



π Pal™ Duct Phenolic System

PRODUCT CATALOGUE



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 revolutionize 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 **PalDuct** Technology?

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

Advantages of **PalDuct** Technology

- Easy to clean and hygienic.
- Environmentally friendly: CFC-free.
- Clean air: fiber-free insulation core.
- Lightweight: only 15% of sheet metal ducting.
- 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.

Certifications & Compliance

PalDuct is manufactured to the highest standards under a management system certified to ISO 9001: 2008 (Quality Management Systems. Requirements), ISO 14001: 2004 (Environmental Management Systems. Requirements) and OHSAS 18001: 2007 (Health and Safety Management Systems. Requirements.)



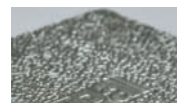
Ductwork fabricated from the **PalDuct** Phenolic System is UL listed as a Class 1 Air Duct, to Standard for Safety UL 181 (Underwriters Laboratories: Factory Made Air Ducts & Air Connectors), when fabricated to a specification clearly defined by UL.



PalDuct Phenolic System

Uses **PalDuct** Phenolic Panels, which are 60 - 65 kg/m³ density, 25/32 / 1 3/16 " (20 / 30 mm) thickness, CFC / HCFC-free and faced with an aluminum foil, that is lacquered with a corrosion-resistant polymer varnish.

PalDuct 115

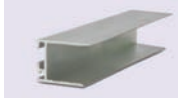


Thickness	25/32 / 1 3/16 " / 20 / 30 mm
Density (kg/m ³)	60 - 65
Panel Dimensions	13 x 4 ft / 4 x 1.2 m
Thermal Conductivity (W/m·K)	0.0285
Aluminum Finish	Embossed / Embossed

PaIDuct Panel Accessories

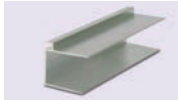
ART AC 10

Polymer / Aluminum Invisible Profile /
Aluminum Joint Profile



20 AC 10

Thickness	25/32 " / 20 mm
Code	20 AC 10
Nominal Length	13 ft / 4 m



30 AC 10

Thickness	1 3/16 " / 30 mm
Code	30 AC
Nominal Length	13 ft / 4 m

ART AC 11

H Bayonet in Polymer



20 AC 11

Thickness	25/32 " / 1 3/16 " / 20 / 30 mm
Code	20 AC 11 / 30 AC 11
Nominal Length	13 ft / 4 m



30 AC 11

ART AC 12

Corner Cover in Polymer



20 AC 12

Code	20 AC 12 / 30 AC 12
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30 AC 12

ART AC 13

Corner Plate for Invisible Profile



20 AC 13

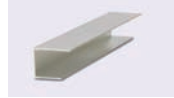
Thickness	25/32 " / 1 3/16 " / 20 / 30 mm
Code	20 AC 13 / 30 AC 13



30 AC 13

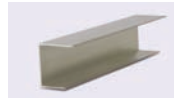
ART AC 14

Aluminum U Profile



20 AC 14

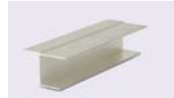
Thickness	25/32 " / 1 3/16 " / 20 / 30 mm
Code	20 AC 14 / 30 AC 14
Nominal Length	13 ft / 4 m



30 AC 14

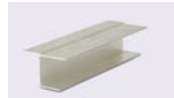
ART AC 15

Aluminum Chair Profile



20 AC 15

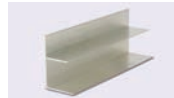
Thickness	25/32 " / 1 3/16 " / 20 / 30 mm
Code	20 AC 15 / 30 AC 15
Nominal Length	13 ft / 4 m



30 AC 15

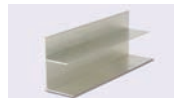
ART AC 16

Aluminum F Profile



20 AC 16

Thickness	25/32 " / 1 3/16 " / 20 / 30 mm
Code	20 AC 16 / 30 AC 16
Nominal Length	13 ft / 4 m



30 AC 16

ART AC 18

Reinforcement Bar in Aluminum



AC 18

Thickness	35/64 " / 14 mm
Code	AC 18
Nominal Length	13 ft / 4 m

ART AC 19

Reinforcement Bar in Aluminum / Polymer



AC 19

Code	AC 19
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PalDuct Panel Accessories, Adhesive Material & Components

