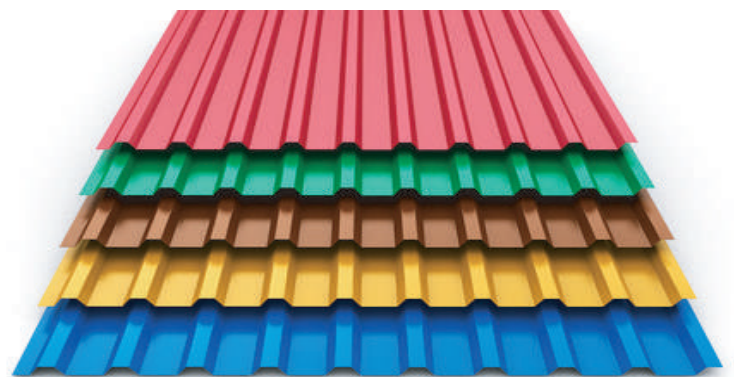
Optional structural subsystems are widely incorporated into pre-engineered buildings and provide functional as well as aesthetic features.

Functional subsystem includes mezzanine floors (including joists and decking), crane runway beams (to support crane systems), roof platforms, catwalks etc.

Aesthetic features include facias, parapets, canopies and roof extensions.



Until 1990, the use of pre-engineered buildings were confined mostly to North America and the Middle East. Since then, the use of pre-engineered buildings has spread throughout Asia and Africa where the PEB construction concept has now been widely accepted and praised.



A growing number of prominent international contractors and designers, who previously specified conventional structural steel building exclusively, have recently converted to the pre-engineered building approach. They now enjoy significant cost savings and benefits from the faster construction cycle resulting from the concept.

# PRE-ENGINEERED BUILDING

In the USA, where the PEB concept was originally conceived during the early years of this century, nearly 70% of all single-story non-residential construction now utilizes pre-engineered buildings. Applications range from small car parking sheds to 90m (+), wide clear span aircraft hangers to low rise multi storied buildings. Almost every conceivable building use has been achieved using the pre-engineered building approach.



## Commercial

- Showrooms
- Distribution centers
- Super markets
- Fast food restaurants
- Offices
- Labor camps
- Service station
- Shopping centers



The most common applications of pre-engineered buildings are:

## Industrial

- Factories
- Workshops
- Warehouses
- Cold stores
- Car parking sheds
- Slaughter houses
- Bulk product storage

## Institutional

- Schools
- Exhibition halls Hospitals
- Theaters/ Auditoriums
- Sports halls

## Recreational

- Gymnasiums
- Swimming pool
- Enclosures indoor



# PRE-ENGINEERED BUILDING

## Aviation & Military

- Aircrafts hangars
- Administration buildings
- Residential barracks
- Support facilities

## Agricultural

- Poultry buildings
- Dairy farms
- Greenhouse
- Grain storage
- Animal confinement



# PRE-ENGINEERED BUILDING

The Merits of Pre-Engineered Buildings :

The advantages of Pre-Engineered Steel Buildings are numerous and the major reason for the spectacular growth of the PEB industry during the past 50 years. These advantages include:

1. Low initial cost.
2. Superior quality.
3. Fast project construction.
4. Functional versatility.
5. Architectural flexibility.
6. Low maintenance & operating costs.
7. 20% of cost can be saved than R.C.C buildings.
8. Easy to relocate the existing building in another place.
9. High resale values along with the scope of material reuse facilities.
10. Unique environment friendly criteria and high energy saving efficiency.
11. Supreme structural integrity during strong earthquake & more structural ability.
12. Very long span is possible in PEB. That's why it can ensure maximum building efficiency and proper utilization of building space.
13. PEB is factory based manufactured building system. That's why it can ensure more dimensional accuracy with noteworthy precision.
14. Client can launch their business production within very shortest time that is lucrative offer from PEB system.



# MATERIALS SPECIFICATION

Sl. No.	Components	Specifications	Strength
01.	Built-up section	M.S. Plate-ASTM A572-50 grade.	$F_y = 345 \text{ MPa}$
02.	Purlin and Girt	Rolled formed steel. Minimum yield stress 275 MPa.	$F_y(\text{min}) = 275 \text{ MPa}$
03.	Exterior roof and wall cladding, including gutter down pipe, capping, flashing etc. (painted)	Hi-Ten painted 0.47mm thick steel profile sheets with min. yield strength of $550 \text{ N/mm}^2$ coated with an alloy of 55% aluminum, 45% Zinc, coating mass shall be $150 \text{ gm/m}^2$ conforming to Australian standard AS1397: 1993-G550-AZ150.	$F_y = 550 \text{ N/mm}^2$
04.	Anchor Bolts	Galvanized/ naturally quenched black.	$F_y = 24.50 \text{ kN/cm}^2$ $F_y = 35.0 \text{ kN/cm}^2$
05.	Bubble (Air Bubble) Insulation	a) Roll size-55M $\times$ 1.20M b) Thermal conductivity-0.001 W/m.k at 30°C d) Heat resister : 2.98	
06.	Translucent Sheet for Sky Light	2 mm thick fiber glass profile sheets made of UV-resistance resin.	
07.	High Strength Bolts	A325 M Type 1 Hot Dip galvanized/ naturally quenched black.	$F_t = 55 \text{ kN/cm}^2$
08.	Fastener	Imported heavy duty hex head self-taping screws with neoprene washer.	Screw (gauge 12) = 5.43mm Tensile breaking load = 1852 kg; Pull out load = 148 kgs (Test plate = steel A36, 5mm thick)

