PRE-ENGINEERED

Steel Brochure



BLACKBLOCK
steel

E info@bbindustries.co.za | **T** 021 903 8021 / 084 562 0974
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ABOUT US

Black Block Steel is a leading manufacturer and erector of Steel Structure Buildings in South Africa and Sub-African Countries (Zimbabwe, Namibia, Botswana, Mozambique, Zambia).

Welcome to Black Block Steel, a sub-division of Black Block Industries found in 2014 as a group of companies under one CEO and Board of Directors.

Our influence and technological advantages we provide to our clients are profound and products are resourced to the highest standard in Steel structure erection in South-Africa and Sub-Africa. Our staff members are committed and our teams are professional from business to personal relations. We understand and interpret dreams on sketches into reality. Steel structures provide a low financial investment, ensure minimum maintenance per year and provide clients with extensions to buildings whenever necessary.

MESSAGE FROM BBI

Steel Engineered Buildings provide suitable and sustainable financial growth over a span of 80-100 years. With uncertain times and high economic demand for growth we can assure proper consulting and fabrication to engineered steel buildings that will stand the test of time. As a property investor myself, property = wealth = investment for past, present and future generations.

We strive for professionalism, respect and integrity. As a team of close members, we are capable of on-time, every time systems. Black Block Steel provide high end products to clients for their future investment on low maintenance systems.

Managing Director S.H. Le Roux



OUR VISION

Investing in our client's visions to invent future steel structure buildings

Black Block Steel want to pioneer new ways of supplying, erecting and developing steel structures for all industries. It is all about our professional service and turnkey environment products that satisfy each specific client's needs.

OUR MISSION

Establish profound steel structure visions, sustainable, high quality and low-cost buildings that stand the test of time.



ADVANTAGES

DESIGN

Since the first steel structure building (PEBs) were designed to modern drawing technology all are intended to succeed in today's times with logical drawing designs and 3D Rendering modules. These structures are designed to higher resistance to seismic forces.

FOUNDATIONS

Pre-engineering steel structure buildings are up to 50% lighter per total sqm to standard concrete/ cement buildings. Foundations are of simple design and easy to construct with little or no prefabrication to rafter slabs, column footings or strip foundation.

ERECTION

All steel members are easy to fit and time conserving. Standard systems are erected in 2-10 days based on size and height of buildings.

FLEXIBILITY OF EXPANSION

Steel structure buildings can be easily expanded into adding bays. By pre-design, expansion in width and height is possible by pre-designing for future expansions.

LOWER FINANCIAL COST

As from an investors' perspective, the higher the sqm of building the higher the investment. Steel structure buildings provide this.

REDUCE CONSTRUCTION TIME

The use of high strength steel entail built-up sections that are optimized by the computerised programs and because of the use of construction light weight secondary steel sections, there is an overall reduction in steel weight, cost and time relative to conventional steel construction.

FUTURE LOW-COST MAINTENANCE

As a property owner and landlord, the cost of each year's maintenance on any building can have a direct influence on financial portfolios. Steel structure buildings reduce the maintenance on buildings to achieve high turnover in month to month rentals. For individual building owners and manufacturing plants to storage units and hangers. Low maintenance = less concerns.

DURABLE TEST OF TIME

Steel structure buildings are specifically designed to maintain a sustainable life period of up to 80-100 years.

COMPANY PROCESS



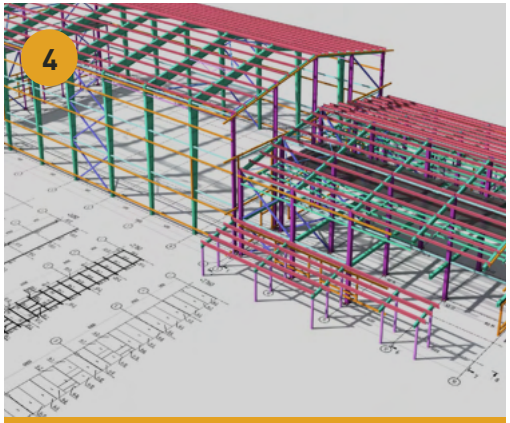
CONSULTING



CONCEPT DRAWINGS



CONTRACTING



MODELING & SHOP DRAWINGS



FABRICATION / MANUFACTURING



QC CHECKING & PACKAGING



DELIVERY



ERECTION



WHY US?

