

coolmax

GROUP OF COMPANIES

The real one window solution

**COOLMAX
BUILDING
TECHNOLOGIES**



nourishing RELIABILITY with
**GREEN
ENGINEERING
TECHNOLOGY**



ARCO
INDUSTRIE
Doors
& Docking
Systems
AUTHORISED
DEALER





Every standout creation is the result of the human ability - to see things with the mind. Every ground-breaking idea is formed out of the willingness - to think differently, to go beyond. Every action is born out of a skill we all possess - imagination.

At COOLMAX Building Technologies, we think, we imagine, we engineer things with nerves of steel. We pre-engineer to create steel structures that conform with your requirements. That's what makes us a reckoning power, a pioneering influence in the Pre-engineered Steel Building Industry in Pakistan.

VISION

To be a leader in the metal building solutions industry by leveraging our engineering expertise.

MISSION

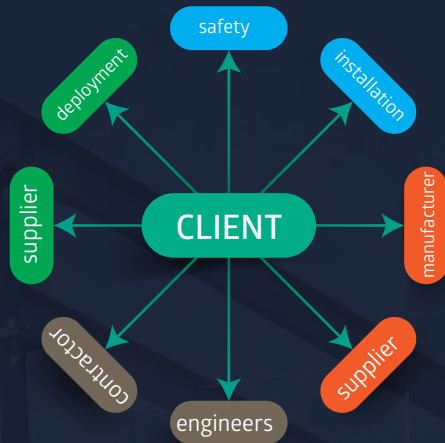
COOLMAX Building Technologies delivers end-end building solutions - for Commercial, Industrial, Warehousing, Logistics, Aviation, Agriculture, Sports Stadia and other sectors - powered by technical collaborations with global leaders, to surpass customer expectations through Innovation, Design Versatility, World-Class Service, High-End Engineering Expertise and Cost-effective solutions.

VALUES

- Enterprising
- Perseverance
- Collaborate
- Empower

APPROACH | PRE-SIMPLIFIED

! Conventional Project Management Approach



✓ One-Window-Solution Approach

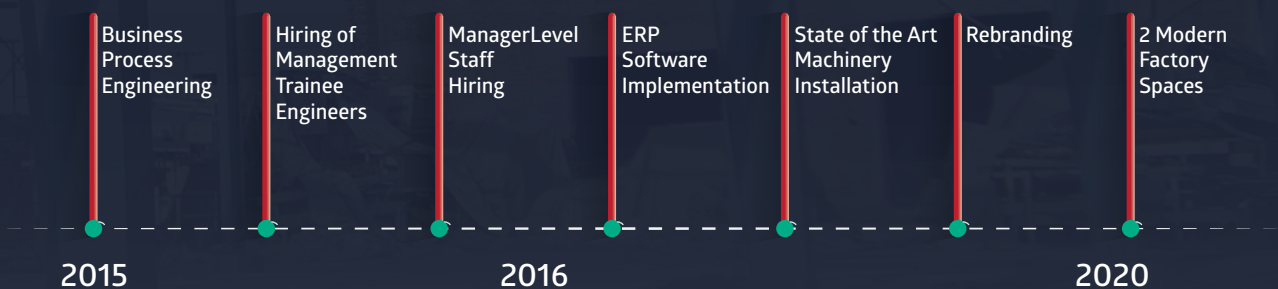


CONSULTING | DESIGNING & ENGINEERING | PROCUREMENT |
MANUFACTURING | DEPLOYMENT | MAINTENANCE & AFTER-SALES

With Coolmax International being a one window solution we are able to render unmatched Client services. Some of the benefits are highlighted below
Consulting round the clock | Product Efficiency | Quick Turn around Time | Better Client Feedback | Supplier management | Direct communication Design Engineers & Production

PROGRESS | PRE-DEFINED

With our rigorous Development Program in place, we are bringing progressional efficiencies through continuous investment in People, Technology and Equipment.



Outcome : Improved levels of Product Quality standards achieved through the Development Program

EXCELLENCE | PRE-BUILT

At COOLMAX Building Technologies, excellence is innate, and pioneering, a way of life. COOLMAX Building Technologies is engaged in the Design, Manufacture, Supply and Installation of Pre-engineered Steel Buildings & Building components for Industries, Warehouses, Commercial Centres, Multi-Storied Buildings, Aircraft Hangars and Stadia etc. Covering a wide spectrum of application areas, COOLMAX has brought Innovation, Design Distinction, International Expertise and above all, Global quality to every customer who aspires for Technological and Structural superiority.

