

Heavy Density Pipe Insulation (PI)

Product Description

AFICO Heavy Density Pipe Insulation is a heavy density, preformed 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, molded in one-piece sections and made with a single seam. AFICO Heavy Density Pipe Insulation are damage resistant, easy to handle and spread open to receive the pipe and snaps closed after placement.

Facing

AFICO Heavy Density Pipe Insulation is supplied plain or with a factory-applied jacket for applications requiring an integral vapor barrier. Standard jacketing materials include Aluminum Foil Reinforced Kraft Paper Laminate (FRK), the White All Service jacket (ASJ) and the Aluminum Foil Woven Fiberglass jacket (AWF). All jackets are provided with a nominal 50mm lap to facilitate closure and vapor sealing of the longitudinal joint. Outdoor or direct bury applications require additional protection from the elements.

Application

AFICO Heavy Density Pipe Insulation is intended for use in commercial, institutional, industrial and residential construction and in power and process plants as thermal and acoustic insulation for hot or cold, concealed or exposed steel, copper and plastic piping where temperatures are between -4°C and +454°C (0 to 850°F).

Standard Available Sizes

AFICO Heavy Density Pipe Insulation is made in standard 1.2m lengths and is available in nominal iron pipe sizes from 12.7 mm (½ in) through 914 mm (36 in) and in nominal copper tube sizes from 15 mm (5/8 in) through 156 mm (6 1/8 in). Nominal wall thickness ranges from 13 mm (½ in) to 100

mm (4 in), with 13 mm (½ in), 25 mm (1 in), 38 mm (1 ½ in), 50 mm (2 in), 64 mm (2 ½ in), 75 mm (3 in) and 100 mm (4 in) as standard.

Normal Density

Kg/m ³	lbs/ft ³
64	4
72	4.5
80	5
96	6
120	7.5

Nominal Wall Thickness

mm	inch
13	½
25	1
38	1 ½
50	2
64	2 ½
75	3
100	4

Surface Burning Characteristics (ASTM E84, UL723)

Base glass fiber is non-combustible when tested to ASTM E48.

Facing	Flame Spread	Smoke Developed
Unfaced	0	0
FRK	≤ 25	≤ 50
ASJ	≤ 25	≤ 50
AWF	≤ 25	≤ 50

Working Temperature Limitations (ASTM C411)

Operating temperature -4°C to 454°C. 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 C1338)

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





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Performance & Physical Characteristics

Apparent Thermal Conductivity (ASTM C518, EN12667)

W/m·K or Btu-in/hr-ft²°F for all product range "K" or "λ" value at mean temperatures
Data for 10, 24 and 35°C mean temperature

Product Type	Density		Mean Temperature					
	Kg/m ³	Lb/ft ³	10°C	50°F	24°C	75°F	35°C	95°F
PI								
640	64	4.0	0.031	0.21	0.32	0.22	0.034	0.24
720	72	4.5	0.031	0.21	0.32	0.22	0.034	0.24
800	80	5	0.031	0.21	0.32	0.22	0.034	0.24
960	96	6	0.031	0.21	0.32	0.22	0.034	0.24
1200	120	7.5	0.031	0.21	0.32	0.22	0.034	0.24

Economic Thickness Guide Specifications

Piping System Types	Fluid Temperature Range °C	Pipe sizes (mm)					
		Runouts up to 50	25 & under	32-50	64-100	125-150	200 & over
Heating Systems Minimum insulation (mm) for pipe sizes							
Steam & Hot Water High Pressure / Temperature	152-238	40	64	64	75	89	89
Medium Pressure / Temperature	122-151	40	50	64	64	75	75
Low Pressure / Temperature	94-121	25	40	40	50	50	50
Low Temperature	49-93	13	25	25	40	40	40
Steam Condensate for Feed Water	Any	25	25	40	50	50	50
Cooling Systems							
Chilled Water	4.5-13	13	13	25	25	25	25
Refrigerant or Brine	Below 4.5	25	25	40	40	40	40

Economic Thickness chart is taken directly from ASHRAE Standard 90A-80 and reflects minimum Pipe Insulation thickness recommended for commercial or residential applications.

Corrosiveness (ASTM C665)

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

Water Vapor Sorption (ASTM C1104)

Less than 1% per weight.

Odor Emission (ASTM C1304)

Passed, no detectable odor that is objectionable and strong.