CONSULT & DESIGN



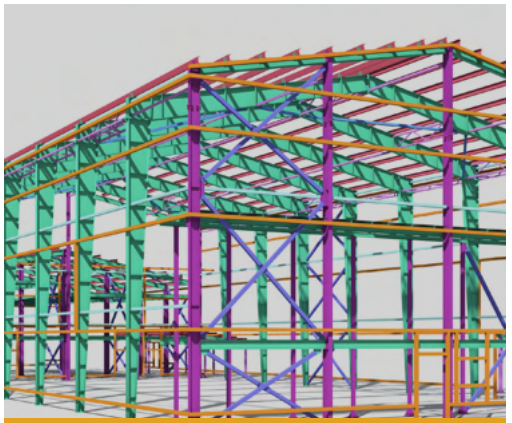
MEETING / SKYPE CALLS



SITE SURVEY



STEEL STRUCTURE DESIGN



STEEL STRUCTURE RENDERING MODEL



WHY US?

FABRICATION

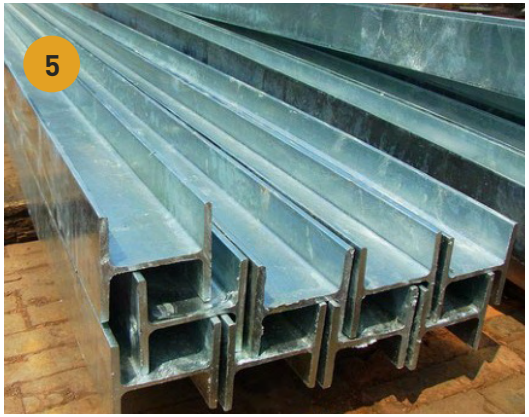
1. CUTTING
2. FITTING UP
3. WELDING
4. FINISHING
5. GALVANIZING
6. PAINTING













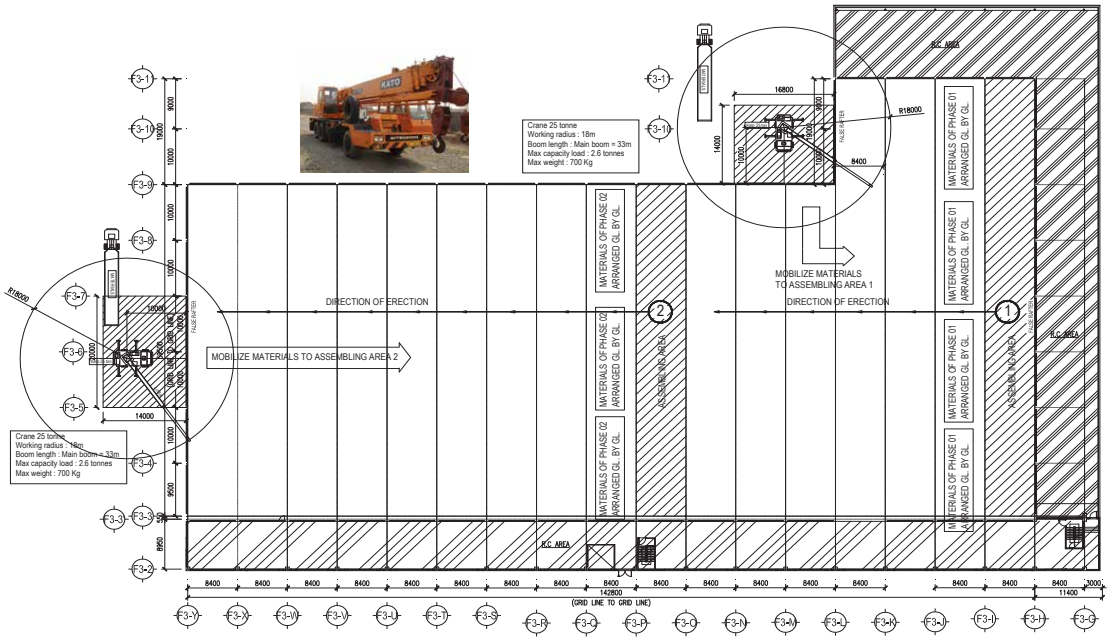


WHY US?

