

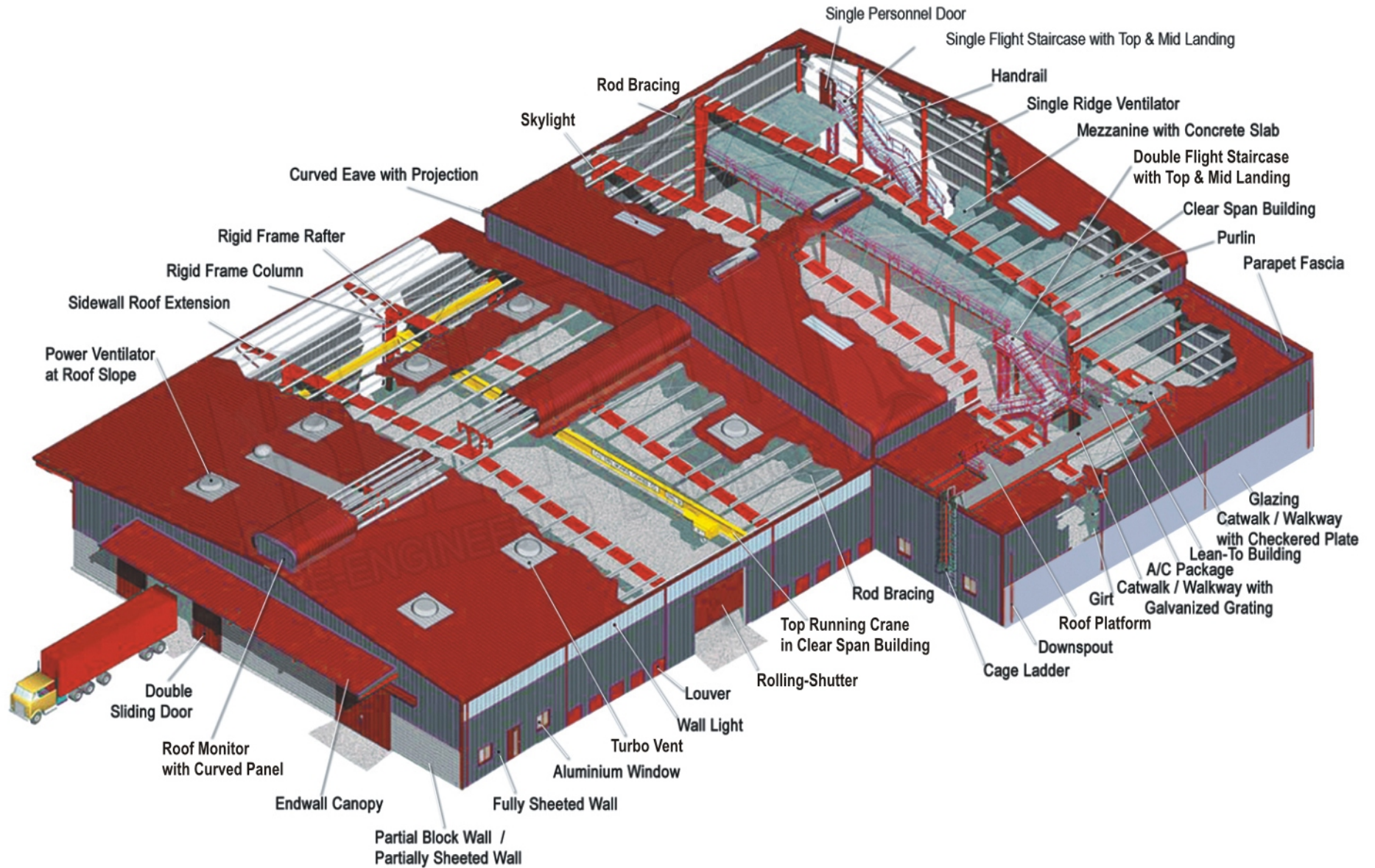


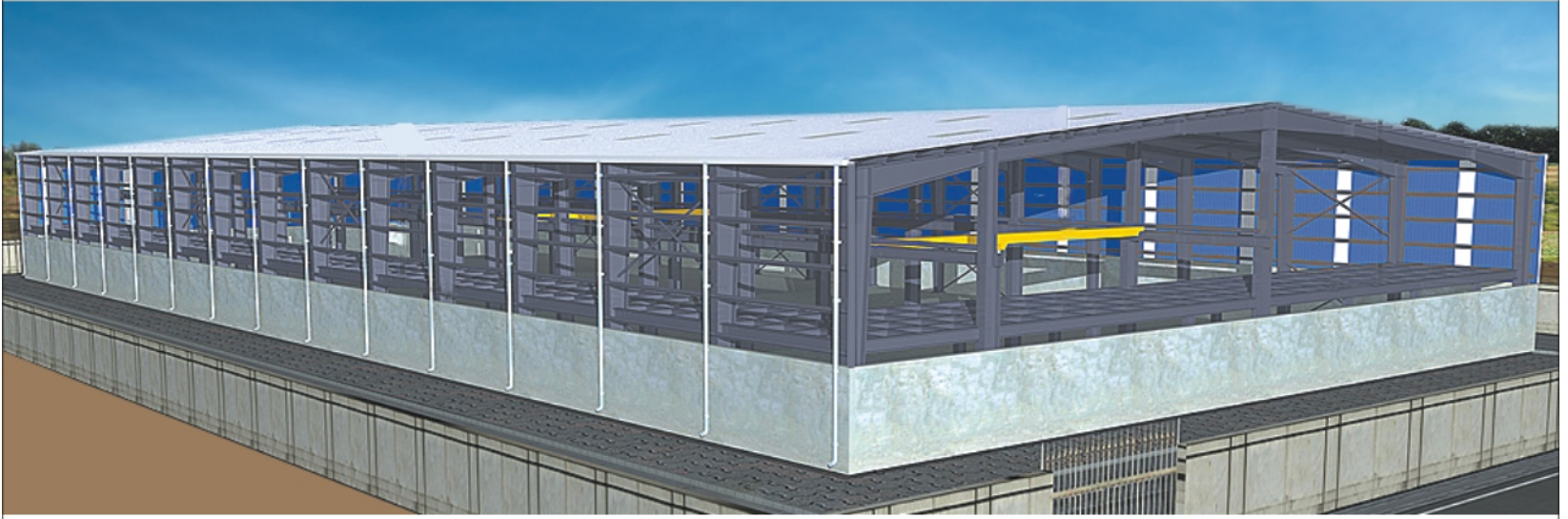
Innovative Technology

GRM Metal Buildings Private Limited



Website : www.grmmetalbuildings.in





- Design** Quick and efficient, Since PEBs are mainly formed of standard sections and connections, design time is significantly reduced. Basic designs are used over and over.
- Delivery** Average 12 to 16 weeks approximately.
- Foundations** Simple design, easy to construct and light weight Both erection time and cost of erection are minimized.
- Erection** The erection process is simple, fast and procedural.
- Architecture** Outstanding architectural design can be achieved at low cost using standard architectural features and interface details.
- Future Expansion** PEB Building are designed with future expansion in mind, which is easy and cost effective. Being one supplier can co-ordinate the changes.

