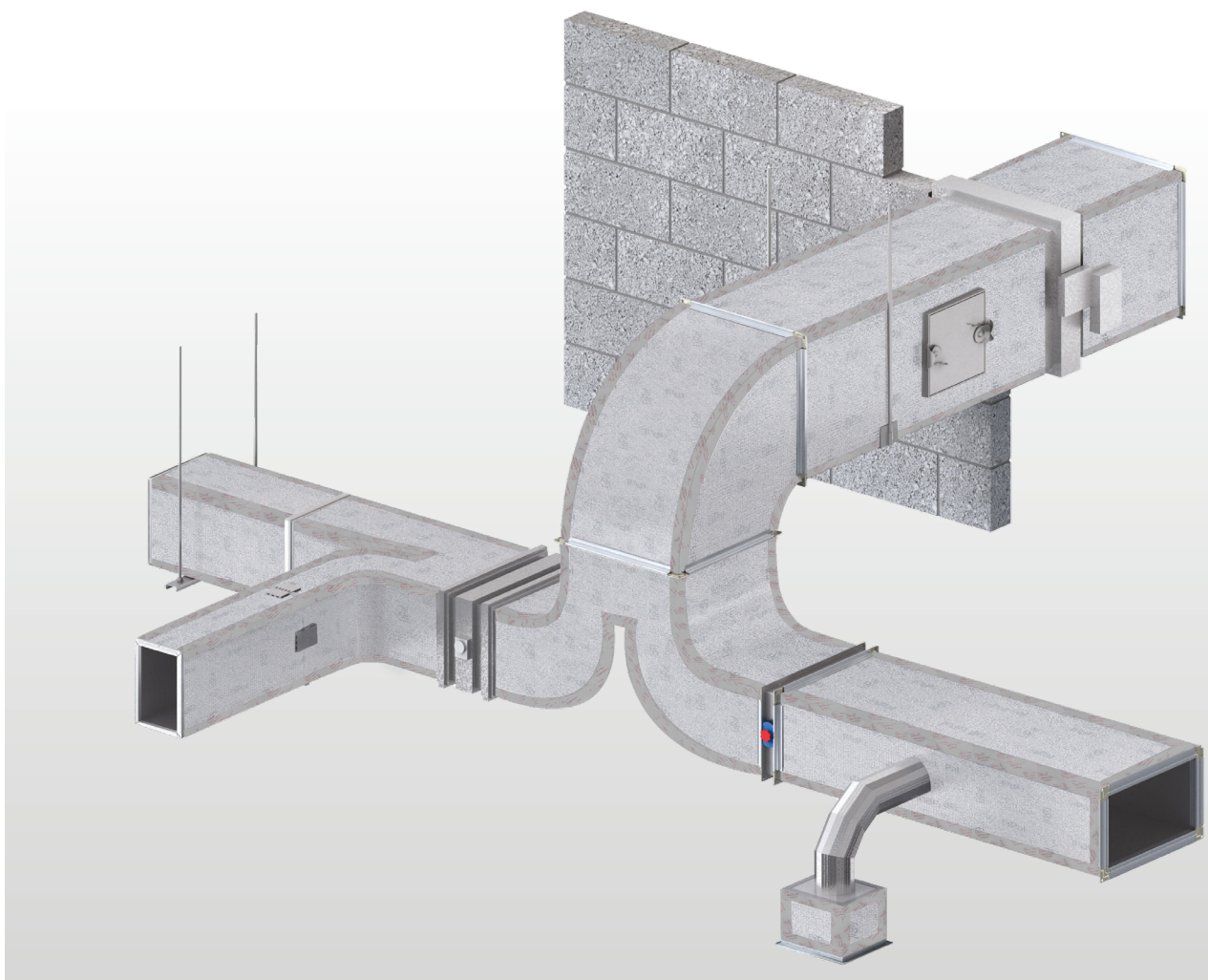


Insulation



# PalDuct™ Phenolic System

Product Catalogue



Fibre-free  
Core



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# Introduction

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## Overview

The heating, ventilation and air-conditioning (HVAC) industry is in the midst of a dynamic era. However, air-distribution ductwork, a critical component of HVAC systems, has remained virtually unchanged since the early 1900s.

