

BROCHURE



OVERVIEW







Founded in 2016, Masud Steel Design BD Ltd, being sister concern of MASUD Group serves as a sole purpose for design & manufacture of supreme quality pre-engineered steel building & structures and provide outright steel construction solutions to complex steel buildings without undermining business ethics, alongside following our motto. "Better Than Best" which already briefs you about it's unique working policy.



Managing Director's Message Raw Material Storage Introduction, Mission, Vision & Goal Stuctrual Building & Components Fire Safety About Pre-Engineered Building PAGE 9-31 Design, Detailing & Process Flow Chart List of Factory Machinery PAGE 32-33 PAGE 68-69 Substation & Generator Pipe Mill List of Auxiliary Equipments Transport, Delivery & Erection Completed projects by MSDBL List of Testing Equipments PAGE 42-43 Ongoing Project by MSDBL Safety Equipments Master Layout of Factory

MANAGING DIRECTOR'S MESSAGE





K M Masudur Rahman

Managing Director, Masud Steel Design BD.Ltd.

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"We are very pleased to welcome you to Masud Steel Design BD. Ltd. We have been working for 10 years with integrity; maintaining our relations and policies. It is well ensured that every worker of ours has developed their skills to uphold the required standard and quality in every field to meet our clients' demand. Fulfilling clients' expectations is our first priority. We always look forward to achieving our goals and remaining committed to our work. We can assure you that you would find what you intently demand at its best at Masud Steel Design BD. Ltd.

Because we believe in establishing modern business values in every soul working in our company to thrive in both national and global steel manufacturing industries."





INTRODUCTION

Masud Steel Design BD Ltd. (MSDBL) is one of the leading enterprises in construction in Bangladesh specializes in complete solutions in Steel structure designing, manufacturing and erecting.

With total land area of 7,000 decimal & total annual production capacity of 50,000 MT, MSDBL is one of the largest and most advanced steel structure production facilities in Bangladesh. It has been equipped with all the modern production lines from Germany, Italy, USA and stringent quality control system to achieve customers needed aesthetic appearance buttressed with quality & satisfaction.

MSDBL has invested heavily in R&D to enhance products and deliver optimal technical solutions to the customers by providing "single responsibility" from design, shop drawing, fabrication, transportation, erection, maintenance with longstanding engineering expertise in Pre-Engineered Steel sectors.

This integrated production process will bring to our customers huge advantages of an economical solution, high-quality products and excellent customer services.

Scope of business:

- Full-packaged Design, Manufacture, Fabrication and Installation of pre-engineered steel buildings & structures for civil, industrial, commercial and infrastructure projects.
- Manufacture and fabrication of high-tech MS & GI Pipe for multipurpose use.
- High-tech hot-dip galvanization.
- Project Management & Construction Management.

MSDBL is committed to continuously making great efforts for customer's trust and long-term cooperation."

We highly appreciate your trust for our products!

Thank you so much and we are looking forward to work with you!



MISSION VISION & GOAL

Vision

To be one of the top leading companies worldwide in steel fabrication industries with top end quality.

Mission

To reache the customers satisfaction by providing the best quality, services & on time delivery with competitive prices.

Goals

Maintaining workers satisfaction and self-esteem, while achieving responsible return on investment that would facilitate the continuing growth of business.

PRE-ENGINEERED STEEL FACTORY BUILDING



Birds Eye View



About PEB Factory

Total Land Area : 28,00,000 sft
Fabrication Floor Area : 1,00,000 sft
Shot Blasting & Painting Area : 30,000 sft
Cold Forming Area : 25,000 sft
Raw Material Storage Area : 50,000 sft
Gas Generator & Substation Area : 3,000 sft
Office Building (3 Stored) : 15,000 sft

Production Capacity:

Builtup Section : 36,000 MT/year Forming Section : 12,000 MT/year



OUR FACILITIES

Carbon-dioxide Liquid Storage Capacity: 10 ton

> Oxygen Liquid Storage Capacity: 10 ton

> > **Training Center**

Mosque

Dormitory for Officers & Guests

Dormitory for Worker

Play Ground

Gymnasium

Storage Area

Drive way Area

Cafeteria

Greenery Area











Framed Opening (Window/Louver)

Roof Bracing (Angle/Rod/Cables) 8. Framed Opening (Window/Louve)
9. End Wall Wind Column
10. Roof Bracing (Angle/Rod/Cable)
11. Main Frame Rafter
12. Jack Beam
13. Main Frame Tapered Column
14. Cantilever Fascia Frame

15. Lean To Frame 16. Crane Beam

17. Crane Column 18. EOT Crane

19. Roof Purlin

20. Flange Brace 21. Sag Rod 22. Eave Strut

23. Side wall Girt

24. Flush Fascia Frame
25. Cage Ladder
26. Deck Panel with Steel Mesh
27. Hand Rail (Steel)
28. Staircase (Checker plate/

C channel)

Crane Bracket

29.

4 3 9 7

Main Frame Straight Column

Portal Bracing Base Plate End Wall Girt **Anchor Bolts**

Wall Bracing (Angle/Rod/Cables)

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ABOUT MSDBL

PRODUCTION CAPACITY

Item	Unit	Production Capacity
Built-up Section	MT	36,000/Year
Cold Form Section	MT	12,000/Year

SCOPE OF PRODUCTION

- Factories
- Warehouses
- Commercial Showrooms
- Shopping Malls
- Multi Storied Building
- Office Buildings
- Convention Centers
- Foot Over Bridge
- Stadiums
- Sports Arenas
- Workshops
- Labour Camps
- Aircraft Hangars & Airport
- Distribution Centers
- Poultry & Dairy Farmhouses
- Modern Electric Pole
- Solar Lamppost

WHY PEB (PRE-ENGINEERED BUILDING)

Steel is the preferred choice for buildings worldwide due to

- Cost Efficiency
- Faster Occupancy
- Low initial Cost
- Large future expansion
- Ouick delivery of the steel building
- Architectural versatility
- Quick turnkey construction
- Low maintenance requirements
- Single-source responsibility
- Easy to relocate and resale value

Steel buildings accommodate a wide variety of occupants, from factories and showrooms to shopping malls and multistoried buildings. You'll be amazed at the value, strength, and wide range of design possibilities available using the steel pre-engineered building system.

Quick construction time and capacity for design flexibility-allowing our engineers to create a unique and attractive appearance that fits the distinctive business image of each customer.

WHY CHOOSE MSDBL?

- Uncompromised quality
- To meet your demand
- Committed delivery & services
- Competitive price
- Most modern techniques and machineries in this industry
- Imported raw materials which are prime quality
- Highly trained erection team who plans and safely executes the erection of every projects on time and within budget successfully

SOFTWARE WE USE

Design Software

(i) STAAD Pro (by bentley)

(ii) RAM Connection

(iii) ETABS (by CSI)

Detailing Software

(i) AutoCAD

(ii) Tekla Structures

MACHINE LIST Some Important Machinary



		//,		
SL	Machine Name	Brand	Model No	Page
01	Shear Machine	Inanlar	AHGM 6025	10
		Hacco	Haco 10'X1/2	11
		Mengele	GWF 4050x20	12
02	CNC Strip Flame &	Wuxi Zhouxiang	CNC/GDZ-5000	13
	Oxy Cutting Machine			
03	Complete Beams welding Line	CMM	TBL P.S.M. 2000/1000/15000	14
04	Gantry Welding Machine	-	SXBH20	15
05	Hydraulic Straightening Machine	Wuxi Zhouxiang	YJZ-60C	16
06	Edge Milling Machine	-	XBJ-6	17
07	Iron Worker Machine	Mubea	HP 1000/760	18
80	Iron Worker Machine	IHKM	HKM-175	19
09	CNC Plate Drilling Machine	-	ZPZ200	20
10	Radial Drilling Machine	Atlas	Z3050 x 16/1	21
11	H Beam Shot Blasting Machine	Wuxi Zhouxiang	HGP-10208	22
12	Screw Type Air Compressor Machine	Gardner Denver	ESM-45	23
13	ARC Welding Machine	Riland	-	24
14	Mig Welding Machine	Lincoln	-	25
15	Z Purlin Machine	Dingbo	-	26
16	C Purlin Machine	Accurl	-	27
17	Steel Curving Machine	Accurl	-	28
18	Deck Forming Machine	Dingbo	-	29
19	Roof Forming Machine	Accurl	820	30
20	Single Layer Wall Forming Machine	Dingbo	-	31