ERECTION

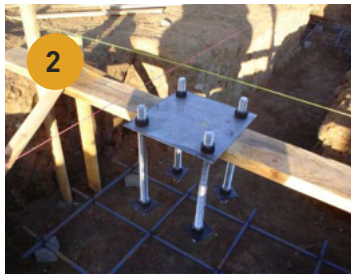
1. METHOD STATEMENT
2. INSTALLATION PROCESS
   1. Setting anchor bolts
   2. After setting anchor bolts
   3. Daily safety meetings
   4. Assembling members
   5. Erection

METHOD STATEMENT



INSTALLATION PROCESS



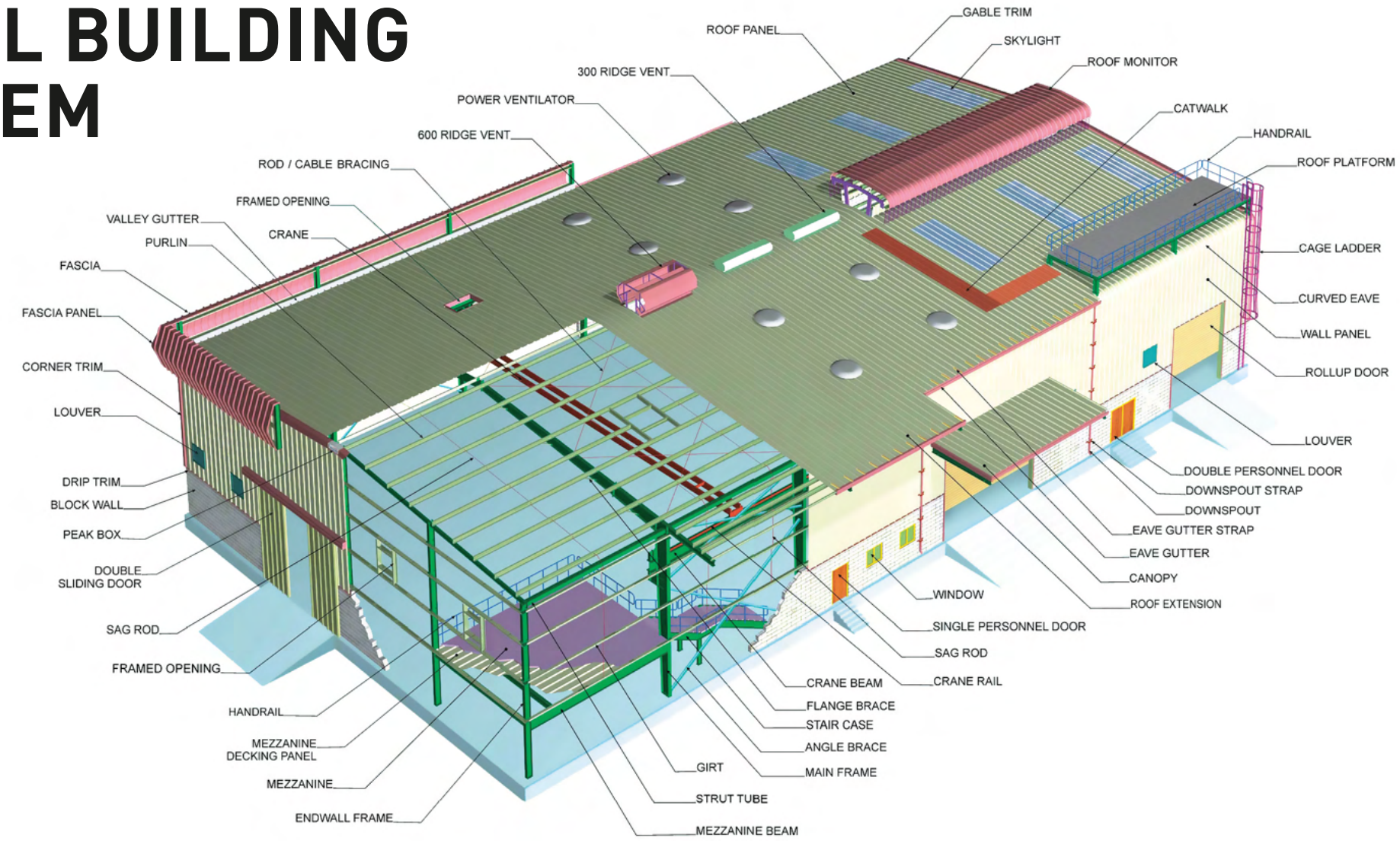








PRE-ENGINEERED STEEL BUILDING SYSTEM



CRANE SYSTEM

Two out of every five steel buildings systems are constructed as manufacturing facilities where cranes are frequently required for inhouse material travelling. Our buildings can be designed to support any required crane system. Overhead travelling cranes up to 30 metric tonnes are supported on brackets and steel members. Higher capacities are usually supported by an independent support system.

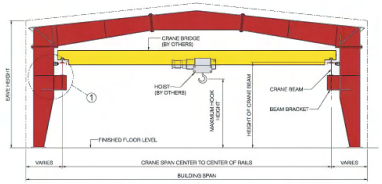
