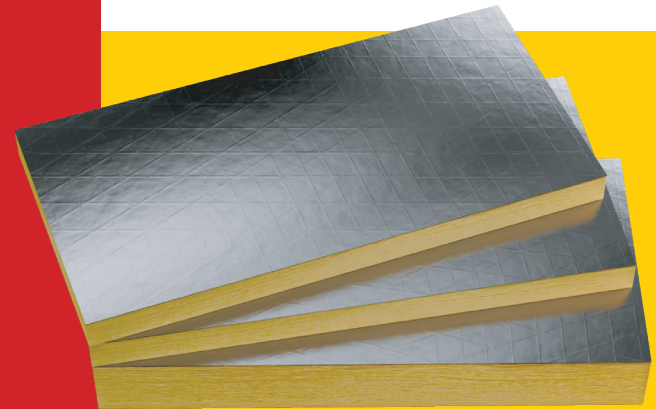




Cavity Wall Insulation (CWI)



Product Description

AFICO Cavity Wall Insulation is composed of fine, stable and uniformly textured inorganic glass fibers bonded together by non-water soluble and fire-retardant thermosetting and heat resistant resin, and formed into semi-rigid non-combustible and moisture repellent rectangular boards or slabs. It is free from coarse fibers and shot due to its mineral composition.

Facing

AFICO Cavity Wall Insulation is available either unfaced with a silicon-based emulsion additive in the wool to make the product water-repellent, or with a factory-applied KRAFT vapor barrier facing or with an Aluminum Foil Fiberglass Reinforced Kraft Paper (FRK) facing.

Standard Available Products

Nominal Manufacturing Specifications. Check for availability in other dimensions.

Product Type	Density		K Value @24°C		R Value / Thickness									
	Kg/m ³	Lb/ft ³	W/m ² ·°K	BTU-in/hr-ft ² ·°F	25 mm	1 in.	38 mm	1 ½ in.	50 mm	2 in.	64 mm	2 ½ in.	75 mm	3 in.
260	26	1.6	0.036	0.25	0.69	3.94	1.06	5.98	1.39	7.87	1.78	10.10	2.08	11.81
320	32	2.0	0.034	0.24	0.74	4.10	1.12	6.23	1.47	8.20	1.88	11.50	2.21	12.30
480	48	3.0	0.032	0.22	0.78	4.28	1.19	6.50	2.56	8.56	2.00	12.00	2.34	12.83

Apparent Thermal Conductivity ASTM C518, EN12667
W/m²·°K or Btu.in/hr.ft²·°F "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
260	26	1.6	0.032	0.22	0.036	0.25	0.037	0.26
320	32	2.0	0.032	0.22	0.034	0.24	0.036	0.25
480	48	3.0	0.031	0.21	0.032	0.22	0.035	0.24

*Standard Products and Sizes

Application

AFICO Cavity Wall Insulation is a semi-rigid board intended for use in commercial, institutional, industrial, agricultural and residential construction as thermal and acoustical insulation for interior, exterior and partial or fully cavity wall applications as well as in poultry farms precast structures, prefabricated houses and new residential villa construction.

Standard Nominal Density

Standard Density is 26-48 kg/m³ (1.6 -3.0 lbs/ft³)



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Performance & Physical Characteristics

Thermal Resistance "R" Value (ASTM C518)

"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)

$$R = \frac{T}{K} \quad \text{Where "T" = Thickness}$$

$$\text{Where "K" or "λ" = Thermal Conductivity}$$

Thermal Resistance "U" Value (ASTM C168)

"U" is a measure of how much heat is lost through a given thickness of a particular material.
("U" = W/m² ·°C or Btu/hr ·ft² ·°F)

$$U = \frac{1}{Rt} \quad \text{Where "1" = Total Thermal Resistance}$$

$$\text{Composed of all elements/layers}$$

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.

$$U\text{-Value (of building element)} = 1 / (R_{so} + R_{si} + R_1 + R_2 + \dots)$$

Where R_{so} is the fixed external resistance
R_{si} is the fixed internal resistance
R₁, R₂ etc are resistivity of all elements within the application including that of cavities within the construction.