SHEAR MACHINE

Brand: Inanlar Model: AHGM 6025 Made in Turkey

MACHINE SPECIFICATION

Cutting Length : 6000 mm

Cutting Thickness: 25 mm

Cutting Capacity : 10 (70kg/mm²)

Cutting Angle : 0.7 - 2.4

Stroke per Minute : 3.3

Number of

Hold Downs : 24

Main Motor : 37 kw





Brand: Haco Model: Haco 10'X ½ Made in Belgium

MACHINE SPECIFICATION

Type : HYDRAULIC / GUILLOTINE

Capacity : 12 mm

Rear Stop : 750 mm

Work Length : 3000 mm

Speed : 7 @ 14 CYCLE / MINUTE

Engine : 30HP

Voltage : 575 V / 3PH / 60HZ

Weight : 18000 LBS

Angle : 0.5 °@3 °

Sheet Clamp : 18





SHEAR MACHINE

Brand: Mengele Model: Mengele-GWF 4050 x 20 Made in Germany

MACHINE SPECIFICATION

Sheet thickness : 20.0 mm

Sheet width : 4050 mm

Depth rear gauge : 0 mm

Type : S20-4000

Capacity : 4.050 x 20 mm

Work pressure : 260 bar

Weight Machine : 37.500 kg



Brand: Wuxi Zhouxiang Model: CNC/GDZ-5000 Made in China

MACHINE SPECIFICATION

Type : CNC cutting machine

Voltage : 220V/380V/415V

Weight : 2490KG

Gauge : 5000mm

Cutting width : 230-3200mm

Rail Length: 15,000 (valid cutting length 12,500)

Cutting depth : 6-100mm

Cutting speed : 50-1000mm/min

Free running speed : 5000mm/min

Material of Plate : Stainless steel, carbon steel or other material

Cutting Gas : Oxygen, Propane or acetylene or other cutting gas.





COMPLETE BEAMS WELDING LINE

Brand: CMM
Model: TBL P.S.M. 2000/1000/15000
Made in Italy

MACHINE SPECIFICATION

Height WEB : 200-1200mm

Width FLANGE : 150-800mm

Thickness WEB : 5-40mm

Thickness FLANGE : 6-40mm

Max. beam weight : 1000 kg/m

Min. beam length : 2000mm*

Traverse handling : By cylinder

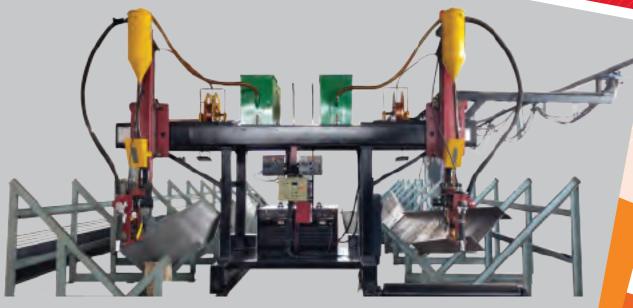
Max. beam length : 15000mm

Traverse working : 6T

pressure







GANTRY WELDING MACHINE

Model: SXBH20 Made in Turkey

MACHINE SPECIFICATION

Rail gauge : 2000mm

Web height : 200-2000mm

Flange width : 200-1000mm

Work-piece length : 4000~15000mm or as user's request

Welding speed : 0.15~1m/min

Returning speed : 3m/min

Overall power : 10kW



Made in China

MACHINE SPECIFICATION

Flange width : 200~1000mm

Flange thickness : ≤60mm

Minimum web height : 350mm

Material of plate : Q345(16Mn)

Straightening speed : 6.15m/min

Total Power : 27.5kW





Model: XBJ-6 Made in Turkey

MACHINE

MACHINE SPECIFICATION

The angle milling	: 0-45°
Thickness of steel plate	: 6-50mm
Traveling speed of crosswise milling	: 0.1-1m/min
Back stroke milling speed	: 2m/min
The rev.speed of milling spindle	: 80-400
The working pressure of hydraulic pressure system	: ≤3.5 mpa
The numbers of the cylinders	: 8
The height between the platform and the ground	: 900
The power of driving motor	: 1.5kW
The power of milling motor	: 5.5kw
The power of oil pump motor	: 5.5kw
The overall size of the machine (mm)	: 8680×2600×2100





IRON WORKER MACHINE

Brand: Mubea Model: HP 1000/760 Made in Germany

MACHINE SPECIFICATION

Pressure : 110 Tons

Diameter : 1 % Inch

Thru Thickness : 15/16 Inch

Channels in flange : 4-15 Inch

Beams in flange : 4-15 Inch

Channels in Web : 4-15 Inch

Beams in Web : 4-24 Inch

Depth of throat : 30 Inch

Working Height : 44 % Inch





IRON WORKER MACHINE

Brand: IHKM Model: HKM-175 Made in Turkey

MACHINE SPECIFICATION

Punch and die Ø 26 mm.

Punch holder.

Flat bar cutting blade.

Solid round - square cuttin blade.

Angle shear.

Notching blade.

Working light.

Central lubrication system.

Electrical back gauge.

C - spanner.





CNC PLATE DRILLING MACHINE

Model: ZPZ200 Made in Turkey

MACHINE SPECIFICATION

Max. drilling diameter (mm)

Max.dimension of workpiece (mm)

Rotary speed of main shaft

Oil-cylinder used for clamping working table

Work-piece clamping way

Main shaft feeding way

Total power

: φ60

: 2000×1500×80

: 130-400r/min

: 12 cylinders

: hydraulic

: lead screw

: 12kW



RADIAL DRILLING MACHINE

Brand: Atlas Model: Z3050 x 16/1 Made in Germany

MACHINE SPECIFICATION

	~
Max drilling diamate	
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The gap between the center line

The gap between the spindle end

Travel of spindle

Taper of spindle

Range of spindle speed

Number of spindle speeds

Range of spindle feeds

Table size

Horizontal travel of spindle head

Motor power

Weight

Overall dimensions

:50mm

: Max:1600 mm

Min 350mm

: Max 1220mm

Min 320mm

: 315 mm

: MT5

: 25-2000 rpm

: 16

: 0.04-3.20 mm/r

: 630*500*500 mm

: 1250 mm

: 4 KW

: 4300 kg

: 2500*1070*2840mm





H BEAM SHOT BLASTING MACHINE

Brand: Wuxi Zhouxiang Model: HGP-10208 Made in China

MACHINE SPECIFICATION

Width×height of work-piece

Length of work piece

Quantity of Shot blaster

Allowable load of conveyor

Conveying speed

Air volume for dust removal

Circulation quantity of grinding shots

External dimension of main machine (L×W×H)

Depth of pit

Total power

: 1200×2000mm

: 3000~15000 mm

: 8

:1000kg/m

: 0.5~5m/min

: 12000m3/h

: 120t/h

:7200×2520×3650mm

: 1820mm

: 140kW





Brand: Gardner Denver Model: ESM-45 Made in England

MACHINE SPECIFICATION

Nominal Pressure : 7.5 bar 10 bar 13 bar

VS 132

Drive Motor : 45 kw

Free Air Delivery at 7.5 bar Nominal Pressure : 8.01 m³/min

Free Air Delivery at 10 bar Nominal Pressure : 7.02 m³/min

Free Air Delivery at 13 bar Nominal Pressure : 6.13 m³/min

Noise Level at 1 m¹ : 69 dBA

Noise Level Tolerance at 1 m : ±3 dB

Weight : 788 kg

Length x Width x Height : 1722 x 920 x 1659 mm





ARC WELDING MACHINE

Brand: Riland Made in USA

MACHINE SPECIFICATION

Rated input voltage (v) : Single phase AC380V±15%

Input frequency (Hz) : 50/60

Current/voltage regulation range (A/V) : 40-480

Thrust adjustment range (A) : 0-100

No-load voltage (V) : 68

No-load loss (W) :80

Efficiency (%) : 85

Power factor : 0.93

Shell protection class : IP21

Weight (kg) : 26

Size : 535 x 272 x 463





MIG WELDING MACHINE

Brand: Lincoln Model: USA

MACHINE SPECIFICATION

Input Voltage/Phase/Frequency

Output Current/Voltage/Duty cycle

Amps Input at Rated Output

Output Range/OCV

Dimension

Weight

: 415V/3P/50-60HZ

:500A/39V/60%@40°C

387A/3<mark>3.3V/100%@40°C</mark>

: 37.5A@500A

:50-50DA/60V

: 670x320x540 (mm)