Size (in.)	Copper Tubes (in.)	Size (mm)
—	5/8	16
—	—	20
1/2	7/8	22
—	—	25
3/4	1 1/8	28
—	—	32
1	1 3/8	35
—	—	40
1 1/4	1 5/8	42
1 1/2	—	48
—	2 1/8	54
2	—	60
—	—	63
—	2 5/8	67
—	—	75
2 1/2	—	76
—	3 1/8	79
3	—	89
—	3 5/8	92
—	4 1/8	105
—	—	110
4	—	114
—	5 1/8	130
5	—	141
—	6 1/8	156
6	—	168
—	—	200
8	—	223
—	—	250
10	—	272
—	—	300
12	—	326
14	—	355
16	—	406
18	—	457
20	—	508
22	—	559
24	—	610
26	—	660
28	—	711
30	—	762
32	—	812
36	—	914

Alkalinity (ASTM C871)

pH 9

Non-Fibrous (Shot) Content (ASTM C1335)

Not applicable to glass mineral fiber products.

Linear Shrinkage (ASTM C356)

Will not crack or shrink while permitting expansion and contraction of the pipe

Specification Compliance

AFICO Heavy Density Pipe Insulation complies with the standard specification requirements of the following specifications:

DCL: ASTM C547, ASTM C612

UL 723: Classified as FHC 25/50 File no R27731

SCS: Recycled Content Certified SCS-MC-02812

ASTM C795: Thermal Insulation for use in contact with Austenitic Stainless Steel tested

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 the building regulations sections E15

Facing Information (Flexible Vapor Barrier)

ASTM C 1136 Standard specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation

Vapor Permeability (ASTM E96A)

FRK: 0.02 perms

ASJ: 0.02 perms

AWF: 0.0012 perms

Puncture Resistance

FRK: 25 beach units

ASJ: 85 beach units

AWF: 1170 beach units

Installation Recommendation

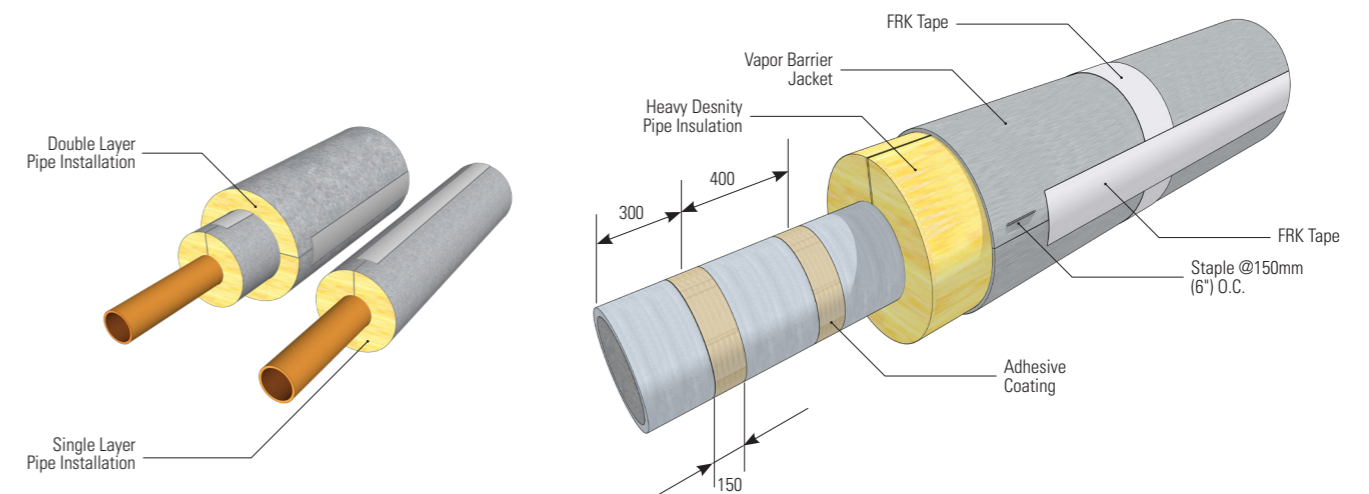
AFICO Heavy Density Pipe Insulation products are easily installed. The one-piece sections are snapped in place on the pipe to be insulated. Longitudinal and butt joints are vapor sealed by application of ASJ, AWF or FRK pressure-sensitive tape, or the use of mastics (both supplied separately).

Note: Outdoor applications require additional weather protection for FRK and ASJ Facing.

