



Possibilities of Interarch Pre-Engineered Steel Structures and Buildings in Power plants

Power is one of the most critical components of infrastructure, crucial for the economic development and welfare of nations. In India there is immense scope for this sector.

Applications of Pre-Engineered Buildings in the Power Sector:

- Turbine Buildings
- Pumping Stations
- Electric Rooms
- Coal Conveyor Structure
- Boiler Structure Rooms
- Coal Shed and other raw material sheds
- Panel Control Room
- Pipe and cable tray racks
- Machine shops



Advantages of using Interarch Pre-Engineered Buildings:

- Power plant construction, in particular, involves extremely heavy loads, Interarch is capable of engineering and manufacturing such loads
- Large clear span structures are required in a power plant for functional needs and Interarch has capabilities to deliver up-to 100 M clear span buildings
- Interarch follows Just in time delivery schedule, hence requirement of storage space at the site is minimum
- Faster manufacturing and delivery being mass production at factory
- Project structures are pre-designed and manufactured in a controlled factory environment resulting in higher quality of the building as well as faster construction.



How to calculate air changes inside the building and methods for ventilation for your pre-engineered steel building:

Most of us spend almost half of working hours in offices or school buildings. The quality of air inside these buildings can affect the health of the person, productivity level and comfort level of the occupants. Air is continuously exchanged between buildings and their surroundings as a result of mechanical and passive ventilation and infiltration through the building envelope. The rate at which air is exchanged is an important property for the purposes of ventilation design and heat loss calculations and is expressed in 'air changes per hour' (ach). If a building has an air change rate of 1 ach, this equates to all of the air within the internal volume of the building being replaced over a 1 hour period. Air changes per hour is a measure of how many times the total volume of the air has been replaced in 1 Hr

The basic method calculates air change rates using the following equation: $n = 3,600 \times q / V$ Where:

n = Air changes per hour

q = Fresh air flow rate (m³/s)

V = Volume of the room (m³)

Air changes can be achieved by various ventilation methods for the building:

Natural Ventilation: Natural ventilation harnesses naturally available forces to supply and remove air in an enclosed space. There are three types of natural ventilation occurring in buildings: wind driven ventilation, pressure-driven flows, and stack ventilation

Mechanical Ventilation: Where mechanical ventilation is necessary, it can be achieved by the following ways

- A circulation system such as a ceiling fan, which creates internal air movement.
- A pressure system, in which fresh outside air is blown into the building by inlet fans
- A vacuum system, in which stale internal air is extracted from the building by an exhaust fan
- A balanced system that uses both inlets and extracts fans, maintaining the internal air pressure at a similar level to the outside air and so reducing air infiltration and draughts.

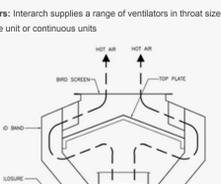
Ventilation System for Interarch Pre-Engineered Steel Buildings

To keep the inside temperature comfortable for the occupant's various techniques can be used for ventilation inside the pre-engineered building:

1. Roof Monitors: Roof monitors can be provided in the building for natural ventilation



2. Ridge Ventilators: Interarch supplies a range of ventilators in throat sizes from 300 mm to 900 mm, complete with fixing accessories. Ridge ventilators can be supplied as a single unit or continuous units



3. S-Type Louvers: Interarch louvers are supplied in standard module of 1M wide as a single or continuous unit. The height can be 900mm, 1200mm or 1500 mm



4. Turbo vents: The turbo vents are powered by winds to provide effective ventilation inside the building



Sector Overview: Power Sector in India:

India's power sector is one of the most diversified in the world. Sources of power generation range from conventional sources such as coal, lignite, natural gas, hydroelectric and nuclear power to viable non-conventional sources such as the wind, solar, and agricultural and domestic waste.

Electricity demand in the country has increased rapidly and is expected to rise further in the years to come. In order to meet the increasing demand for electricity in the country, massive addition to the installed generating capacity is required.

The Government of India's focus on attaining 'Power for all' has accelerated capacity addition in the country. At the same time, the competitive intensity is increasing at both the market and supply sides. Total installed capacity of power stations in India stood at 330,260.53 Megawatt (MW) as on May, 2017.