: 42kg





Z PURLIN MACHINE

Brand: Dingbo Made in China

MACHINE SPECIFICATION

Suitable to process: colored steel plate, galvanized board

Width of the plate : 80-300mm(valid)

Roller station : 16groups

Rolling galvanization thickness : 2.0-3.0mm

Dimensions : Approx10m*1.2m*1.5m

Power : 18.5kw

Thickness of the plate : 2.0-3.0mm

productivity : 7m-12m/min

Diameter of the roller : 85mm

Voltage : 380V 50Hz

Production Range (Thickness) : 1 mm to 3 mm





C PURLIN MACHINE

Brand: Accurl Made in China

MACHINE SPECIFICATION

Proc	luction	Capa	acity
			~~:~,

Power(W)

Type

Voltage

Weight

Dimension(L*W*H)

Machine function

Control system

Decoiler

Production Range (Thickness)

: 8-15m

: 11kw

: Steel Frame & Purlin Machine

:380v

: 6.oT

: 6.0*0.95*1.5m

: C purlin forming

: PLC (imported Brand)

: Hydraulic Decoiler

: 1 mm to 3 mm





STEEL CURVING MACHINE

Brand: Accurl Made in China

MACHINE SPECIFICATION

Hydraulic Pressure

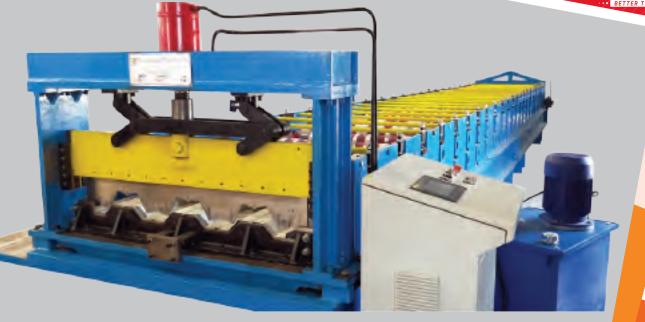
Voltage Standard

Suitable Thickness	0.3-0.8mm	
Forming Stations	3 Stations	
Motor Power	5.5KW	
Under Frame	400H <mark>-Beam</mark> , Welded Structure	
Screw & Bolt	8.8 National Standard	
Transmission Chain	1 Inch	
Pump Power	5.5KW	
Production Speed	12-15m/min	
Cutting Type	Stop to post and post to cut	

16 Mpa

380V/3 Phases/50 Hz





DECK FORMING MACHINE

Brand: Dingbo Made in China

MACHINE SPECIFICATION

Specification of roll

Roll speed; Roll steps

Main motor power

Dimension of product

Material and diameter of bearing

Material thickness

Model of bearing

Mode of cutting

Hydraulic station power

Computer cabinet size

PLC, Dynamic currency device

: 1250mm

: 8-10m/min; 26

: 11 KW*2

: 16500mm*1500mm*1100mm

: Steel 45#, 70mm

: 0.5-2.0mm

: 45

: Hydraulic cutting

: 4 KW

: 700mm*1000mm*300m

: Japan Panasonic





Brand: Accurl, Model: 820 Made in China

MACHINE SPECIFICATION

Raw Material Yield Strength

De-Coiler Weight Capacity

Roller Station

Diameter of Shaft

Operation

Voltage

Main Motor

Pump Motor

Production Speed

Electric Box & Control System

Size

: 240Mpa-5400Mpa

: 5 Tons

: 22 forming units

: 80 mm

: Automatic Hydraulic Type

: 380V/50HZ, 3 Phase

: 5.5 KW

: 4KW

: 20m/min

: Frequency Converter (Taiwan Delta)

: 9-10m length



SINGLE LAYER WALL FORMING MACHINE

Brand: Dingbo Made in China

MACHINE SPECIFICATION

Suitable material

Material thickness

Forming speed

Main motor power

Hydraulic cutting power

Roller material

Cutting blade material

Shaft material

Shaft diameter

Control system

Machine's size

: Color steel sheet

: 0.3-0.8mm

: 10-15m/min

: 5.5 Kw (Depend on final design)

: 3 Kw (Depend on final design)

: 45#steel Chrome Plated

: Cr12 Mould Steel

: High quality 45# steel with heat treatment.Roller grinder milling.

: 76mm

: PLC with touch screen (Panasonic/Siemens)

: About 10.5m×1.8m× 1.5m



SUBSTATION & GENERATOR

Gas Generator

Captive Power

Total Capacity: 10.5 MW Running Capacity: 3.0 MW Brand: MWM Made in Germany



Control Panel LT Switchgear Capacity: 6400 A Brand: Siermens Made in Germany

SUBSTATION & GENERATOR





Diesel Generator

Capacity: 500 KVA Frequency: 50HZ Brand: Crossworld Made in UK

Sub-Station

Capacity: 750 KVA Frequency: 50HZ Rated Voltage: 11 kv/ 0.4 kv





MACHINE LIST

Auxiliary Equipments



SL	Machine Name	Capacity
01	Weighing Bridge Scale	100 MT
02	Overhead Crane	32, 10, 5 MT
03	Scissor Lift	300 kg
04	Forklift	5, 10 MT
05	Man Lift	350 kg
06	Mobile Crane	10 MT
07	Hydra Crane	16 MT

WEIGHING BRIDGE SCALE



Weighing Bridge Scale

100 Ton Scale Made in Korea









Scissor Lift

Capacity: 300 kg Lifting Height: 16m



Forklift

Capacity: 10 Ton



Man Lift

Capacity : 350 kg Lifting Height : 20m



MACHINE LIST

Testing Equipments





SL	Machine Name
01	Crane Scale
02	Elcometer Tester
03	Welding Gauge
04	Olympus Test Meter
05	Digital Slide Calipers & Micrometer
06	DPT Solutions Tester