Application of PEB

Factories	Service stations	Auditoriums
Warehouses	Restaurants	Greenhouses
Cold stores	Aircraft hangers	
Showrooms	Hospitals	
Supermarkets	Stadium	

PRIMARY FRAMING

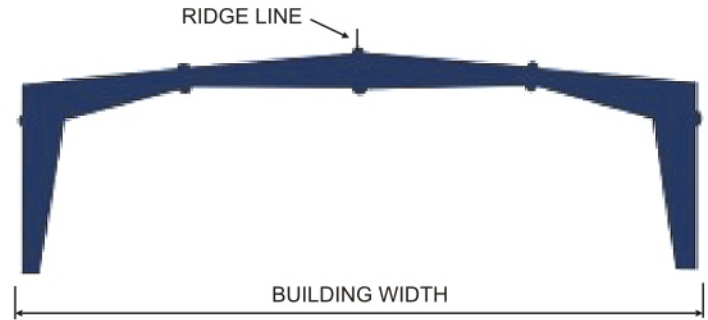
GRM METALBUILDINGS pre-engineered buildings are custom-designed to meet your exact requirements. The most common Primary Framing Systems are shown below.

Practically any frame geometry is possible.

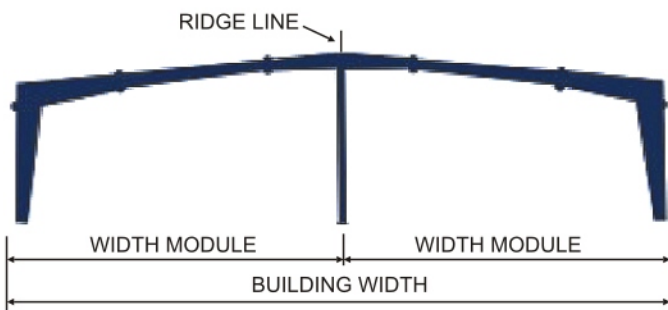
Typical Rafter



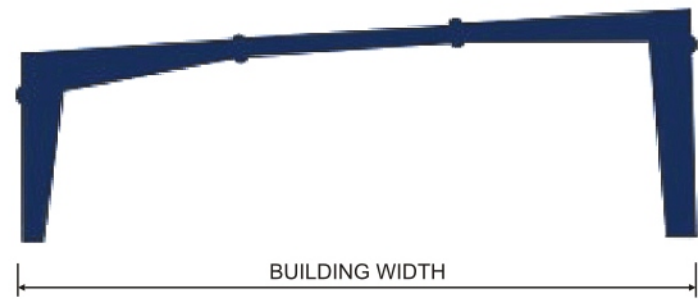
Typical Column



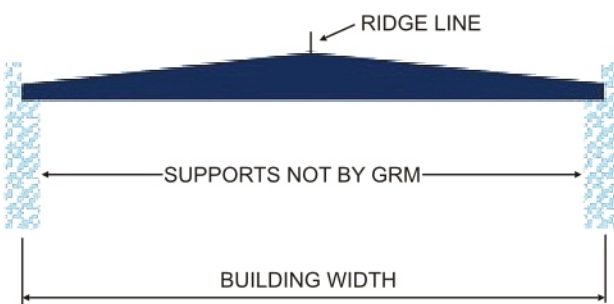
Clear Span (CS)



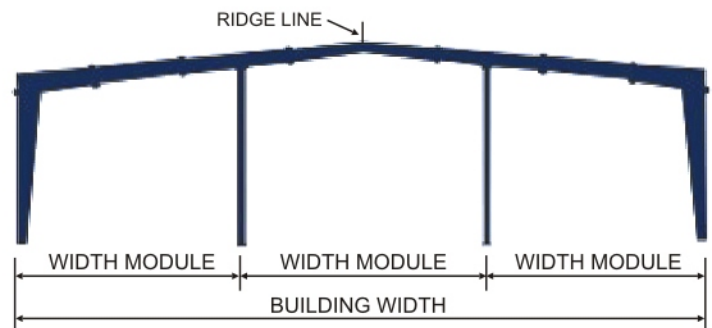
Multi-Span "1" (MS-1)



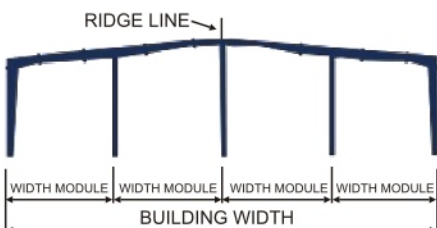
Single Slope (SS)



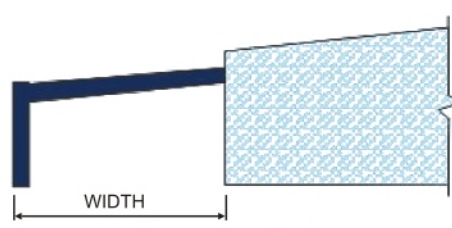
Roof System (RS)



