



Thermal



Acoustic



Durable



Vapour
Barrier

MicroFiber®



Micro Duct



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Micro Duct

USES AND BENEFITS

Micro Duct MicroDuct is an eco-friendly thermal and acoustic insulation solution for HVAC system. The product comes in blanket roll and board type and can limited with high quality facing material. It is coated with water repellent coating, making it resistant to water absorption and moisture. MicroDuct solution is credited with TIS 486, TIS 487, ASTM, NFPA 90A, Australian Standards, in making it the complete insulation solution to be used in green buildings



Keeps the temperature stable



Block and absorb noises



Light weight and is easily installed



Resistant to condensation



Long service life



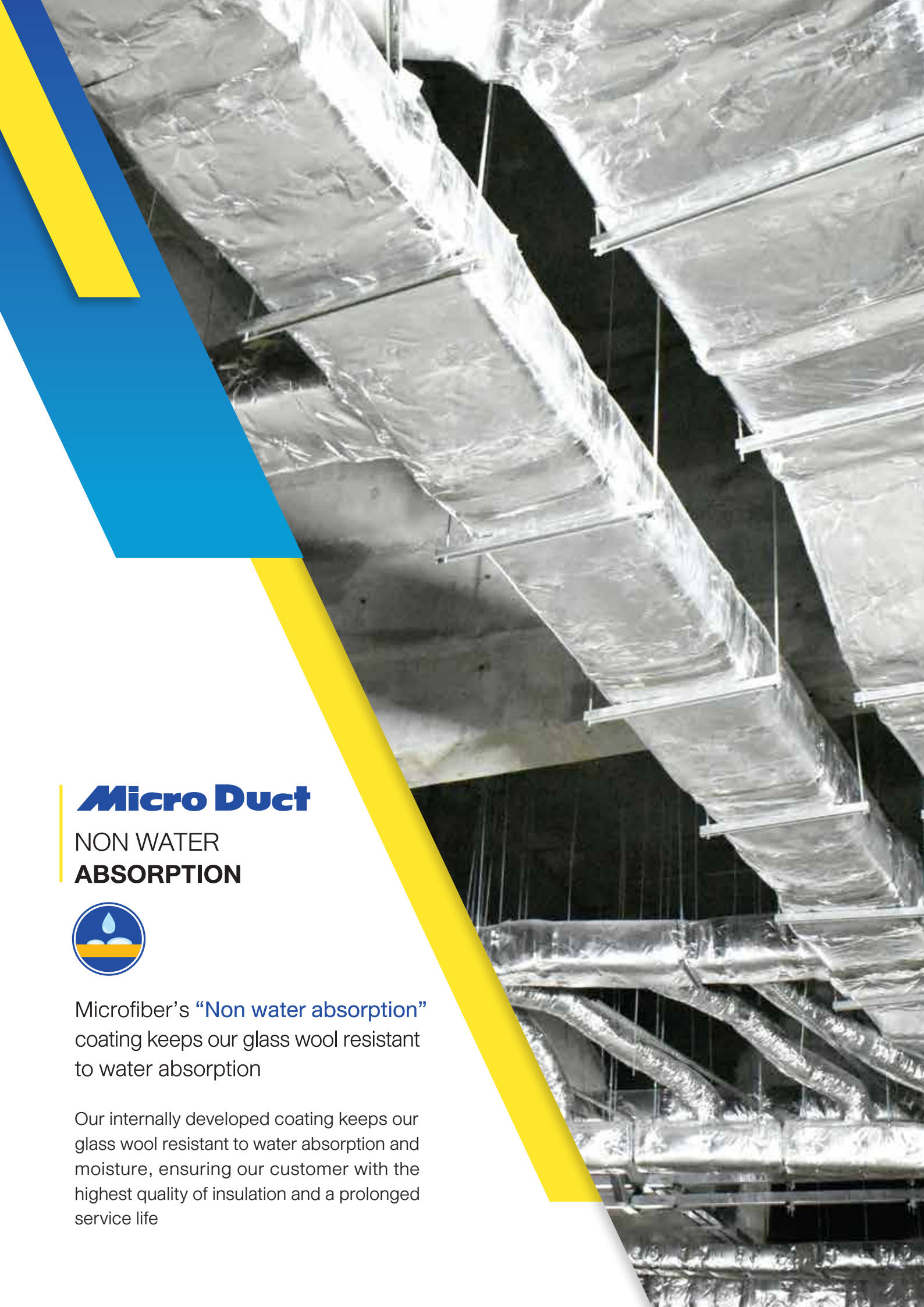
Non - flammable



Resistant to moisture



Worth the investment



Micro Duct

NON WATER ABSORPTION



Microfiber's "Non water absorption" coating keeps our glass wool resistant to water absorption

Our internally developed coating keeps our glass wool resistant to water absorption and moisture, ensuring our customer with the highest quality of insulation and a prolonged service life

Micro Duct Wrap

HVAC DUCT WRAP INSULATION SOLUTION

Micro Duct Wrap is a glass wool insulation intended to be used with HVAC ducting system. Our Micro DuctWrap solution is designed to help save the energy and prevent condensation to the highest level by keeping the hot and cold airflow stable.



