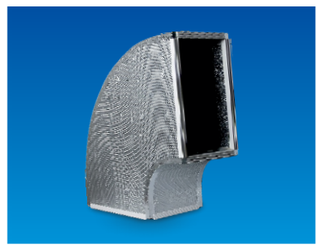
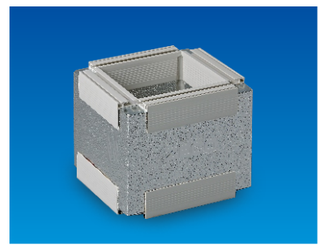
ZECO®

We breathe air into your life





ZECO®

We breathe air into your life

Contact Us At

+91-9810-547-799

email : enquiry@zecoaircon.com

kartik@zecoaircon.com

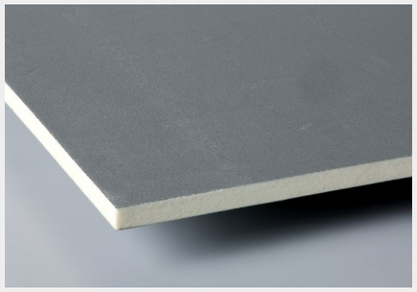
www.zecoaircon.com

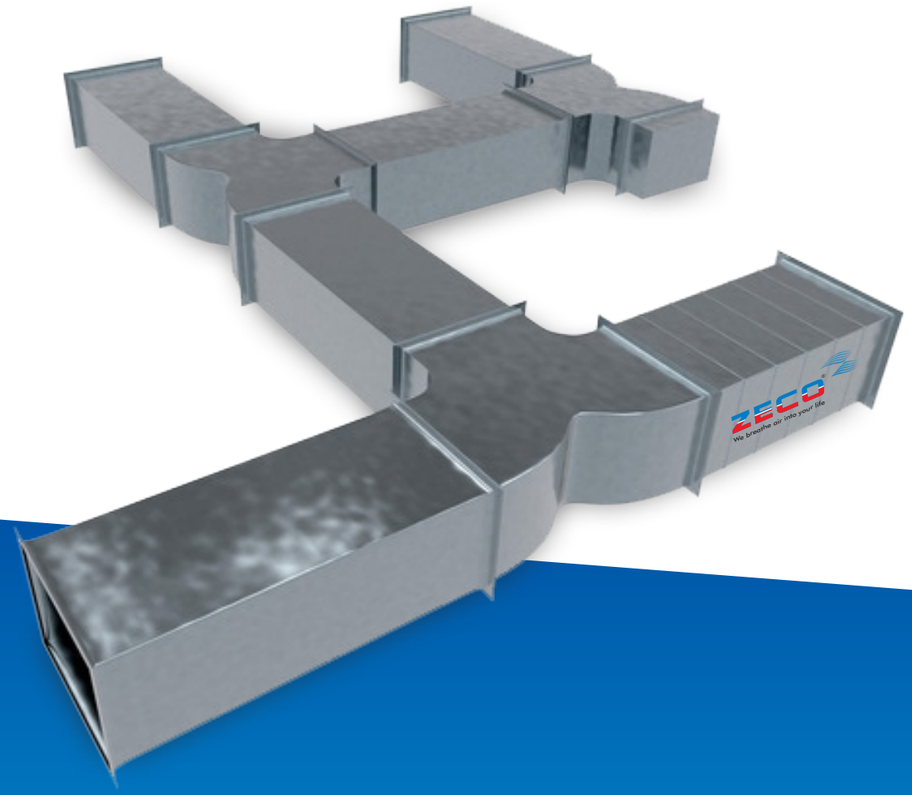
Established in 1989 in New Delhi, **ZECO AIRCON LIMITED** has come a long way to become world class manufacturer of Air Management Systems. We offer whole gamut of air handling solutions for residential, commercial, industrial, institutional, and all other medium & large size spaces to provide them amicable climate indoor.

Mankind's blind pursuit of comfort has put the earth on risk. So coming with sustainable products that are not just comfort centric, but environment-sensitive as well, has been the bottom line of ZECO's philosophy. To actualize this vision, we are using our global resources and skills to develop quality products that offer perfect indoor comfort without staining the outdoor.

We manufacture innovative range of HVAC Equipment at our hi-tech machinery imported from Italy, Japan & USA. Bracing the practice of energy efficiency and a safer healthier environment ZECO has come up with new product "PIR Pre-insulated panels" for duct to stand with the global change.