The Indian power sector has an investment potential of Rs 15 trillion (US\$ 225 billion) in the next 4-5 years, thereby providing immense opportunities in power generation, distribution, transmission, and equipment

Electricity production in India (BU)



Source: BP Statistical Review, Ministry of Power, TechSci Research; Notes: FY - Indian Financial Year (April-March), BU - Billion Unit, CAGR - Compound Annual Growth Rate

Advantage 4: Large clear span buildings can be made using Pre-Engineered steel Building

Using our industry leading expertise in pre-engineered building design, Interarch has completed some of the largest clear span buildings for many clients. Clear span steel buildings are unique to Interarch and the industry as they have no columns and allow the use of entire interior space. Clear span building up-to 100 M can be engineered and delivered in Pre-Engineered steel, but the same is not possible in RCC

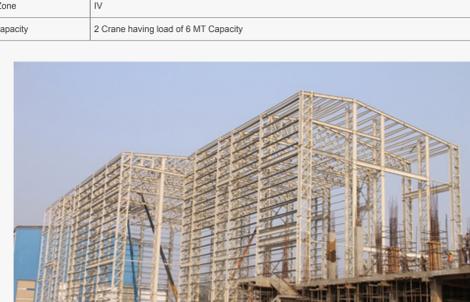


Project Spotlight: Alstom T & D India Ltd., Haryana

Interarch scope of work included design & Engineering, Manufacturing and erecting of 4 buildings- Valve Hall, GIS Building & Panel Room and Storage building spear over an area of 10,000 Sq. M



Project Name	Alstom T & D India Ltd.		
Project Location	Kurukshetra , Haryana		
Project Usage	800 KV, 3000 MW HVDC Bipolar Terminal package		
Project Area	10,000 Sq. M		
Building Usage	Valve Hall (2 Buildings)	GIS Building	Store Building
Project Area	7290 Sq. M	1230 Sq. M	1269 Sq. M
Height	26.65 M	13.5 M	7 M
Design Code	IS-800-1984		
Collateral Load	<ul style="list-style-type: none"> • Combine load of 20.5 Kn on columns for equipment's • Combine load of HVDC (6000 Kg) and LVDC (700 Kg) on rafters 		
Seismic Zone	IV		
Cranes Capacity	2 Crane having load of 6 MT Capacity		



Appreciation Certificate from Client:

On the occasion of successfully completing Two Million Safe Man Hours in Hindustan Unilever Ltd, Project Rhino in Assam. Safety team member has been awarded a Certificate of Appreciation.



Project Won

- Gamesa Renewable Pvt Ltd in Andhra Pradesh
- Plasser India Pvt Ltd in Gujarat
- TVS Uppasana Ltd in Tamil Nadu
- Ratan Poly Plast in Gujarat
- M/s Bector Food Specialities Ltd in Punjab



Project Completed

- Micro Turners in Karnataka
- Steel Strips Wheels Ltd in Tamil Nadu
- Anant Shri Sukhramji trust in Rajasthan
- Federal Engineers in Maharashtra
- Sushil Udyog in Rajasthan



Customer Testimony

Interarch Building Products delivered a Pre-Engineered Steel Building project for Naviyoti Commodity Management Services Ltd in Raftam in Madhya Pradesh. We are satisfied with the work & happy with the timely completion of the project. We wish Interarch very best in all their future endeavors.



Press Coverage

Interarch received Press Coverage in Steel Structure and Metal buildings Magazine in July 2017.



Events at Interarch:

Interarch Building Products conducted Interarch Forum on 28th of July, 2017 at Hotel Taj Coromandel in Chennai



Training at Interarch:

Training was conducted on Goal setting & time management on 05/08/17 in Pantnagar plant for HODS, Managers & Engineers:



Health Care Tip during Monsoon

- Avoid walking in Rain
- Don't let the garbage get collected nearby house
- Use mosquito creams and repellents to protect yourself from mosquito bites
- Avoid walking into dirty puddles of water
- Eat washed fruits & vegetables
- Avoid street foods during this season as they are likely to contain bacteria
- Drink lots of water during this season. Also, beverages like Ginger tea & Green tea