OUR PRODUCTS

Density (Kg/m ³)	Thickness (mm.)	Size Blanket (m x m)	Size Boards (m x m)	K-Value at 20 C		K-Value at 24 C	
				W/mk	Btu in/ft h	W/mk	Btu in/ft h
16	25	1.22 x 30.50	-	0.035	0.24	0.038	0.26
16	50	1.22 x 15.25	-	0.035	0.24	0.038	0.26
24	25	1.22 x 30.50	-	0.033	0.23	0.035	0.24
24	38,50	1.22 x 15.25	-	0.033	0.23	0.035	0.24
32	25,38*,50	1.22 X 15.25	1.22 x 2.44	0.032	0.22	0.033	0.23
48	25,38*,50	1.22 x 7.50	1.22 x 2.44	0.031	0.21	0.032	0.22

* For special product sizes or facings, please send inquiries to Microfiber Industries

PRODUCT ATTRIBUTES

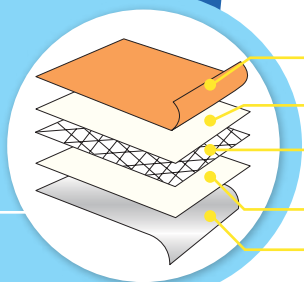
Property	Specification				Test Method
Thermal conductivity	16 kg/m³	24 kg/m³	32 kg/m³	48 kg/m³	ASTM C518
Btu.in/ft².h.°F	0.264	0.243	0.229	0.222	
W/m.K	0.038	0.035	0.033	0.032	
Temperature range	540 C (1000 F)				ASTM C411
Water absorption	<0.5 kg/m²				EN 1609
Vapor absorption	<0.06				ASTM C1104
Fungi resistance	No growth				ASTM C1338
Surface burning characteristics	Flame spread	0		ASTM E84 / UL 723	
	Smoke developed	0			
Fire test	Class A1				EN13501-1

PRODUCT ATTRIBUTE : FACING MATERIAL

PRODUCT OVERVIEW

Micro Duct Wrap is laminated with Fire Retardant aluminum foil reinforced with Tri-direction Fiberglass and is coated with Fire Retardant Adhesive. The product is credited with several fire testing and strength testing standards. The product comes with several variation of aluminum foil and can be ordered upon selection of architects.

1



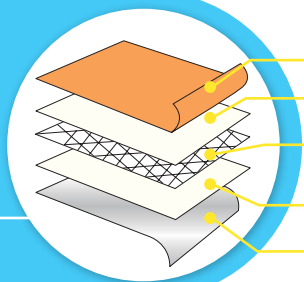
1. Natural Kraft Paper
2. Emulsion Adhesive
3. Tri-directional Fiberglass Reinforcing
4. Elastomeric Polymer Adhesive
5. Aluminium Foil

FL

Glass wool insulation for duct wrapping laminated fire-resistant aluminum foil (five layers version). It is credited with ASTM E84 and BS 476 Class O standard



2



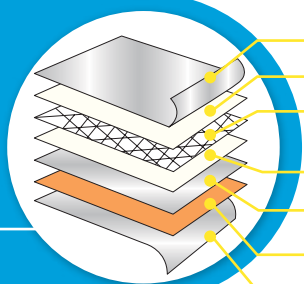
1. Natural Kraft Paper
2. Flame Resistant Adhesive
3. Tri-directional Fiberglass Reinforcing
4. Elastomeric Polymer Adhesive
5. Aluminium Foil

FR

Glass wool insulation for duct wrapping laminated with fire-resistant aluminum foil (five layers version). It is credited with UL 723, ASTM E84, ULC-S102M, and FM Approve standard



3



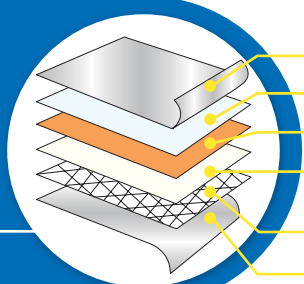
1. Aluminium Foil
2. Elastomeric Adhesive
3. Tri-directional Fiberglass Reinforcing
4. Elastomeric Adhesive
5. Aluminium Foil
6. Natural Kraft Paper
7. Aluminium Foil