The new generation of ZECO PIR Insulated sandwich panels for HVAC application with better improvised resistance to fire & thermal conductivity.





ZECO PIR PRE INSULATED PANELS

This product has high demands of better thermal properties in terms of Energy saving, leakage factor, fungus growth within the material. The major role played in regard to fire behavior, it represents excellent barrier in many aspects that present new generation of panels compare to conventional system.

These initials PIR refer to polyisocyanurate foams. They are part of a system that has evolved from polyurethane formulas that have a long tradition on the insulation market for construction in the USA and many European countries, Middle East Asian countries used largely.

The PIR are obtained from the reaction of polyol with an excess of isocyanate. The surplus isocyanate reacts with itself forming a very reticulated, thermostable material with cyclical structures. This reaction is called trimerisation.

The index (=quantity of PIR bonds) of the polyisocyanurate sandwich panels oscillates between
-20 Deg C and +85 Deg C. The higher the index, the greater the quality of behavior to fire is.
The cyclical shaped PIR bonds grant the foam much higher fire behavior than conventional foams and are the reason that hardly any smoke is given off when under combustion.

ZECO PIR Panels combine the best traditional polyurethane properties with optimal fire behaviour, because of its closed cell that is coefficient that makes it a leading great insulation material.

PIR Preparatory System

PIR Injection Machinery

ADVANTAGES OF ZECO PIR INSULATED SANDWICH PANELS.

ZECO PIR foam does not absorb water, which prevents the deterioration of the insulating capacity and overloads due to the liquid retained by the panel.

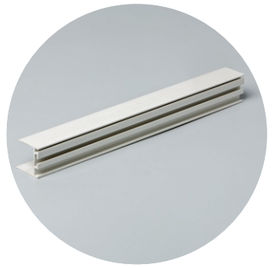
The mechanical resistance of ZECO PIR panels means they adapt to the majority of structural and regulatory demands required in the construction trade. Moreover, there is no risk of delamination of the core of the panel over time.

- Salubrious and biologically clean. PIR foam is very resistant to chemical products, they do not contain fibers and because of their closed cell structure, moulds and bacteria cannot grow in their interior.

- Better fire behaviour. It is much higher than conventional foams; there is a good combination of the reaction to fire with a minimum quantity of smoke generated.

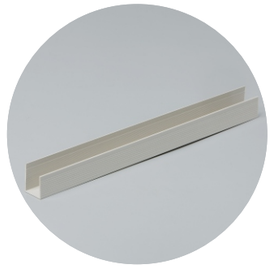
- In the risk assessment for establishing insurance rates, insurance companies give a favourable assessment if

Accessories :

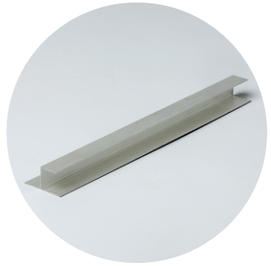


Aluminum Joint

PVC Joint Flange



Aluminum U- Flange



Aluminum Chair Flange

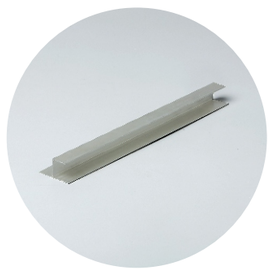
GL Corner Cover

Duct Accessories Set

Aluminum F- Flange

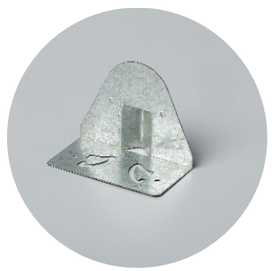
Center Flange

Aluminum Joint Profile



Aluminum Chair Profile

Reinforcement Disc



Duct Support

Cross Fixing Device

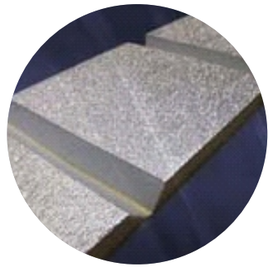
PVC Corner

Tiger Joint

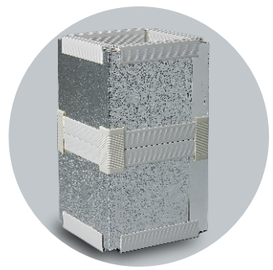
Site Installation Tools

Simple Fabrication Tools

Panel Grooving Process



Folding Panels



Sample Piece Of Duct

Duct Sealing Process

THE DUCTS JOINT ARE SEALED INTERNALLY WITH SEALANT TO THERE IS NO AIR LEAKAGE AND THE AIR FLOW IS CLEAN.