# APPLICABLE DESIGN CODES

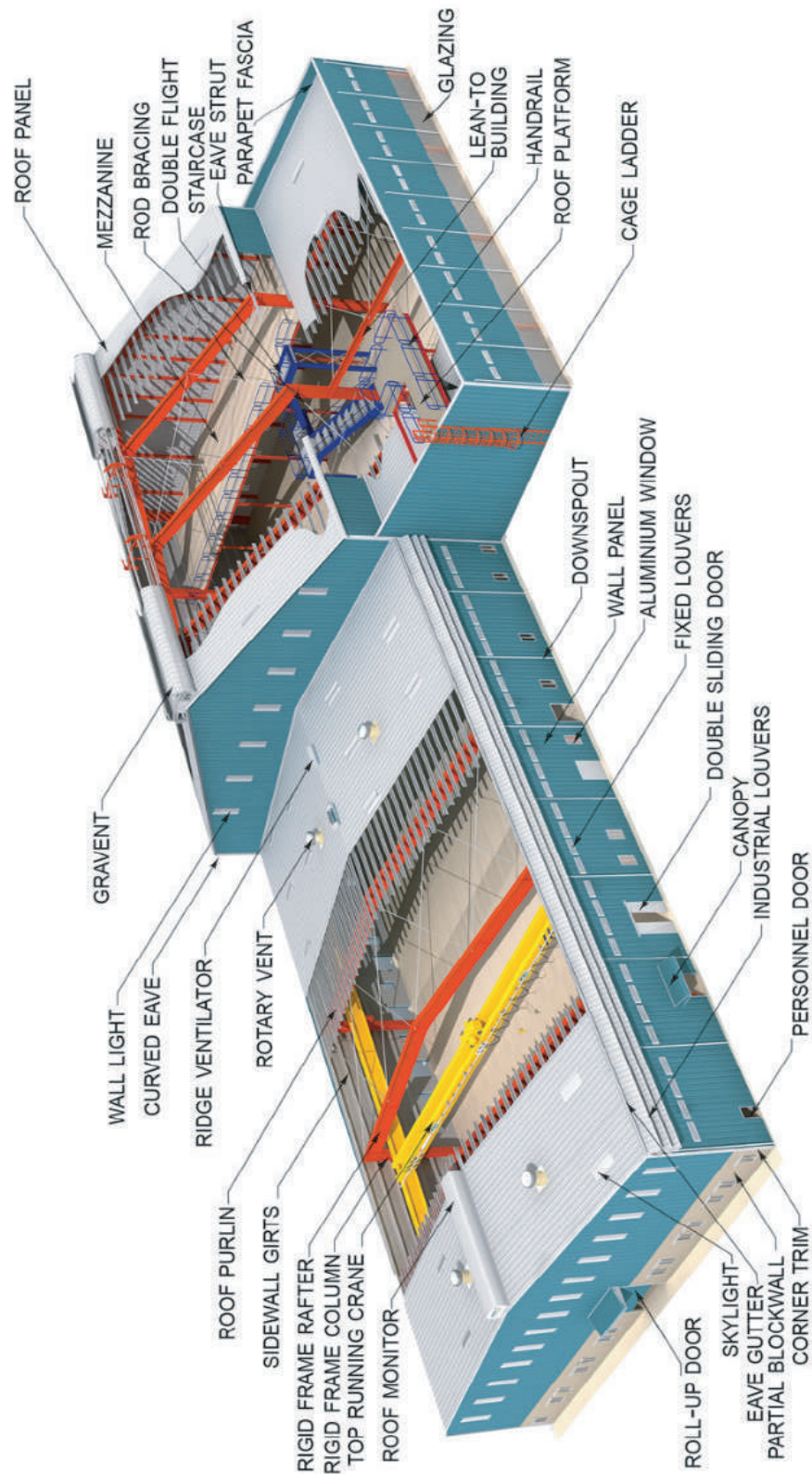
## APPLICABLE DESIGN CODES

**All structure or building including in our proposal are designed for the following codes.**

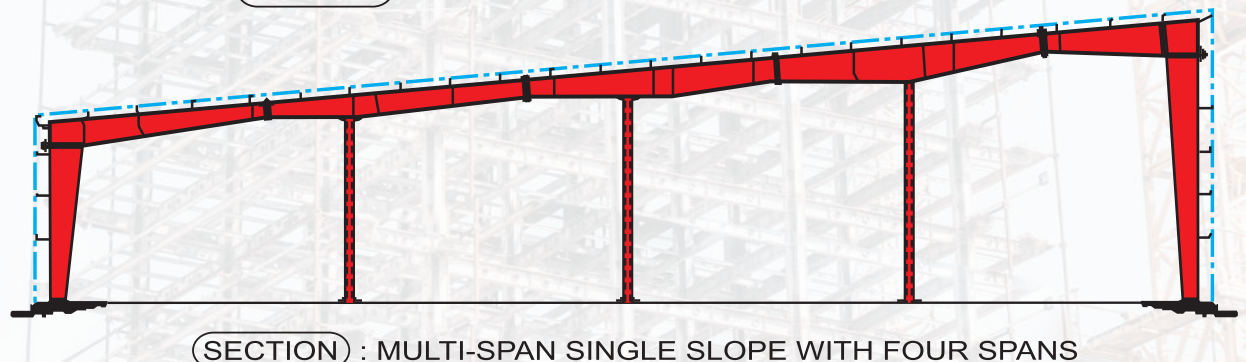
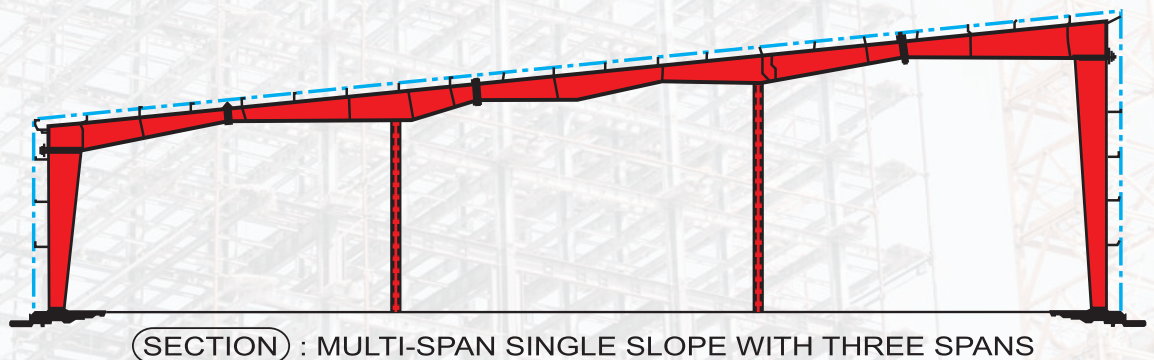
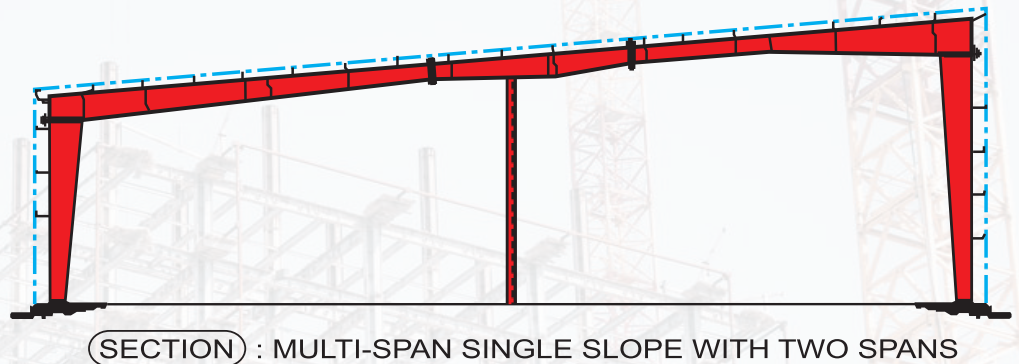
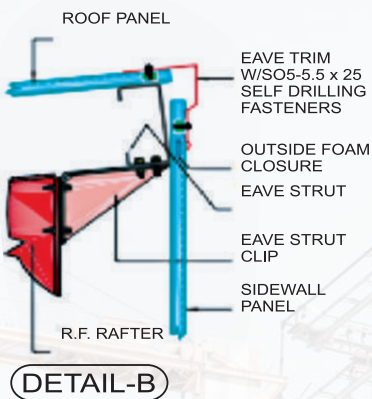
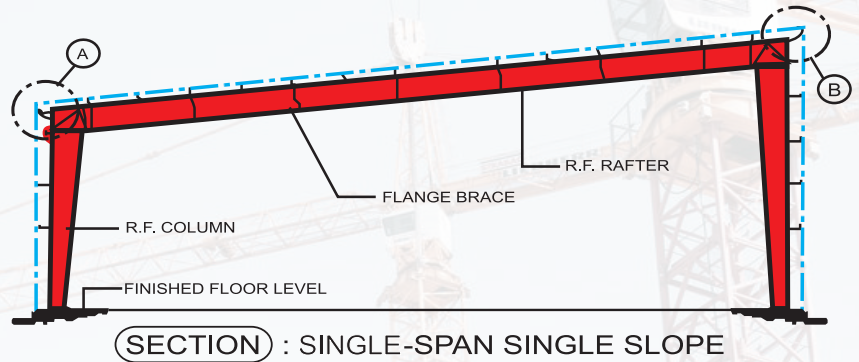
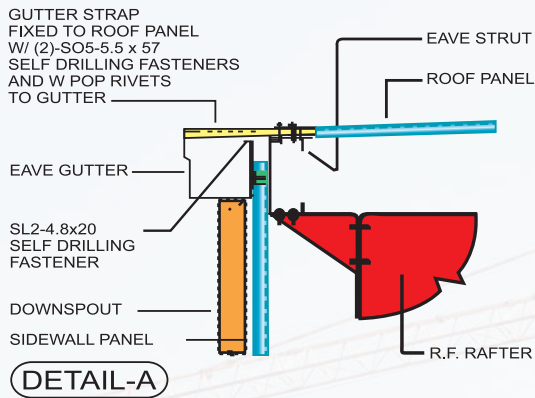
NO.	Items	Codes
1.	Built up section	AISC “American Institute of Steel Construction” manual of steel construction allowable stress design, 1989 edition, East Wacker Drive Suite 3100, Chicago, Illinois 60601-2001, USA.
2.	Cold formed components	AISI “American Iron and Steel Institute” cold formed steel design manual, 1986 edition.
3.	Welding	Structural welding code steel manual ,1996 edition. American Welding Society (AWS D.1.96)
4.	Design load	A. The 1986 edition of the low-rise building system manual-Metal Building Manufacture Association (MBMA) B. Bangladesh National Building Code (BNBC 2006) C. Bangladesh National Building Code (BNBC 2020)