A building's crane is complex system consisting of the actual crane trolley and hoist, crane rails with their fastenings, cranes runway beams, structural supports, stops, and bumpers. Motorized cranes would also include electrical and mechanical components.

We do require the customer's complete crane systems information in order to design and estimate buildings with cranes.

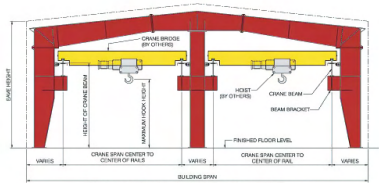
The financial costs involved in adding a crane system to a metal buildings consist of:

1. Strengthening the building's main frame to support the crane loads.
2. Supplying the crane brackets and crane. runway beams that support the crane system
3. Supplying and installing crane rails.
4. Supplying, installing and commissioning the crane system.

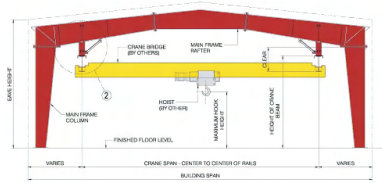




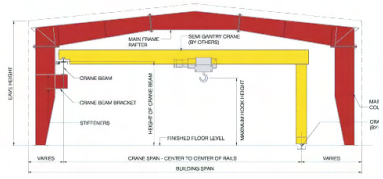
TOP RUNNING CRANE IN A CLEAR SPAN BUILDING



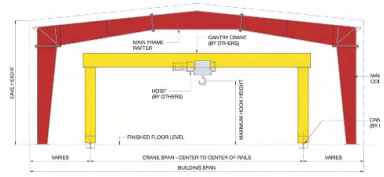
TOP RUNNING CRANE IN A MULTI-SPAN BUILDING