FSF

Glass wool insulation for duct wrapping laminated with double-sided fire-resistant aluminum foil (seven layers version). It is credited with UL 723, ASTM E84, and BS 476 Class O standard



4



1. Aluminium Foil
2. Polyethylene
3. Natural Kraft Paper
4. Tri-directional Fiberglass Reinforcing
5. Fire-retardant Adhesive
6. Aluminium Foil

FRD 524s

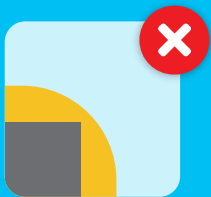
Glass wool insulation for duct wrapping laminated with double-sided fire-resistant aluminum foil (six layers version). The aluminum foil was manufactured with special technique, making it extra resistant to water and moist. It is credited with various global standards.



Micro Duct Wrap

DUCT WRAP INSULATION INSTALLATION

Roll insulation

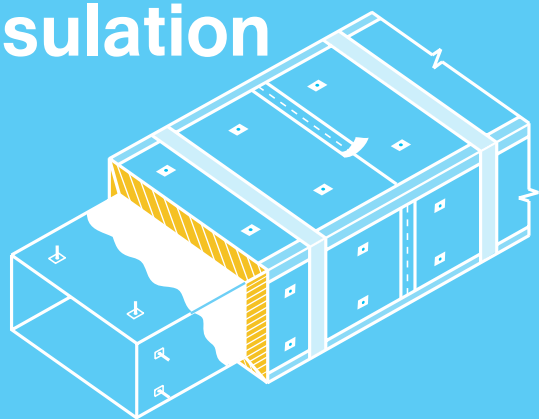


INSTALLATION

When installing our Micro DuctWrap, the installer must install the insulation as per prescribed by the engineers. The installer must be cautious of the thickness of insulation in each duct surface area. The corner area must be reinforced with extra layer of insulation to prevent air leakage.



Board Type Insulation



CHOOSING THE RIGHT INSULATION

When choosing an insulation, users must be cautious of its thickness as per prescribed by architects and engineers. Insulation board with higher density will maintain its shape better in the longer run.



INSTALLATION TIPS

! Installation tips

- ◆ Clean and seal all leakage on duct surface area. Size the duct wrap insulation to fit the duct surface area and trim two inches of insulation, leaving only both sides of the aluminum foil to overlap each other.
- ◆ Wrap the insulation around duct surface area and pin the overlapping foil
- ◆ In case if the duct surface area is wider than 24 inches, it is recommended that a spindle pin is placed every 18 inches
- ◆ Use aluminum foil tape to cover damaged areas

Insulation Thickness	Thickness After Sealed	Square Duct	Rectangular Duct
1"	3/4"	P + 6"	P + 5"
1 1/2"	1 1/8"	P + 8"	P + 7"
2"	1 1/2"	P + 10"	P + 8"
2 1/2"	1 7/8"	P + 14 1/2"	P + 11 1/2"
3"	2 1/4"	P + 18 1/2"	P + 18 1/2"

P = Duct Perimeter

Micro Duct Liner

HVAC DUCTLINER INSULATION

Micro Duct Liner is a glass wool insulation intended to be used inside HVAC ducting system. Our Micro DuctLiner solution is designed to help save the energy and prevent unwanted noise from escaping through the duct system. It can be used within HVAC system with temperature under 120 °C with airflow speed of 5,000 fpm (25.4 m/s)

OUR PRODUCTS

Density (Kg/m ³)	Thickness (mm.)	Size Boards (m x m)	K-Value at 20 C		K-Value at 24 C	
			W/mk	Btu in/ft h	W/mk	Btu in/ft h
32	25 , 50	1.22 x 2.44	0.032	0.22	0.033	0.023
48	25 , 50	1.22 x 2.44	0.031	0.21	0.032	0.022

* For special product sizes or facings, please send inquiries to Microfiber Industries

SOUND ABSORPTION COEFFICIENTS (Type “A” Mounting)