SYSTEM | PRE-UNDERSTOOD

The Pre-engineered Steel Building System in itself offers great advantages to the customer as a more feasible, practical and efficient alternative to conventional buildings. Some of the distinct advantages include:

Durability	Weather resistant, earthquake resistant
Value	Low initial investment, low maintenance cost
Flexible	Easy to expand, easy to setup and change
Faster	Reduced construction time
Aesthetics	Gives the engineer enough flexibility to create unique structures



DIFFERENTIATION | PRE-CONCEIVED

Structure Weight

Pre-Engineered Buildings are on the average 30% lighter because of the efficiency use in steel.

Delivery

Average 6-8 Weeks. Simple design, easy to construct and light weight.

Erection Simplicity

Since the connection of compounds is standard, the learning curve of erection for each subsequent project is faster.

Seismic Resistance

The low weight flexible frames offer higher resistance to seismic forces.

Architecture

Outstanding architectural design can be achieved at low cost using standard architectural details and interfaces

Sourcing & Coordination

A "ONE STOP SOURCE" where the Project is supplied with complete Building material along with all the accessories.

Future Expansions

All project records are safely and orderly kept in electronic format which makes it easy for the owner to obtain a copy of his building record at any time. Future expansion is very easy and simple.

Safety & Responsibility

Single source of responsibility is there because all the job is being done by one supplier. All components have been specified and designed specially to act together as a system for maximum efficiency, precise, fit and peak performance in the field.

Design

Quick and efficient: since PEB's are mainly formed by standard sections and connections design, time is significantly reduced. Basic design based on international design codes are used over and over. Specialized computer analysis design programs optimize material required. Drafting is also computerized using standard detail that minimize the use of project custom details.



IPEB
**Pre-Engineered
Building**



We deliver end-end
Pre Engineered Building solutions -
powered by technical innovation to sur-
pass customer expectations through,
High-End Engineering Expertise
and **Cost-effective solutions.**



STRENGTHS | PRE-EQUIPPED

People

COOLMAX Business Technologies has been actualised by a strong management and a fully motivated team of forward-thinking professionals who excel in their line of activity. Their individual strengths and varied skill-sets have greatly benefited the Company in strategically structuring its way to the top. The team has been carefully chosen to outperform in all quarters. International expertise, understanding of complex structures, in-depth knowledge of designing pre-engineered steel buildings COOLMAX engineering department is powered with an enviable pool of talent.

Partnership

Once the contract is signed, COOLMAX gets into a consultative working relationship and partners the client at every step to reach the desired design solution. Experienced professionals from the company take complete responsibility and remain in hand-holding mode till the successful completion of Project.

Direct Interaction

COOLMAX project management team directly interacts with the customers, drastically cutting down on response time and facilitating collaborative understanding.

Infrastructure

COOLMAX design codes and engineering software are by far, the most advanced and efficient in the Industry. By adopting the latest globally-accepted procedures the company is aiming at achieving newer heights.

Manufacturing facility

COOLMAX state-of-the-art manufacturing facility equipped with high precision CNC machines to fabricate and supply quality-replete steel buildings.

APPLICATIONS

Wide array of Industrial Applications by us



Factory



Convention Hall



Warehouse



Industrial Complex



Industrial Sheds

INDUSTRIAL APPLICATION

Industrial Sheds
Workshops
Warehouse/Godowns
Showrooms
Exhibitions Halls
Sports Halls

Auditorium
Convention Halls
Schools
Food Courts
Service Stations
Transport Terminal

Airplane Hanger
Parking Lots
Site-Housing
Rail Yards
Loco-sheds
Cold storages



ENGINEERING EXPERTISE | PRE-CONDITIONED

Engineered for Value

COOLMAX BUILDING TECHNOLOGIES is focusing its energies on increasing the utility of the buildings and reducing costs by the application of optimized design technology.

Armed with advanced engineering capabilities, the Company ensures spotless clarity and delivery that fits the brief - from concept to creation. The primary function of the Engineering Department is to give a finite shape to the client's wish list by

- Finalising the building specifications as per requirements
- Evaluating and developing solutions and presenting the best possible options
- Continuously interacting with the client, providing in-house technical consultancy to ensure an optimum building design solution
- Proposing flexible options that are easy to expand, easy to setup and change
- Finalising the building design

Design Philosophy

At COOLMAX building technologies, designs are up-to-the-minute - aesthetically and environmentally. They are created keeping in mind both Pakistan and International design codes. Traditionally, all PEB designs follow US design codes as the concept was originally formulated there. These codes, thanks to incessant research-based upgradations, are acknowledged to be the most comprehensive and technically advanced in the world, and offer an intelligent blend of design strength and product cost.

Sales Network

CBT presence is powered by a strong network and professional sales team supported by highly skilled structural steel design and project management engineers. These teams facilitate seamless interface with the clients and adhere to their needs with utmost efficiency and effectiveness.

