



Technical Data Sheet
Product Code: **FDW**

AFICO Faced Duct Wrap Insulation (FDW)



DESCRIPTION

AFICO Faced Duct Wrap Insulation is highly efficient, resilient, flexible blanket insulation composed of fine, stable and uniformly textured inorganic glass fibers bonded together by a non-water soluble and fire retardant thermosetting and heat resistant resin. It is free from coarse fibers and shot due to its mineral composition.



FACING

AFICO Faced Duct Wrap Insulation is manufactured in a roll form and subsequently faced on one side by factory laminators, with a suitable vapor retardant Aluminium Foil Reinforced Kraft Paper Laminate (FRK), All Service Jacket (ASJ) and Aluminum Foil Woven Fiberglass Jacket (AWF), or other specific vapor barrier for installation on the exterior of ductwork. The facings have UL fire resistant ratings outdoor or direct bury applications require additional protection from the elements.



APPLICATION

AFICO Faced Duct Wrap Insulation is intended for use in commercial, institutional, industrial and residential construction as thermal and acoustical insulation of heating, air-conditioning and dual temperature ducts and air handling equipment. The use of **AFICO Faced Duct Wrap Insulation** helps prevent condensation when properly applied to air-condition ductwork.

The semi-rigid wrap with densities from 12 to 56 kg/m³ (0.75 - 3.5 lb/ft³) are flexible insulation rolls for application over irregularly-shaped surfaces where rigidity properties are desired.



STANDARD AVAILABLE PRODUCTS

Nominal Manufacturing Specifications.
Check for availability of other dimensions and densities

Product Type FDW	Density		Thickness		Width		Length	
	kg/m ³	lb/ft ³	mm	inch	m	ft	m	ft
120	12	0.75	25	1	1.2	4	20	65
			38	1 1/2			25	80
			50	2			30	100
140	14	0.875	25	1	1.2	4	20	65
			38	1 1/2			25	80
			50	2			30	100
160	16	1.0	25	1	1.2	4	20	65
			38	1 1/2			25	80
			50	2			30	100
200	20	1.25	25	1	1.2	4	20	65
			38	1 1/2			25	80
			50	2			30	100
240	24	1.5	25	1	1.2	4	20	65
			38	1 1/2			25	80
			50	2			30	100
320	32	2.0	25	1	1.2	4	10	33
			38	1 1/2			15	50
			50	2			20	65
480	48	3.0	25	1	1.2	4	10	33
			38	1 1/2			15	50
			50	2			20	65
560	56	3.5	25	1	1.2	4	10	33
			38	1 1/2			15	50
			50	2			20	65





Performance & Physical Characteristics

Nominal Thermal Conductivity

W/m²·°K or Btu·in/hr·ft²·°F (ASTM C 518)

"K" or "λ" value at mean temperatures

Type	0 °C	32 °F	10 °C	50 °F	24 °C	75 °F	50 °C	122 °F	75 °C	167 °F	100 °C	212 °F
120	0.036	0.25	0.038	0.27	0.040	0.28	0.048	0.34	0.059	0.41	0.065	0.45
140	0.036	0.24	0.037	0.26	0.039	0.27	0.046	0.32	0.055	0.38	0.061	0.42
160	0.034	0.23	0.036	0.25	0.039	0.27	0.044	0.31	0.051	0.35	0.057	0.40
200	0.032	0.22	0.034	0.23	0.036	0.25	0.041	0.28	0.046	0.32	0.051	0.36
240	0.031	0.21	0.032	0.22	0.035	0.24	0.039	0.27	0.043	0.30	0.047	0.33
320	0.030	0.20	0.031	0.22	0.033	0.23	0.037	0.25	0.040	0.27	0.044	0.30
480	0.029	0.20	0.030	0.21	0.031	0.22	0.035	0.24	0.037	0.26	0.041	0.29
560	0.030	0.21	0.031	0.21	0.032	0.23	0.036	0.24	0.038	0.26	0.042	0.29

Thermal Resistance "R" Value (Excluding Facings) (ASTM C 167)

"R" is a measure of the resistance to heat flow of a material of any given thickness.

("R" = m²·°K/W or hr·ft²·°F/Btu)

$$R = \frac{T}{K} \quad \text{where "T" = Thickness and "K" or "λ" = Thermal Conductivity}$$

Working Temperature Limitations (ASTM C 411)

Operating temperature up to -4°C (25°F) to 350°C (662°F). At excessive temperatures, limited migration of binder may occur in the insulation in contact with the surface. This in no way impairs the performance of the insulation.

