

PI-Pre Insulated Duct System



PEARL INDUSTRIES LLC

Pre Insulated Panels & Ducts

(Since 1998)

Pearl Industries LLC has been a leader in the manufacturing and distribution of Pre-Insulated Duct Panels and Garbage Chute Systems for over a decade, offering a comprehensive range of engineering services. Our reputation is founded on delivering top-quality, highly reliable products and services designed to meet even the most demanding customer needs.

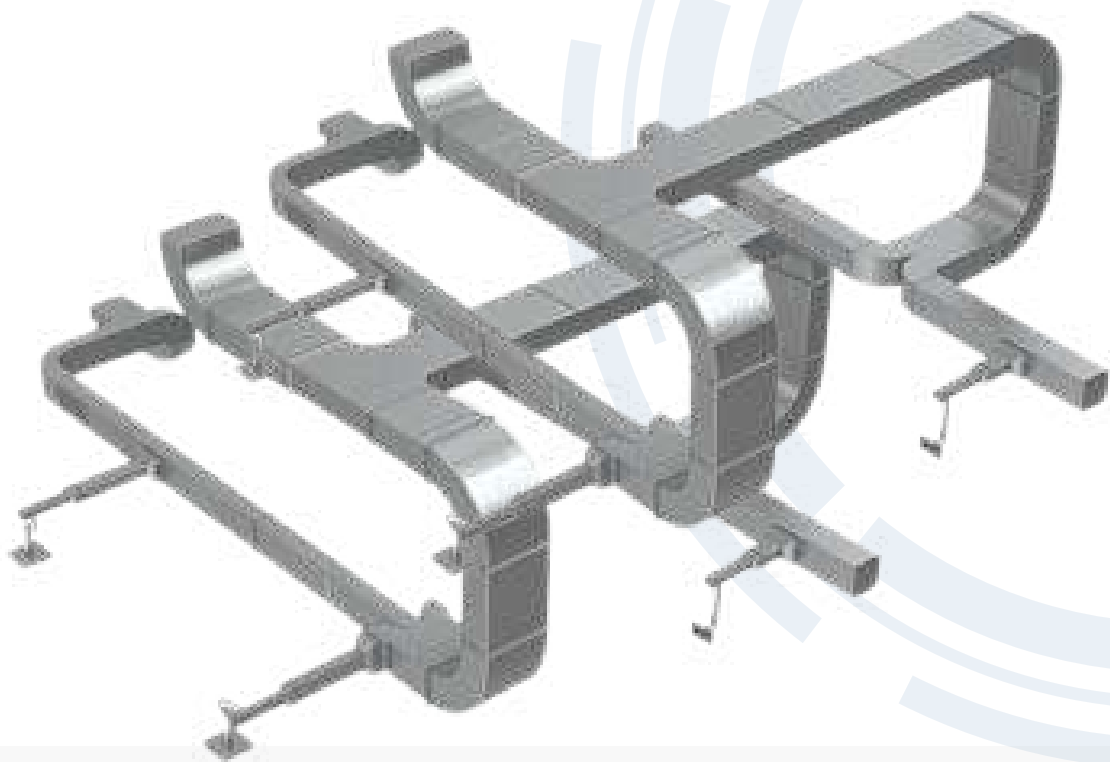
AIR DUCTING SYSTEM

INTRODUCTION

Overview

Pearl Industries LLC has established a cutting-edge manufacturing facility in the UAE, dedicated to producing high-quality HVAC ductwork. Comprehensive training programs are provided by skilled trainers with extensive experience and expertise in the latest technologies, ensuring excellence in fabrication and installation. This process is closely monitored by our on-site representatives to maintain the highest standards.