Project Management

The promise to deliver exceptional value and service drives CBT at every stage. Its design competence, attention to detail and customised approach have succeeded in creating an exclusive space for it in customers' minds. In its sustained efforts to enhance customer service, CBT has initiated a specialised Project Management division with client-specific Order Management and Project Management executives. They present a friendly, prompt and problem-free interface that the client can trust at all times. All the technical glitches are cleared on time, time-lines are met with utmost precision and the clients get to experience superior service accuracy and effectiveness. The Company's unparalleled expertise has set the tone for a paradigm shift in the quality and service parameters in the industry.

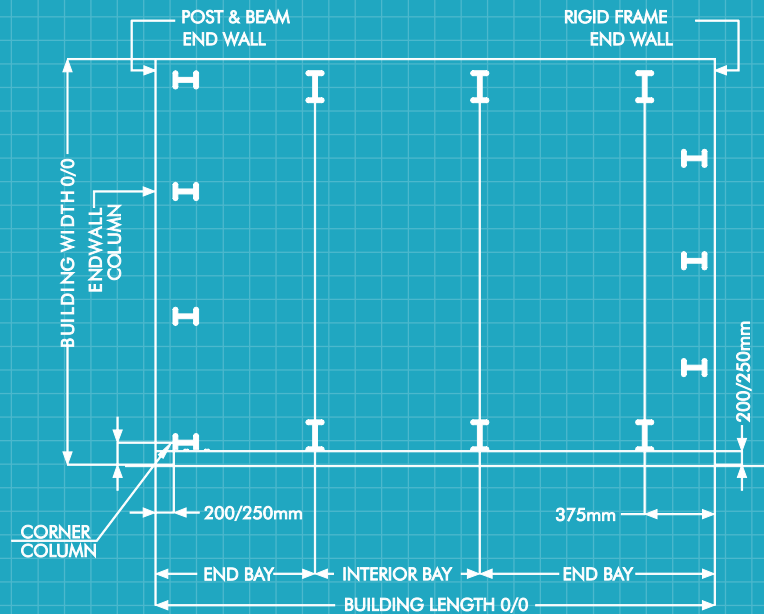
Builders' Network

The project management team has enlisted several highly qualified, trained and certified builders who will carry out the erection under the supervision and guidance of CBT representatives.

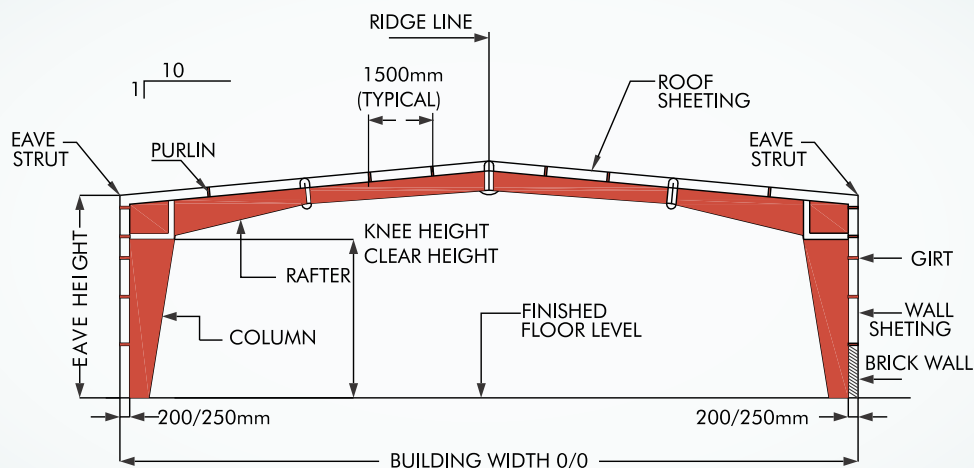
BUILDING TYPES | Primary Framing System

At CBT practically any type of geometric frame can be built. Some of the most commonly used primary framing systems are featured below.

Typical Plan

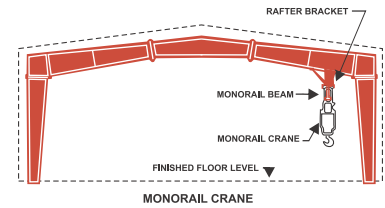
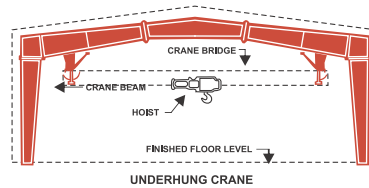
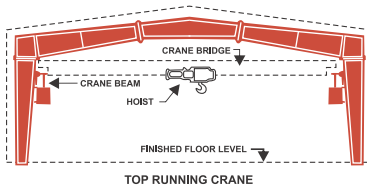