CRANE STALE

TESTING EQUIPMENTS



Capacity: 5 Ton



Elcometer Tester



Welding Gauge





TESTING EQUIPMENTS

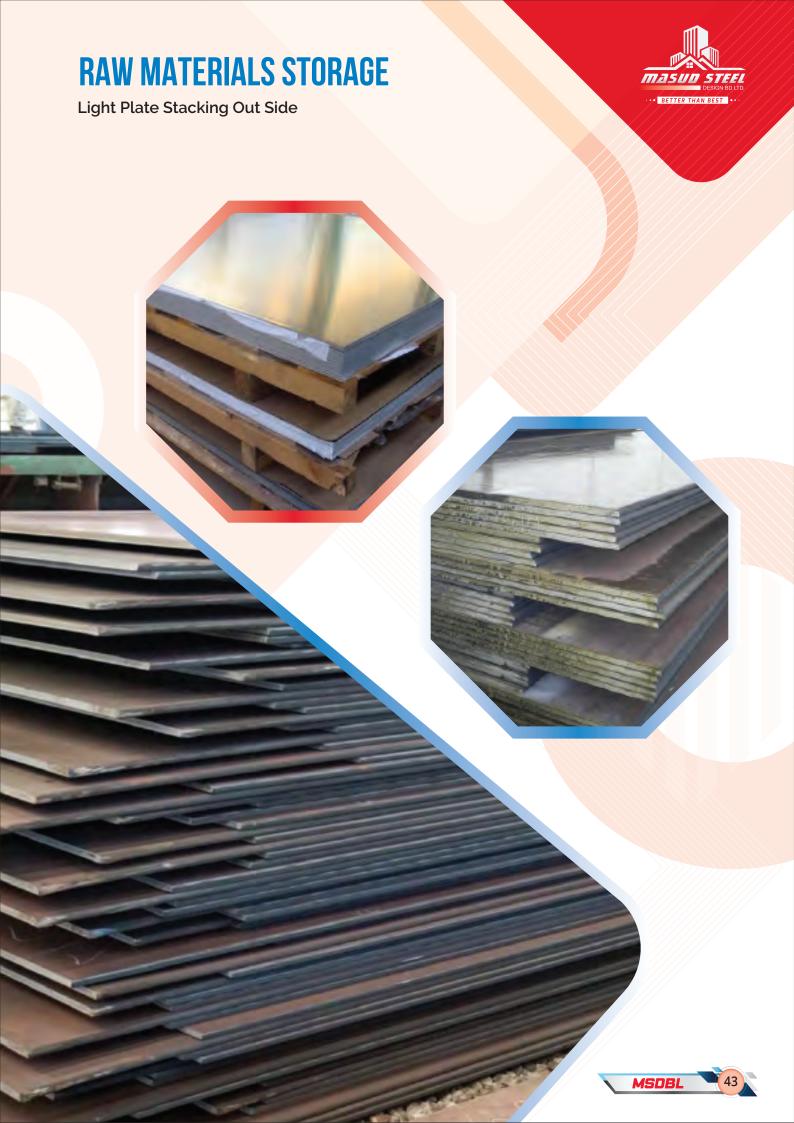














RAW MATERIALS STORAGE

Heavy Plate Stacking Out Side







FINISHED GOODS STORAGE

C, Z Purlin & Decking Sheet











MACHINE LIST

Saftey Equipment





SL	Machine Name
01	Welding Hood
02	Googles & Hand Gloves
03	Portable Fire Extinguisher



SAFTEY EQUIPMENT

Goggles & Hand Gloves

Material (Goggles): Filter Lens, Clear Lens Material (Hand Gloves): Lather



Welding Hood

Material: Lather, Hard PVC



Portable Fire Extinguisher

Water, ADC Powder, CO2, Foam



STRUCTURAL SYSTEM

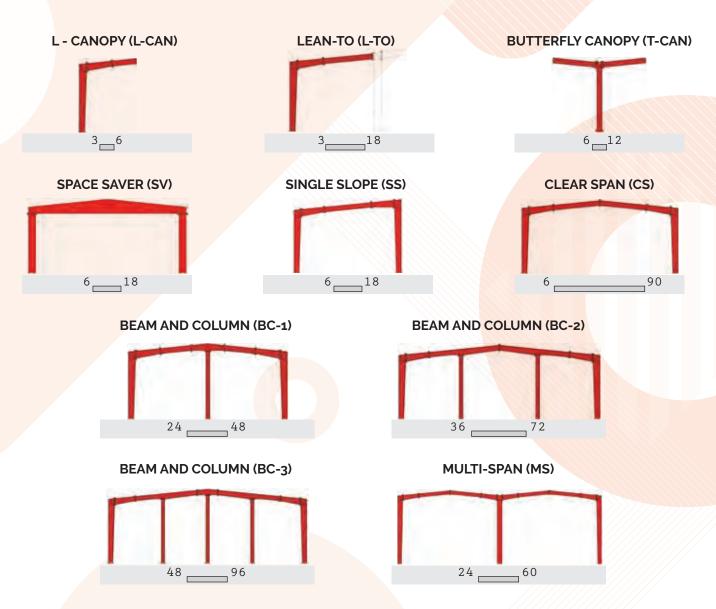


Structural systems are the main load carrying members of a pre-engineered building. The shape and size vary based on application and requirements. The main frame members are the main load carrying member of a structural system which include columns, endwall posts, rafters and other main support members.

All structural steel sections and welded plate members shall be designed in accordance with the applicable sections, relating to design requirements and allowable stresses, of the latest edition of the American Institute of Steel Construction (AISC) "Specification for the Design, Fabrication and Erection of the structural steel for buildings"

General guidelines on recommend frame types for different width are given below:

Main Frames



Suggested width range (meters) for most economical buildings Standard Eave height: 3M-8M; Std bay spacing: 6M/7.5M/9M; Standard Loadings: Live load; 0.5/0.6/1.0 KN/M2, Wind load: 0.75/1.0/1.25 KN/M2



MEZZANINE

Standard Mezzanine Floor Systems consist of galvanized profiled steel deck, joists, beams and intermediate support columns. Main beams can span in lateral directions and joists in longitudinal directions.



FASCIAS & CANOPIES

MSDBL provides fascias specially designed to your requirements. These can be either vertical, horizontal or with curved sheeting to enhance the architectural look of your building. Wall canopies at eaves, endwall, over doors and windows are also available.



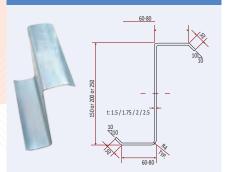
CRANE BEAMS

Buildings can be designed to support any required crane system. Generally, overhead travelling cranes up to 15 MT are supported on brackets. For higher capacities, an independent support system is provided. Crane support for overhead travelling cranes includes brackets, beams and bracings.

SECONDARY MEMBERS

Purlins, eave struts and C-Sections 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. We can also supply purlin with G450Mpa. We offer two choices of surfaced coating (1) Hot-dip-galvanized with 275GSM coating and (2) Zn-Al-Mg coating. These can be chosen based on environment condition of the building being constructed.

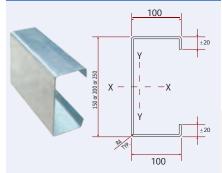
Z-Purlin



Purlins are roll formed Z sections with standard thickness 1.5 - 2.5mm, 150.

200 & 250mm deep with 64mm flanges with a 14mm stiffening lip formed at 450 to the flange

C-Section



C- Sections are 150, 200 & 250mm deep with standard thickness 1.5 - 2.5mm and a 100mm flange. The flanges are perpendicular to the web and have a 24mm stiffening lip

Sag Rod



A tension member used to limit the deflection of a girt or purlin in the direction of the weak axis. Sag Rod is eletro-galvanized or hot dip gavanized. Diameter is from 12mm to 16mm

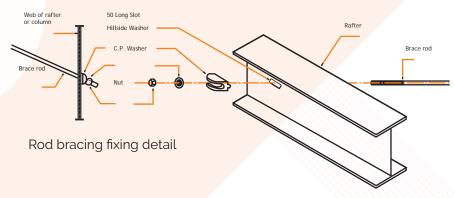
BRACING SYSTEM

Bracing system includes roof bracing and wall bracing. Roof bracing is usually diagonal while wall bracing can be diagonal, portal, x-portal.

- Diagonal (X-bracing): can be rod, wire or angle bracing that is cheap bracing option.
- Diagonal bracing: is connected to rafter or column by nut, washer and hill side washer.
- Portal bracing: is provided where X-bracing is not allowed due to a requirement of clear non-obstructed space.

The bracing system must be installed properly to make sure the load is transmitted down to the column base or foundation. Bracing rod is painted red or grey alkyd primer 40 micron DFT or hot dip galvanizing ASTM A153 will confirm to the physical specifications of ASTM A-36 or equivalent.

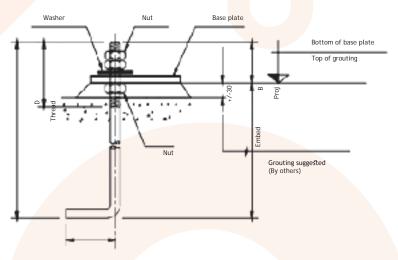






ANCHOR BOLT

Anchor bolt used to anchor structural members to a foundation or other support is plain or hot dip galvanizing



Anchor bolt detail setting



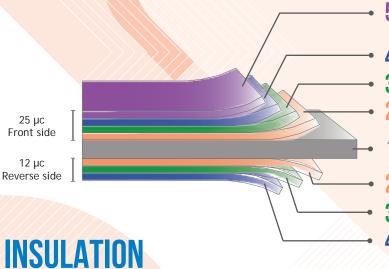
20 - 50mm (diameter)



STANDING SEAM

The introduction of the MSDBL Standing Seam Panel Systems with double lock standing seam ends eliminates the risk of leakage at fasteners and side and end laps due to the concealed fastening system and provides excellent protection in all weather conditions.