AFICO Heavy Density Pipe Insulation with Aluminum Woven Glass Facing (AWF) provides a cheaper, less labor-intensive alternative to other conventional thermal insulation options, thanks to its factory-applied weather-proofing and thermal sealing system.

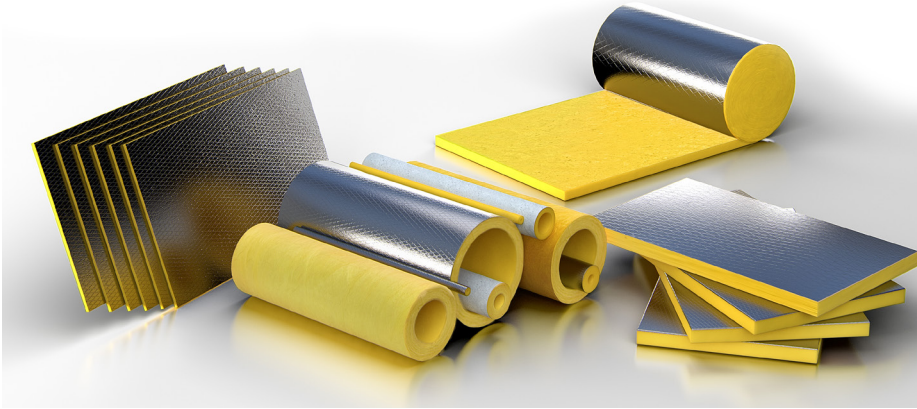
AFICO Heavy Density Pipe Insulation with Aluminum Woven Glass Facing (AWF) provides:

- extremely high bursting strength of 120psi
- extremely high tensile strength of MD: 34.8KN/m, XD: 21.8KN/m
- high mechanical strength, durability and dimensional stability
- higher than conventional facings water vapor permeance of 0.0012 perms
- a temperature threshold up to 116°C compared to 100°C for conventional facings





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The **AFICO Product Range** includes • Acoustical Ceiling Panels • Blanket Insulation • Board Insulation • Cavity Wall Insulation • Duct Liner • Duct Liner Board • Faced Duct Wrap • HD Series Blanket Insulation • **Heavy Density Pipe Insulation** • Mechanical Board Insulation • Pipe Wrap Insulation • Pre-engineered Metal Building Insulation • Quiet Liner • Quiet Liner Board • Roof Deck Board Insulation • Thermal Insulating Wool

Maintenance

No maintenance is required. **AFICO Heavy Density Pipe Insulation** products have a high resistance to accidental damage from knocks and handling during installation and maintenance. Dimensionally stable under varying conditions of temperature and humidity, rot proof, odorless, non-hygroscopic and will not sustain vermin or fungus due to its inorganic and mineral compositions.

The product will maintain its thermal properties throughout the lifetime of the construction and will not age. AFICO fiberglass is non-toxic and not hazardous to health.

Storage

To avoid moisture in the building construction, AFICO insulation products stored outside must be kept dry. We recommend AFICO products to be always stored in covered and dry areas. AFICO is not liable for the damage resulting from inadequate utilization, loading and off-loading and mishandling of its products.

Warranty

See manufacturer's General Terms and Conditions of Sale. As **AFICO** and/or **OCF** has no control over installation design, installation workmanship, accessory materials, or conditions of application, AFICO and/or OCF does not warrant the performance or results of any installation containing their products. This warranty disclaimer includes all implied warranties, including the warranties or merchantability and fitness for a particular purpose.

Arabian Fiberglass Insulation Company AFICO

reserves the right to alter product specifications without prior notice, as part of its policy of continued development and improvement. The installation methods described in this leaflet are not compulsory. The choice of materials and methods of fixing are the decision of the specifier, consultant or contractor. For further information or advice on specification of products, contact your local, sales office.

Availability

Manufactured by Arabian Fiberglass Insulation Company, Ltd. AFICO member of Zamil Industrial Co. (ZI), with headquarters and production facilities located in Dammam, Saudi Arabia, under license from and utilizing the manufacturing specifications and technology of Owens-Corning Corporation OCF, Toledo, Ohio, U.S.A.

Marketed throughout Saudi Arabia, the G.C.C. countries, the Middle East and the Far East. AFICO products are available directly from as well as through a vast and reliable network of local distributors.

Special products are manufactured on request.

Call us today for more information & professional guidance:

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People & Planet Always First

AFICO's products are all **energy saving, environmentally friendly**, use even more **recycled materials** and contribute to the **fight against global warming**.

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