

MicroFiber

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MicroFiber is the fiberglass thermal insulation in roll and sheet form which adds special substance such moisture resistance and non-water absorption that produced and forming directly from factory follow the Industrial standard TIS486, TIS487 and international standard ASTM, UL, NFPA 90A and British Standard.



MicroFiber GOLDEN WOOL Non water absorption

MicroFiber is the insulation that improved and developed to have a special characteristic in water absorption and moisture permeability by adding special substance like **Non water absorption** (exclusively authorized by Microfiber only), it results to all Microfiber insulation models and types having this non water absorption character which create a confidence and preserved insulation in good quality longer.

Nonstop developing with Non water absorption formula, resulted to the non-water absorption insulation.

Benefits

Energy saving

MicroFiber has low thermal conductivity, but high performance in heat resistance to help contain and keep chilling and prevent heat effectively to result for energy cost saving.

Sound absorption

MicroFiber is the opened cell foam that has lot of airflow space that help absorb sound and reduce the reverberation

Non-flammable

MicroFiber is the fiberglass thermal insulation that contains flame proof material that passed international standard on ASTM E84 and BS 476 class O

Usability

MicroFiber designed for general purpose used, suitable with building, factory and air duct system as it helps absorb sounds.

Properties

Property	Test method	Specification			
Thermal conductivity	ASTM C 518	16 Kg/m ³	24 Kg/m ³	32 Kg/m ³	48 Kg/m ³
Btu.in / ft ² .h. F at 75 F		0.26	0.24	0.23	0.22
W / m.K at 24 °C		0.038	0.035	0.033	0.032
Service temperature	ASTM C 411	232 °C (450 F)			
Moisture absorption	ASTM C 1104	< 1.0% at 49 °C, 95% RH			
Corrosivity	ASTM C 665	Does not accelerate			
Mold resistance	ASTM C 665	No growth			
Surface burning characteristics	ASTM E 84	Flame spread	< 25	Smoke developed	< 50
Fire performance	EN 13501-1	Class A1 (Non-combustible)			

specifications

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k-Value of Microfiber Insulation

Density Kg/m ³	k-Value (W/m.K)		
	24°C	40°C	70°C
16	0.038	0.041	0.047
24	0.035	0.038	0.044
32	0.033	0.036	0.042
48	0.032	0.035	0.041

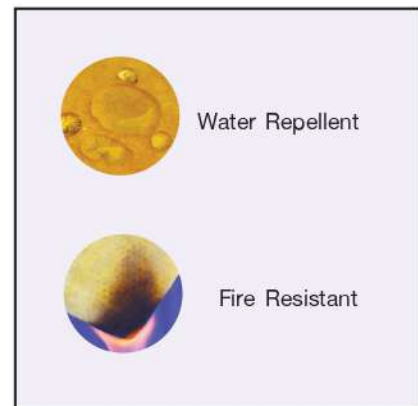
Density Lb/ft ²	k-Value (Btu-in/hr.ft ² .F)		
	75 F	104 F	158 F
1.000	0.264	0.286	0.327
1.500	0.243	0.265	0.307
2.000	0.229	0.251	0.293
3.000	0.222	0.244	0.286

k-Value, R-Value, C-Value of Microfiber Insulation (at 24°C, 75 F mean temp)

Density Kg/m ³	K W/m.K	25 mm.		50 mm.		75 mm.		100 mm.	
		R	C	R	C	R	C	R	C
16	0.038	0.658	1.520	1.316	0.760	1.974	0.507	2.632	0.380
24	0.035	0.714	1.400	1.429	0.700	2.143	0.467	2.857	0.350
32	0.033	0.758	1.320	1.515	0.660	2.273	0.440	3.030	0.330
48	0.032	0.781	1.280	1.563	0.640	2.344	0.427	3.125	0.320

Sound Absorption Coefficients (type "A" Mounting)

Type	Octave Band Center Frequencies, Hz							NRC
	125	250	500	1000	2000	4000		
1650	0.23	0.53	0.97	0.97	0.93	0.94	0.85	
2450	0.13	0.63	1.07	1.01	0.95	0.94	0.90	
3250	0.27	0.73	1.16	1.13	0.98	0.84	1.00	
4850	0.17	0.86	0.97	0.96	0.93	0.95	0.95	