Example Calculation:

Layer & Material	Thickness & Conductivity	R Value
R _{so} - Fixed external resistance	-	0.40 m ² ·°K/W
R _{si} - Fixed internal resistance	-	0.13 m ² ·°K/W
R1 - Fiberglass insulation	0.100 m; 0.035 W/mK	2.85 m ² ·°K/W
R2 - Clay bricks	0.105 m; 0.710 W/mK	0.15 m ² ·°K/W
R3 - Concrete blocks	0.100 m; 0.018 W/mK	0.55 m ² ·°K/W
R4 - Plaster	0.013 m; 0.016 W/mK	0.08 m ² ·°K/W
Total		4.16 m ² ·°K/W

Therefore the overall wall element U-value = 1/R = 1/4.16 = 0.24W/m²K

Surface Burning Characteristics (ASTM E84, UL723)

Base glass fiber is non-combustible when tested to ASTM E84.

Facing	Flame Spread Index	Smoke Developed Index
Unfaced	0	0
FRK	≤ 25	≤ 50



Working Temperature Limitations (ASTM C411)

Operating temperature up to 232°C. At excessive temperatures, a limited migration of binder may occur in the insulation in contact with the hot 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.

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.

Alkalinity (ASTM C871)

pH 9

Non-Fibrous (Shot) Content (ASTM C1335)

Not applicable to glass mineral fiber products

Specification Compliance

AFICO Cavity Wall Insulation complies with the property requirements of the following specifications:

- DCL** : ASTM C612
- CE-EN** : EN 13162-T4-WS.WL(P)1121-CPD-BA0136
- UL 723** : Classified as FHC 25/50 File no R37968
- ASTM C795** : Thermal Insulation for Use in Contact with Austenitic Stainless Steel tested
- SASO** : SASO EN 13162 License # 20240660861
- Global Green Tag** : ARA:DS01:2025:GR
- Global Green Tag** : ARA:DS01:2024:PH
- Emirates GBC** : EmiratesGBC
- SCS Global** : SCS-HPD-09461
SCS-RC-02811
SCS-IAQ-07374
SCS-EPD-08453

Fire Properties

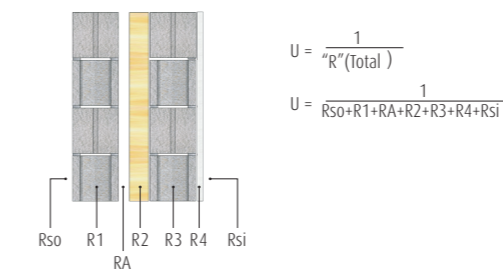
- B.S. 476 PART 4: Non Combustible
- B.S. 476 PART 5: Ignitability
- B.S. 476 PART 6: Fire Propagation
- B.S. 476 PART 7: Surface Spread of Flame Class '0' fire rating to the building regulations sections E15

Thermal Transmittance (U Value)

Thermal transmittance is the rate of heat flow through unit area of a wall system when unit temperature difference exists between air on each side of the structure.

The "U" Value of typical Cavity Wall Construction is the reciprocal of the sum of the resistances of the component parts of the structure plus the resistance of the surfaces and any cavities within.