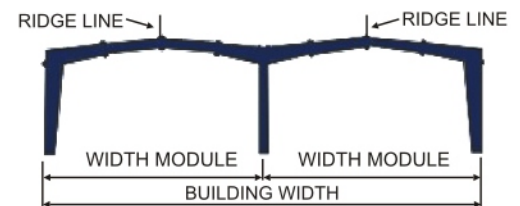
Multi-Span "2" (MS-2)



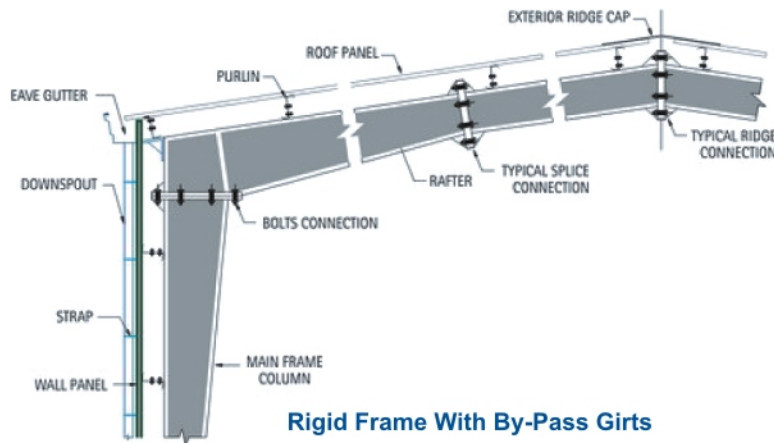
Multi-Span "3" (MS-3)



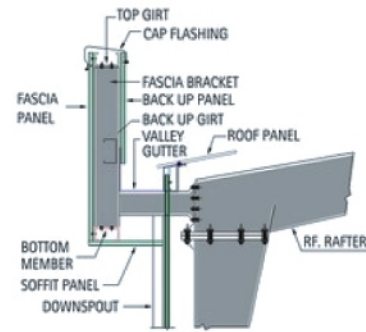
Lean-To (LT)



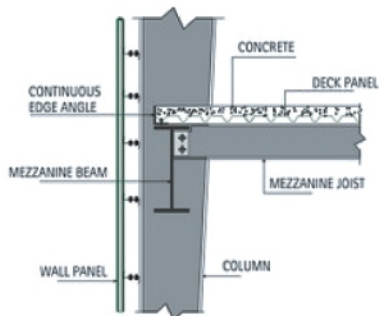
Multi-Gable (MG)



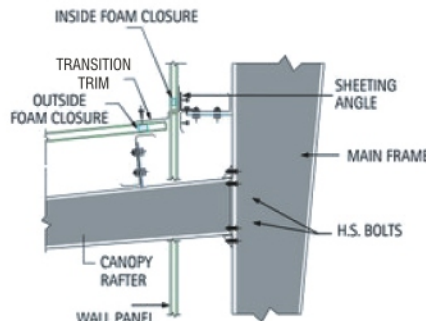
Rigid Frame With By-Pass Girts



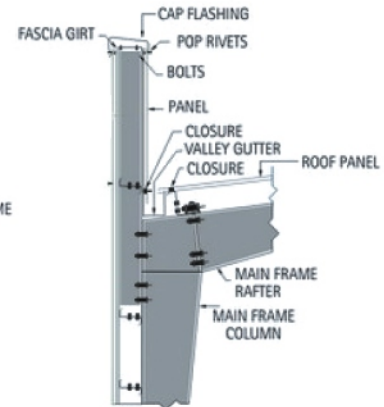
Vertical Fascia



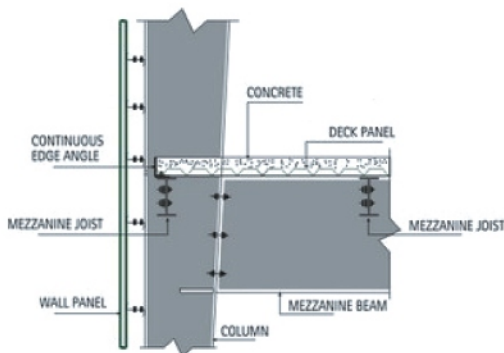
Mezzanine Joist Connection to Mezzanine Beam



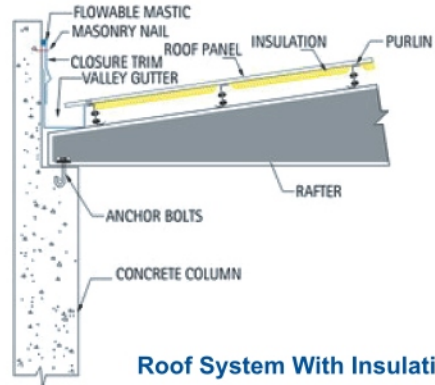
Canopy



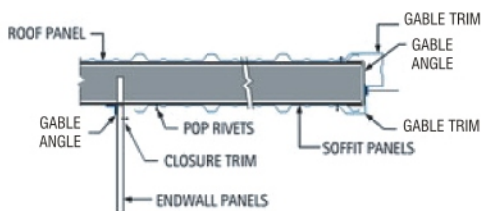
Parapet Fascia



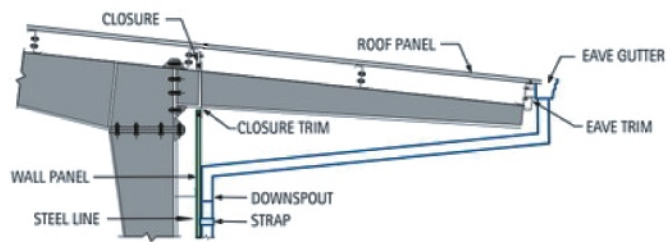
Mezzanine Beam Connection to Main Frame Column



Roof System With Insulation



Endwall Roof Extension With Soffit



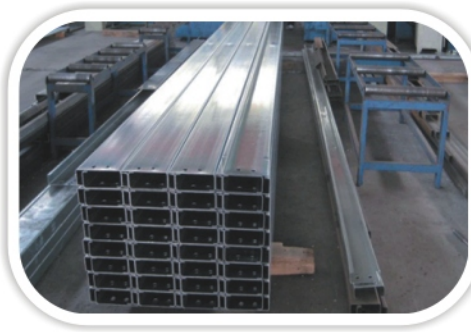
Sidewall Roof Extension

Purlins, Girts and Eave Struts / Purlin are secondary structural members used to support the wall and roof sheets. Purlins used on the roof, girts are used on the walls and eave struts are used at the intersection of the sidewall and the roof.