Conversion factor

K-Value		R-Value		C-Value		U-Value	
W/m.K	Btu in/hr.ft ² .F	W/m.K	Btu in/hr.ft ² .F	W/m.K	Btu in/hr.ft ² .F	W/m.K	Btu in/hr.ft ² .F
1	6.935	1	5.677	1	0.1761	1	0.317
0.1442	1	0.1761	1	5.677	1	3.155	1

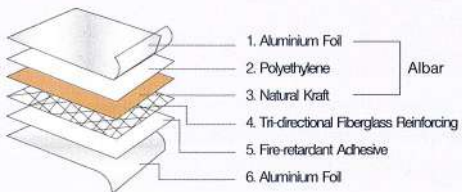
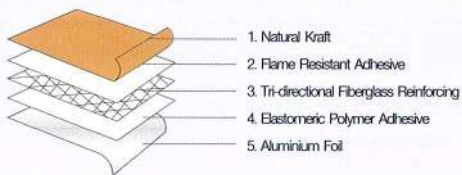
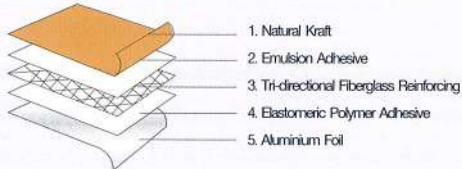
K = Thermal Conductivity
 C = Thermal Conductance = K-Value/Thickness
 R = Thermal Resistance = 1/C = Thickness/K-Value
 u = Thermal Transmittance = 1/R total

Micro Duct Wrap

Micro Duct Wrap

Product Description

Micro Duct Wrap is a high grade heat resisting material and noise control on acoustic absorption, which is energy saving and environmentally friendly. For air conditioning systems, both blanket and board types are available. Our products are treated with Non Water Absorption to reduce and repel water absorption, and are laminated with high quality facing from the factory. The products are manufactured in compliance with TIS 486, TIS 487, ASTM, Australian Standards and Green Building Standards.



Benefits

- Excellent thermal properties.
- Sound proofing and acoustic absorption.
- Lightweight, easy to install.
- Prevents condensation.
- Durable and long lasting.
- Incombustible and fire resistant.
- Water Repellent.
- Energy saving, value for money.

FL

Micro Duct Wrap is used for ducting insulation system laminated with 5 layers non-flammable aluminum foil facing manufactured from the factory and have passed the tests of ASTM E84 and BS 476 Class O standards.



FR

Micro Duct Wrap is used for ducting insulation system laminated with non-flammable aluminum foil 5 layers facing manufactured from the factory and have passed the tests of UL723, ASTM E84, ULC-S102M and FM Approved.



FSF

Micro Duct Wrap is used for ducting insulation system laminated with double-sided Aluminum Foil 7 layers facing which have passed the tests of UL723, ASTM E84, and BS 476 Class O



FRD 524

Micro Duct Wrap is used for ducting insulation system laminated with double-sided aluminum foil using Albar-Layer-Bonding Technology, which improves water resistance and condensation prevention with 6 layers. These have passed the tests of UL 723, ASTM E84, BS 476 Class O and Australian Standards.



Application

Micro Duct Wrap is used to insulate duct systems, in order to maintain consistent temperatures in both cold and hot air flow in all duct types, save energy and prevent condensation. It is widely used in commercial & office buildings and factories, anywhere that has a working temperature of 4 – 121°C.

Facing Lamination

Micro Duct Wrap uses high grade fire retardant aluminum foil with Fire Retardant Aluminum Foil Tri-direction Fiberglass for better tensile strength. It is laminated with quick drying fire retardant adhesive from the factory as per the fire test standards and strength. There are many different kinds of facing to choose from, up to the customer's requirements.