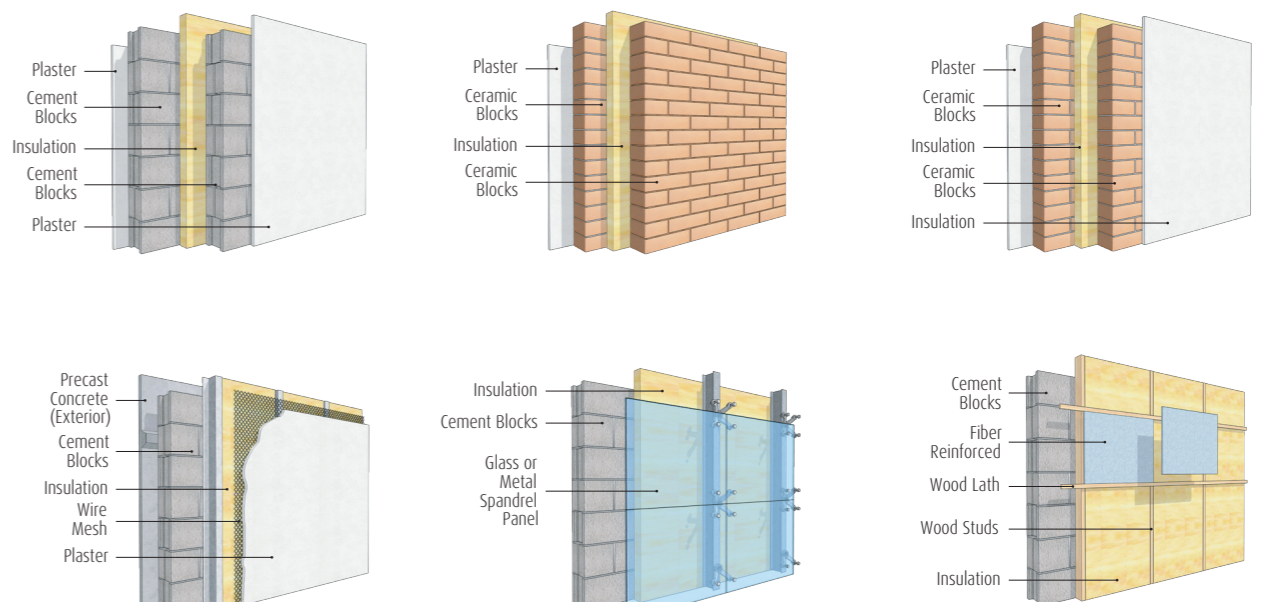
"U" value of typical AFICO Cavity Wall Insulation



$$U = \frac{1}{R(\text{Total})}$$

$$U = \frac{1}{R_{so} + R_1 + R_2 + R_3 + R_4 + R_{si}}$$

$$"R" (\text{Total}) = R_{so} + R_1 + R_2 + R_3 + R_4 + R_{si}$$



Installation Recommendation

AFICO Cavity Wall Insulation products can be easily cut with a knife and neatly fitted into irregularly shaped areas.

For Vertical Applications:

AFICO Cavity Wall Insulation can be installed between furring, strips or Z channels. For enclosed applications the product can be impaled on impaling pins and/or adhered with adhesives.

For Horizontal Applications:

AFICO Cavity Wall Insulation can be installed by the use of impaling pins against horizontal surfaces.

On Masonry Surface:

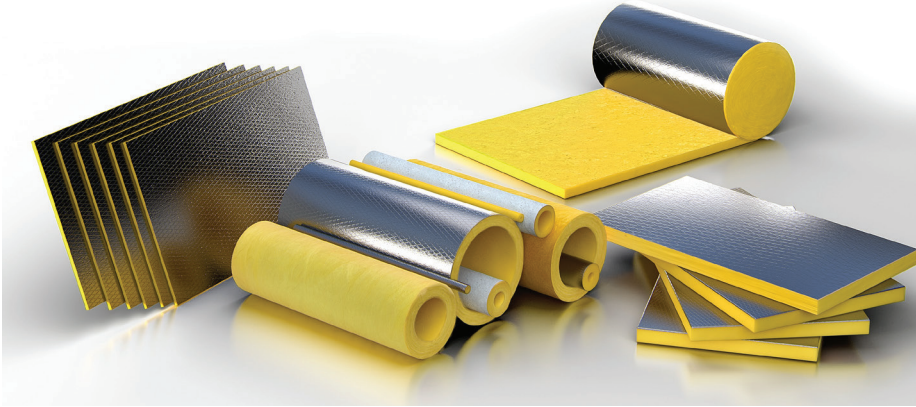
AFICO Cavity Wall Insulation can be installed between withes and on wall faces with impaling pins, mechanical fasteners and/or adhesives.

On Precast Concrete:

AFICO Cavity Wall Insulation can be installed using impaling pins and/or appropriate adhesives.



Cavity Wall Insulation (CWI)



Our Product Range includes

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

Call us today for more information & professional guidance:

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Please send all email inquiries to info@afico.com.sa



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.

A Subsidiary of



AFICO operates as a subsidiary of Gulf Insulation Group, With Owens Corning serving as its technology partner

Maintenance

No maintenance is required. AFICO Cavity Wall 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 presents no hazard 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), a subsidiary wholly owned by Gulf Insulation Group. AFICO has headquarters and production facilities located in Dammam, Saudi Arabia, operating 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 as well as through a vast and reliable network of local distributors.



afico.com.sa

Special products are manufactured on request.