Duct Joinery Mechanism

Factory Fabricated Duct

Quality Check Prior To Packing

Panel Positioning Process

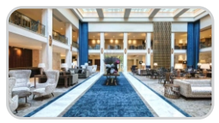
Technical Data Sheet
ZECO PIR INSULATED PANELS

GENERAL CHARACTERSTICS :
ZECO PIR Panels are manufactured of CFC free closed cell Polyisocyanurate (PIR) foam "sandwiched" between Aluminium foil on each side.

DIMENSIONAL & TECHNICAL CHARACTERSTICS :

Dimensions of Panel (L x W)	4000 mm x 1200 mm
Aluminium foil thickness	80, 200 Microns
Panel thickness	20 mm (Indoor Application) 30 mm (Outdoor Application)
Aluminium foil type	Embossed / Embossed
FIRE PROPERTIES:	
Fire Propagation	Class 0, according to BS 476 Part 6 & Part 7
Surface Spread of Flame	Class 1, according to BS 476 Part 7
Smoke Development Index	Class A, according to ASTM E-84
INSULATION PROPERTIES :	
Material for Insulation	PIR (Polyisocyanurate)
Thermal Conductivity	0.021 W/m.K
Density	48 ± 3 Kg/m³
OTHER PROPERTIES :	
Water Vapour Transmission	0.00 perms
Water Absorption	0.03 %
SPECIFICATION OF USE :	
Air Pressure	Upto 2000 Pa
Air Velocity	Upto 40 m/sec
Friction Coefficient	0.0130

Applications


HOTELS


MALLS


PHARMACEUTICAL INDUSTRIES


INDUSTRIES


HOSPITAL


HOTEL


CORPORATES

Executed Projects

Manufacturing Facility

DELIVERABLES	CONVENTIONAL GI. / AL /S.S /SHEET DUCT	PIR- PRE-INSULATED PANEL DUCT
Insulation	Insulation needed additionally as per the designed & operational needs.	Self-insulation with constant 0.021 W/m C Thermal conductivity through out the length & width of the duct.
Weight	0.8 mm thick: 7.0 Kg/m2 1.0 mm thick: 8.3 Kg/m2	20 mm thick panel -1.38 to 1.44 Kg/m2
Noise	Noise generation and transfer through the duct air carrying places.	Excellent Acoustic properties-noise reducing effect
Corrosion	Corrosion due to humidity in air hence leakages & heat losses.	No Corrosion, no leakages and energy saving.
Chemical	Rapid Corrosion by chemical reaction in air	Strong chemical resistance due to the embossing & sandwiched Aluminum
Permissible Pressure	If required High pressure possible	Maximum up to 1500 Pa
Permissible Velocity	Can be designed for High air flow velocity	Up to airflow @ 15m/s (approx.3000 fpm) possible.
Leakage	Deterioration as time passes due to corrosion 7 erosion of Zinc Galvanization	No leakages due to corrosion, erosion or any such external ambient operating parameters hence excellent performance throughout its life cycle.
Installation	Hard to cut as thickness (Gauge increase) increase due to duct sizing & its mechanical stability requirement. Insulation & cladding work has to be carried out at site. Lot of noise generated while fabrication & assembly at site. Heavy machineries required for site contractor.	Easy, Light, No Extra time & resources required to carry out the insulation, as these are Pre-insulated panels. Follow the construction schedule methodology can be implemented.
Maintenance	Regular duct cleaning needed due to Algae & Fungus formation as a result of condensation formation & clogging in the duct	Easy to maintain & Life Cycle Cost is very low.
Aesthetic	Though the Cutting & fabrication can be carried out with most modern factory equipments however at site it all depends on the skills & quality of workmanship of site contractors.	Not dependent on such issues as it is as easy like "Do-It-Yourself" philosophy.
Cost to deliver.	Depends upon the Type of skills, machineries at site, transportation cost. Heavy lifting & assembly machineries desired at site.	Lower than the conventional duct manufacturing & installation while comparing its quality thermal & acoustic duct insulation hence delivering year after year Energy Savings.
Duct fabrication Testing	Ducts can be fabricated as per International Standards	These ducts can be manufactured & tested as per International standards
Ecological & Environmental properties.	Needs to be specified & verified resulting in commitment by the Users towards its Quality & Company Mission.	PIR panels are totally CFC and HCFC free; Ozone Depletion Potential (ODP) = 0Global Warming Potential (GWP) = 0.0001