# ELEMENTS OF PEB STRUCTURAL SYSTEM

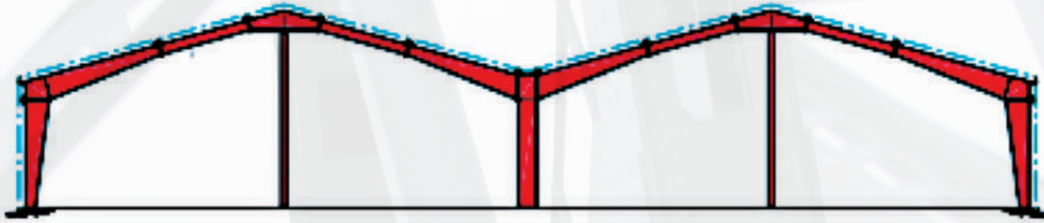


# STRUCTURAL SYSTEM





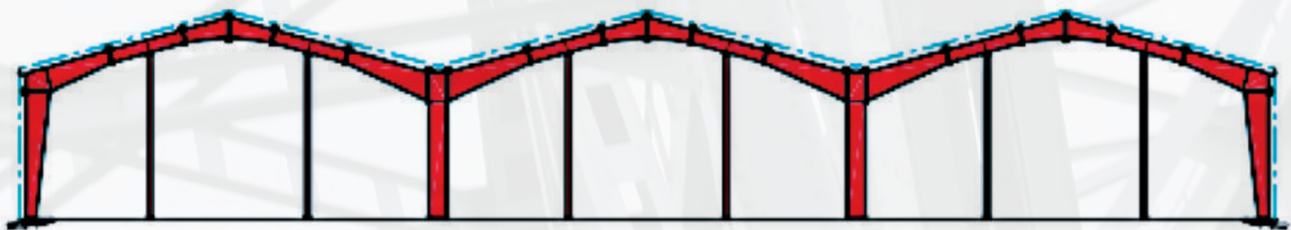
# STRUCTURAL SYSTEM



(CROSS SECTION) : MULTI-SPAN GABLE BLDG. WITH TWO GABLES EACH W/ TWO SPANS



(CROSS SECTION) : MULTI-SPAN GABLE BLDG. WITH TWO GABLES EACH W/ THREE SPANS

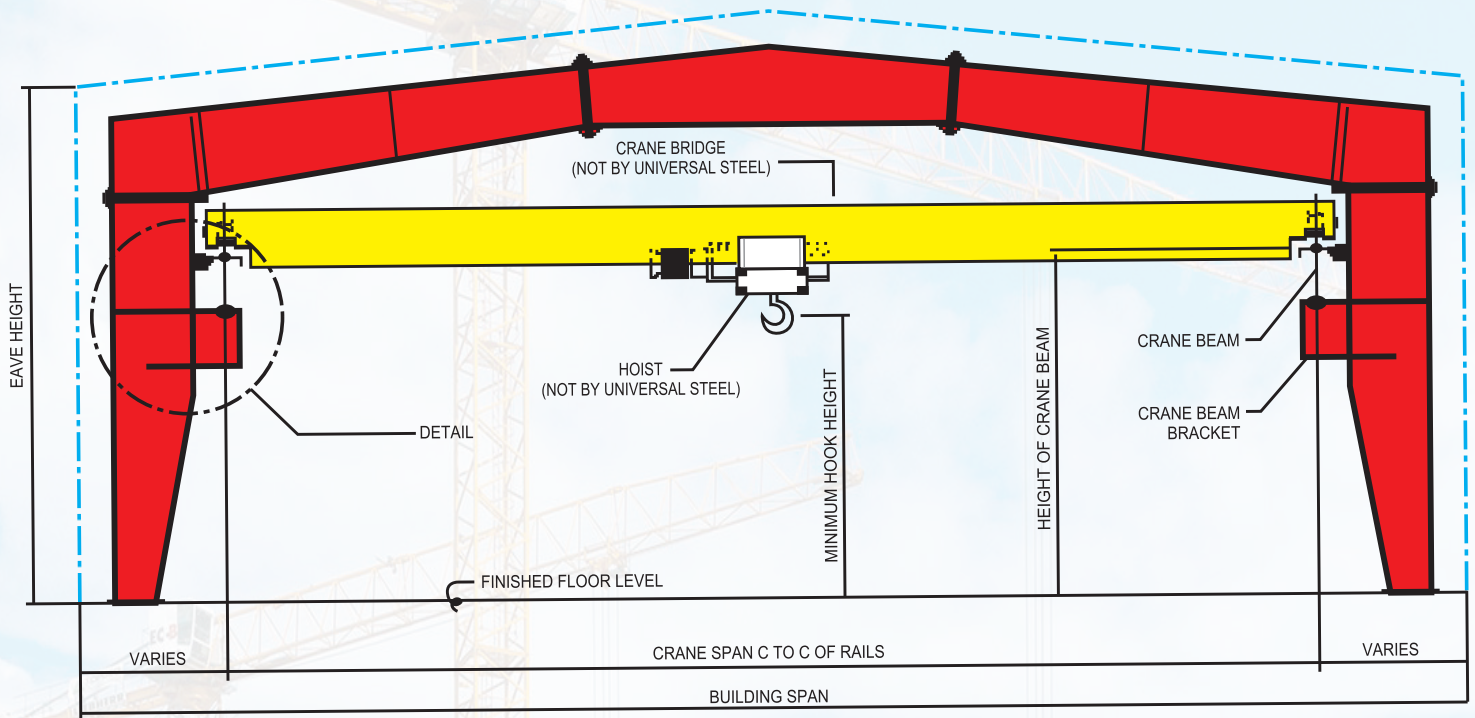


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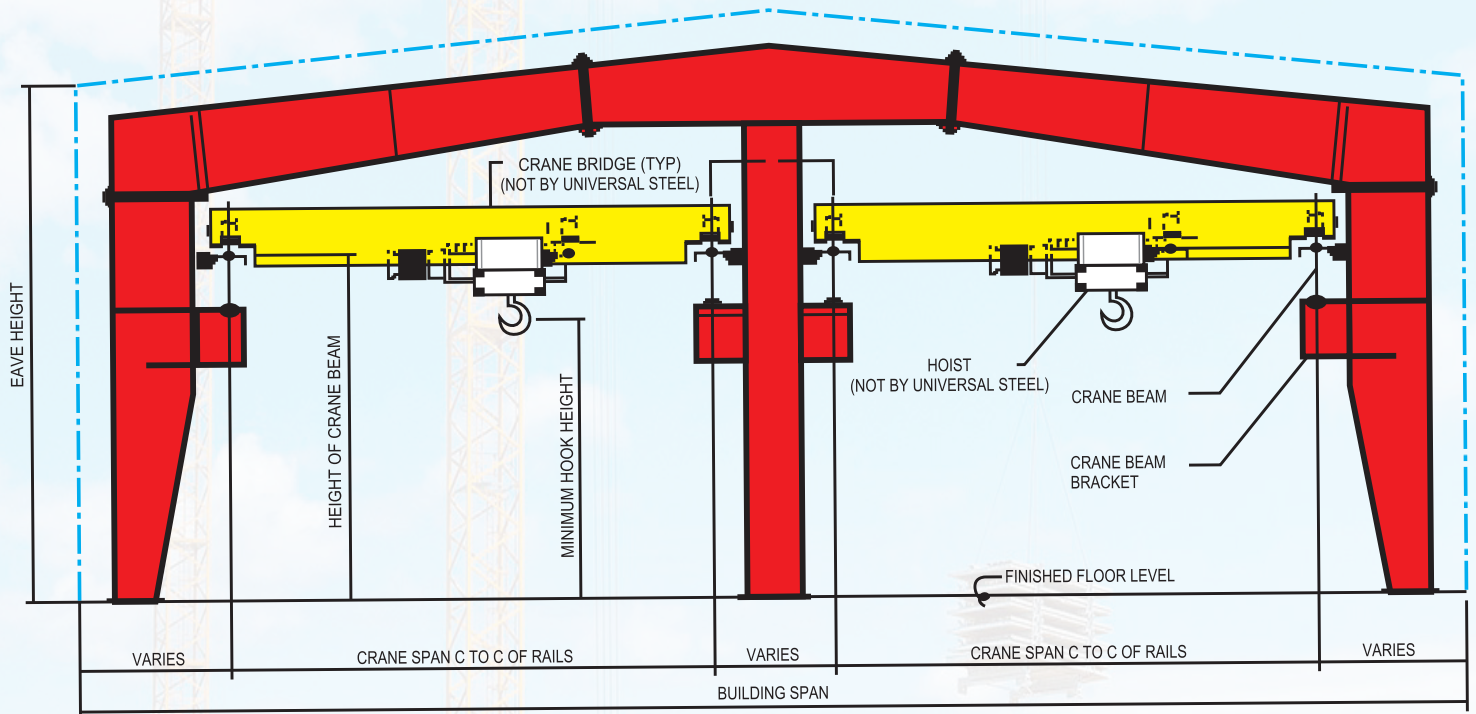