Several factors have introduced the need to revolutionise HVAC ductwork. Energy use has continued to escalate, and thus the demand for energy reducing solutions has intensified. Requirements for clean air are becoming increasingly prevalent. Speed of construction has become a valuable asset. Floor space and headroom are under constant pressure.



## What is Kingspan PalDuct Technology?

- Complete line of components and accessories.
- Professional hand tools and automated machinery.
- Specialised training courses for ductwork fabricators.
- Duct design software to size the duct system and estimate the material needed.
- Technical support.

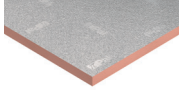
## Advantages of Kingspan PalDuct Technology

- Easy to clean and hygienic.
- Environmentally friendly: CFCs and HCFCs -free.
- Clean air: fibre-free insulation core.
- PID can weigh up to 85% less than traditional sheet metal.
- Resistant to fungus growth.
- Space saving: flush-fitting installation possible.
- Low leakage: fully sealing systems conform to DW 144 Class C (high-pressure) air-leakage limit.
- Low 'λ' value.
- Energy savings: up to 20% annually.
- Fast-track installation: rapid erection combined with single-fix installation.
- On-site fabrication capability.
- No limits to duct sizes.
- High-compressive strength.
- High rigidity/integrity.
- Base material is impermeable to moisture.
- UL Listed as a Class 1 Air Duct to Standard for Safety UL 181 (Factory Made Air Ducts & Air Connectors).

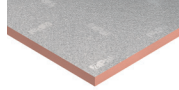


# Introduction

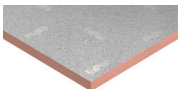
## Kingspan PalDuct Phenolic Panel



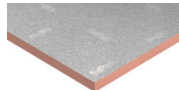
<b>2010</b>	Thickness (mm)	20
	Density (kg/m <sup>3</sup> )	55-60
	Panel Dimensions (mm)	4000 x 1200
	Thermal Conductivity (W/m.K)	0.027
	Facer Finish	Aluminium foil with reinforced glass scrim
Fire and Smoke Classification	UL 181 Listed. NFPA 90A ASTM E 84/UL 723 (Surface Burning Characteristics) Flame Spread Index (FSI) of 25, Smoke Developed Index (SDI) of 50.	



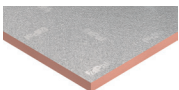
<b>2011</b>	Thickness (mm)	20
	Density (kg/m <sup>3</sup> )	55-60
	Panel Dimensions (mm)	4000 x 1200
	Thermal Conductivity (W/m.K)	0.027
	Facer Finish	Embossed aluminium foil
Fire and Smoke Classification	NFPA 90A ASTM E 84/UL 723 (Surface Burning Characteristics) Flame Spread Index (FSI) of 25, Smoke Developed Index (SDI) of 50.	



<b>2005</b>	Thickness (mm)	30
	Density (kg/m <sup>3</sup> )	55-60
	Panel Dimensions (mm)	4000 x 1200
	Thermal Conductivity (W/m.K)	0.027
	Facer Finish	Aluminium foil with reinforced glass scrim
Fire and Smoke Classification	UL 181 Listed. NFPA 90A ASTM E 84/UL 723 (Surface Burning Characteristics) Flame Spread Index (FSI) of 25, Smoke Developed Index (SDI) of 50.	