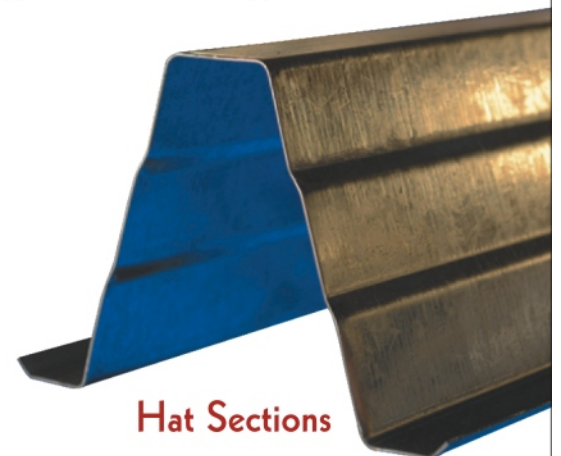
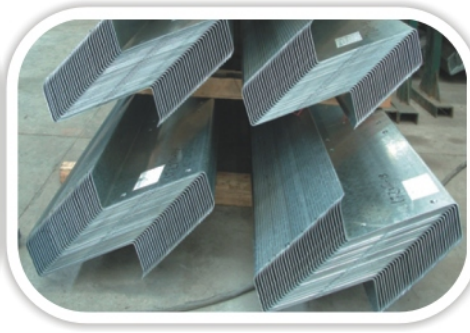
Secondary members have two other functions:

- ❖ Act as struts that help in resisting part of the longitudinal loads that are applied on the building such as wind and earthquake loads.
- ❖ Provide lateral bracing to the compression flanges of the main frame members thereby increasing frame capacity.

Purlins, Girts and Eave Struts / Purlin are available in 1.5 mm, 2.0 mm, 2.5 mm and 3.0 mm thickness with a pre-galvanized finish.



Typical "Z" Section Typical "C" Section



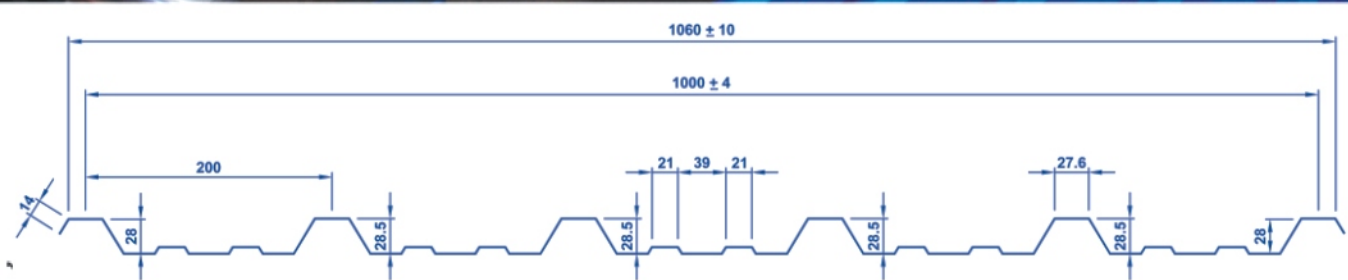
Hat Sections

Dimensions and Properties of "HAT SECTIONS"

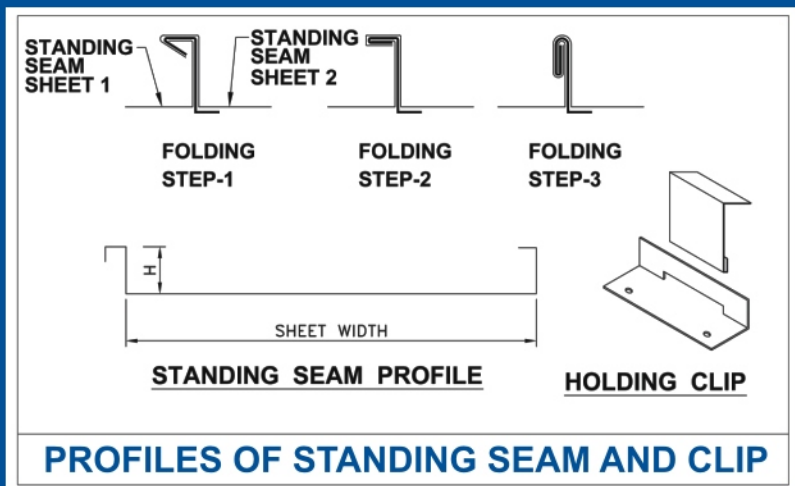
Size	Thickness	Purlin Span	Area	Weight Per Meter	Centre of Gravity	Moment of Inertia		Modulus of Section		Radii of Gyration	
hxb	t	s	a	Wt	cyy	Ixx	Iyy	Zxx	Zyy	rxx	ryy
65x110	0.95	Upto 4.0m	207.10	1.64	34.4	125007.21	145050.05	4502.45	5025.54	24.568	26.465
65x110	1.20	Upto 5.0m	261.60	2.06	34.4	157908.05	183228.75	5687.58	6348.05	24.569	26.465
120x170	0.95	5.0m to 6.0m	356.25	2.79	65.4	643104.47	564168.14	13351.51	12739.17	42.488	39.795
120x170	1.20	6.0m to 7.0m	450.00	3.49	65.4	812349.16	712646.92	16865.07	16091.58	42.488	39.795
120x170	1.45	7.0m to 8.0m	543.75	4.19	65.4	981598.51	861135.11	20378.63	19443.99	42.488	39.796
120x170	2.00	8.0m to 9.0m	731.25	5.58	65.4	1320115.05	1158147.56	27405.76	26148.81	42.489	39.797

GRM MetalBuildings offers a variety of profiles, base metals, metal substrates and coatings for its sheet. The metal skins are used as roof and wall sheets, interior roof and wall liners, partition sheets, soffit sheets, etc. Our roof and wall sheet are an important part of our products line. GRM MetalBuildings is your single source for a complete PEB Building System.