UNDERHUNG CRANE



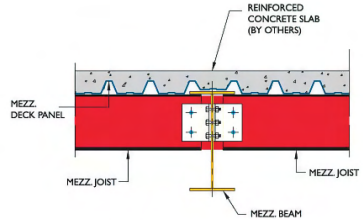
SEMI-GANTRY CRANE



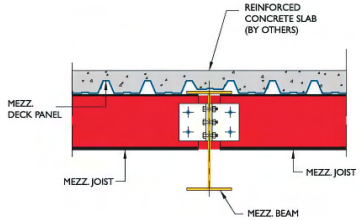
GANTRY CRANE

MEZZANINES

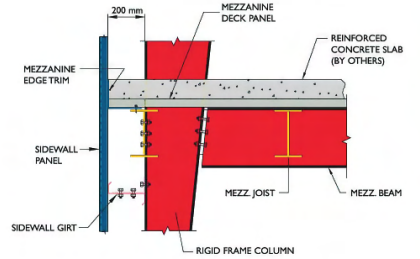
When required by design loads, the main beams shall also be supported by intermediate columns. The primary mezzanine beams usually run across the width of the buildings and the joints usually run lengthwise (parallel to the roof purlins).



JOINT CONNECTION AT INTERMEDIATE BEAM



MEZZ BEAM CONNECTION TO RIGID FRAME

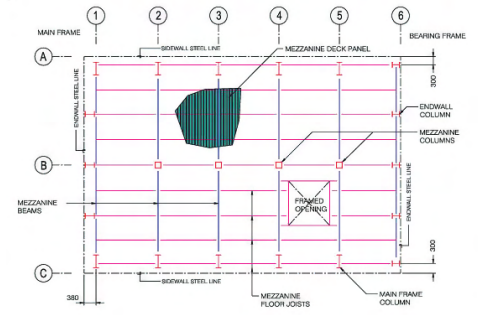


MEZZ BEAM CONNECTION TO RIGID FRAME

The economy of mezzanine systems depend on the applied loads such as dead load, live load and collateral loads. Our standard mezzanine floor systems consist of galvanized steel purlins supported by joint frames onto main mezzanine beams and plywood board as a floor surface.







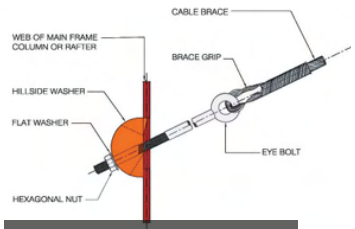
MEZZANINE PLAN

STRUCTURAL COMPONENTS

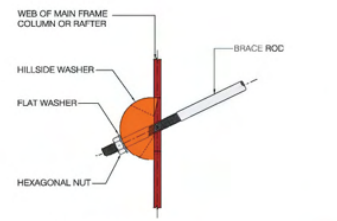
Primary built up members
(Minimum Yield Strength is 345 N/mm²)
High grade steel plate is conforming to ASTM A572M Grade 345 Type 1. Factory painted with a minimum of 40 microns (DFT) of primer as our standard or any other paint system as per customer choice.

Secondary members
(Minimum Yield Strength is 345 N/mm²)
(Available in 1.5mm, 1.9mm, 2.4mm and 3.0mm thicknesses) Galvanized steel coil is conforming to ASTM A792M, Grade 50 equivalent, Zinc coating to Z180.

Bracing systems
Rod bracing shall conform to physical specifications of ASTM A36 Grade 36 or equivalent with minimum yield stress of 345 N/mm².



CABLE BRACING DETAIL



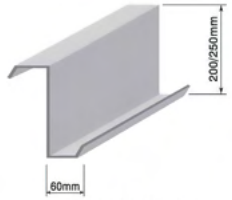
ROD BRACING DETAIL



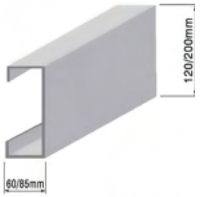
TYPICAL RAFTER



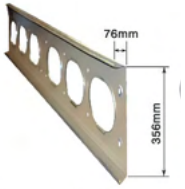
TYPICAL COLUMN



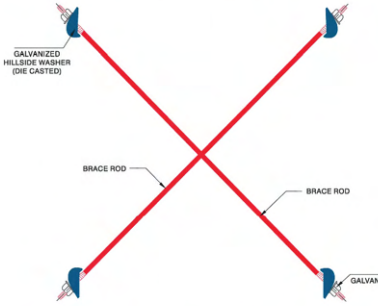
TYPICAL Z SECTION



TYPICAL C SECTION



TYPICAL G-2 SECTION



ROD BRACING

INSULATED POLYURETHANE PANELS

Metal panels are one of the most attractive features of a metal building system, having contributed mightily for the growing popularity of metal buildings. the term "panel" in this context refers to the metal skins used as roof and wall panels, interior roof and wall liners, partition panels, fascia panels, soffit panels, etc.