Product Type	Thickness (mm.)	Sound Absorption Coefficients, ASTM C423 (Type A Mounting) Octave Band Center Frequencies (Hz)						
		125	250	500	1000	2000	4000	NRC
PFL 3225	25	0.00	0.25	0.74	0.92	0.93	1.00	0.70
PFL 3250	50	0.12	0.44	1.02	1.07	0.84	0.78	0.85
PFL 4825	25	0.02	0.27	0.73	1.04	1.05	0.88	0.80
GTS 4850	50	0.20	0.86	1.12	1.07	1.01	0.99	1.00
NEP 3225	25	0.00	0.25	0.74	0.92	0.93	1.00	0.70
NEP 3250	50	0.11	0.45	1.00	1.10	0.82	0.76	0.85
NEP 4825	25	0.00	0.24	0.72	0.96	1.04	0.96	0.75
NEP 4850	50	0.21	0.88	1.13	1.08	1.03	1.00	01.05
GLC 4825	25	0.06	0.33	0.66	1.08	0.94	0.85	0.75
GLC 4850	50	0.24	0.90	1.11	1.11	1.03	1.01	1.05

* For special product sizes or facings, please send inquiries to Microfiber Industries

PRODUCT ATTRIBUTES

Property	Specification	Test Method
Temperature range	540 °C (1000 F)	ASTM C411
Water absorption	<0.5 kg/m ²	EN 1609
Vapor absorption	<0.06%	ASTM C1104
Fungi resistance	No growth	ASTM C1338

PRODUCT OVERVIEW



Micro Duct Liner is laminated with high quality foil coated with adhesive. It is highly resistant to the pulling force from airflow within the ducting system and is highly resistant to water absorption. Micro DuctLiner comes selection of facing material credited with ASTM Standards

1

Perforate foil (PFL)

2

Glass tissue (GTS)

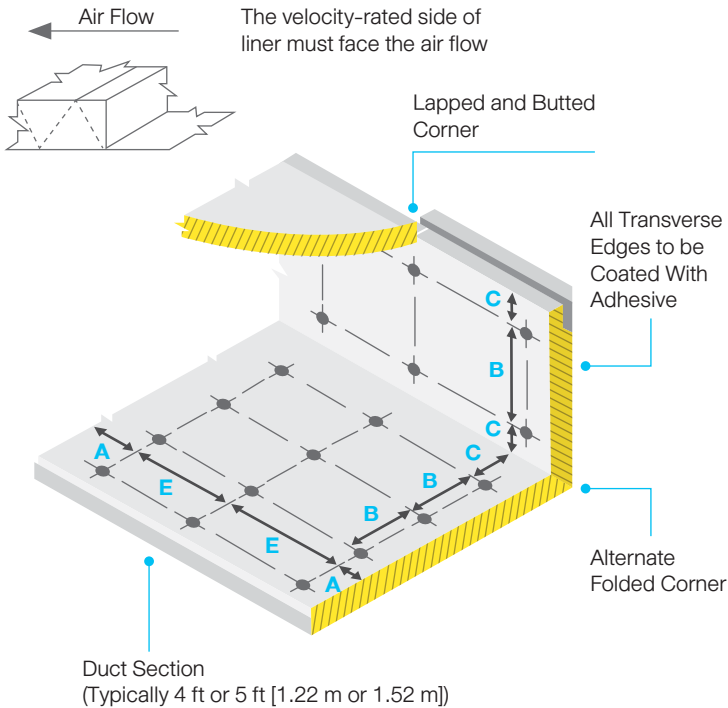
3

Glass cloth (GLC)

Micro Duct Liner

INSTALLATION OF INSULATION WITHIN THE DUCTING SYSTEM

Micro Duct Liner is a glass wool insulation designed to be used within HVAC ducting system, passing several erosion test from air at airflow speed of 5,000 fpm (25.4 m/s), in compliance with international standard UL 181. We ensure the highest quality and prolonged life product to our customer



CAUTIONS

! Installation tips

The duct system insulation should be held with spindle pins and washer. The spindle and washer must be installed with appropriate length and should be installed with appropriate force. To prevent airflow leakage, any puncture in the facing aluminum foil should be covered with similar material as the material supplied by the manufacturer. The product should also be installed with similar direction to the airflow within the HVAC system.



PROJECT REFERENCE

Micro Duct Wrap

• ONE Bangkok



• Krungsri



• AIA



• Chulalongkorn Hospital



• Singh Complex



• Park Sllom



• Aman Nai Lert Park Hotel



• New Sirikit Convention



Micro Duct Liner

Micro Duct

CERTIFICATION AND SAFETY



Green Label :
Thailand



LEED :
Leadership in Energy and
Environment Design



Energy Saving Label



Carbon Reduction
Label



ISO 9001 : 2008
Certificate



OHSAS 45001 : 2007
Certificate



ISO 14001 : 2004
Certificate



Thai Industrial Standards
Institute TIS 486-2527,
TIS 487-2526



American Society for
Testing and Material



Underwriters
Laboratories



National Fire Protection
Association



British Standard
Institute



Australian Standards



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