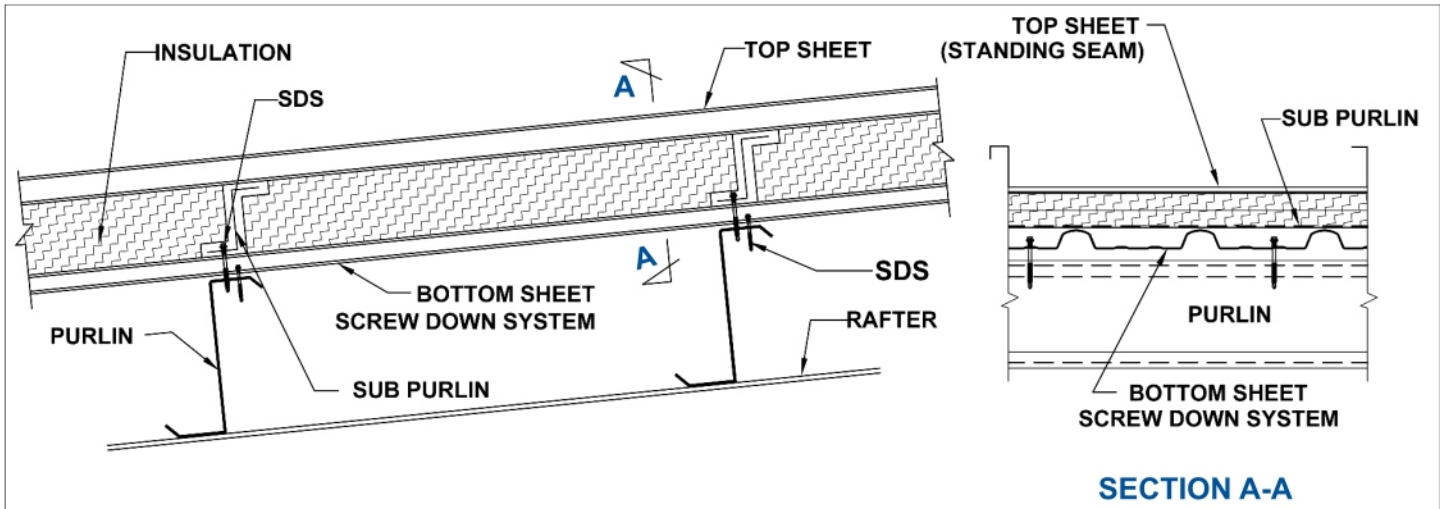
SHEETING



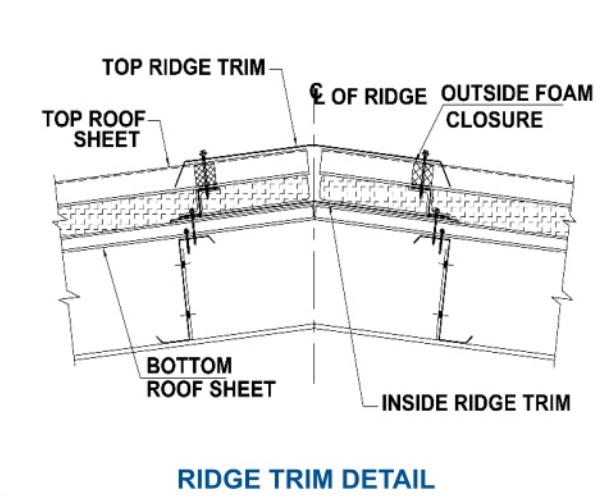
TRAPEZOIDAL Profiled Metal Roofing sheets in Bare Galvalume / Colour Coated Galvalume / Colour Coated Galvanized with thickness ranging from 0.47 mm to 0.60 mm with an yield strength of 550 MPA and Alu-Zin Coating (AZ 150), painting thickness Top 18 to 20 microns, Bottom 5 to 7 microns. Profiles are offered in exact cut to length upto 12 metres as per customer's requirement. (Restricted due to transportation.)