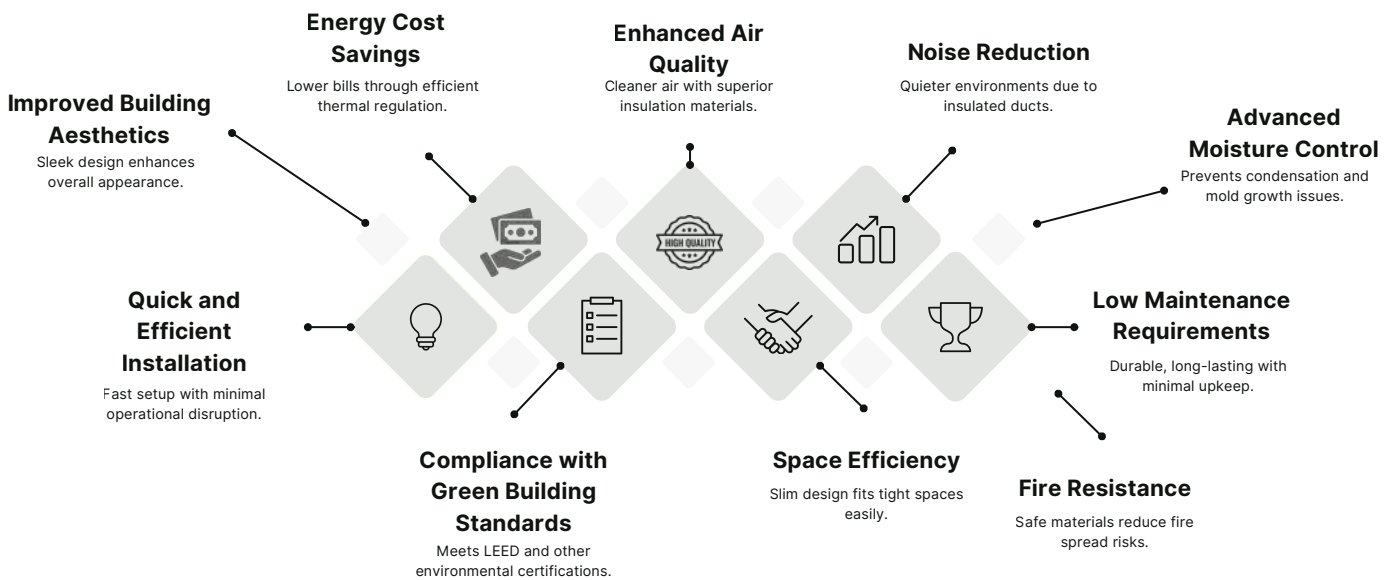
Established in Sharjah, United Arab Emirates, in 1998, Pearl Industries now serves clients across the Middle East. We are among the first companies approved by Dubai Central Laboratory (DCL), continuously pushing the boundaries of ducting technology in the region. Our pre-insulated ducting panels feature some of the world's most advanced, high-performance insulated ducting systems, providing superior performance across all climates.



The purpose of a duct system is to deliver air from the central air source to air diffusers located within various control zones of a building. The figure below illustrates a central heating furnace connected to both supply and return ductwork. The furnace is linked to an air plenum at the starting point. The furnace fan(s) draw air in through grilles, known as returns, and push it through the plenum, directing conditioned air into the space through supply registers.

WHY CHOOSE PEARL PRE-INSULATE DUCTS?

HVAC solutions that promise improved energy efficiency, outstanding thermal performance, and a commitment to sustainability.



Efficient ductwork is fundamental to the performance of heating and cooling systems, guiding conditioned air to desired spaces effectively. The design, sizing, and installation quality of ductwork significantly influence utility costs, system efficiency, and overall comfort.

PI PIR PANELS

PI-Pre Insulated Duct System

PI PIR PANELS FOR INTERNAL USE



PI-PIR-25-01

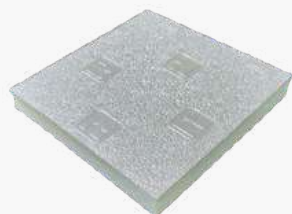
Thickness	: 20mm
Panel Density	: 48±5
Dimension	: 4000 mm X 1200 mm and 3000 mm X 1200 mm
Aluminium Foil Finish	: Embossed / Embossed , Smooth / Embossed
Aluminium Foil Thickness	: 80 Micron / 80 Micron



PI-PIR-25-02

Thickness	: 30mm
Panel Density	: 48±5
Dimension	: 4000 mm X 1200 mm and 3000 mm X 1200 mm
Aluminium Foil Finish	: Embossed / Embossed , Smooth / Embossed
Aluminium Foil Thickness	: 80 Micron / 80 Micron

PI PIR PANELS FOR EXTERNAL USE



PI-PIR-25-03

Thickness	: 20mm
Panel Density	: 48±5
Dimension	: 4000 mm X 1200 mm and 3000 mm X 1200 mm
Aluminium Foil Finish	: Embossed / Embossed , Smooth / Embossed
Aluminium Foil Thickness	: 80 Micron / 200 Micron



PI-PIR-25-04

Thickness	: 30mm
Panel Density	: 48±5
Dimension	: 4000 mm X 1200 mm and 3000 mm X 1200 mm
Aluminium Foil Finish	: Embossed / Embossed , Smooth / Embossed
Aluminium Foil Thickness	: 80 Micron / 200 Micron