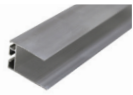
<b>2134</b>	Thickness (mm)	30
	Density (kg/m <sup>3</sup> )	55-60
	Panel Dimensions (mm)	4000 x 1200
	Thermal Conductivity (W/m.K)	0.027
	Facer Finish	Embossed aluminium foil
Fire and Smoke Classification	NFPA 90A ASTM E 84/UL 723 (Surface Burning Characteristics) Flame Spread Index (FSI) of 25, Smoke Developed Index (SDI) of 50.	



<b>2015</b>	Thickness (mm)	20/30
	Density (kg/m <sup>3</sup> )	55-60
	Panel Dimensions (mm)	4000 x 1200
	Thermal Conductivity (W/m.K)	0.027
	Facer Finish	Aluminium foil with reinforced glass scrim/200 micron aluminium foil
Fire and Smoke Classification	UL 181 Listed. NFPA 90A ASTM E 84/UL 723 (Surface Burning Characteristics) Flame Spread Index (FSI) of 25, Smoke Developed Index (SDI) of 50.	

# PalDuct Panel Accessories

## Polymer/Aluminium Invisible Profile/ Aluminium Joint Profile



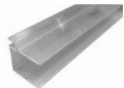
Thickness	20 mm
Code	4010 (Aluminium Invisible Profile)

Nominal Length	4 m
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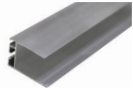
Thickness	20 mm
Code	4100 (Polymer Invisible Profile)

Nominal Length	4 m
----------------	-----



Thickness	30 mm
Code	4040 (Aluminium Joint Profile)

Nominal Length	4 m
----------------	-----



Code	4041 (Aluminium Invisible Profile)
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Nominal Length	4 m
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## H Bayonet in Polymer



Thickness	20 mm
Code	4105

Nominal Length	4 m
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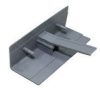
## Aluminium Channel



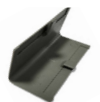
Thickness	30 mm
Code	4080

Nominal Length	4 m
----------------	-----

## Corner Cover in Polymer



Thickness	20 mm
Code	4350



Thickness	30 mm
Code	4390

## Corner Plate for Invisible Profile



Thickness	20 mm
Code	4360



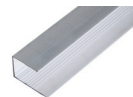
Thickness	30 mm
Code	4400

## Steel Corner



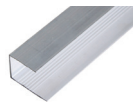
Code	4380
------	------

## Aluminium U Profile



Thickness	20 mm
Code	4013

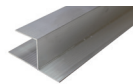
Nominal Length	4 m
----------------	-----



Thickness	30 mm
Code	4042

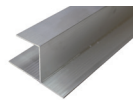
Nominal Length	4 m
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## Aluminium Chair Profile



Thickness	20 mm
Code	4015

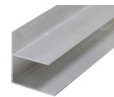
Nominal Length	4 m
----------------	-----



Thickness	30 mm
Code	4043

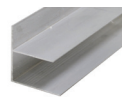
Nominal Length	4 m
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## Aluminium F Profile



Thickness	20 mm
Code	4017

Nominal Length	4 m
----------------	-----



Thickness	30 mm
Code	4044

Nominal Length	4 m
----------------	-----

## Reinforcement Bar in Aluminium



Code	4450
------	------

Nominal Length	4 m
----------------	-----

## Gasket Self Adhesive



Code	4461
------	------

# PalDuct Panel Accessories, Adhesive Material & Components

## Reinforcement Disc in Aluminium



Code	4454
------	------

## Reinforcement Disc in Polymer



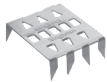
Code	4452
------	------

## Duct Support



Code	4455
------	------

## Tiger Clip



Code	3034
------	------

## Cross Fixing Device



Code	4453
------	------

## Kingspan PalDuct Sealant



Code	4250
------	------

## Screw for Stiffening Rod



Code	4458
------	------

## Kingspan PalDuct Adhesive



Capacity	15 kg/tin
Code	4200

## Aluminium UL 181 Tape



Length	30 yard
Code	4340



Length	60 yard
Code	4346

## Aluminium Tape

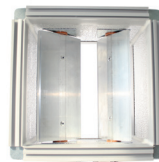


Width (in)	50 mm
Code	4300



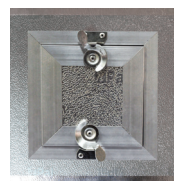
Width	75 mm
Code	4310

## Phenolic Pre-insulated Volume Control Damper



Thickness	20/30 mm
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## Phenolic Pre-insulated Access Door