BBI building system stocks two different base metals for the panels as below:

- **Steel**
- **Aluminum**

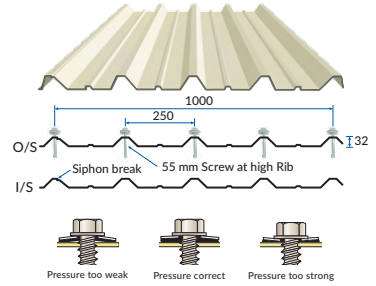
Steel Panels: The base metal for standard stocked steel panels have minimum yield strength which is equal to 34.5 kN/cm² and conforms to ASTM A792 Grade 50B. The protective steel coating shall be aluminum zinc alloy comprised of 55% Aluminum and 45% Zinc, weighing 150 grams/m² spread over both sides.

This coating offers four times more corrosion resistance compared to the galvanized. Pre-painted Alu-zinc coated steel have a 5 microns primer paint +20 microns polyester paint applied at the mill on the weather (exterior) face and 5-7 microns polyurethane compatible epoxy primer in RAL 7035 (light gray) colour on the interior face.

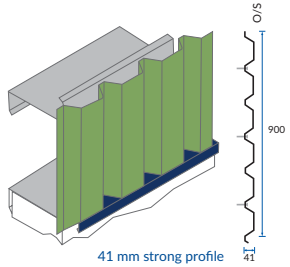
Aluminum Panels: Aluminum is made of alloy AA3105 having temper H16 for mill finish and alloy H46 for pre-painted. The yield strength is 145 N/mm². Pre-painted aluminum has a 5 microns primer paint+ 18 microns polyester paint applied at the mill on the weather (exterior) face. The polyester paint is made of a polymer that is equal to or superior to silicon polyester. The interior face is coated with a 5-7 microns polyurethane compatible epoxy primer in RAL 7035 (light gray colour on the interior face. Aluminum panel are offered in 3 finishes.



Single Skin Profile
The single skin profiled sheets are ideal for agircultural, commercial and industrial buildings. these profile are available with design flexibility to suit your design requirements and also can be used as wall and roof panels. The profiles are as per the below figure:



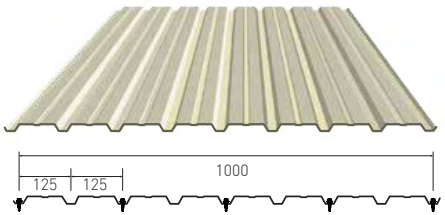
ROOF PANEL



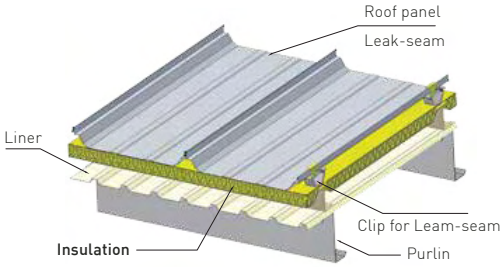
WALL PANEL

PANELS

The profiles are available in different types:

