



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 mineral composition

FACING

AFICO Faced Duct Wrap Insulation is manufactured in roll form and subsequently faced on one side by factory laminators with a suitable vapor retardant Aluminum 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.

STANDARD AVAILABLE PRODUCTS

- Nominal manufacturing specifications with K and R values.
- Check for availability of other dimensions and densities.

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 helps prevent condensation when properly applied to air-conditioning ductwork. The semi-rigid duct wrap with densities from 16 to 56 kg/m³ (1.0–3.5 lb/ft³) are flexible insulation rolls for application over irregularly shaped surfaces where rigidity properties are desired

PRODUCT TYPE – DENSITY – THERMAL PERFORMANCE

Product Type	Density (kg/m ³)	Density (lb./ft ³)	KValue (W/m·K)	KValue (BTU·in/hr·ft ² ·°F)	R Value 25 mm	RValue 38 mm	R Value 50 mm	R Value 64 mm	R Value 75 mm
160	16	1.0	0.037	0.26	0.68	1.03	1.35	1.73	2.03
240	24	1.5	0.034	0.24	0.74	1.12	1.47	1.88	2.24
320	32	2.0	0.033	0.23	0.76	1.15	1.52	1.94	2.27
480	48	3.0	0.031	0.22	0.81	1.23	1.61	2.06	—
560	56	3.5	0.031	0.22	0.81	1.23	1.61	2.06	—

APPARENT THERMAL CONDUCTIVITY

- ASTM C518, EN 12667
- W/m·°K or Btu·in/hr·ft²·°F for all product range.
- “K” or “λ” value at mean temperatures.
- Data for 10°C, 24°C and 35°C mean temperature.
- Nominal R Value @24°C mean temperature

THERMAL RESISTANCE “R” VALUE (ASTM C518)

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

Units: m²·°K/W or hr·ft²·°F/Btu

Formula: $R = T / K$

Where: T = Thickness

K or λ = Thermal Conductivity

THERMAL RESISTANCE “U” VALUE (ASTM C168)

“U” is a measure of how much heat is lost through a given thickness of a particular material.

Units: W/m²·°C or Btu/hr·ft²·°F

Formula: $U = 1 / R_t$

Where: R_t = Total thermal resistance composed of all elements/layers.

U-values are calculated from the thermal resistances of the parts making up a particular part of the structure.

Transmission of heat is opposed in varying amounts dependent on material and surface.

U-Value (of building element) =

$U = 1 / (R_{so} + R_{si} + R_1 + R_s...)$

Where: R_{so} = fixed external resistance

R_{si} = fixed internal resistance

R₁, R₂ etc = resistivity of all elements within the application including cavities

EXAMPLE CALCULATION

Product Type	Density (kg/m ³)	Density (lb/ft ³)	K Value at 10°C (50°F)	K Value at 24°C (75°F)	K Value at 35°C (95°F)
160	16	1.0	0.034	0.037	0.039
240	24	1.5	0.032	0.034	0.036
320	32	2.0	0.031	0.033	0.034
480	48	3.0	0.030	0.031	0.033
560	56	3.5	0.029	0.031	0.032

SPECIFICATION COMPLIANCE

AFICO Faced Duct Wrap Insulation complies with the following specifications:

ASTM C665 Type I, Type II and Type III

ASTM C553 Type I, Type II and Type III

EN 13162-T1-1121-CPD-BA0137

UL 723 classified as FHC 25/50 (File No. R27731)

SCS Recycled Content Certified SCS-MC-02810

ASTM C795 Thermal Insulation for contact with Austenitic Stainless Steel

SASO GSO EN 13162 License No. 201800652111

FACING INFORMATION (FLEXIBLE VAPOR BARRIER)

Property	FRK	ASJ	AWF
Vapor Permeability (ASTM E96A)	0.02 perms	0.02 perms	0.0012 perms
Puncture Resistance	25 beach units	85 beach units	1170 beach units