ART AC 19A

Cross Fixing Device



AC 19 A

Code	AC 19 A
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ART AC 20

Duct Support



AC 20

Code	AC 20
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ART AC 21

Tiger Connector

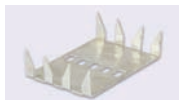


AC 21

Code	AC 21
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ART AC 22

Tiger Closure



AC 22

Code	AC 22
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DTCM 02

Screw for Stiffening Rod



DTCM 02

Code	DTCM 02
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ART M 24

Aluminum Tape



20 M 24



30 M 24

Width (in)	1 31/32 for 25/32 Panel 2 61/64 for 1 3/16 " Panel 50 mm for 20 mm Panel 75 mm for 30 mm Panel
Code	20 M 24 30 M 24

ART M 25

PalDuct Sealant



M 25

Code	M 25
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ART M 26

Thermal Insulation Tape



M 26

Width (in)	3 15/16 / 100 mm
Code	M 26

ART P 23

PalDuct Phenolic Adhesive



Capacity	29 lb / 15 kg
Code	P 23

ART M 30

Gasket Self Adhesive



M 30

Code	M 30
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ART PN VCD

Phenolic Pre-insulated Volume Control Damper

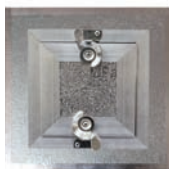


PN VCD

Thickness	25/32 / 1 3/16 "
	20 / 30 mm
Code	PN VCD

ART PN AC

Phenolic Pre-insulated Access Door



PN AC

Thickness	25/32 / 1 3/16 "
	20 / 30 mm
Code	PN AC

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.

ART EM 27

Portable Fabrication Table



Nominal Size	13 x 4 ft / 4 x 1.2 m
Code	EM 27

ART EM 24

PalDuct Manual Fabrication Tool Kit



Left Cutter	45°
Right Cutter	45°
Double Blade Cutter	90°
Double Blade Cutter - 25/32 " / 20 mm	45°
Compass	
Glue Spreader Manual	
Stiff Spatula - Aluminum	
Manual Silicon Gun	
Measuring Tape	
Rivet Machine	
Rubber Hammer	
Knife	
Tape Maker	



Manual Fabrication Equipment

ART EM 30 / Art EM 31

Square in Aluminum



EM 30

Size	48 " / 1.2 m
Code	EM 30



EM 31

Size	27 ⁹ / ₁₆ " / 700 mm
Code	EM 31

ART EM 32

Compass



EM 32

Code	EM 32
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ART EM 33

Manual Bending Machine



EM 33

Code	EM 33
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ART EM 28 / Art EM 29

Aluminum Clamping Ruler



Nominal Length	13 ft / 4 m
Code	EM 28



Nominal Length	4 ft / 1.2 m
Code	EM 29

ART EM 35

Pneumatic Glue Spreader



EM 35

Code	EM 35
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ART EM 36

Pneumatic Extended Silicon Tool



EM 36

Code	EM 36
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ART ST 42

Double Blade Cutter



ST 42

Size	45° Double Blade
Code	ST 42 (²⁵ / ₃₂ " / 20 mm) ST 43 (1 ³ / ₁₆ " / 30 mm)

ART ST 44 / Art ST 45 / Art ST 46

Single Blade Cutter



Size	²⁵ / ₃₂ / 1 ³ / ₁₆ (20 / 30 mm) 90° Straight 45° Left 45° Right
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Code	ST 44 (90° Straight) ST 45 (45° Left) ST 46 (45° Right)
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ART ST 48

Stiff Spatula



ST 48

Code	ST 48
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ART ST 49

Glue Spreader Manual



ST 49

Code	ST 49
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ART ST 50

Tape Marker



ST 50

Code	ST 50
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DTCM 12

Rubber Hammer



DTCM 12

Code	DTCM 12
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Automated Fabrication Equipment

ART EA 40

PaIDuct Supercut Machine



EA 40

Code	EA 40
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Features

- Gantry system CNC Machine.
- Tangential knife cutting head with full 360 rotational cutting capacity.
- Bakelite vacuum table.
- Air conditioning to control panel.
- Automatic lubrication system.
- Pop up stops (1 set of 3 units).
- Processing area of approximately 13 x 4 ft / 4040 x 1240 mm.
- 4 ²¹/₆₄ " / 110 mm Z axis clearance.
- Rapid axis speed up to 35 mt/min.
- CNCOSAI full digital 4 axis controller.
- One head with automatic tool changer.
- 1 ³¹/₃₂ " / 50 mm straight knife block.
- 1 ³¹/₃₂ " / 50 mm 45 deg angle knife block.
- Double knife 1 ³¹/₃₂ " / 50 mm V groove tool at 20 deg.
- Double knife 1 ³¹/₃₂ " / 50 mm V groove tool at 10 deg.
- Pen Marker Tool.
- Vacuum pump x 1 (250mc/h for material hold down).
- Separate mobile console with PC and 17" LCD screen.
- Maintenance and instruction manuals (in English).
- Electric and pneumatic diagrams.
- With 12 months warranty.