Typical Section



Primary Framing System

Crane System



Pre-Engineered Building System Components

A) Primary Built-up Members



TYPICAL COLUMN



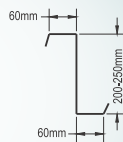
TYPICAL RAFTER

Built-up "I" shaped
Primary structural framing members
(Columns and rafters)

B) Secondary Members: Cold "Z" shaped & "C" shaped secondary structural members (Roof purlin, eaves struts and wall girts)



TYPICAL Z - SECTION

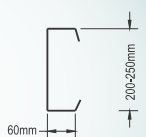


The Main Advantages of "Z" Purlins are:

Savings upto 40-50% weight of structural steel and 25-30% in costs when compared to Hot Rolled Sections.
Savings upto 30-40% in weight and 15% in costs when compared to Tubular Purlins.



TYPICAL C - SECTION

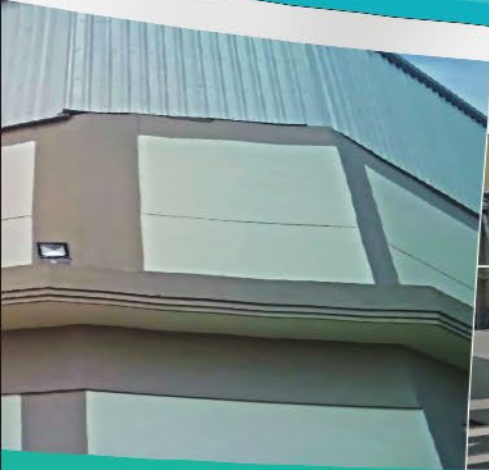


The Main Advantages of "C" Purlins are:

Savings upto 40-50% weight of structural steel and 25-30% in costs when compared to Hot Rolled Sections.
Savings upto 30-40% in weight and 15% in costs when compared to C-Channels.

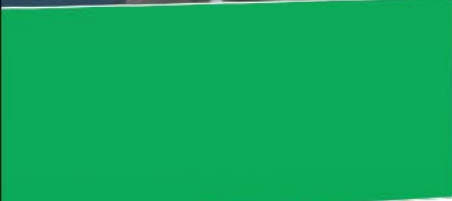
We offer a wide range of sections to facilitate better and economical selection. Purlin erection is easier than other.





Green Technology

Highly Earthquake Resistant | Can Survive heavy shocks
| Negligible amount of Carbon emission | Fast Track |
Parallel activities can be performed | Projects delivery in
weeks including Designing | Energy efficiency
Sustainability | Less foundation cost due to light weight.



Light Gauge Steel Structure

SEISMIC

Before you think about a wood or block or concrete building, especially one over three stories, you better read some important facts. Remember: when the ground starts to shake, steel provides safe, reliable, and ductile structures. Steel has great historical performance in earthquakes!

FAST FACTS

Durability and long-term consistent performance – that's what you get with steel. Reduced structural capacity due to dry-rot, termites, or mold will not compromise a steel structure in an earthquake.

Steel absorbs energy. Unlike concrete and masonry, steel bends without breaking. The same material that absorbs energy in a car crash also provides benefits in an earthquake.

Steel is lighter. Heavier structures have greater inertia: when the ground starts to shake, they want to stand still; thus greater forces are imparted into heavier structures in earthquakes. Steel is lighter than its structural equivalent in wood, concrete, or masonry.

Steel is consistent. Steel does not have a weak direction or weak grain, does not depend upon water/cement ratios or mix design for its strength, and is easy to inspect for seismic integrity. Steel is connected. Using screws, pins, bolts and welds, steel framing has a positive, consistent load path. Steel does not have corrosive chemicals or moisture that can corrode or degrade connectors.



ENERGY EFFICIENCY

Modern steel has rapidly become one of the most energy efficient building materials to produce. Between the early 1990s and 2007, the U.S steel industry cut energy use per ton of steel by nearly 1/3.

Cold-formed steel (CFS) buildings can be some of the highest performing buildings. CFS buildings have been built to Energy Star status, and can meet LEED requirements and other green building programs and standards.

Whole building design of the energy package using readily available simulation tools will enable code compliant and cost-effective solutions to today's more stringent energy codes.

SUSTAINABILITY / GREEN BUILDING

Steel is one of the most sustainable building materials in the world. The industry has embraced the common sense approach that reducing its impact on the environment is not only the right thing to do, but it makes economic sense.

Since the early 1990s, the steel industry has reduced its energy use to produce a ton of steel by approximately 1/3. More than 95% of the water used in the steel making process is recycled and returned - often cleaner than when it was taken from the source.