CROSS SECTION OF PAINTED SHEETING



- Top Finish Coating Bare Aluzinc/ Regular-modified Polyester/ Silicone-modified Polyester/ Polyvinyldifluoride
- **Primer Coating Chromate**
- Coating
- Alu Zinc Coating/Zinc Coating
 - Base Metal: Steel alloy 0.5 mm standard thickness, min. yield strength 345Mpa
- Alu Zinc Coating/Zinc Coating
- **Chromate Coating**
- Epoxy/Polyester

MSDBL can provide insulation for roofing & wall cladding with four types of materials: Glasswool, Mineralwool, Air Bubbles, and Polyethylene Foam. Kirby also provide Wall & Roof PUF Panel.

GLASSSWOOL

Glassswool are manufactured from stable glass fibers bonded with thermosetting resins. They are light in weight, strong, resilient and easy to handle. Products are available unfaced or with a variety of facings to suit the applications: white vinyl, FSK, metallized polyester, kraft paper and glass tissue with nominal density from 10kg/m3 to 48kg/m3. Products are generally recommended for thermal and/or acoustic insulations of all buildings walls and roofs.



MINERALWOOL

Mineralwool are manufactured from stable rock fibers bonded with thermosetting resins and are light weight, strong and resilient and easy to handle. Mineralwool are fine and uniformly distributed that ensure excellent uniform thermal resistance of building roll. Mineralwool are available with **FSK** (Aluminium Aluglass. Foil/glass scrim/Kraft paper laminate) facing which provides an efficient vapor barrier. Kraft Paper facing is also available.



AIR BUBBLES

Air bubbles is a thermal reflective insulation made of two external aluminum foil pure covering a single core layer of polyethylene bubble air film. The bubble air is 10mm diameter. The aluminum foil is silver bright reflects the heat radiation. The polyethylene bubble air sheet prevents the thermal conductivity and is sound proof.

Air bubbles is high strength, waterproof, fire retardant. The aluminum foil is anti-oxidant treated to withstand different weather conditions. Product is manufactured American by standard.



ACCESSORIES

ROOFING ACCESSORIES



SKY LIGHTS & WALL LIGHTS

Produced from polyester containing UV stabilizer and high quality fiber glass. In addition, it is protected by two



layer sealable films so it can stand the exterior environment. It can maintain its translucency and mechanical properties for a long time which brings high economic efficiency. It manufactured under ASTM D3841-97, which is set exclusively for F.R.P roong.

POWERED VENTILATORS

MSDBL 'C' whirlwind low silhouette extract ventilator with spun aluminum non-return shutter and one piece base and



throat. Mounted on FRP roof curb molded to suit Kirby Roof panels.

ROOF CURBS

Enclosure for ducts or other roof projections. 0.6mm stainless steel fitting Kirby Roof panels. Size is as per request.



TURBO VENTS



Wind driven Turbo ventilators are powered by the wind to create effective ventilation for different industries.

Turbine or Turbo ventilators are round metal vents with fins in them. Rotation causes a centrifugal force on the tip

centrifugal force on the tip of the fins which suck out the stale hot air from inside of the building. The faster the wind, the faster the turbine will rotate and exhaust the heat, smoke, fumes, humidity.

RIDGE VENTILATORS



Gravity type with bird screen and Mechanical control Damper, standard size is 3000 mm long with a throat opening

of 300 mm.

ROOF JACKS



Enclosure for pipes or stacks projecting from the roof; 2mm thick FRP to fit Kirby roof panel.

Available in opening

sizes for 50 mm to 300 mm diameter.



ACCESSORIES

ROOFING ACCESSORIES

LOUVERS

Adjustable louvers are with overlapping blades allowing free air flow. Size is as per request incorporating stainless steel insect mesh, hand crank and blade adjustment lever.



ALUMINIUM WINDOWS



Designed for installation with Kirby wall panel, double slides or as per request, self flashing with reinforced clear glass and removable half insect screen. Standard size is 1 m x 1 m. Multiple

windows can be formed by joining the jamb fins together.

DOORS

SLIDING DOORS (SINGLE OR DOUBLE LEAF)

3 m, 4 m and 5 m wide and 3 m to 5.5 m high. Other sizes are available on special order.



WALK DOORS (SINGLE OR DOUBLE)



915 mm or 1830 mm wide x 2134 mm high made of 20 gauge electrogalvanised steel with honey core. Fireproofing is 60, 90, 120 minutes or as request. Door fixture is provided.

SUNDAY ITEMS

CONNECTION BOLT

Shall be ASTM & DIN standard. All bolts have hex head, zinc plated & hotdip gavanized finishing.



SELF DRILLING SCREW

Shall be DIN standard with EPDM bonded washer & class 3, 1000 hrs SST (Salt Spray Test) finishing.

SEALANT



Flexible sealer tapes made from Butyl rubber for sheeting side laps, end laps and accessories.

WATER DRAINAGE

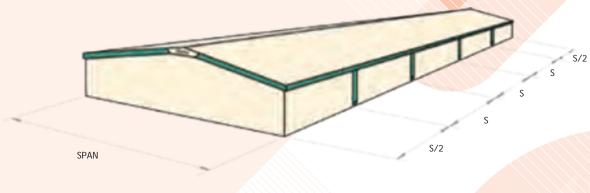


The water drainage systems include two main members:

Gutter: a light gauge metal member at an eave, valley or parapet designed to carry water from the roof to downspouts or drains. There are two types of gutter: eave gutter and valley gutter. The gutter is galvanized, galvalume (color or plain) or stainless steel with thickness of 0.5mm, 0.6mm, 0.7mm, 1.0mm, 1.5mm

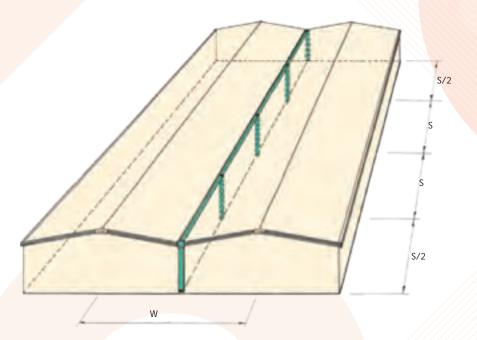
Downspout: a conduit used to carry water from the gutter of a building. Its shape is rectangular or round galvanized, galvalume or PVC with various size.

EAVE GUTTER



S = DOWNSPOUT S/2 = ONE HALF DOWNSPOUT SPACING

VALLEY GUTTER





MSDBL GREEN BUILDING CONCEPT

Our philosophy and environmental commitment of a Green building means, we approach the design, manufacturing and construction of each project to minimize impact on environment. Masud Steel uses the concept of green building to provide the steel structure to its customers to support the cause of saving the earth from impact of increasing carbon foot print.

INDUSTRIAL

Steel plants
Oil & Gas Structures
Metal Smelters
Chemical Plants Fertilizers
and Petrochem
Cement Plants etc.

INFRASTRUCTURE

Power Plants
Airports
Road & Railway Bridges
Transmission Towers
Telecom Towers etc.

STRUCTURAL STEEL

COMMERCIAL BUILDINGS

High Rise Buildings Commercial Complexes Malls & Multiplexes etc.

ENGINEERING

The engineering department uses the latest versions of internationally renowned industry standard 2D and 3D software for designing and detailing. Masud Steel upholds its position at the cutting edge of the industry due to its commitment to quality and customer satisfaction. Skilled structural engineers using the very latest in computerized engineering design and detailing systems permit the selection of the most economical, accurate and efficient framing and cladding systems.

DESIGN SOFTWARE

The Design / Engineering Department are fully computerized, utilizing the latest software packages to enable them to produce the most economical structures in the shortest time possible. The software packages most frequently used are: STAAD PRO, AUTO CAD and XSTEEL.

WELDING

All welding operations are carried out in accordance with Masud Steel Engineering's approved welding procedures by independently qualified welders. Kirby welders are trained to perform the welding processes SAW, SMAW & FCAW and are AWS D1.1 qualified for various positions including 6GR for T, K, and Y connections. During the welding operation all welders are continually monitored to ensure that the welding parameters, as detailed in the relevant procedure, are adhered to and that the level of workmanship is maintained.

All items, after completion of welding are visually inspected against the requirements of AWS D 1.1 for compliance. Any visual discontinuity is marked and repaired immediately. Only when the item has been fully passed and accepted will it be released to blasting and painting all welding inspections are entered onto the piece monitoring system.