(CROSS SECTION) : MULTI-SPAN GABLE BLDG. WITH FOUR GABLES EACH W/ FOUR SPANS

# STRUCTURAL SYSTEM



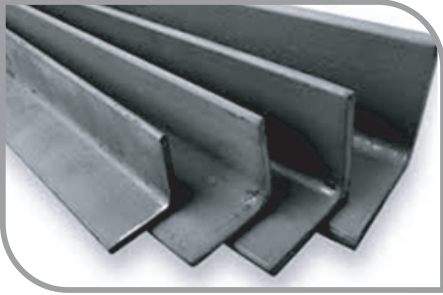
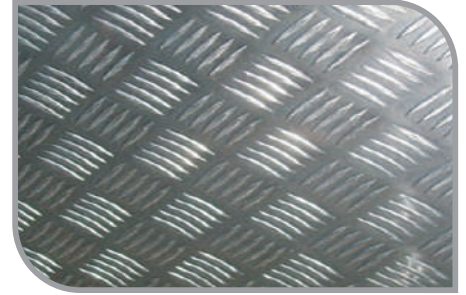
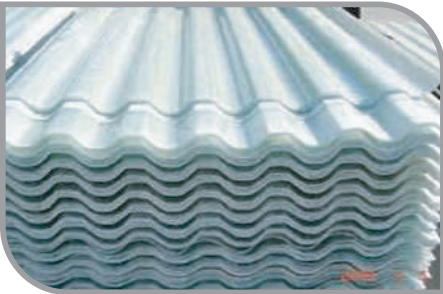
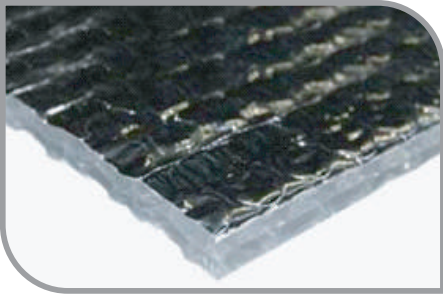
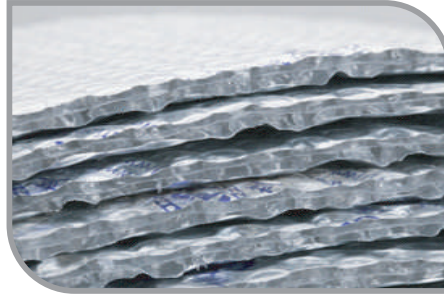
(ELEVATION) : TOP RUNNING CRANE IN CLEAR SPAN BUILDING



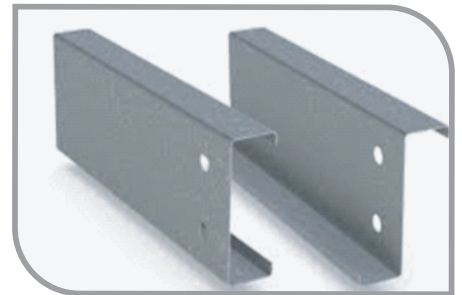
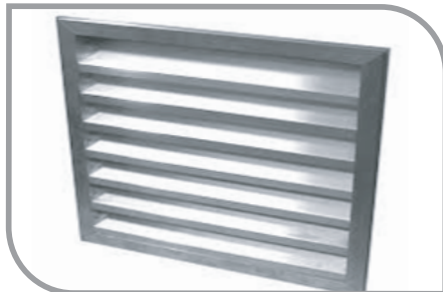
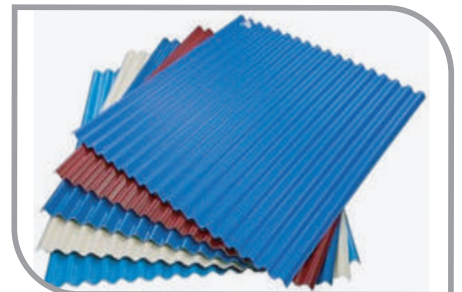
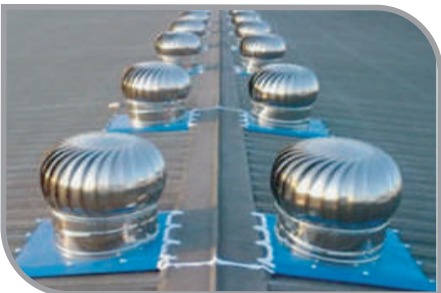
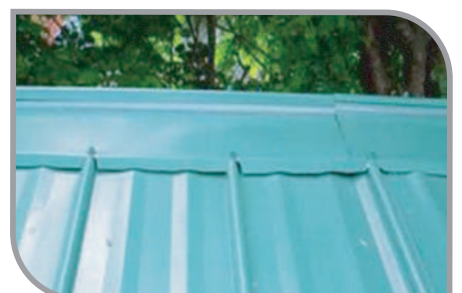
(ELEVATION) : TOP RUNNING CRANE IN MULTI-SPAN BUILDING