ADVANTAGES OVER RCC

Comparison of environmental considerations of RCC & LGS constructions

S.No	Comparison Factor	Conventional Construction		Cold Roll Construction	
1	Recycling	Recycled content	0%	Recycled content	60%
		End of life time recycling rate	50%	End of life time recycling rate	98%
2	Noise Pollution	No Preventive Measures		Sensitivity to Audio Frequency ranging 250-1000 Hz	



RCC (Conventional)

Time Consuming
Construction in stages, Curing time.
Block masonry Plaster job is time consuming.
Very expensive to make Earthquake resistant Structures.
Loss of life is more due to Heavy Weight if building collides.
80 to 88% embodied carbon emission.
Requires heavy foundation Cost.
Thermal Conductivity = 1.6 W/m2.K

LIGHT GAUGE STEEL

Fast Track.
Parallel activities can be performed
Projects can be delivered in weeks including Designing.
Highly Earthquake Resistant.
Can Survive heavy shocks.
Negligible amount of Carbon emission about 0.005Kg/sft.
Less foundation cost due to light weight.
Thermal Conductivity = 0.04 W/m2.K

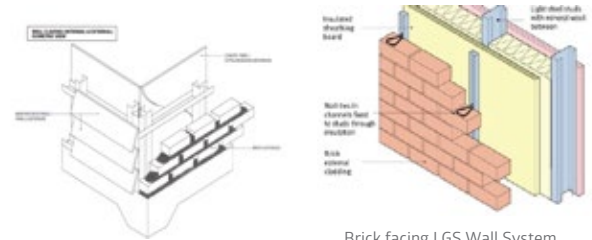


Light Gauge Steel Structure

Material Specifications:

LGS FRAMING

All structural framing components shall conform to ASTM A 635 or equivalent hot dipped galvanized (G90 coating, complying with ASTM A 653/653M, C 955 or equivalent) with thickness and grade as required by structural design calculations (min. yield strength 550/350 MPa). X Drive @ screw shall be used for assembling of the structure.



Brick facing LGS Wall System

Exterior Walling System

- Option 1: Using 10 to 12mm Cement fiber board
- Option 2: Using Steel Cladding System (Cost effective)
- Option 3: Using brick masonry attached with LGS wall system
- Option 4: Light concrete using form work up to 4 feet.
Remaining wall cladded with Cement Fiber or steel profile sheet.



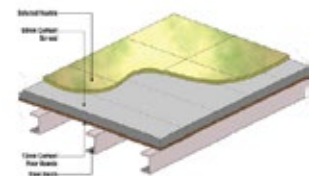
Interior walling system

- Option 1: Using 8 to 10 mm Cement fiber board
- Option 2: Using 12 mm Gypsum board (cost Effective)
- Option 3: Concrete using form work up to sill level. Remaining with 12mm Gypsum /CF



Composite Decking System:

- Option 1: 24mm Cement Fiber board Decking sheeting on LGS Joist or 12mm board with 50mm cement screed with tiles.
- Option 2: Steel decking sheets with 50mm Cement screed and with tiles.



First Floor ROOFING

- LGS Trusses
- Roof Panels
- 50 mm Glass Wool Insulation
- 0.6mm Pre-Painted Galvanized Steel Profiled Sheeting.



INSULATION

All interior and Exterior walls shall be filled with mineral wool insulation. Glass wool insulation Blanket shall be used on first floor roof.





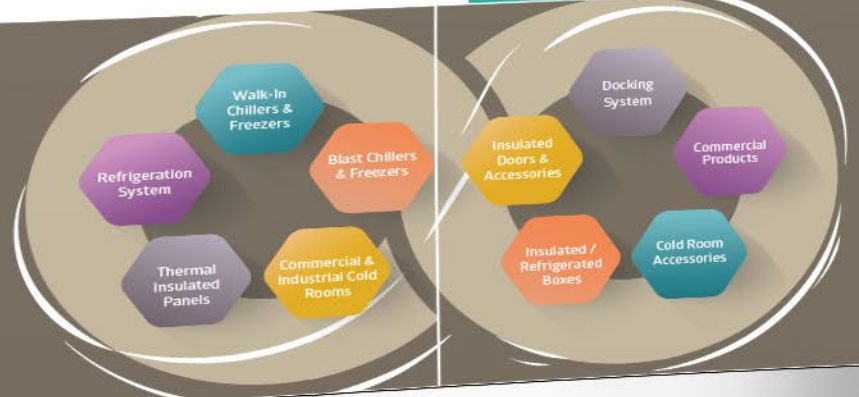
Cold Chain Solutions

PU Sandwich Panels
PIR Sandwich Panels
Reefer Vehicles



Driven by technology we are able to construct Custom size Cold rooms into any required Specification and Type, all with the ease of assembly.