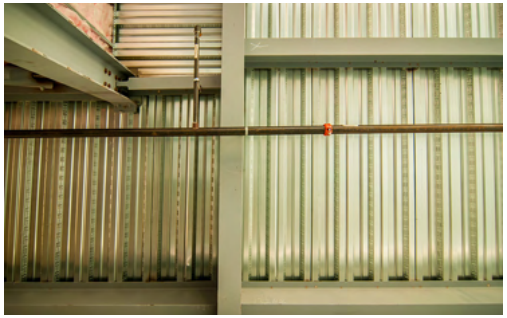


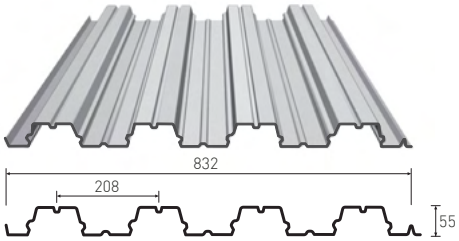
LINER



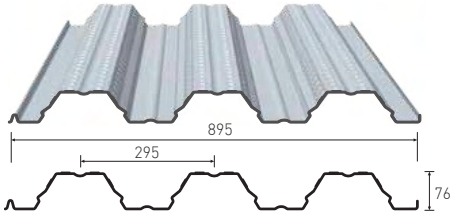
SANDWICH PANELS







DECKING 55MM

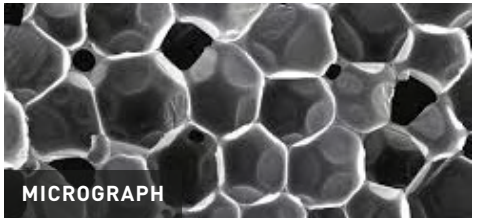


DECKING 76MM

COMPLETE FACTORY FINISHING INSULATED CLADDING SYSTEM

Rigid polyurethane foam, sandwiched by metal or flexible facings, is increasingly successful in meeting the requirements of the construction industry, emphasizing on cost effective building systems and energy conversation. Their specific field of application covers the construction of industrial, commercial buildings and the food supply (cold storages, refrigerated transportation).

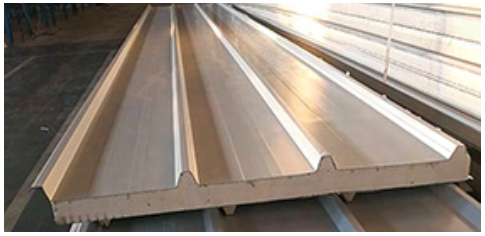
Polyrethanes are three dimensionally networked macrocellular thermosets that form as a result of a reaction between a multifunctional isocyanate in the presence of a blowing agent and additives.



MICROGRAPH

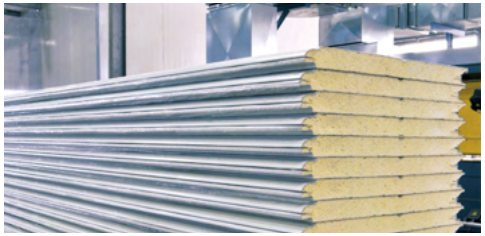
Sandwich panels offer a wide range of properties which are responsible for the increasing demand of this unexcelled construction metal. The list of properties cover:

- Thermal insulation
- Impact resistance and stability
- Impermeability
- Fire resistance
- Weight and space saving
- Easy cleaning and decorative
- Low maintenance
- Long long life
- Fast delivery due to fully automated manufacturing process
- Long lengths and wide spanning characteristics means rapid and simple site erection
- CFC-HCFC free