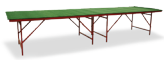
Thickness	20/30 mm
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# Manual Fabrication Equipment

A complete set of professional hand tools and manual fabrication equipment has been specifically developed to enable efficient and economical fabrication of ductwork. Ease of portability provides the option for on-site fabrication.

A full line of automated machinery is also available for high volume ductwork requirements.

## Portable Fabrication Table



Length (m)	4 x 1.2
Code	5054

## Compass



Code	8008
------	------

## Aluminium Clamping Ruler



Length (m)	4
Code	5055



Length (m)	1.2
Code	5056



# Manual Fabrication Equipment

## Kingspan PalDuct Manual Fabrication Tool Kit



Left Cutter	45°
Right Cutter	45°
Double Blade Cutter	90°
Double Blade Cutter - 20 mm	45°
Compass	
Glue Spreading	Manual
Stiff Spatula	Aluminium
Manual Silicone Gun	
Measuring Tape	
Rivet Machine	
Rubber Hammer	
Knife	
Tape Maker	
Code	5053

## Square in Aluminium



Size (mm)	1200
Code	5057



Size (mm)	700
Code	5058

## Cutter Box



Left Cutter	45°
Right Cutter	45°
Double Blade Cutter 20 mm	45°
Straight Cutter	90°
Code	5082

## Manual Bending Machine



Code	5059
------	------

## Pneumatic Glue Spreader



Code	5060
------	------

## Manual Extended Silicone Tool



Code	5063
------	------

## Double Blade Cutter



Size (mm)	20/30 45° Double Blade
Code	5069 (20 mm) 5070 (30 mm)

## Single Blade Cutter



Size (mm)	20/30 90° Straight 45° Left 45° Right
Code	(20/30 mm) 5072 (90° Straight) 5068 (45° Left) 5071 (45° Right)

## Stiff Spatula



Code	5075
------	------

## Glue Spreader Manual



Code	5081
------	------

## Tape Marker



Code	5077
------	------

## Rubber Hammer



Code	8040
------	------

# Automated Fabrication Equipment

## Kingspan Ducting Supercut CNC Machine



Code	5004
------	------

### Features

- Gantry system CNC Machine.
- Tangential knife cutting head with full 360 rotational cutting capacity.
- Bakelite vacuum table.
- Pop up stops (1 set of 3 units).
- Processing area of approximately 5000 x 1500 mm.
- Rapid axis speeds up to 35 mt/min.
- CNC OSAI full digital 5 axis controller.
- One head with automatic tool movement.
- Pen Marker Tool.
- Vacuum pump x 2.
- Separate mobile console with PC and 17" LCD screen.
- Maintenance and instruction manuals (in English).
- Electric and pneumatic diagrams.
- With 12 months warranty.

Property	Unit	Value
Panel Thickness	mm	10/20/30
Max. Panel Width	mm	1200
Max. Panel Length	mm	4000
Aluminium Thickness	micron	Up to 200
Weight of Machine	kg	1500
Nominal Size of Machine	m	5 x 2.1 x 1.75 h
Power Supply		3 Phase 400 volts Hz 50

## Kingspan Ducting CNC Machine



Code	5000
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### Features

The Kingspan Ducting CNC Machine has numerous features, which differentiates it from other automated CNC cutting machines. Features include, but are not limited to, the following:

- three controlled and interpolated axis all equipped with brushless motor;
- marking unit to number parts for easy sorting and identification;
- rolling table;
- cutting unit for 45°;
- cutting unit for 90°;
- USB port;
- maintenance and instruction manuals (in English); and
- electric and pneumatic diagrams.