MASUD STEEL DESIGN BO LTD

NON DESTRUCTIVE TESTING

Welding Inspection & Non-Destructive Testing monitoring of welding variables like voltage, amperage and welding consumables is carried out per approved welding procedure specifications. In addition, visual inspection is carried out on 100% of each section to ensure highest quality in manufacturing

MSDBL is capable of performing UT, MPI & PT as per AWS D1.1/D1.1M-2006 requirements. Further, Kirby has the capability to carry out ultrasonic, radiography, MPI & PT if required the results of all NDT examinations are entered on the Piece Monitoring System.

STRUCTURES FOR HIGH RISE BUILDINGS

Masud Steel has facilities for production of complex structures required for Commercial buildings, such as offices, shops and mixed residential-commercial buildings, multi storey factory buildings, schools and hospitals.

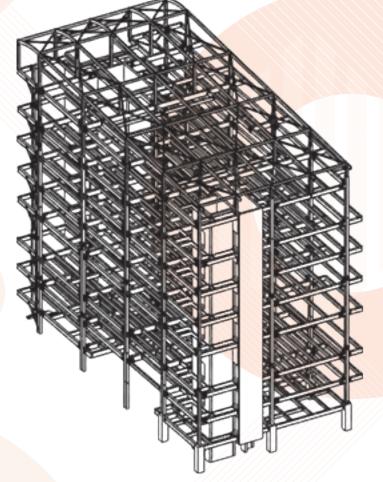
The commercial sector demands buildings that are rapid to construct, of high quality, flexible and adaptable

in application, and energy efficient in use. MSDBL has in house facilities for design and manufacturing of structures for high rise buildings. While designing the buildings due consideration is given to clear floor spans, cladding systems, painting requirements, services required and speed of construction.

We implement the concept and framework based on the needs of the customer, and then plan the final design incorporating all the specifications. This results in an optimized solution meeting expectations of esteemed customers.

The benefits of steel buildings for high rise construction are:

- Column free spans, permitting flexibility in use.
- Good accuracy as all members are manufactured using factory controlled processes.
- Ease of extension and adaptation in future including needs for re-service.
- Variety of cladding options.
- · Long design life and ease of maintenance.
- Energy efficient design
- Less wastage and recyclability of material.
- Easy to dismantle and relocate.
- Building comfort with high levels of thermal insulation.
- Rapid and safe installation.
- Material deliveries are phased out so that storage space requirement is reduced





COLD ROLL FORMED BUILDING



Cold formed steel structures are made from structural quality sheet steel that are formed into shape either through press-braking blanks sheared from sheets or coils or more commonly, by roll forming the steel through a series of dies.

No heat is required to form the shapes (unlike hot-rolled steel), and thus the name cold-formed steel. Cold-formed steel menbers and other products are thinner, lighter, and easier to produce and typically cost less than their hot-rolled counterparts.

CFS framing for floors and interior walls are very competitive with lumber and engineered wood products. CFS framing provides builder and consumers flexibility in design option that can not be economically accommodated using traditional framing materials (i.e., larger open space, longer spans and doorways).

COLD ROLL FORMED BUILDING





APPLICATION:

- · Health Care Centres
- Community Centres
- · Schools
- Site Offices
- Mass Housing
- Relief Camps
- Labour Camps

SPECIAL FEATURES:

- Spans up to 15 m
- Clear height up to 3.0 m
- · Variety of Sheeting: Galvanized, Galvalume
- · Wall Options sheeted, Block works
- Covered Ceilings Roof Liners
- Insulation for Roof and Wall
- Partition Walls
- Custom-designed
- Special accessories like doors, windows, ventilators, etc.
- Defence Shelters



FIRE SAFETY

FIRE SAFETY DESIGN

MSDBL stuctures are equipped with all fire safety precautions as per the needs of both customers and workers safety. The selection of members while designing the building is done based on the provisions of code and customers need, with the help of careful designing and selection of suitable fire protection system can meet stringent fire requirements as important aspects.

Life safety

- The load bearing capcaity of the building can be suitable for a specific period of time to evacuate the people and critical items.
- The generation and spread of fire and smoke within the works are limited.
- The spread of fire to the neighbour building is limited.
- The safety of rescue team is taken into consideration.

Loss prevention

The implications of a fire on the continuing viability of a business can be substantial and consideration should be given to the limitation of damage to: The structure and fabric of the building; Building content; Ongoing business viability.

Environmental Protection

- The effects of fire on adjacent buildings or facilities
- The release of hazardous materials into the environment, such as gaseous products of combustion and fibers into the atmosphere or pollution of the groundwater due to fire-fighting operations.

Factors taken while designing

- Toxicity and irritancy of combustion products
- Temperature/radiation intensity of combustion products
- Obstruction caused by combustion products
- Protection of steel structure using paint and fire resistant boards

"REACTION-TO-FIRE" CONCEPT

The reaction to fire is the degree of participation of a material to a fire to which it is subjected. Therefore it is a particular behaviour which takes on extreme importance in the early stages of a fire. In the growth phase of a fire, the following reaction-to-fire properties are important.

Ignitability this property determines the difficulty with which a material can be ignited from as small source of heat or flame.

Non-combustibility this property determines the difficulty with which a material burns, contributes heat to a fire, and produces smoke and toxic/irritant products of combustion.

Rate of heat release the rate of heat release determines the amount of fire effluent is transported throughout the building.

Flame spread This property indicated the speed at which flame spreads across the surface of a material.

Melting and shrinkage Some materials shrink away from the heat source and form molten droplets, which fall down and flame on contact with the fire, contributing to spread the fire front.

Corrosion Many materials used in steel building produce gases such as hydrogen chloride that corrode metals.

Catagorization of materials as per fire reaction (EN 13823):

Material	Non combustible		Mo	Moderately combustible			Combustible	
Class	A1	A2	В	С	D	Е	F	

FIRE SAFETY



"REACTION-TO-FIRE" CONCEPT

While fire reaction is extremely important in the initial growth phase of a fire. Fire resistance behaviour is important after flashover occurs. Fire resistance is the ability of maintaining the integrity of structure to:

- To resist collapse
- To resist the penetration of flames and hot gases while, at the same time, maintaining structural integrity.
- To keep the unexposed face sufficiently cold so as not to ignite materials which come in contact with it.

FIREPROOFING SYSTEM

Fireproofing system on structural steel can be cementitious or intumescent coating. The thickness of fire paint depends on shape factor of the steel member cross section which is defined as a ration of perimeter of section to the minimum thickness.

Intumescent fireproofing designed for the fire protection of steelwork for up to 3 hours fire rating, depending on the design. The recommended use for this product is fireproofing of interior steel beams, columns. It must be applied over a compatible primer. It is not for use in exterior environments or for interior steelwork that will be exposed to freeze/thaw cycling or long-term surface temperatures over 140°F (60°C) in normal use.

Features:

- UL/ULC listed designs for many types of steel sections. Up to 3 hour fire ratings for both interior general purpose and interior conditioned space applications.
- Decorative finish provides a smooth, decorative finish. Compatible topcoats availabe in a wide range of colors
- Durable finish provides a hard, dust free surface resistant to normal wear.
- Thin film coating offers an economical solution to alternative fireproofing.
- · VOC compliant.
- Easy repair if damaged it can be repaired easily using material as putty.

Cementitious fireproofing supplied as a single powder component that is mixed with clean, potable water prior to application. It is designed to fireproof interior structural beams, joists, walls, roofs, decks, girders, columns.

Features:

- · Cementitious Durable, remains in place during construction and beyond.
- Excellent film build On all surfaces including columns, beams and decks.
- Applicator friendly High film build, no alum required for increased coverage and easy clean-up.
- Mineral Wool free No airborne fibers.
- Alum and Chloride free No special priming required.
- Styrene free No toxic decomposition gasses.
- · Economical Maintains project on budget.
- Quality Manufactured Under strict Carboline quality standards.
- Ready to Use No site additives required.