# PEB BUILDING ACCESSORIES

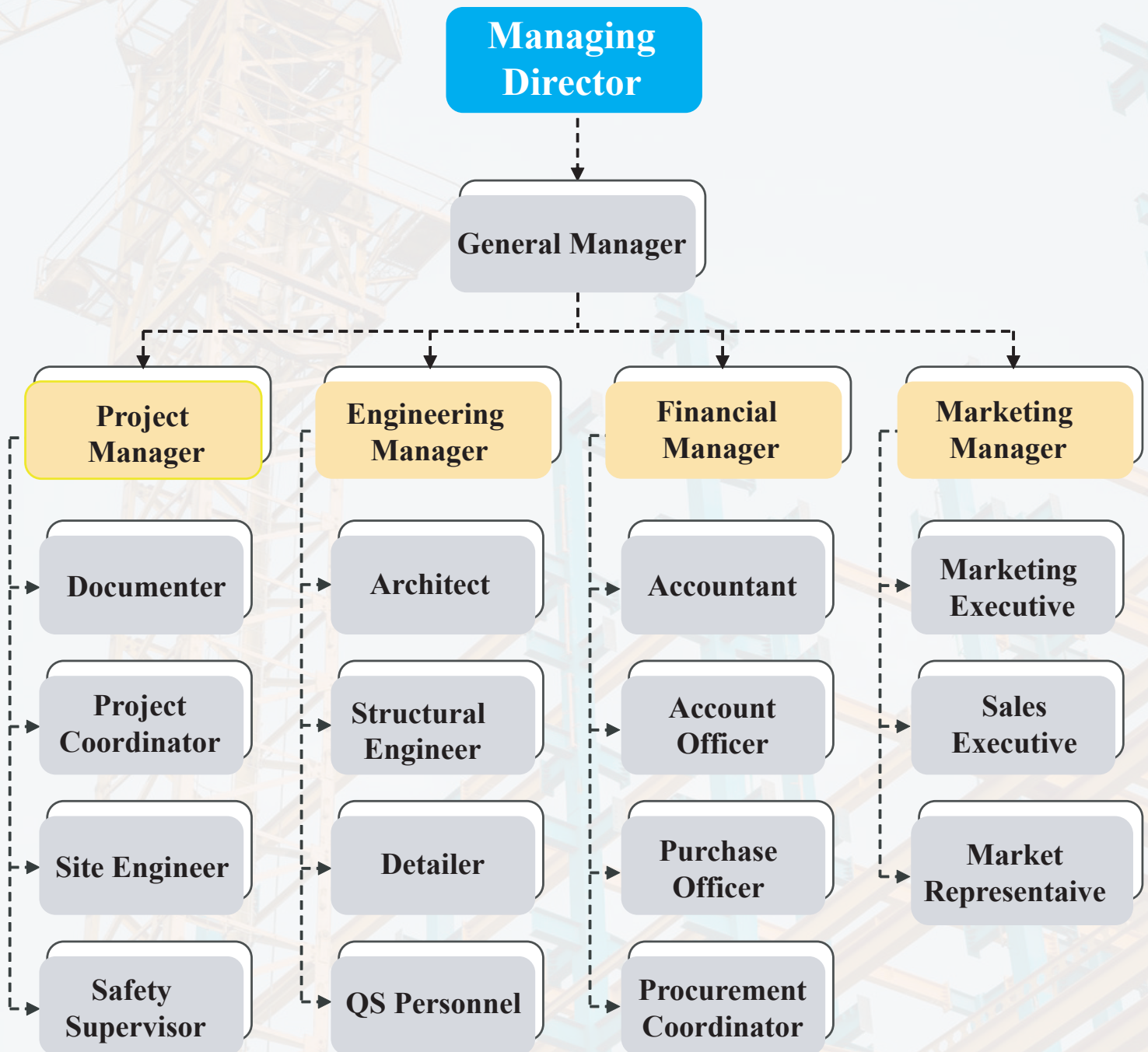
**ANGLE****CABLE BRACING****CHEQUERED PLATE****TRANSPARENT SHEET****SAG ROD****SILICON SEALANT****SINGLE BUBBLE INSULATION****DOUBLE BUBBLE INSULATION****PE INSULATION****ROCK WOOL****STEEL STAIR****DOUBLE SLIDING DOOR**

# PEB BUILDING ACCESSORIES

**ANCHOR BOLTS****NUT BOLTS****PURLIN****DECK SHEET****LOUVER****COLOR PROFILE SHEET****NATURAL VENTILATOR****GUTTER & DOWN PIPES****SCREWS****TURN BUCKLE****SANDWICH PANEL****RIDGE CAP**