Property	Unit	Value
Panel Thickness	mm	10/20/30
Max. Panel Width	m	1.2
Max. Panel Length	m	Unlimited
Aluminium Thickness	micron	Up to 200
Weight of Machine	kg	1200
Nominal Size of Machine	m	8.4 x 2.4 x 1.75 h
Power Supply		3 Phase 400 volts HZ 50



# Order Guide

## 20 mm Panel (Internal Use)

To produce 1,000 m<sup>2</sup> of The Kingspan PalDuct Phenolic System, the following is a list of material and accessories for a standard construction requirement:

Code	Description	UOM	Approx. Qty.
2010	Panel 4000 x 1200 mm	m <sup>2</sup>	1,000
4010	Aluminium Invisible Profile	m	760
4105	H Bayonet in Polymer	m	400
4350	Corner Cover in Polymer	pc	900
4360	Corner Plate for Invisible Profile	pc	1,200
4013	Aluminium U Profile	m	80
4015	Aluminium Chair Profile	m	80
4017	Aluminium F Profile	m	80
4200	Kingspan PalDuct Adhesive	kg	91
4300	Aluminium Tape	roll	150
4250	Kingspan PalDuct Sealant	tube	90

## 30 mm Panel (External Use)

To produce 1,000 m<sup>2</sup> of The Kingspan PalDuct Phenolic System, the following is a list of material and accessories for a standard construction requirement:

Code	Description	UOM	Approx. Qty.
2005	Panel 4000 x 1200 mm	m <sup>2</sup>	1,000
4041	Aluminium Invisible Profile	m	760
4080	Aluminium Channel	m	400
4380	Steel Corner	pc	1,500
4400	Corner Plate for Invisible Profile	pc	1,500
4461	Gasket	pc	400
4042	Aluminium U Profile	m	80
4043	Aluminium Chair Profile	m	80
4044	Aluminium F Profile	m	80
4200	Kingspan PalDuct Adhesive	kg	90
4310	Aluminium Tape	roll	150
4250	Kingspan PalDuct Sealant	tube	90
4450	Reinforcement Bar in Aluminium	m	120
4454	Reinforcement Disc	pc	200



# Prestige Projects

Project Name: Museum of the Future  
Location: Dubai, U.A.E.



Project Name: Dubai Hills Estate  
Location: Dubai, UAE



Project Name: Opera Grand Tower  
Location: Dubai, UAE



Project Name: Akoya  
Location: Dubai, UAE



Project Name: Dubai Creek Harbour  
Location: Dubai, UAE



Project Name: Arabian Ranches  
Location: Dubai, UAE



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# Contact Details

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## Kingspan Insulation LLC

P.O. Box 113826, Dubai Investment Park 2,  
Dubai, U.A.E.

T: +971 (0) 4 889 1000

F: +971 (0) 4 883 8515

E: [info@kingspaninsulation.ae](mailto:info@kingspaninsulation.ae)

[www.kingspaninsulation.com](http://www.kingspaninsulation.com)

## Technical Service

Kingspan Insulation has one of the most technically advanced support services in the industry offering a full spectrum of advice, free of charge for all types of design projects.

The Kingspan Insulation technical team are continually updating their knowledge on building regulations, best practise, construction methods and the development of building materials to ensure the advice and services provided are always one step ahead.

### Services available:

- U-value calculations;
- condensation/dew point risk calculations;
- advice on product selection and product data for the full range of Kingspan Insulation products;
- installation and fixing advice on all applications and products;
- specification and construction advice; and
- Tapered Roofing Design service.

Email: [technical@kingspaninsulation.ae](mailto:technical@kingspaninsulation.ae)

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