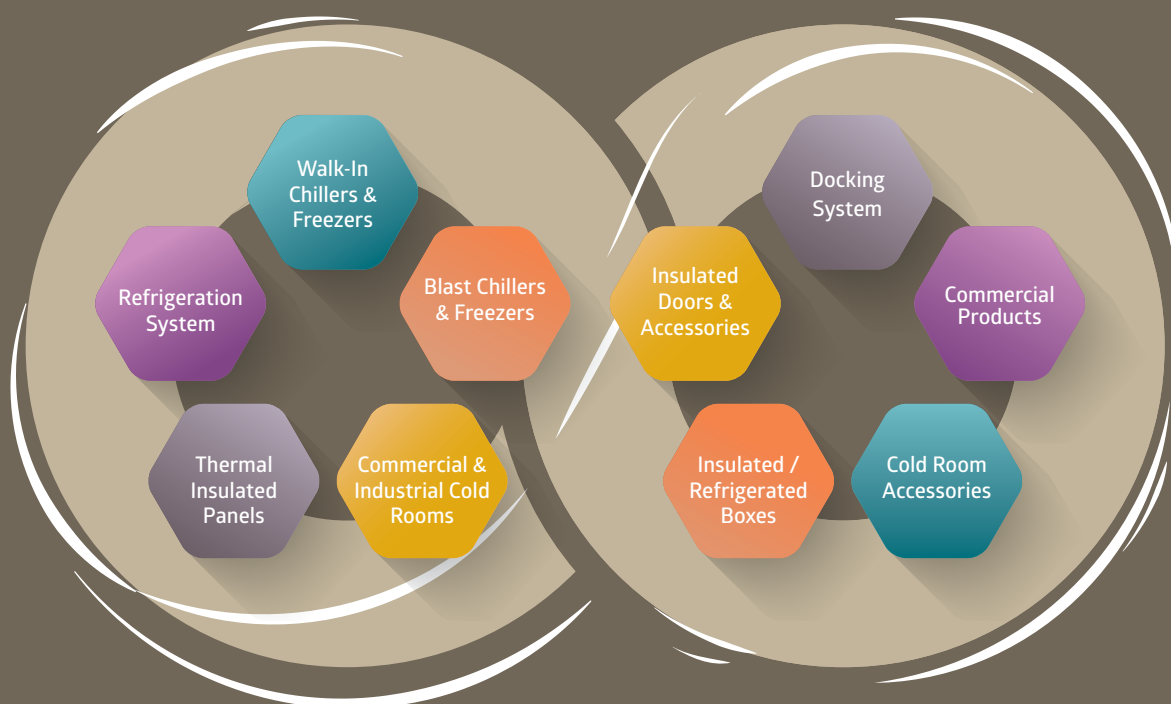
Walk-in-Chillers | Walk-in-Freezers | Blast Freezers | Refrigeration Units | Refrigerated Vehicle Bodies | Skid Mounted Cold Rooms



Cold Room

With an aim to cater the increasing demand for cold storage in the region, We are engaged in providing the services for the requirements of Cold Storage and Refrigeration industry. Our commitment to Innovation, quality, customer care and cost-focused solutions has enabled us to grow rapidly, backed by our specialist knowledge of refrigeration systems, engineering design and installation.

THE WIDE RANGE OF PRODUCTS & SERVICES WE OFFER



Applications



Custom-made size of best quality cold room panels for cold storage requirements are available for various structures, such as

- Walk-in-Chillers
- Walk-in-Freezers
- Blast Freezers
- Refrigeration Units
- Refrigerated Vehicle Bodies
- Skid Mounted Cold Rooms

Designed according to exact specifications of the customer, cold rooms can be constructed into any required height, width, length and types all with ease of assembly. We supply Polyurethane Insulated Sandwich Panels for Walls, Ceiling and Floor. The joint design of our cold room panels is produced with tongue & groove edges, which are further locked with cam lock design fasteners that are built inside the insulated panel. Our sandwich panels are injected with high density polyurethane foaming material with an average density of 40-42 kg/m³ firmly glued to the metal surface for perfect insulation of Refrigeration units & walk-in cold rooms.