PERFORMANCE & PHYSICAL CHARACTERISTICS

Property	Description / Value	Standard
Mold Growth Resistance	Does not breed or sustain mold, fungus, bacteria, or rodents	ASTM C1338
Odor Emission	Passed; no detectable objectionable odor	ASTM C1304
Alkalinity (pH)	pH 9	ASTM C871
Water Vapor Sorption	Less than 1% by weight	ASTM C1104

Corrosiveness	Chemical inert; will not cause or accelerate corrosion of steel, stainless steel, copper, or aluminum due to its inorganic mineral composition	ASTM C665
Working Temperature Limitations	Operating temperature: -4°C to 232°C. At excessive temperatures, limited migration of binder may occur in insulation in contact with the surface; this does not impair insulation performance.	ASTM C411
Surface Burning Characteristics	Base glass fiber is non-combustible when tested according to ASTM E84	ASTM E84 / UL 723

THERMAL LAYER EXAMPLE

Layer	Thickness	Conductivity (W/m·K)	R Value (m ² ·K/W)
External Resistance (R _{so})	—	—	0.40
Internal Resistance (R _{si})	—	—	0.13
Fiberglass Insulation	0.100 m	0.035	2.85
Clay Bricks	0.105 m	0.710	0.15
Concrete Blocks	0.100 m	0.180	0.55
Plaster	0.013 m	0.160	0.08
Total	—	—	4.16

FACING FLAME SPREAD INDEX

Facing	Flame Spread Index	Smoke Developed Index
FRK	≤ 25	≤ 50
ASJ	≤ 25	≤ 50
AWF	≤ 25	≤ 50

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 "0" fire rating to building regulations.
- NFPA 90A and 90B for material specifications.
- Note: Compliance should be verified for each density, thickness and facing combination

ACOUSTICAL PERFORMANCE (ASTM C423)

Product Type	Density (kg/m ³)	Density (lb/ft ³)	NRC (25 mm)	NRC (50 mm)
160	16	1.0	0.60	0.85
240	24	1.5	0.65	0.90
320	32	2.0	0.65	0.95
480	48	3.0	0.73	1.00

560	56	3.5	0.75	1.05
-----	----	-----	------	------

CONDENSATION CONTROL

To determine insulation thickness required to prevent condensation based on installed thickness equal to 75% of nominal thickness and internal duct temperature 55°F:

1. Select maximum expected relative humidity.
2. Move vertically until intersecting maximum ambient temperature.
3. Select thickness indicated at the intersection point.

INSTALLATION RECOMMENDATION

AFICO Faced Duct Wrap Insulation products are available in rolls. The desired application length can be measured and cut from the full roll. Insulation can be impaled on fixing pins and adhered with recommended adhesive. Pin spacing should not exceed 300 mm in centers and should be located no less than 75 mm from edges. Apply vapor-seal pressure-sensitive aluminum joint sealing tape to all joints and protrusions. Recommended tape width: 75 mm. Outdoor applications require additional weather protection.

MAINTENANCE

No maintenance is required. AFICO Faced Duct Wrap Insulation products have high resistance to accidental damage during installation and maintenance. They are dimensionally stable, rot-proof, odorless, non-hygroscopic and resistant to fungus and vermin. The insulation maintains its thermal properties throughout the lifetime of the construction and does not age. AFICO fiberglass is non-toxic and presents no health hazard.

STORAGE

- To avoid moisture in building construction, insulation stored outside must be kept dry.
- Products should always be stored in covered and dry areas.
- AFICO is not liable for damage resulting from improper storage, loading, unloading or mishandling

WARRANTY

See manufacturer's General Terms and Conditions of Sale. AFICO and/or Owens Corning do not warrant performance or results of installations beyond product quality due to lack of control over installation design, workmanship and application conditions. Specifications may be changed without prior notice as part of continuous product development.