PI PIR PANELS FOR INTERNAL USE



PI-PIR-25-01

Thickness	: 20mm
Panel Density	: 48±5
Dimension	: 4000 mm X 1200 mm and 3000 mm X 1200 mm
Aluminium Foil Finish	: Embossed / Embossed , Smooth / Embossed
Aluminium Foil Thickness	: 80 Micron / 80 Micron



PI-PIR-25-02

Thickness	: 30mm
Panel Density	: 48±5
Dimension	: 4000 mm X 1200 mm and 3000 mm X 1200 mm
Aluminium Foil Finish	: Embossed / Embossed , Smooth / Embossed
Aluminium Foil Thickness	: 80 Micron / 80 Micron

PI PIR PANELS FOR EXTERNAL USE



PI-PIR-25-03

Thickness	: 20mm
Panel Density	: 48±5
Dimension	: 4000 mm X 1200 mm and 3000 mm X 1200 mm
Aluminium Foil Finish	: Embossed / Embossed , Smooth / Embossed
Aluminium Foil Thickness	: 80 Micron / 200 Micron



PI-PIR-25-04

Thickness	: 30mm
Panel Density	: 48±5
Dimension	: 4000 mm X 1200 mm and 3000 mm X 1200 mm
Aluminium Foil Finish	: Embossed / Embossed , Smooth / Embossed
Aluminium Foil Thickness	: 80 Micron / 200 Micron



Aluminium U Profile

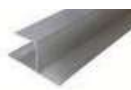


Thickness	20 mm
Code	PI-9308
Nominal Length	4 m



Thickness	30 mm
Code	PI-9309
Nominal Length	4 m

Aluminium Chair Profile



Thickness	20 mm
Code	PI-93010
Nominal Length	4 m



Thickness	30 mm
Code	PI-93011
Nominal Length	4 m

Steel Corner



Code	PI-9307
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Aluminium F Profile



Thickness	20 mm
Code	PI-93012
Nominal Length	4 m



Thickness	30 mm
Code	PI-93013
Nominal Length	4 m

H Bayonet in Polymer



Thickness	20 mm
Code	PI-9302
Nominal Length	4 m

Polymer / Aluminium Invisible Profile / Aluminium Joint Profile



Thickness	20mm
Code	PI- 9325 (Aluminium Invisible Profile) PI- 9326 (Polymer)
Nominal Length	4 m



Thickness	30 mm
Code	PI-9301 (Aluminium Joint Profile)



PI-9301
(Aluminium Invisible Profile)

Nominal Length	4 m
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Aluminium Channel



Thickness	30 mm
Code	PI-9303
Nominal Length	4 m

Corner Cover in Polymer



Thickness	20 mm
Code	PI-9304



Thickness	30 mm
Code	PI-9305

Corner Plate for Invisible Profile



Thickness	30 mm
Code	PI-9306



Thickness	20 mm
Code	PI-9360

Reinforcement Bar in Aluminium



Thickness	14 mm
Code	PI-93014
Nominal Length	4 m

Gasket Self Adhesive



Code	PI-93015
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DUCT PANEL ACCESSORIES, ADHESIVE MATERIAL & COMPONENTS

Reinforcement Disc in Aluminium



Code	PI-93016
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Thermal Insulation Tape



Width	100 mm
Code	PI-93024

Reinforcement Disc in Polymer



Code	PI-93017
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Adhesive



Capacity	15 kg / tin
Code	PI-93025

Duct Support



Code	PI-93017
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Aluminium Tape



Width (in)	50 mm for 20 mm Panel
Code	PI-93027



Width (in)	75 mm for 30 mm Panel
Code	PI-93028

Tiger Clip



Code	PI-93018
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Cross Fixing Device



Code	PI-93021
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Tiger Connector



Code	PI-93019
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Sealant



Code	PI-93022
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Tiger Closure



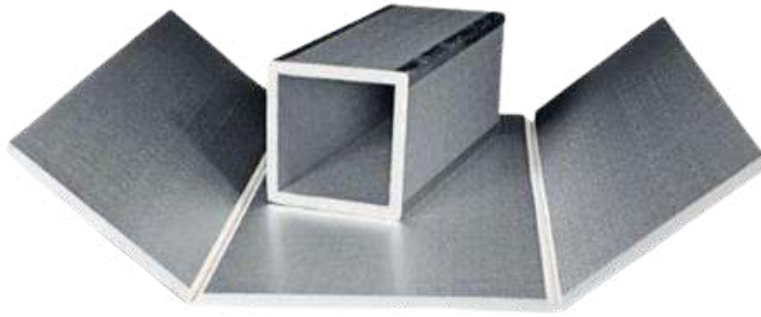
Code	PI-93020
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Screw for Stiffening Rod



Code	PI-93023
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Pre insulated aluminium ductwork made of aluminium/ polyisocyanurate sandwich panel, comprising an expanded Polyisocyanurate rigid foam board faced on both sides by aluminium foil.