DESIGN & DETAILING

The engineering department uses the latest versions of internationally renowned industry standard 3D and 2D software for designing and detailing. MSDBL upholds its position at the cutting edge of the industry due to its commitment to quality and customer satisfaction. Skilled structural engieers using the very latest in computerized engineering design and detailing systems that permit the selection of the most economical, accurate and efficient framing and cladding systems. The Engineering Department is fully computerized, utilizing the latest software packages to enable them to produce the most economical structures in the shortest time possible. The software packages most frequently used are:

Package	Description	Specifications/Codes	
STAAD.Pro	Hot-Rolled & Built-up Sections	BS 5950 A.I.S.C	
PROKON	Design of steel connections and column base plates	BS 5950	
ETAB.	Multi-storey building analysis and design	A.I.S.C	

The Drafting office is also fully computerized and uses the following main software packages:

Package	Description	
AutoCAD	Preparation of GA Drawings & Fabrication Drawings - Miscellaneous Works	
Xsteel*	3D Modeling - Detailing of Connections - Automatic Generation of Fabrication, Drawings, Production & Material Listings	
-X-TEKLA	Manage detailing, fabrication and erection of steel structures	

APPLICABLE DESIGN CODE

- Bangladesh National Building Code (BNBC)
- Specification for Structural Steel Buildings, American Institute of Steel Construction, North American Specification for the Design of Cold-Formed Steel Structural Members - AISC March 9, 2005 Latest Edition (ANSI/AISC 360-05) for Working Stress and AISC 360-10 for Limit State Design.
- American Iron and Steel Institute, AISI 2007 Latest Edition and NAUS 2007.
- Metal Building Systems Manual, Metal Building Manufacturers Association, BMA 2010 latest Edition.
- Minimum Design Loads for Buildings & other Structures, ASCE/SEI 7-10 latest Edition.
- International Building Code 2012 (IBC 2012) Latest Edition.
- Structural Welding Code-Steel, American Welding Society, AWS D1.1/D1.1M-2008 latest Edition.

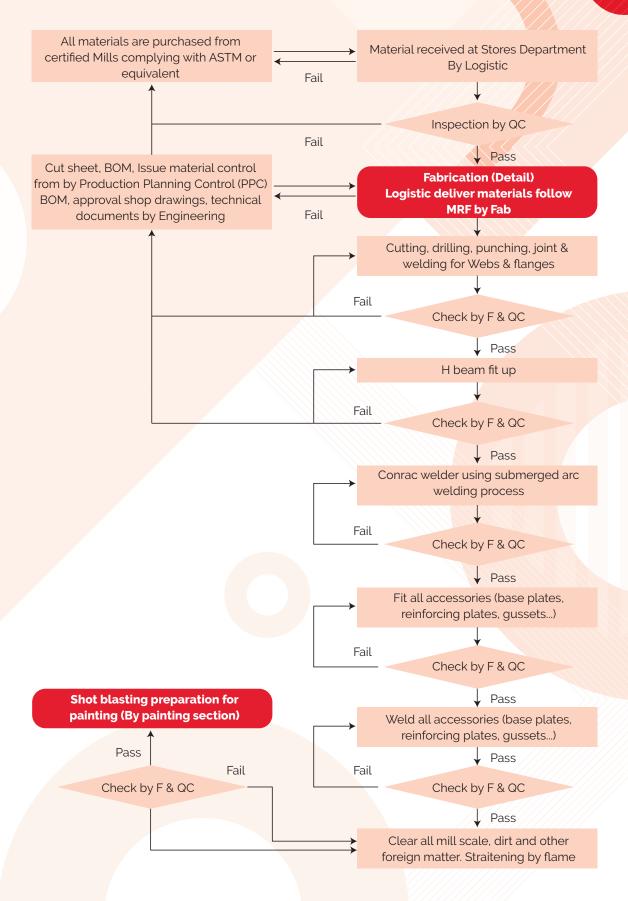
MATERIAL SPECIFICATIONS

All materials conform to the following specifications or equivalent

1)	Built-up Sections	ASTM A 572 Gr 50	(Fy = 50 Ksi)
	Hot-Rolled Sections	ASTM A 572 Gr 50	(Fy = 50 Ksi)
3)	Rod-Bracing	ASTM A 36	(FY = 36 Ksi)
4)	Tubes: SHS	ASTM A 500 Gr 'C'	(Fy = 48 Ksi)
	CHS	ASTM A 53 GrB	(Fy = 36 Ksi)
5)	Cold-Formed Sections	ASTM A 1011/A607	(Fy = 65 Ksi)
6)	Roof & Wall Sheeting	ASTM A 79 <mark>2 Gr 50</mark>	(Fy = 50 Ksi)
7)	High Strength Bolts	ASTM A 325	(Fy = 95.6 Ksi)
8)	Anchor Bolts/Rod-Bracing	ASTM A 36	(Fy = 36 Ksi)