# COMPANY ORGANOGRAM





## OUR RESOURCES & ASSETS (STEEL)



**AUTO WELDING MACHINE**



**CNC CUTTING MACHINE**



**H-BEAM FLANGE  
STRAIGHTENING MACHINE**

**H-BEAM WORKSTATION FOR  
ASSEMBLY WELDING &  
STRAIGHTENING.**

**MULTI HEAD CUTTING MACHINE  
BASIC CONFIGURATION IS 9  
PIECES STRIP FLAM & 2 PIECES  
CNC FLAM CUTTING TORCH.**



**GENERATOR (WELDING)**



**ASSEMBLING  
MACHINE**



**WINCH MACHINE**



**STEEL SCAFFOLDING  
ORIGIN-LOCAL**

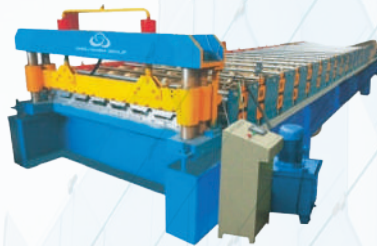


**ARC WELDING MACHINE**

# OUR RESOURCES & ASSETS (STEEL)



**SHEAR CUTTING  
MACHINE**



**SHEET PROFILE  
MACHINE**



**MAGNET DRILL MACHINE**



**MIG WELDING MACHINE**



**SAND BLASTING MACHINE**



**PAINT SPRAY MACHINE**



**TORQUE WRENCH MACHINE**



**IMPACT WRENCH MACHINE**



## OUR RESOURCES & ASSETS (RCC & GENERAL)



MIXTURE MACHINE



SOIL COMPACTOR ROLLER



EXCAVATOR



HAND VIBRATING  
MACHINE



GENERATOR (LIGHT)  
DIESEL 6 KVA



PLATE COMPACTOR  
MACHINE



ENGINE (LISTER)  
20 HP



DUMP TRUCK



SURVEY EQUIPMENTS

## OUR RESOURCES & ASSETS (RCC & GENERAL)



CONCRETE TESTING CYLINDER MOULDS  
(6" DIA X 12" HEIGHT)



TOTAL SURVEY STATION



FLOATER MACHINE



SLUMP TEST TUBE



ROD BINDER MACHINE



AVAILABLE SAFETY  
INSTRUMENTS



## OUR PROJECTS



**STEEL SHED WAREHOUSE BUILDING  
(CMTD PROJECT OF BANGLADESH ARMY)**



**STEEL SHED WAREHOUSE BUILDING  
(CMTD PROJECT OF BANGLADESH ARMY)**



**STEEL SHED BUILDING (SPINNING UNIT) DURING WORK  
(SILVER LINE COMPOSITE TEXTILE MILLS LTD.)**



**STEEL SHED BUILDING (SPINNING UNIT) AFTER WORK  
(SILVER LINE COMPOSITE TEXTILE MILLS LTD.)**



**STEEL SHED FACTORY BUILDING DURING WORK  
(AKH KNITTING & DYEING LTD.)**



**STEEL SHED FACTORY BUILDING AFTER WORK  
(AKH KNITTING & DYEING LTD.)**



## OUR PROJECTS



**STEEL SHED FACTORY BUILDING DURING WORK  
(MUMTAZ HERBAL PRODUCTS)**



**STEEL SHED FACTORY BUILDING AFTER WORK  
(MUMTAZ HERBAL PRODUCTS)**



**STEEL SHED FACTORY GODOWN BUILDING  
HAZRAT AMANAT SHAH SPINNING MILLS LTD.**



**STEEL SHED FACTORY GODOWN BUILDING  
HAZRAT AMANAT SHAH SPINNING MILLS LTD.**



**STEEL SHED FACTORY BUILDING  
(AKH KNITTING & DYEING LTD.)**



**STEEL SHED FACTORY BUILDING  
(AKH KNITTING & DYEING LTD.)**



## OUR PROJECTS



STEEL BUILDING 1  
(PEOPLES POULTRY LTD.)



STEEL BUILDING 2  
(PEOPLES POULTRY LTD.)