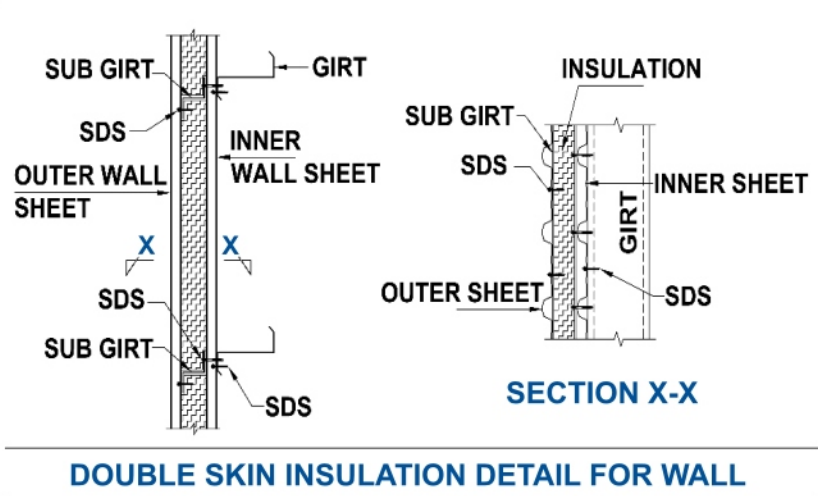
STANDING SEAM PROFILE



DOUBLE SKIN INSULATION DETAIL FOR ROOF



RIDGE TRIM DETAIL

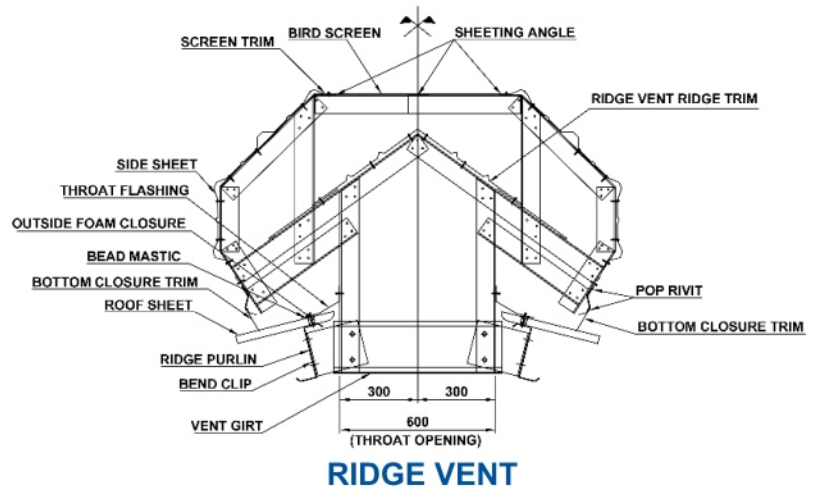
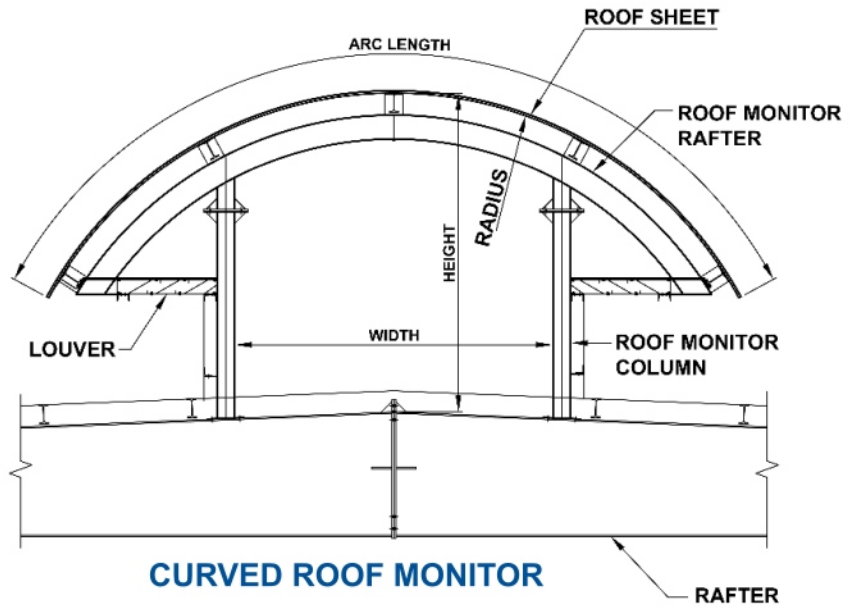
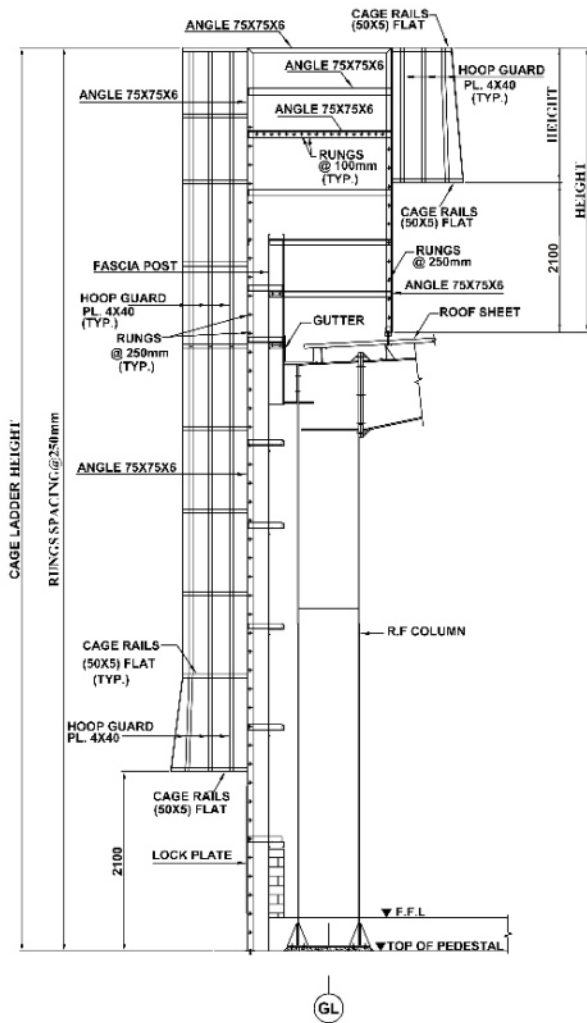
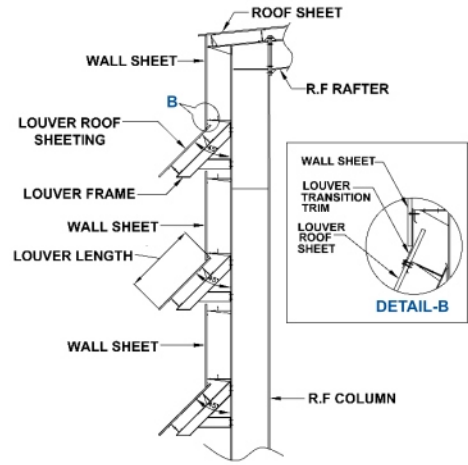
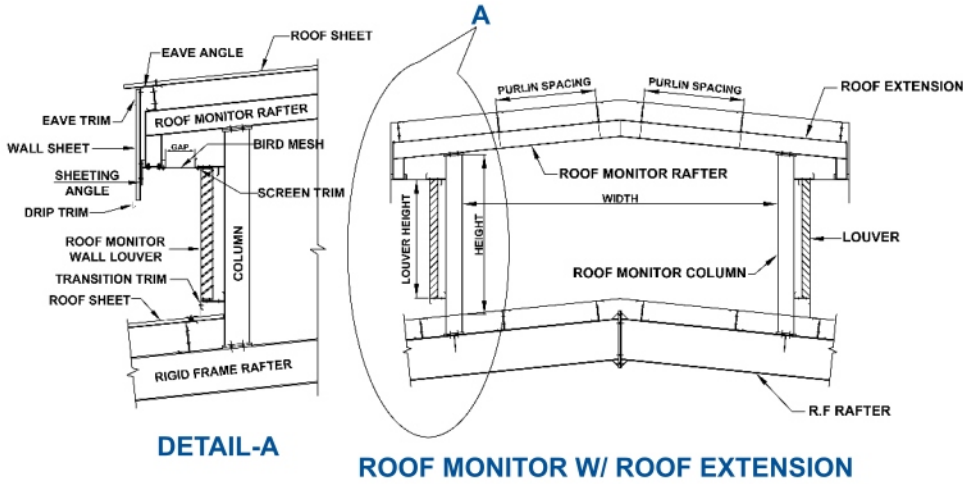


