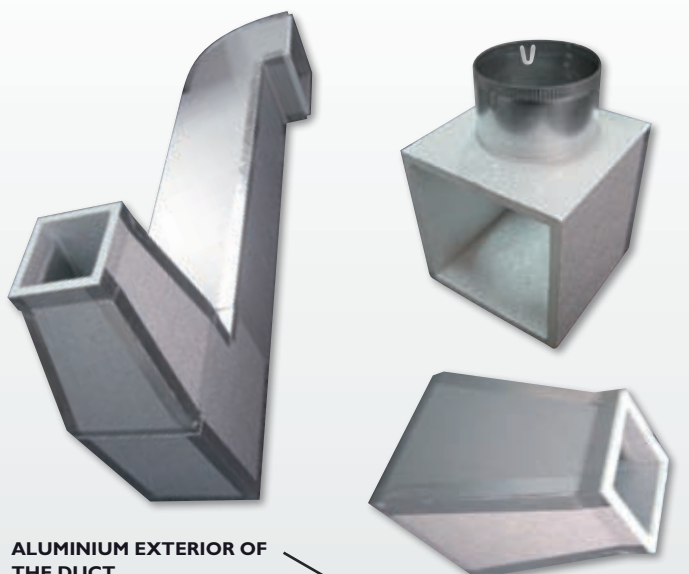


polypanel

5 ZERO RIGID DUCT



ALUMINIUM EXTERIOR OF THE DUCT

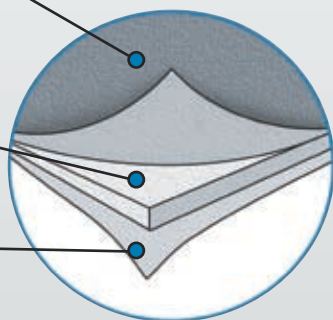
Embossed aluminium creates a sturdy exterior which will protect against impact. The lacquer coating increases corrosion resistance.

PIR (Polyisocyanurate) Board

Durable, light & good insulation.

ALUMINIUM INTERIOR OF THE DUCT

Coated with translucent lacquer providing low vapour permeability and preventing air pollution within the duct.



Polypanel is a tested and proven alternative to sheet metal ducting and components.

It is widely accepted and currently in use in major domestic and commercial projects throughout the world. (In the United Arab Emirates, the location of highest rate of building development per capita, Pre insulated Aluminium board has taken over in excess of 50% market share in last 4 years)

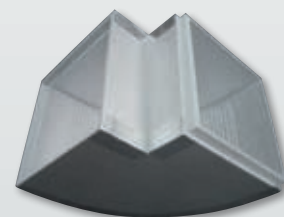
Comprising closed cell polyisocyanurate foam enclosed in two layers of aluminium textured sheet, this product offers superior features and benefits to both the installer and end user, including light weight, strength, ease of fabrication, low vapour permeability and superior hygiene characteristics.

Polypanel Ducting

- Can be fitted closer to ceilings than galvanised sheet as no space need be left for insulation cladding. This saves on ceiling cavity height.
- Can be fitted to fibrous cement and suspended ceilings due to light weight.
- Minor adjustments can often be made on site without the need to fabricate a new section in the factory. This saves both time and money.
- Requires less machinery to position in place due to light weight.

Where can you use Polypanel?

- Hospitals
- Commercial high rise buildings
- Wineries
- Domestic buildings and apartments
- Pharmaceutical Cleanrooms
- Factories/ Commercial Offices
- Anywhere where indoor air quality is important and/or when you have installation, schedule and cost constraints.



Comparison Chart

Properties	Steel Duct	Polypanel	Remarks
Insulation	Additional insulation required at extra cost to fabricate and install	Pre-insulation sandwich between two aluminium sheets. No extra process required	Pre-insulated Polypanel has better insulation consistency and good vapour barrier
Weight	0.8 gauge: 6.5kg/m ² 1.0 gauge: 8.1kg/m ²	Polypanel 20/35 = 1.10kg/m ² Polypanel 20/45 = 1.30kg/m ² Polypanel 30/35 = 1.85kg/m ²	Polypanel is less than 25% of steel duct weight. Requires less machinery and manpower to install
Noise	High noise generation and transfer	Limited reverberation effect	GI duct hard surfaces promote sound propagation and resonance. Polypanel tends to absorb rather than reflect sound
Corrosion	By water vapour in air	Not affected by water vapour	Corrosion in GI ducts is even more common in coastal regions
Chemical	Rapid corrosion by chemical reaction in air	Strong chemical resistance	External aluminium surface of Polypanel is coated with lacquer
Installation	Hard to cut, bend and install	Easy, light & fast to install	Fast fabrication and installation of Polypanel ducts
Maintenance	Difficult, requires tradesmen and equipment	Easy, Simple tools and simple process to repair, renew or adjust	Blanket insulation for steel ducts may be easily damaged and is difficult & expensive to repair or replace
Durability	About 10 years	Semi-permanent	Polypanel , though lightweight, is remarkably stable
Cost	Expensive	More effective Price-Quality relationship than GI duct and insulation	Overall Polypanel system is cheaper than GI plus insulation

POLYPANEL

Technical Specification

DESCRIPTION	Polypanel 20	Polypanel 24	Polypanel 36
DIMENSION			
Length (± 7 mm Tolerances)	3.0m	3.0m	3.0m
Width (± 3 mm Tolerances)	1.2m	1.2m	1.2m
Thickness (+1.5, -1 mm Tolerances)	20mm	24mm	36mm
Skin Material	Centesimal Aluminium		
Thickness of Aluminium Foil (micron)	60	60	60
Outer Surface Protection	Protectant Laquer		
Water Permeability	Aluminium more than 50 micron thick is a good vapour barrier		
THERMAL PROPERTIES			
Insulating material	Polyisocyanurate(PIR)		
Expanding Agent	CFC and HCFC free (Zero ODP)		
Closed Cell (%)	95%		
Thermal Conductivity @ 23°C (W/mK)	0.0240 #	0.0240	0.0240
Thermal Conductance (W/m ² K)	1.227	1.000	0.667
R-Value (m ² K/W)	0.815 #	1.0	1.5
Service Temperature Range (°C)	-40 to +80		
Co-efficient of linear thermal expansion (mm/mmK)	40 x 10 ⁻⁶		
COMPOSITE MECHANICAL PROPERTIES			
Density (kg/m ³)	35 ± 2	35 ± 2	35 ± 2
Compressive Strength (kg/cm ²)	3.0 ± 0.5	3.0 ± 0.5	3.0 ± 0.5
Water Absorption	< 1.5% in weight		
FIRE SAFETY⁺			AS4254-2000*
Flame Ignitability	Index = 0		
Flame Spread	Index = 0		0
Heat Evolved	Index = 0		
Smoke Developed	Index = 0-I		<3
DUCT SERVICE PROPERTIES			
Max Duct Pressure (Pa)	1,000	1,100	1,400
Permissible Velocity in Duct (m/s)	<15		

Note

+ Test criteria as defined in AS/NZS1530.3:1999, CSIRO Certificate of Test Report No: FNE8133

* Limits as defined in AS/NZS4254-2000 Clause #2.7.2, CSIRO Certificate of Test Report No: FND 0160

'Thermal Resistance Measurement of an Insulation Product' BRANZ Test Report No.: EC1087

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