ADVANTAGES OF PEARL INDUSTRIES TECHNOLOGY

- Light weight, Easy to fabricate and Install.
- Less Thermal conducting.
- Possible to fabricate ducts in any sizes.
- Very High-compressive strength.
- Possible to fabricate at site no space constrained.
- High rigidity/integrity.
- Resistant to mold growth.
- Environmentally friendly: CFCs and HCFCs –free (zero ODP and GWP <5.)
- Clean air: fibre-free insulation core.
- Easy to clean and hygienic.
- Core material is impermeable to moisture.
- High productivity in installation.

ITEM	DESCRIPTIONS	VALUE	STANDARDS
1	Panel Density	48±5 kg/m ³	ASTM D1622 D1622M-14
2	Thermal Conductivity	0.020 w/mk	ASTM C518-2007
3	Closed Cell Content	>90%	ASTM D6226
4	Compressive Strength	>200kpa	ASTM D1621-16
5	BS476 PART 6&7	Class 1	
6	PIR Foam Chemical Property	CFC Free / HCFC Free	
7	Environment effect	ODP= 0 (GWP<5)	



CERTIFICATIONS

Pearl Industries LLC is ISO certified and complies with Management System standards:

- ISO 9001: 2015 (Quality management systems)
- ISO 14001: 2015 (Environmental Management Systems)
- ISO 15001: 2018 (Occupational health and safety management systems)
- Verified as per ICV



AUTOMATED FABRICATION EQUIPMENT

PEARL INDUSTRIES DUCTING CNC MACHINE CNC CUTTING MACHINE FOR PRE- INSULATED PANELS



The working area supporting the panels is made of pvc , squared with a 40 mm center distance, with a perimetral gasket circumscribing the holding area. This system is holding securely the panel and cut parts, avoiding any movement . The vacuum area is separated into two independent area which can be selected according to the need.

FEATURES

Description	Dimensions
Work stroke	x axis 1200mm Y axis 4000mm
Rapid feed speed	x axis 40m/min Y axis 40m/min
Working speed	30m/min
Minimum Panel Thickness	10mm
Maximum Panel Thickness	30mm
Maximum Panel width	1200mm
Minimum Panel width	800mm

Description	Dimensions
Maximum Panel length	4000mm
Machine dimensions	5000mm x 2250mm x 180mm
Installed Power	10kw
Vacuum pumps	300m³/h
Total weight of the machine	1200kg
Power supply	10hz
Vacuum pumps Power supply	380v/50hz

DUCT FABRICATION GUIDE

To produce 1,000 sqm of Pre Insulated Duct System, the following is a list of material and accessories for a standard construction requirement:

20 MM PANEL (INTERNAL USE)

Code	Description	UOM	Approx. Qty
PI-PIR-25-01	Panel 4000X1200 mm	m2	1,000
PI-9325	Aluminium Invisible Profile	m	760
PI-9302	H Bayonet in Polymer	m	400
PI-9304	Corner Cover in Polymer	pc	900
PI-9360	Corner Plate for Invisible Profile	pc	1200
PI-9308	Aluminium U Profile	m	80
PI-93010	Aluminium Chair Profile	m	80
PI-93012	Aluminium F Profile	m	80
PI-93025	Duct Contact Adhesive	kg	91
PI-93027	Aluminium Tape	roll	75/150
PI-93022	Duct Sealant	tube	90

30 MM PANEL (EXTERNAL USE)

Code	Description	UOM	Approx. Qty
PI-PIR-24-02	Panel 4000 X 1200 mm	m2	1,000
PI-9301	Aluminium Invisible Profile	m	760
PI-9303	Aluminium Channel	m	400
PI-9306	Corner Plate for Invisible Profile	pc	1,500
PI-4461	Gasket	pc	400
PI-9309	Aluminium U Profile	m	80
PI-93011	Aluminium Chair Profile	m	80
PI-93013	Aluminium F Profile	m	80
PI-93025	Duct contract Adhesive	kg	90
PI-93028	Aluminium Tape	roll	75/150
PI-93022	Duct Sealant	tube	90
PI-93016	Reinforcement Bar in Aluminium	m	120
PI-93014	Reinforcement Dics	pc	200



**PEARL
INDUSTRIES**

Product Catalogue

PRE INSULATED DUCT SYSTEM

Mfg. Supply & Fabrication of PI Brand, Phenolic, Pre Insulated
Panel & Ducts, A/C Accessories, Garbage Chute Systems



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