

Thermal insulation **PHENOLIC FOAM**

PRE-INSULATED AIR DUCT



WE HAVE LONG-TERM EXPERIENCE

- LOW THERMAL CONDUCTIVITY
- HIGH THERMAL PERFORMANCE
- FULLY FIRE RETARDANT
- CFC & HCFC FREE

WE OFFER A FULL LINE OF

THERMAL INSULATION SYSTEMS & ACCESSORIES

For Many Diverse Applications

PHENOLIC FOAM PRE-INSULATED AIR DUCT

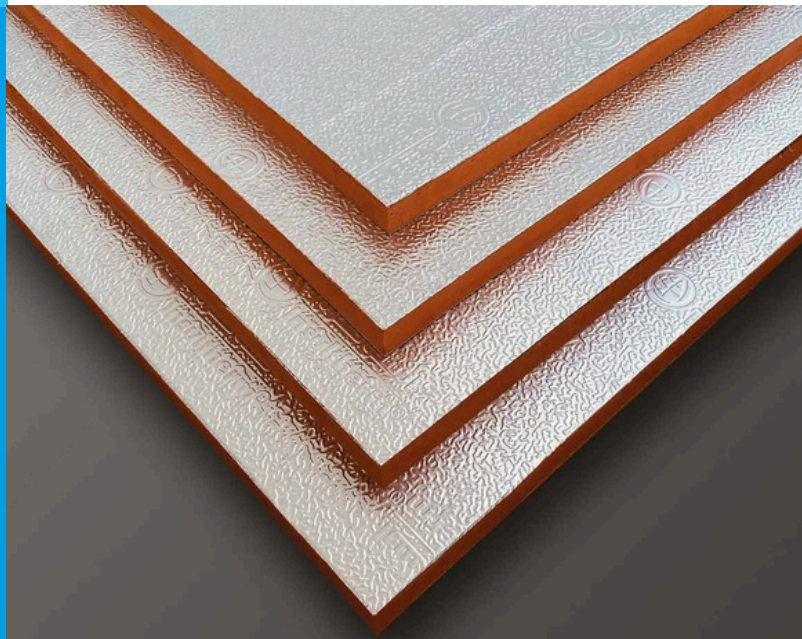
Insulation Phenolic Foam Pre-insulated Air Duct is an excellent alternative to traditional galvanized iron (sheet metal) ductwork and is ideal for specifications where space or weight is restricted. Compared with heavy galvanised sheet metal ducting that requires a second step to its installation process to both vapour seal and thermally insulate the ductwork, Insulation Phenolic Foam (PF) Pre-insulated air duct offers a high performance, light-weight and robust ductwork system that requires only a single fix installation process. This not only makes it a high speed operation for projects on which time is critical but also provides the advantages of a considerable saving in cost and space. it can make a saving of 20% on the operating cost over a 30 years life and 20% energy saving annually.



Insulation Phenolic Foam (PF) Pre-insulated air duct is rigid CFC and HCFC Free cellular foam insulation material with a substantially closed cell structure, whose polymer structure is made primarily from the poly-condensation of phenolic, its homologous and/or derivatives with aldehydes and ketones.

Insulation Phenolic Foam (PF) Pre-insulated duct has various distinct properties that makes it better than any other conventional insulation materials especially lower thermal conductivity and excellent fire property.

The fire performance of Insulation Phenolic Foam (PF) Pre-insulated duct is exceptional. It combines zero or very lowest flame spread with negligible smoke emission.



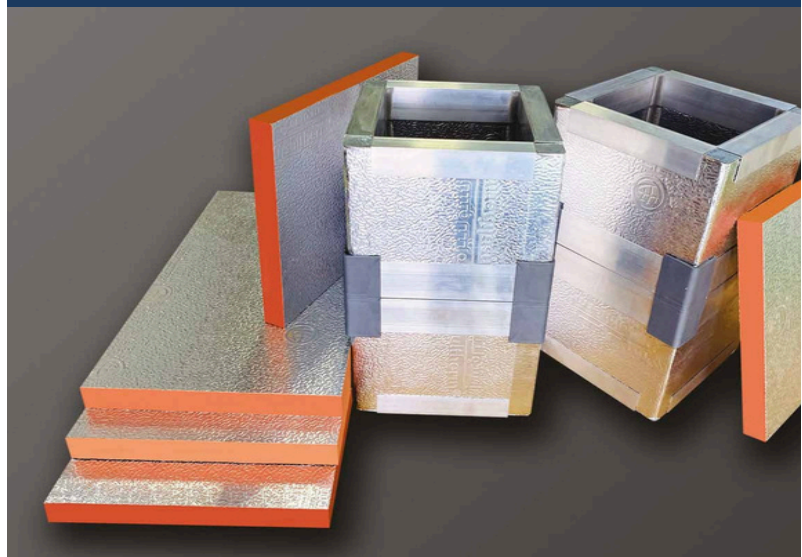
The duct is fabricated from insulation Phenolic Foam (PF) Pre-insulated panel and accessories by a set of special tools and CNC machine.

Insulation Phenolic Foam (PF) Pre-insulated air duct panel consist of the following thickness and finishes.

20 MM Thickness Phenolic Foam (PF) Pre-insulated duct with both sides 80/80 microns thickness stucco embossed aluminium foil finishes for internal ductwork.

30 MM Thickness Phenolic Foam (PF) Pre-insulated duct with both sides 80/200 microns thickness stucco embossed aluminium foil finishes for external ductwork.

Also we supply the full set of accessories and tools required to fabricate the duct.