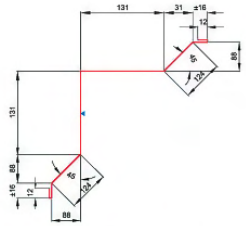






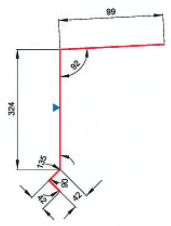


TRIMS



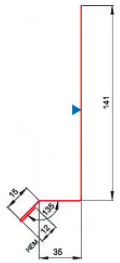
STD. OUTSIDE CORNER TRIM

At intersection of endwall & sidewall



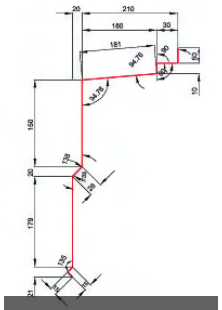
STD. EAVE TRIM

At sidewall with eave gutter



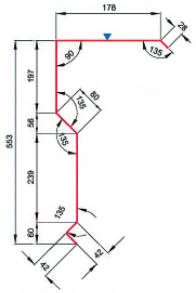
STD. DRIP TRIM

For partially open walls



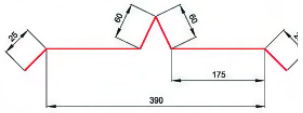
STD. HOOD TRIM

For sliding doors



STD. GABLE TRIM

At end wall

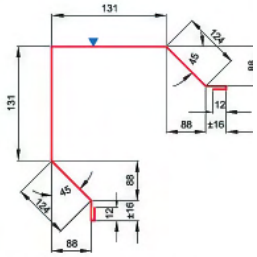


STD. EXPANSION JOINT TRIM



STD. PANEL END CLOSURE TRIM

At framed opening



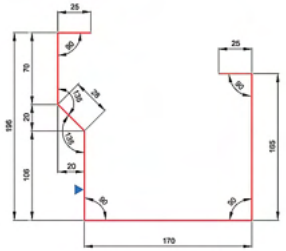
STD. OUTSIDE CORNER TRIM

At intersection of endwall & sidewalls

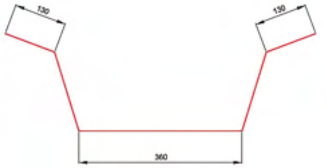
Standard/non-standard colour options availale

BUILDING ACCESSORIES

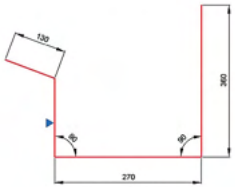
Roof draining components



STD EAVE GUTTER



STD VALLEY GUTTER



EAVE GUTTER

Sundry Items



DOUBLE TAPE & PATCHING TAPE



STAPLER & STAPLES



HILLSIDE WASHERS



FASTENERS



ANCHOR BOLTS



BOLTS WITH NUTS & WASHERS

BUILDING ACCESSORIES

At Black Block Industries Steel, we offer all types of building accessories such as:



PERSONNEL DOORS



SLIDING DOORS



ROLL UP DOORS



WINDOW



ADJUSTABLE LOUVERS



FIXED LOUVERES



POWER VENTILATORS

- Personnel Doors
- Double personnel Doors
- Sliding Doors
- Roll up Doors
- Window
- Frame Openings
- Fixed Louvers
- Adjustable Louvers
- Translucent Panels
- Ridge Ventilators
- Power Ventilators
- Insulation
- Suspended Ceilings
- Roof Extensions
- Canopies
- Fascias
- Partitions
- Crane and Roof Monitors



OFF SHELVE MODELS

1. A-frame steel structure

BBI.S.M(A)-120: 10m (w) x 12m (l) x 4m (h)

BBI.S.M(A)-240: 12m (w) x 20m (l) x 4m (h)

BBI.S.M(A)-320: 16m (w) x 20m (l) x 5m (h)

BBI.S.M(A)-400: 16m (w) x 25m (l) x 5m (h)

BBI.S.M(A)-640: 16m (w) x 40m (l) x 6m (h)

BBI.S.M(A)-800: 20m (w) x 40m (l) x 6m (h)

BBI.S.M(A)-1000: 20m (w) x 50m (l) x 6m (h)

BBI.S.M(A)-1250: 25m (w) x 60m (l) x 6m (h)

BBI.S.M(A)-1500: 25m (w) x 60m (l) x 6m (h)

BBI.S.M(A)-2000: 25m (w) x 80m (l) x 6m (h)

BBI.S.M(A)-2400: 30m (w) x 80m (l) x 8m (h)

BBI.S.M(A)-3000: 30m (w) x 100m (l) x 8m (h)

Available custom options per structure: Steel & Roof structure etc.

PRODUCTS

1. CRANE BEAMS
2. GALVANIZED TRUSSES
3. HANGARS
4. HIGH SLOPE FACTORIES
5. INSULATION
6. STAIRCASES