Mold Growth (ASTM D 2020, UL 181)

Does not breed or sustain mold, fungus, bacteria or rodents

Corrosiveness (ASTM C 665)

Chemically inert. Will not cause or accelerate corrosion of steel, stainless steel, copper or aluminum due to its particular inorganic and mineral composition.

Alkalinity

pH 9

Surface Burning Characteristics (ASTM E 84, UL 723)

Base glass fiber is non-combustible when tested to ASTM E 84.

Facing	Flame Spread	Smoke Developed	Fuel Contributed
FRK	0	0	0
ASJ	5	10	0
AWF	10	0	0

Specification Compliance

AFICO Faced Duct Wrap Insulation complies with the property requirements of the following specifications:

ASTM C 1071 : For Acoustical Performance

NEPA 90 A : For Fire Resistance

DCL : ASTM C 553

CE-EN : 1121-CPD-BA0137

Vapor Permeability (ASTM E 96 A)

Aluminum Foil Reinforced Kraft Paper Laminate (FRK) : 0.020 PERM

All Service Jacket (ASJ) : 0.020 PERM

Aluminum Foil Woven Fiberglass Jacket (AWF) : 0.018 PERM

Fire Properties

B.S. 476 PART 4 : Non Combustible

B.S. 476 PART 5 : Ignitability

B.S. 476 PART 6 : Fire Propagation

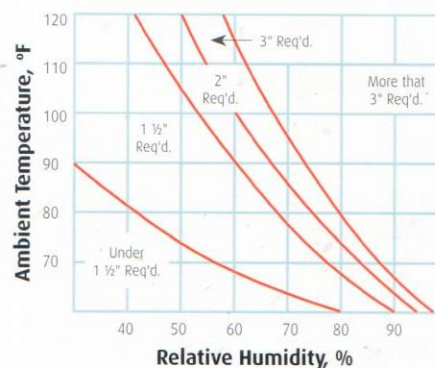
B.S. 476 PART 7 : Surface Spread of Flame

Class 'O' fire rating to the building regulations sections E15

Condensation Control

How to select appropriate thickness for condensation control: to determine thickness to prevent condensation at various ambient temperature and humidity levels based on installed thickness 75% of nominal (out-of-package) thickness, 55°F air duct internal temperature:

1. Select maximum expected relative humidity (RH) on the lower scale.
2. Move up vertically until that line intersects the expected maximum ambient air temperature.
3. Select the thickness indicated by the intersection point.



The above chart is based on indoor conditions so far as wind and other factors are concerned.





Performance & Physical Characteristics

Compressive Strength

Type	120	140	160	200	240	320	480	560
PSF at 10 % Deformation	5	5	5	10	12	16	25	30
PSF at 25 % Deformation	10	10	10	15	20	60	90	110

Puncture Resistance (ASTM D 781)

Aluminum Foil Reinforced Kraft Paper Laminate (FRK)	: 25 Units
All Service Jacket (ASJ)	: 50 Units
Aluminum Foil Woven Fiberglass Jacket (AWF)	: 10 Units (270 Psi)

Sound Absorption Coefficients

Insulation Thickness	Sound Absorption Coefficient at Frequencies (Hz)						
	125	250	500	1000	2000	4000	NRC
Flexible							
25 mm (1in)	0.38	0.34	0.68	0.82	0.87	0.96	0.70
50 mm (2in)	0.44	0.66	1.07	1.06	0.99	1.06	0.95
Semi-Rigid							
25 mm (1in)	0.33	0.28	0.62	0.88	0.96	1.04	0.70
50 mm (2in)	0.38	0.68	1.10	1.07	1.05	1.05	0.95

Mounting F405: Insulation placed against 24 guage metal over a 16 inch air space. This mounting configuration is typical of a sheet metal enclosure with insulation on one side.

Installation Recommendation

AFICO Faced Duct Wrap Insulation products are available in rolls. The desired application length can be easily measured and cut from the full roll. **AFICO Faced Duct Wrap** can be impaled on pins and adhered with recommended adhesive. When using aluminum alloys pins, pin spacing along a duct should be no greater than 300 mm on centers. Fasteners should be located no less than 75 mm from each edge or corner. Apply vapor-seal pressure-sensitive aluminum joint sealing tape to joints and protrusions. 75mm wide tape should be used.

Note: Outdoor applications require additional weather protection