TECHNICAL SPECIFICATION

THERMAL INSULATION PHENOLIC FOAM PRE-INSULATED AIR DUCT

Insulation Phenolic Foam Pre-insulated Air Duct is a rigid CFC and HCFC Free cellular foam insulation material with a substantially closed cell structure and outstanding thermal properties, whose polymer structure is made primarily from the poly-condensation of phenol, its homologues and/or derivatives with aldehydes and ketones.

PHYSICAL PROPERTIES	TEST METHOD	TYPICAL VALUES
Thickness		20 MM / 30 MM
Density	(UNI 6349 – 68) & ASTM D-1622	55-60 Kg/m3
Thermal Conductivity		
-20°C Mean Temperature	In accordance with ASTM C518/91, UNI 7891, BS 874, BS2972, MICA, ASTM C 680 (95and fully aged with BS 3927 Appendix A	0.021 (W /m*K)
-10°C Mean Temperature		0.021 (W /m*K)
0°C Mean Temperature		0.021 (W /m*K)
10°C Mean Temperature		0.021 (W /m*K)
50°C Mean Temperature		0.024 (W /m*K)
80°C Mean Temperature		0.028 (W /m*K)
Average Compressive Strength @ 10% Relative Deformation		
Parallel to rise	ASTM D-1621	375 kPa
Perpendicular to rise	BS EN 826:1996	225 kPa
Toxicity index	As per NES 713 testing Procedure	< 7.0
Oxygen index	As per BS 2782 part 1 method 141	Not Less than 45
Smoke obscuration	As per BS 5111 part 1	< 5%
CFC and HCFC		Free
Steam water transmission speed (Test conditions: 23 ° C, 85 % RH)		
Steam transmission	ISO 1663	43.65 (g/mq. 24h)
Steam permeability		3.35 (nm/m.Pa.S.)
u		58.7
Closed Cell Content	ASTM D 2856	>95 %
Ozone Depletion Potential (ODP) Value		0
Global-Warming Potential (GWP) Value		<5
Water absorption (%) 96 hours @ 20°C		
Weight	ISO 2896	0.113 %
Volume		0.045 %
Dimensions stability (Dimensional variations in % after conditioning)		
48 hours @ 70°C	ASTM 2126	-1.24 %
48 hours @ 70°C; 95% U.R.		+0.276 %
48 hours @ -25°C		-0.05 %
Service Temperature Limit		-180°C to 125°C (-290°F to +257°F)
Surface Burning Characteristics		
Surface Spread of Flame	ASTM E 84	Class 1 (Class A)
Flame Spread Index		< 5
Smoke Developed Index	ASTM C 1126 & BS 476 Part 6 & 7	< 15
Fire Resistance		Class O
Inorganic material: It is inherently proof against rotting mould, fungal growth and attack by vermin and is non-hygroscopic		
The material doesn't contain asbestos		
Fire:	Test run with Insulation Phenolic material in full view for sheathing of walls directly exposed to fire; Degree of reaction to fire: O (Zero)	
Smoke:	in conformity with the regulation NF F 16 – 101 table 4- For smokes, it is classified as degree F1 , with smoke index “ I.F.” : 6,3. (emissions of smoke, noxious or toxic fumes are almost inexistent).	
Corrosion of steel: after 28 days of contact, no corrosion phenomenon is highlighted.		
Light Obscuration	ASTM D-2843-70	30%
Obscuration	BS 5111 Part 1	35%

This leaflet cancels and supersedes all previous editions. We reserve the right to amend specification without prior notice. Whilst the information contained in the leaflet is true and accurate to the best of our knowledge and belief, all liability for errors and omissions, damage or loss resulting herefrom is excluded. Recommendations for uses should be verified as to suitability and compliance with actual requirements, specification and any applicable laws and regulations.

PRE-INSULATED DUCT PANEL ACCESSORIES

	Polymer / Aluminium Invisible Profile / Aluminium Joint Profile Size/Thickness : 20 MM / 30 MM Length : 4 Meters		Screw for Stiffening Rod Size/Thickness : Standard
	Aluminium U Profile Size/Thickness : 20 MM / 30 MM Length : 4 Meters		Cross Fixing Size/Thickness : Standard
	Aluminium Chair Profile Size/Thickness : 20 MM / 30 MM Length : 4 Meters		Self-adhesive Gasket Size/Thickness : Standard
	Aluminium F Profile Size/Thickness : 20 MM / 30 MM Length : 4 Meters		Thermal Insulation Tape Size/Thickness : 50 MM / 75 MM / 100 MM
	Aluminium Channel Size/Thickness : 30 MM Length : 4 Meters		Self-adhesive Aluminium Tape Size/Thickness : 50 MM / 75 MM / 100 MM
	Corner Plate for Invisible Profile Size/Thickness : 20 MM / 30 MM Length : 4 Meters		Tiger Clip Size/Thickness : Standard
	H Bayonet Length : 4 Meters		Tiger Connector Size/Thickness : Standard
	Corner Cover Size/Thickness : 20 MM / 30 MM		Insultherm® Duct Adhesive Capacity : 18.9 Ltr (15Kgs) /Pail
	Corner Size/Thickness : 20 MM / 30 MM		Duct Sealant Capacity : Standard
	Aluminium Reinforcement Bar Size/Thickness : 14 MM Length : 4 Meters		Phenolic Foam Pre-insulated VCD Size/Thickness : 20 MM / 30 MM
	Reinforcement Disc Size/Thickness : Standard		Phenolic Foam Pre-insulated Access Door Size/Thickness : 20 MM / 30 MM