## OUR PROJECTS



**STEEL LIFT CORE**  
(HON. EDUCATION MINISTER DR. DIPU MONI'S  
HOUSE UNDER PWD PROJECT)



**STEEL LIFT CORE**  
(JMI GROUP)



**STEEL LIFT CORE DURING WORK**  
(AKH KNITTING & DYEING LTD.)



**STEEL LIFT CORE AFTER WORK**  
(AKH KNITTING & DYEING LTD.)



## OUR PROJECTS



**STEEL PANORAMIC LIFT CORE DURING WORK**  
(SILVER LINE COMPOSITE TEXTILE MILLS LTD. UNIT-3)



**STEEL PANORAMIC LIFT CORE AFTER WORK**  
(SILVER LINE COMPOSITE TEXTILE MILLS LTD. UNIT-3)



**STEEL CARGO LIFT CORE DURING WORK**  
(SILVER LINE COMPOSITE TEXTILE MILLS LTD. UNIT-1)



**STEEL CARGO LIFT CORE AFTER WORK**  
(SILVER LINE COMPOSITE TEXTILE MILLS LTD. UNIT-1)



## OUR PROJECTS



**ROOF INSULATION RENOVATION WORK  
(BEXIMCO PHARMACEUTICALS LTD.)**



**ROOF INSULATION RENOVATION WORK  
(BEXIMCO PHARMACEUTICALS LTD.)**



**ROOF EXTENSION WORK  
(DAFFODIL INTERNATIONAL UNIVERSITY)**



**ROOF EXTENSION WORK  
(DAFFODIL INTERNATIONAL UNIVERSITY)**



## OUR PROJECTS



**STEEL FLAT SHED VIEW 1  
(SAVVA RESTAURENT)**



**STEEL FLAT SHED VIEW 2  
(SAVVA RESTAURENT)**



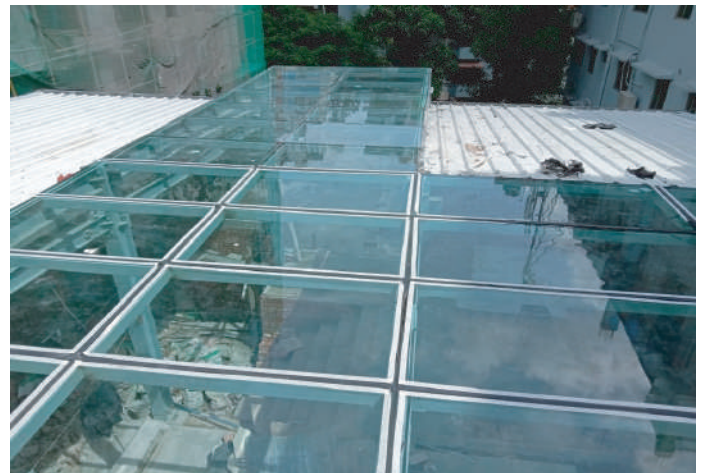
**STEEL SHED GODOWN BUILDING  
(GREEN GOLD AGRO PRODUCTS LTD.)**



**ROOF EXTENSION CONSTRUCTION WORK  
(EMBASSY OF JAPAN)**



**STEEL SHED  
(ODDESSY CRAFT (PVT.) LTD)**



**STEEL GLASS SHED RESTAURENT  
(BANANI)**



## OUR PROJECTS



**3 STORIED STEEL SCHOOL BUILDING  
(ALOKITO HRIDDOY FOUNDATION BANGLADESH)**



**STEEL SHED FACTORY BUILDING  
(BAY POWER TECHNOLOGY LIMITED)**



**JUTE GODDOWN STEEL SHED BUILDING  
(AKH FASHION LTD.)**



**JUTE GODDOWN STEEL SHED BUILDING  
(AKH FASHION LTD.)**



**STEEL CANOPY  
(BAY FOOTWARE LTD.)**



**PARA CENTER STEEL SHED BUILDING  
(UNICEF PROJECT AT RANGAMATI)**



## OUR PROJECTS



**STEEL SHED FACTORY BUILDING  
(TRZ GARMENTS INDUSTRY LTD.)**



**STEEL SHED FACTORY BUILDING  
(TRZ GARMENTS INDUSTRY LTD.)**



**STEEL SHED FACTORY BUILDING  
(UNIWORLD FOOTWEAR TECHNOLOGY LTD.)**



**STEEL SHED BOILER BUILDING  
(TM FASHION LTD.)**



**RETROFITTING WORK  
(SPARROW APPARELS LTD.)**



**RETROFITTING WORK  
(SPARROW APPARELS LTD.)**



## OUR PROJECTS



5 STORIED MADRASA RCC BUILDING  
LOCATION: KOPILMUNI, KHULNA



## OUR PROJECTS



COMPOSITE DUPLEX FARM HOUSE  
(3D FRONT VIEW AT DAY TIME)  
LOCATION: GAZIPUR.



COMPOSITE DUPLEX FARM HOUSE  
(3D FRONT VIEW AT NIGHT TIME)  
LOCATION: GAZIPUR.



COMPOSITE DUPLEX FARM HOUSE  
(3D SIDE VIEW AT DAY TIME)  
LOCATION: GAZIPUR.



COMPOSITE DUPLEX FARM HOUSE  
(3D SIDE VIEW AT NIGHT TIME)  
LOCATION: GAZIPUR.



## OUR PROJECTS



**6 STORIED R.C.C RESIDENTIAL BUILDING**  
**LOCATION: UTTARA, DHAKA.**



**6 STORIED R.C.C RESIDENTIAL BUILDING**  
**LOCATION: HAZIGONJ, CHANDPUR.**



**6 STORIED R.C.C COMMERCIAL BUILDING**  
**CLIENT: KM NOBELY GARMENTS LTD.**  
**LOCATION: GAZIPUR.**





## OUR PROJECTS (UPCOMING)



**7 STORIED R.C.C RESIDENTIAL BUILDING  
(DAY VIEW)  
LOCATION: AFTABNAGAR, DHAKA.**



**7 STORIED R.C.C RESIDENTIAL BUILDING  
(NIGHT VIEW)  
LOCATION: AFTABNAGAR, DHAKA.**



**7 STORIED R.C.C RESIDENTIAL BUILDING  
(DISTANCE VIEW)  
LOCATION: AFTABNAGAR, DHAKA.**



**7 STORIED R.C.C RESIDENTIAL BUILDING  
LOCATION: UTTARA, DHAKA.**



## OUR CLIENTS





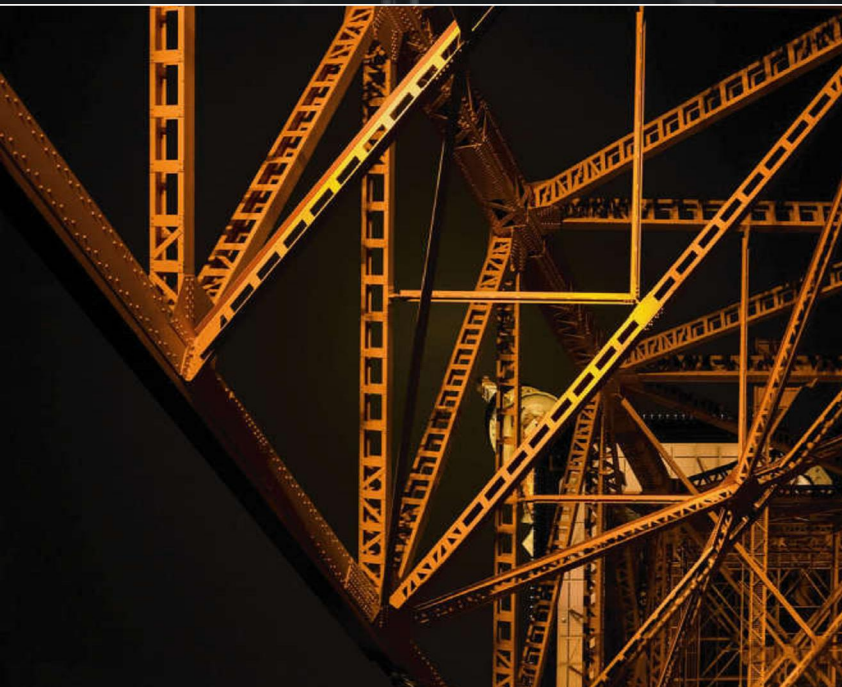
## OUR CLIENTS



Public Works Department

Hazrat Amanat  
Shah Spinning Mills Ltd.





# UNIVERSAL STRUCTURAL STEEL LTD.

Concept to Construction

House #16/6 (2nd Floor), Babor Road  
Shyamoli, Mohammadpur, Dhaka.