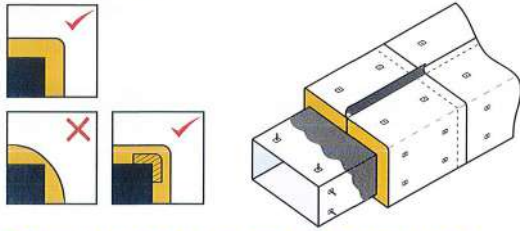
Property	Test Method	Specification			
Thermal conductivity Btu.in/ft ² .h.°F at 75 °F W/m.K at 24 °C	ASTM C518	16 Kg/m ³ 0.264 0.038	24 Kg/m ³ 0.243 0.035	32 Kg/m ³ 0.229 0.033	48 Kg/m ³ 0.222 0.032
Temperature range	ASTM C411	Up to 232 °C (450 °F)			
Moisture absorption	ASTM C1104	< 1.0% at 49 °C, 95% RH			
Corrosivity	ASTM C665	Does not accelerate			
Mold resistance	ASTM C665	No growth			
Surface burning characteristics	ASTM E84	Flame spread	< 25		
		Smoke developed	< 50		
		Class	0		
Fire Test	BS 476 Part 6,7 AS 1530-3	Ignitability Index	0		
		Spread of Flame Index	0		
		Heat Evolved Index	0		
		Smoke Developed Index	1		

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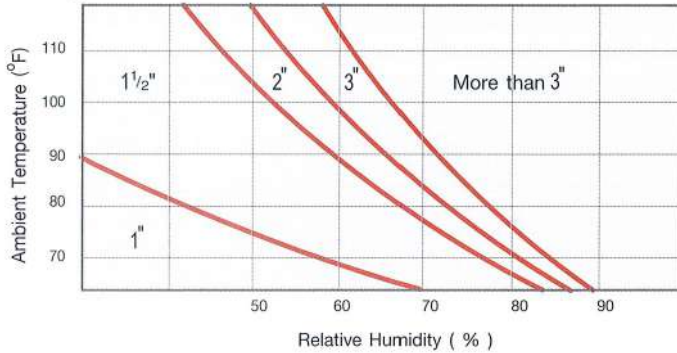
Installation Method

Blanket Type

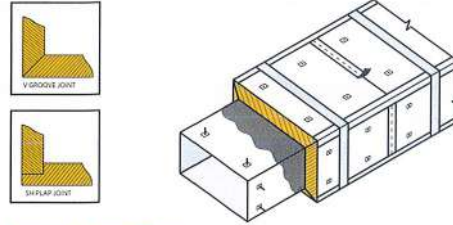


Things to consider before installation

For installation of blanket type insulation, it is important to maintain the consistency of the thickness at different positions of the air duct as per engineer recommendations. Extra attention has to be paid to installation at the corners of the duct and add extra insulation in the corner to maintain thickness consistency, as per the diagram above.



Board Type



Insulation Tips

For choosing the right type of insulation to have the most efficient and consistent airflow and preventing condensation, thickness of the glasswool must be considered carefully as per the recommendation of the engineer. Board type has higher thickness and density, which has better thickness consistency and has a longer product life than blanket type.

Thickness Guidelines Water Repellent Glasswool

The right thickness is determined through considering the working temperature, air moisture and the loss in thickness after installation.

Micro Duct Wrap has been developed and improved to have special properties, that make the glasswool water repellent and prevention of condensation by treating the fibers with Non Water Absorption (exclusive to Microfiber). This also results in a longer lasting product.



Product Specification Size

Density (Kg/m ³)	Thickness (mm.)	Size Blanket (m x m)	Size Boards (m x m)	R-Value (m ² .K/W)		
				25 mm.	38 mm.	50 mm.
16	25	1.22 x 30.50	-	0.658	-	-
16	50	1.22 x 15.25	-	-	-	1.316
24	25	1.22 x 30.50	-	0.714	-	-
24	38, 50	1.22 x 15.25	-	-	1.086	1.429
32	25, 38*, 50	1.22 x 15.25	1.22 x 2.44	0.758	1.152	1.515
48	25, 38*, 50	1.22 x 7.50	1.22 x 2.44	0.781	1.188	1.563

• Glasswool specs and facings are available upon request
* Special thickness requested

Set Up Recommendations / Advice

- Clean the surface of the air duct and seal any leakages. Cut the insulation as per the size of the duct, leaving 2 inches of foil at the end for sealing purposes.
- Wrap the insulation around the duct, using the 2 inches of foil to wrap around the other end of the product and seal with aluminum foil tape.
- In the case of air ducts are 24 inches in width or more, a spindle pin should be used to support the glasswool. Making sure that each pin is no more than 18 inches apart.
- Apply aluminum duct foil tape for closure of the rips / tears or air leakage area to minimize energy losses in ducts.

Glasswool 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 + 14 1/2"

P = The line around the duct installed.

Proudly Made in Thailand

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