INSULATED / REFRIGERATED BOXES

Your search for high quality reefer boxes, Chiller vans or Refrigerated vehicles ends at us. We guarantee to provide the perfectly suited refrigerated transport solution that will perform it's daily requirements effectively from day one. We offer the following solutions

Heavy & Light Refrigerated Trucks

Distribution Vans

Reefer Boxes

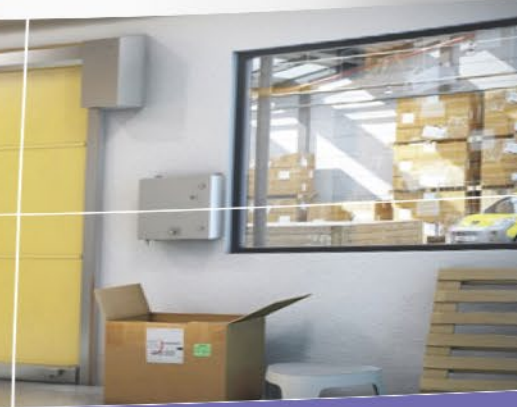


**CONDENSING
UNIT**



DOORS





Our range of Doors are designed for Safe, Fast, Efficient and Simple Operation for Internal/External busy doorways.
Well-conceived design for low / high wind loads and moderate / high temperature



Doors

Coolmax Range of Doors is designed for Safe, Fast, Efficient and Simple Operation for any Internal/External busy doorways. These doors are characterized by their high-quality components and well-conceived design which can be used both inside and outside in sheltered areas that have low/high wind loads and moderate/high temperature. These doors are most suited for controlling environment conditions inside the factory, they also help in improving the flow of traffic through busy doorways.

Self-supporting structure for simple and reliable operation. Speed adjustments are possible in all types of doors. Due to their modern and variable look, our doors perfectly match architecture of any building. These doors are designed to ensure smooth and noiseless operation

Types

1. Insulated Doors
2. High Speed Roll Up Doors
3. Sectional Doors
4. Folding Doors
5. Fire Safety Doors
6. PVC Strip Doors



Insulated Doors

Doors are made with same insulation and thickness as of wall panels. All fitting made of anti-corrosive extruded aluminium. Doors are available in many different types, either manual or electrical, ranging from single or double swing to airtight doors. All doors are designed for heavy-duty usage, easy to operate and maintain.



- Electrical Operated Sliding Doors
- Manual Sliding Doors
- Hinged Doors
- Overhead Sectional Doors
- Roller Shutters
- High Speed Roll-up Doors
- Folding Doors
- Traffic Swing type with glass

Doors Thermal Insulated Panels

Sandwich Panels are available in following thicknesses:

50mm

80mm

100mm

120mm

150mm

200mm

Insulation Material

The demands made on insulation today are extremely rigorous. We are looking for materials that can be installed easily, lightweight but strong, last long time and are also adaptable to many applications. For this host of reasons we believe Polyurethane foam (PU) is far better insulation that offers the best physical properties of any available insulating materials. The polyurethane panels are best available option for the requirement of cold room insulation.



Fire Protection & Rating

PU foam used in insulated panels is cross linked with thermo set synthetic material and cannot melt under increased temperatures, in case of fire our insulated panels do not melt form burning droplets resulting in reduced risk of fire spread. According to European Standards, our insulated panels are given an overall rating of B3, however, panels with B2 classification foam can also be produced.

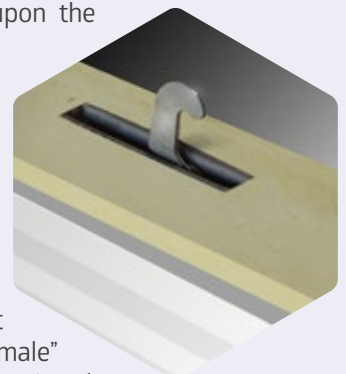


Joining System



Cladding are metallic sheets used as 'facing' on both sides of insulated panels. Cladding can be shallow ribbed to provide additional solidity and firmness. Various cladding materials are available to choose from, depending upon the usage

Polyester Pre-Painted Galvanized Steel
Stainless Steel
Aluminium



Camlock : To provide a tight and secure joint panels are profiled for interlocking with the "male" side having cam lock and the "female" side having the latch pin, which also provide strength. This panel fastener provides a positive panel seal that helps alignment when joining the panels at site and also facilitate the disassembly and reassembly process.



SECTIONAL DOORS

DESCRIPTION

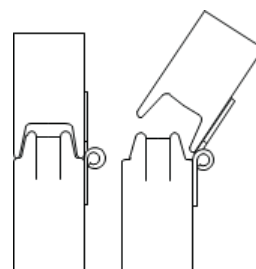
This door can be opened vertically and it is made up of horizontal panels that run along lateral guides; moreover, it is fitted out with articulated joints placed among the panels, it bends when approaching the ceiling and it places itself parallel to it, letting the passage opening free.

INSULATED PANEL

40 or 80mm thickness, 610 mms height, it has a steel double face that is previously galvanized through the Sendzimir process and primer treatment and then painted with polyester resins. Such treatment ensures the plate's surface to have a resistance of 1000-hour exposure to salt fogs. Inside, at its upper and lower sides the panel is equipped with reinforcing plates on which the hinges screws are fixed. The external structure of the panels has horizontal staves with a 100mm gap made of 5/10 embossed plate.