General	Value
Panel Thickness	²⁵ / ₆₄ / ²⁵ / ₃₂ / 1 ³ / ₁₆ " 10 / 20 / 30 mm
Aluminum Thickness	Up to 200 micron
Max. Panel Width	4 ft / 1.2 m
Max. Panel Length	No max.
Weight of Machine (lb)	1700 / 750 kg
Nominal Size of Machine	18 x 5 ft / 5.4 x 1.5 m
Power Supply	3 Phase 30MI + Neutral, + Earth

Order Guide

25/32" Panel

To produce 10,770 ft² of the **PalDuct Phenolic System**, the following is a list of material and accessories for a standard construction requirement:

Code	Description	UOM	Approx. Qty.
Pal 115	Panel 13 x 4 ft	ft ²	10,770
20AC10	Aluminum Invisible Profile	ft	2490
20AC11	H Bayonet in Polymer	ft	1310
20AC12	Corner Cover in Polymer	pc	900
20AC13	Corner Plate for Invisible Profile	pc	1,200
20AC14	Aluminum U Profile	ft	260
20AC15	Aluminum Chair Profile	ft	260
20AC16	Aluminum F Profile	ft	260
P23	PalDuct Adhesive	lb	200
20M24	Aluminum Tape	roll	150
M25	PalDuct Sealant	tube	90

20 mm Panel

To produce 1,000 m² of the **PalDuct Phenolic System**, the following is a list of material and accessories for a standard construction requirement:

Code	Description	UOM	Approx. Qty.
Pal 115	Panel 4000 x 1200 mm	m ²	1,000
20AC10	Aluminum Invisible Profile	m	760
20AC11	H Bayonet in Polymer	m	400
20AC12	Corner Cover in Polymer	pc	900
20AC13	Corner Plate for Invisible Profile	pc	1,200
20AC14	Aluminum U Profile	m	80
20AC15	Aluminum Chair Profile	m	80
20AC16	Aluminum F Profile	m	80
M23	PalDuct Adhesive	kg	90
20M24	Aluminum Tape	roll	150
M25	PalDuct Sealant	tube	90

1 3/16" Panel

To produce 10,770 ft² of the **PalDuct Phenolic System**, the following is a list of material and accessories for a standard construction requirement:

Code	Description	UOM	Approx. Qty.
Pal 115 / 30	Panel 13 x 4 ft	ft ²	10,770
30AC10	Aluminum Invisible Profile	ft	2490
30AC11	H Bayonet in Polymer	ft	1310
30AC12	Steel Corner	pc	1,500
30AC13	Corner Plate for Invisible Profile	pc	1,200
M30	Gasket	pc	400
30AC14	Aluminum U Profile	ft	260
30AC15	Aluminum Chair Profile	ft	260
30AC16	Aluminum F Profile	ft	260
P23	PalDuct Adhesive	lb	200
30M24	Aluminum Tape	roll	150
M25	PalDuct Sealant	tube	90
AC18	Reinforcement Bar in Aluminum	ft	395
AC19	Reinforcement Disc	pc	200

30 mm Panel

To produce 1,000 m² of the **PalDuct Phenolic System**, the following is a list of material and accessories for a standard construction requirement:

Code	Description	UOM	Approx. Qty.
Pal 115 / 30	Panel 4000 x 1200 mm	m ²	1,000
30AC10	Aluminum Joint Profile	m	760
30AC11	Aluminum Channel	m	400
30AC12	Steel Corner	pc	1,500
30AC13	Corner Plate for Invisible Profile	pc	1,500
M30	Gasket	pc	400
30AC14	Aluminum U Profile	m	80
30AC15	Aluminum Chair Profile	m	80
30AC16	Aluminum F Profile	m	80
M23	PalDuct Adhesive	kg	90
30M24	Aluminum Tape	roll	150
M25	PalDuct Sealant	tube	90
AC18	Reinforcement Bar in Aluminum	m	120
AC19	Reinforcement Disc	pc	200





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