FABRICATION PROCESS FLOW CHART

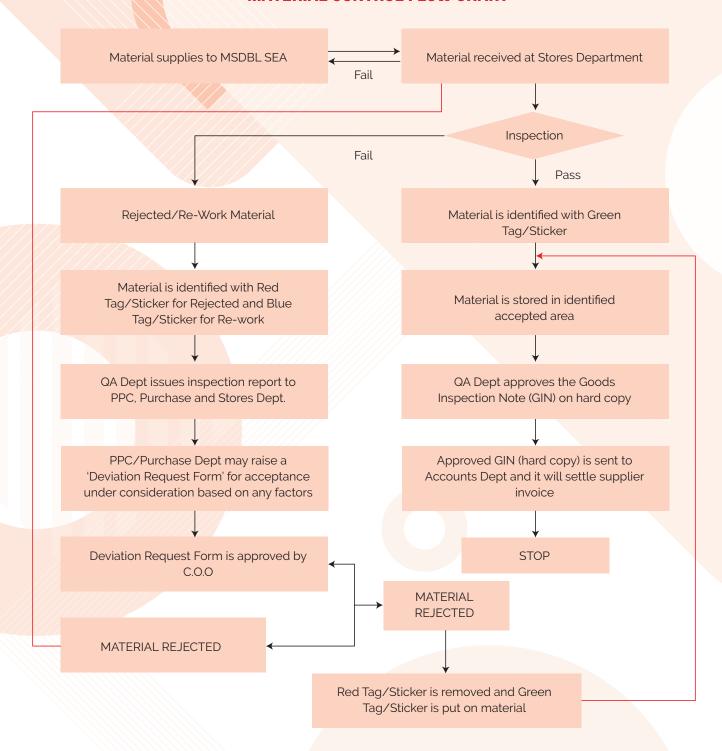






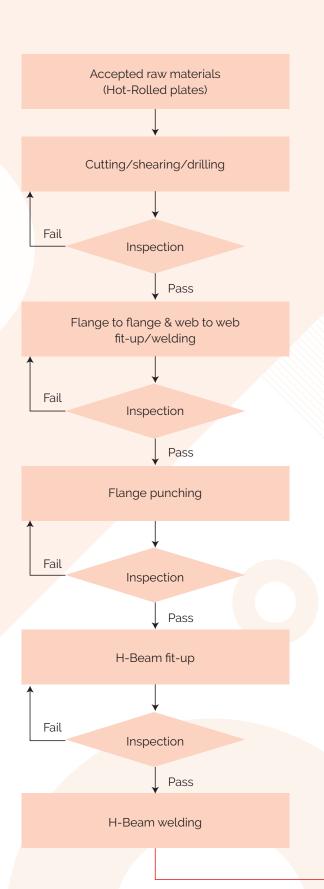
QUALITY CONTROL FLOW CHART

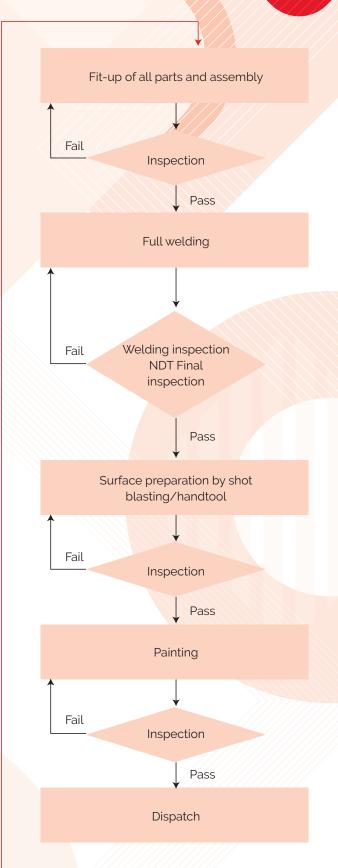
MATERIAL CONTROL FLOW CHART



H-BEAM LINES CONTROL FLOW CHART



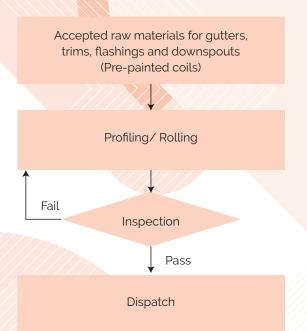


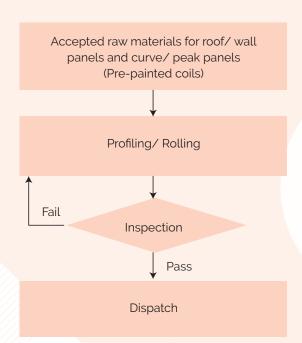


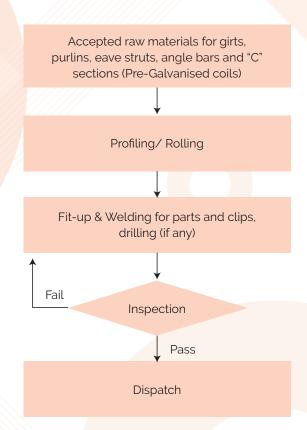


QUALITY CONTROL FLOW CHART (CONT.)

COLD FORM & SHEETING LINES

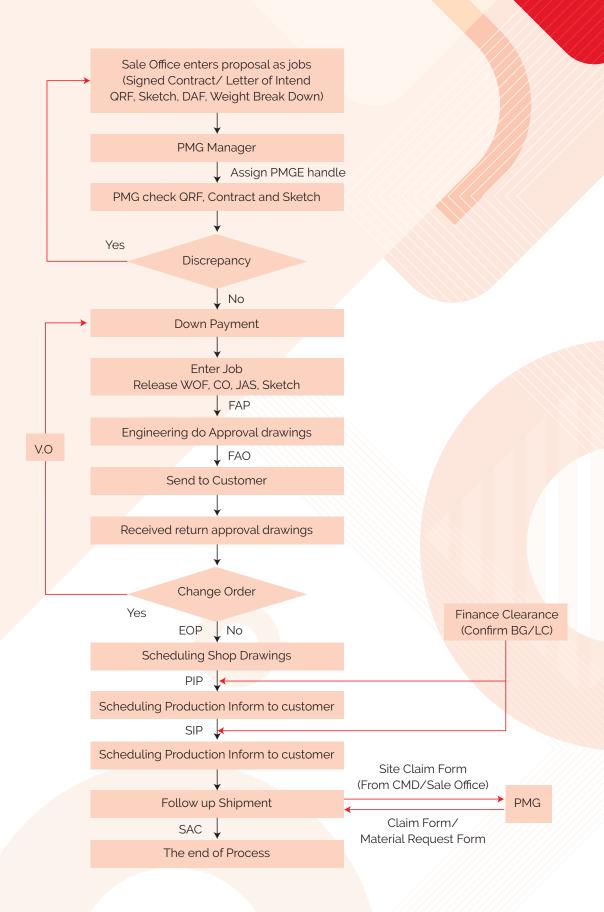






PROJECT MANAGEMENT







PIPE MILL FACTORY BUILDING

Masud Steel Pipe Mills Limited is a concern of Masud Steel Design BD. Ltd. Where we produce MS and GI Pipe of varaities type and range with pipe bending facilities (50mm to 300mm).



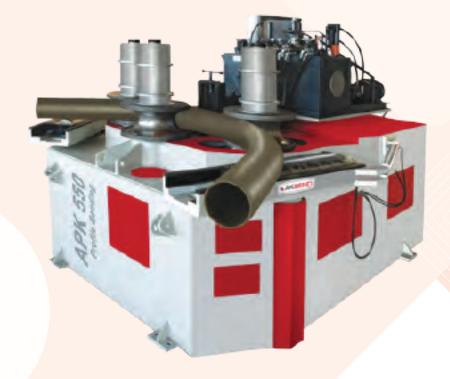
Thickness: 1.2 mm to 8.00 mm

Diameter: 15 mm to 325 mm

Materials: Hot Roll (Black Steel), Coild Finished Steel

PIPE MILL





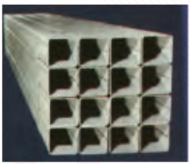
Pipe Bending Machine

Model: APK 550 Capacity: 50mm - 200mm Brand: AKYAPAK Made in Turkey

OUR PRODUCTS



Round & Rectangular Pipes



Square Tube



Rectangular Tubes



Round Pipes



TRANSPORT DELIVERY & ERECTION

TATA JUMBO TRUCK

Loading Capacity: 16-20 ton





TRAILER WITH POWER

Length 40', Loading Capacity: 30 Ton





HYDRAULIC CRANE

TADANO 60 Ton, 20-35 Ton, 10-15 Ton









EQUEPMENTS



TOTAL STATION





AUTOMATIC Level











Chemical Godown, Nice Denim Mills Ltd.



Knit Dyeing - 3, Noman Knit Composite Ltd.





Chemical Godown, Nice Spun Mills Ltd.



Raw Cotton Godown, Nice Spun Mills Ltd.







Raw Cotton Godown, Noman Knit Composite Ltd.



Knit Dyeing 1 and Knit Dyeing 2, Noman Knit Composite Ltd.





Accessories Shed Building, Zaber & Zubair Mills Ltd.



Knit Dy<mark>eing - 2, Zaber & Z</mark>ubair Mills Ltd.





Admin Building, Nice Denim Mills Ltd.



Six Storied Bachelor Quarter, Nice Spinning Mills Ltd.



BGB HANGAR AT CHITTAGONG AIRPORT





BGB HANGAR AT CHITTAGONG AIRPORT









AMBER KRAFT PAPER LTD. AT VULTA, NARAYANGANJ







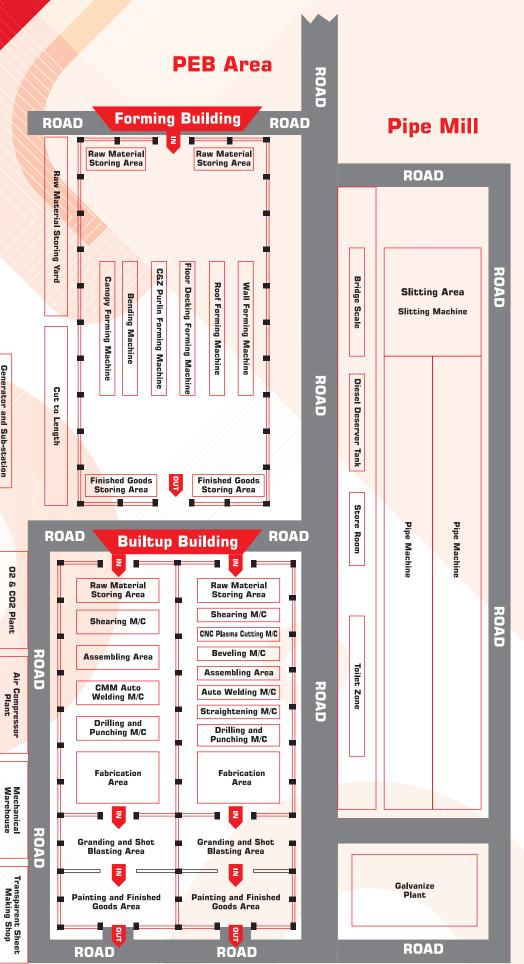
AMBER GENERATOR HOUSE AT VULTA, NARAYANGANJ







MASTER LAYOUT OF FACTORY



Generator and Sub-station

02 & CO2 Plant





Head Office: House # 26, Level-5, Garib-E-Newaz Avenue, Sector # 13, Uttara, Dhaka-1230 Factory: Village: Bortapara, Post Office: Pirojali, District: Gazipur Telephone: +88-02-55085861-2, +88-02-48954127, Fax No.: +88-02-8991503



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