THE JOINT SYSTEM

The articulated joint between the panels is made from hinges, placed inside, which lets them rotate. There is also an airproof seal (EPDM) between the panels.



FILLING

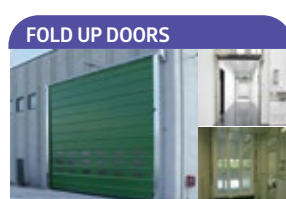
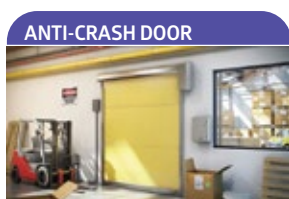
The insulated panels are filled with Polyurethane Foam.

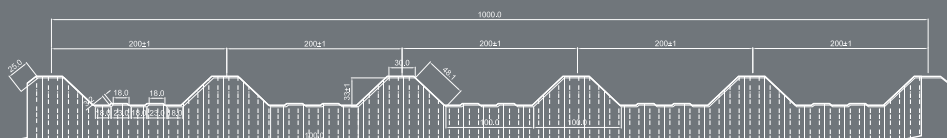
VISION PANEL

It is made of anodized- or painted-aluminum shapes and of single-face methacrylate glasses, it is available either in double glazing or honeycomb versions. The outside and upright frames house the sealing gaskets and the glasses, allowing different possible compositions. The panoramic panel can be assembled as a glazed single section in SD-type door or it can be fixed in a multiple assembly together with other insulated panels.



High Speed Rollup Doors





Authorised Dealer



COOLMAX Group of companies,
a proud Authorised dealer of ARCO Industrie Italy.

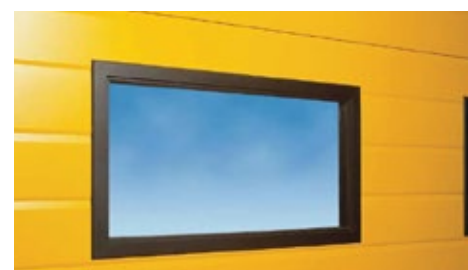
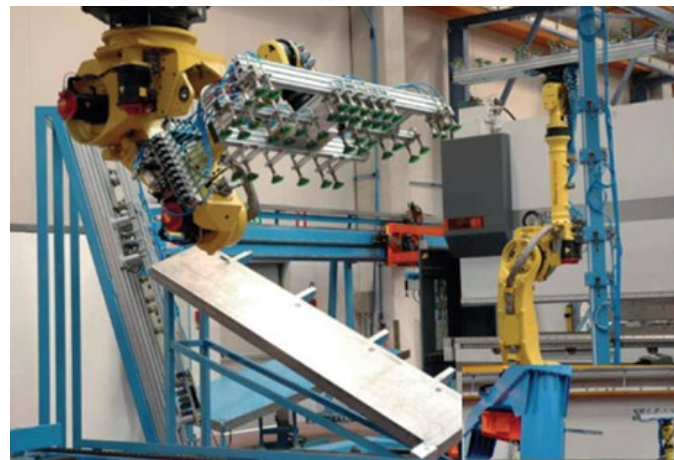
ARCO Industries Ltd., combines over 30 years experience in the area of Industrial and Residential Doors manufacturing. The company operates two production sites in Europe with automated production lines, manufacturing high quality products at competitive prices with swift turn around time.

COOLMAX Building Technologies has formed an Exclusive Strategic Alliance with ARCO Industrie Italy for its 'Door' Products by gaining its Sole and Authorised Dealership in Pakistan.





coolmax
GROUP OF COMPANIES



Codes followed by COOLMAX Building Technology

Manual of Steel Construction, 2005 Edition
AISC "American Institute of Steel Construction"

Metal Building Systems Manual, 2006 Edition
MBMA "Metal Building Manufacturers Association"
1300 Sumner Ave. Cleveland, Ohio 44115

Cold Formed Steel Design Manual, 2002 Edition
AISI "American Iron and Steel Institute"
1000 16th Street, NW, Washington, DC 20036

Structural Welding Code D11.06 – Steel Manual, 2002 Edition
AWS "American Welding Society"
550 N.W. Lejeune Road, P.O. Box 351040, Miami, FL 33135



QUALITY | Pre-Assured

At COOLMAX Building Technologies Quality is the key attribute around which all processes are executed with a comprehensive quality plan.

We adopt an ASTM and AWS requirements at various stages of design and manufacturing. The process includes:

- Incoming / Raw material inspection
- In-process inspection
- NDT
- Final inspection

COOLMAX Group of Companies

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