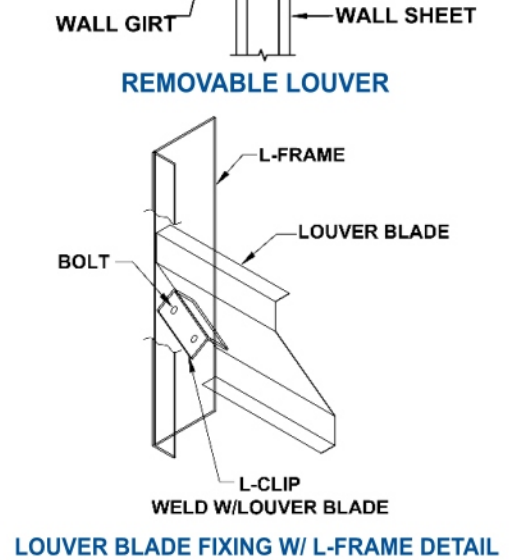
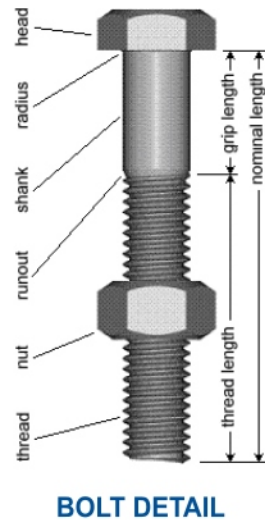
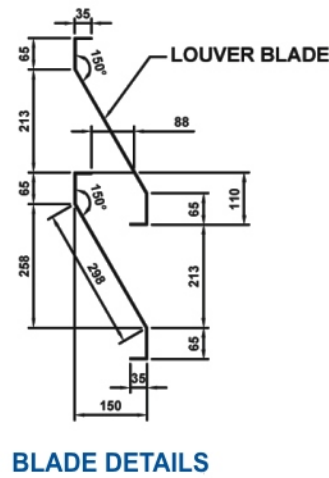
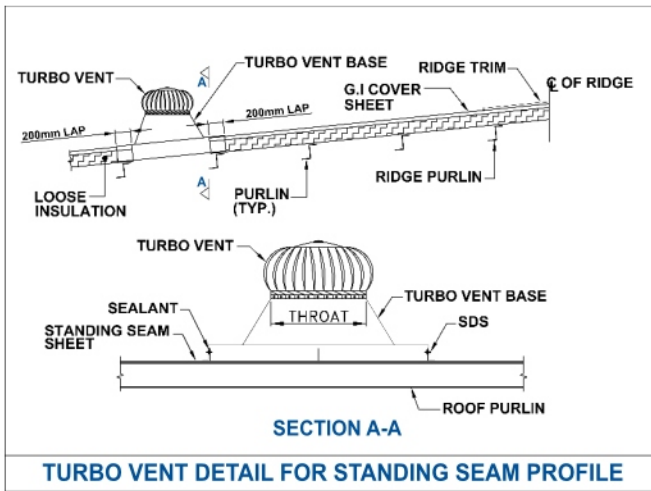
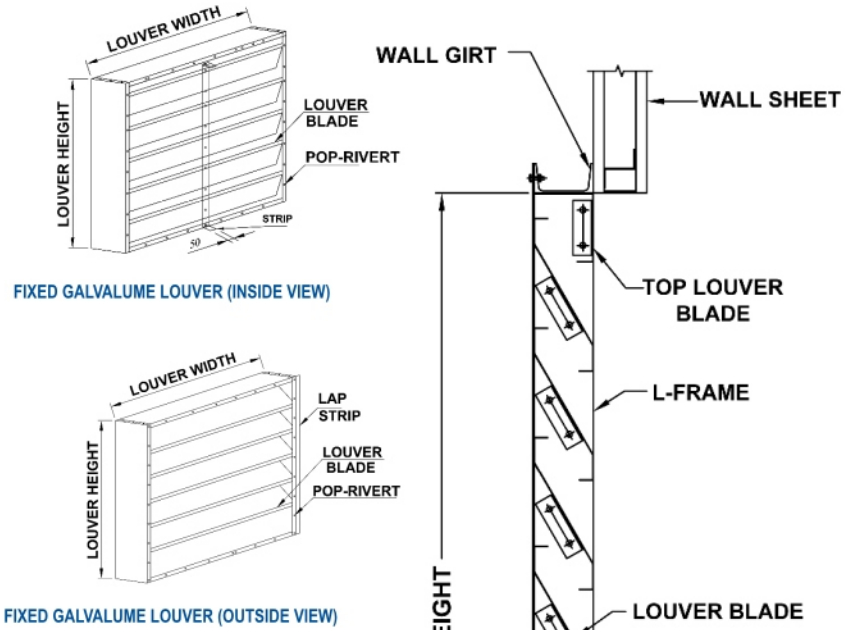
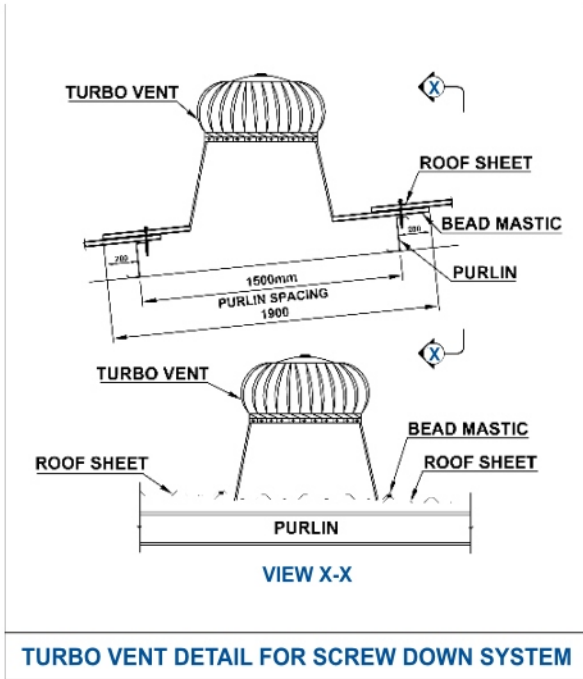
DOUBLE SKIN INSULATION DETAIL FOR WALL

PUFF & ROCKWOOL PANEL ARRANGEMENTS



GRM MetalBuildings have arrangement with manufacturers of insulated Polyurethane and Rockwool panels which meets every single requirement to today's modern Cold Storages, Pack House, Shelters, Roof and Wall Cladding Systems.



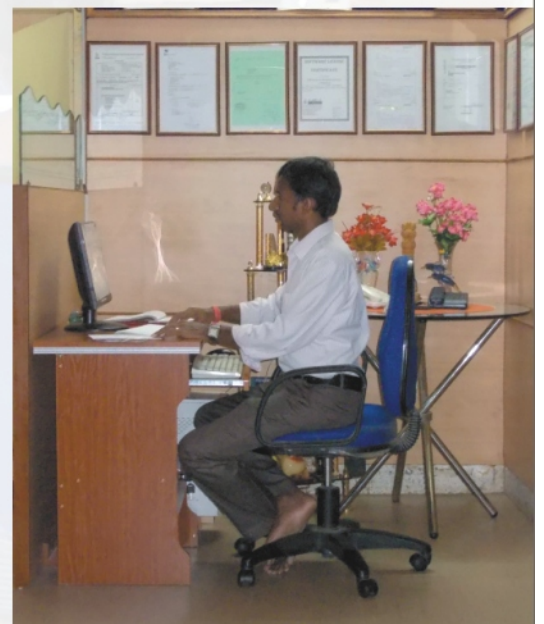
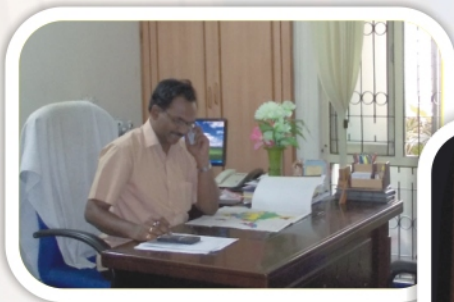


Design office is located at Hyderabad and Design & Detailing team is well equipped with trained and experienced engineers along with Customized software. We are capable of delivering the best of the Pre Engineered Building Designs.

Software Packages :

We have the following software packages which confirms to PEB Design both Indian and American packages. We have the versatile exposure on various national and international codes like IS, AISC, MBMA, AWS, AISI etc.

STAAD PRO, NISA, STRUDS
LOSEKE PRECISION PLUS, AUTO CAD, ZWCAD



FABRICATION FACILITIES & ARRANGEMENTS

Factory is located at Vijayawada and equipped with online automatic welding facility, Shearing, Multi Torch, H-beam, Z & C - Section Roll forming, Sheet profiling Machines, Sand blasting and Painting facilities. Fabrication capacity of nearly **2000 MT** steel per Month. There is also a well-equipped quality control department to check the finished products before dispatch.





COMPOSITE GIRDERS / BRIDGES



Stud
Welding
Machine



In many buildings and bridges, it is common to have a concrete slab supported by steel beams. If the steel beams are connected to the concrete slab in such a way that the two act as one unit, the beam is called as composite beam.

Composite beam has the advantage that the concrete in the slab takes all or most of the compression (for which it is best suited), while the steel beam takes all the tension in the overall system.

Introduction to Composite Construction

A steel beam which is made composite by using shear connectors, composite metal decking and concrete is much stronger and stiffer than the base beam alone. Composite floor systems are considered by many to be the highest quality type of construction. This has become a standard type of construction selected by many architects, engineers, and developers.

Advantages of Composite Construction

- ◆ It is typical to have a reduced structural steel frame cost
- ◆ Weight of the structural steel frame may be decreased which will reduce foundation costs
- ◆ Reduced live load deflections
- ◆ Shallower beams may be used which might reduce building height
- ◆ Increased span lengths are possible
- ◆ Fast completion of spans compared to RCC beams

Solar energy is radiant light and heat from the sun harnessed using a range of ever-evolving technologies such as solar heating, solar photovoltaics, solar thermal energy, solar architecture and artificial photosynthesis.

GRM will Supply the solar panel with fixing frames to suit the Roof sheet profiles both Screw down System & Standing Seam.

Solar

