



Roof Deck Board Insulation (RI/RD)



Product Description

AFICO Roof Deck Board Insulation are 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 rectangular rigid boards of heavy density. It is free from coarse fibers and shot due to its mineral composition.

Facing

AFICO Roof Deck Board Insulation is available unfaced as standard.

Application

AFICO Roof Deck Board Insulation is rigid glass fiber board for thermal of structural roof decks. It is designed for use over flat or low sloping nailable, non-nailable and metal roof decks. Its functions are:

- To provide resistance to heat flow through the roof systems.

- To provide a resilient base for the membrane roofing.
- To reduce effects of deck movement forces on membrane roofing.
- Good appearance, strength and abuse resistance.

AFICO Roof Deck Board Insulation is a rigid glass-fiberboard designed specifically for use with loose-laid, ballasted single-ply roof membrane system, as thermal insulation to reduce heat gain or loss through the roof system. In addition to providing resistance to heat-flow through the roof system, it also conforms to minor deck irregularities, reduces effects of deck movement forces on membrane roofing and provides a dimensionally stable, flat surface for the membrane roofing applications.

Standard Available Products

Nominal Manufacturing Specifications. Check for availability of other dimensions.

Standard Nominal Density

112 kg/m³ - 7.0 lb /ft³

Nominal Manufacturing Specifications. Check for availability of other densities and 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.	33 mm	15/16 in.	38 mm	1 1/2 in.	44 mm	13/4 in.	50 mm	2 in.
RI/RD					0.76	4.28	1.00	5.65	1.15	6.50	1.33	7.53	1.52	8.56
1120	112	7.0	0.032	0.22	57 mm	2-1/4 in.	62 mm	2-7/16 in.	64 mm	2-1/2 in.				
					1.73	9.75	1.88	10.61	1.94	10.95				

Other thickness available upon request and verification

Apparent Thermal Conductivity ASTM C518, EN12667

W/m²·K or Btuin/hr·ft²·°F for all product range. "K" or "λ" value at mean temperatures Data for 24 ,10 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
RI/RD								
1120	112	7.0	0.031	0.21	0.032	0.22	0.034	0.24



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Performance & Physical Characteristics

Thermal Resistance "R" Value (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)

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

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

The following table shows the "R" values of AFICO's standard products and sizes 24°C (75°F) mean temperature.

Thermal Transmittance "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)

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

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

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-Value (of building element) = 1 / (Rso+Rsi R1+Rs...)

Where Rso is the fixed external resistance
Rsi 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
Rso - Fixed external resistance	-	0.40 m ² ·°K/W
Rsi - 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 = 0.24 W/m²K

Surface Burning Characteristics (ASTM E84, UL723)

Base glass fiber is non-combustible when tested.

Facing	Flame Spread Index	Smoke Developed Index
Unfaced	0	0

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 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 (ASTM C 871)

pH 9

Non-Fibrous (Shot) Content (ASTM C1335)

Not applicable to glass mineral fiber products

Specification Compliance

AFICO Roof Deck Board 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 'O' fire rating to the building regulations sections E15

Installation Recommendation

AFICO Roof Deck Board Insulation may be applied over steel, wood fiber, poured-in-place or precast concrete, and gypsum concrete roof decks.

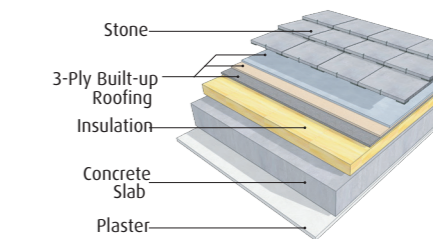
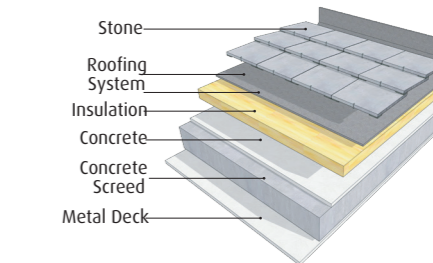
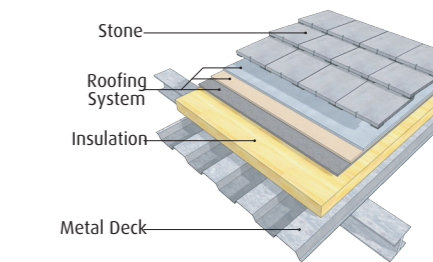
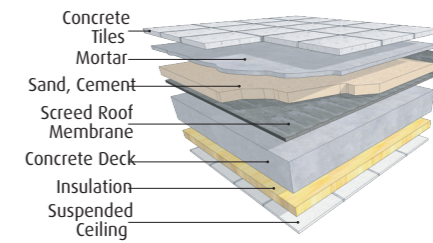
Decks should be rigid, tight, dry smooth, clean and free from defects and damage. Insulation should be laid in courses parallel to edges. End joints should be staggered unless roof tape is used. Insulation edges should be butted to provide moderate, not deformed, contact. Adequate asphalt, adhesive or mechanical fasteners must be used.

For concrete decks, prime deck with asphalt primer using one liter per 2.5m² of deck area. Embed insulation in a solid mopping of hot asphalt, using 15kg per 10m² of deck.

For steel decks, lay insulation with edges parallel to flutes and bearing surface. Secure insulation to deck surface by embedding insulation in 50 to 75mm wide ribbons of hot asphalt, using 7kg per 10m² of deck. Insulation can also be secured with cold adhesives or mechanical fasteners used in accordance with the manufacturers' recommendations.

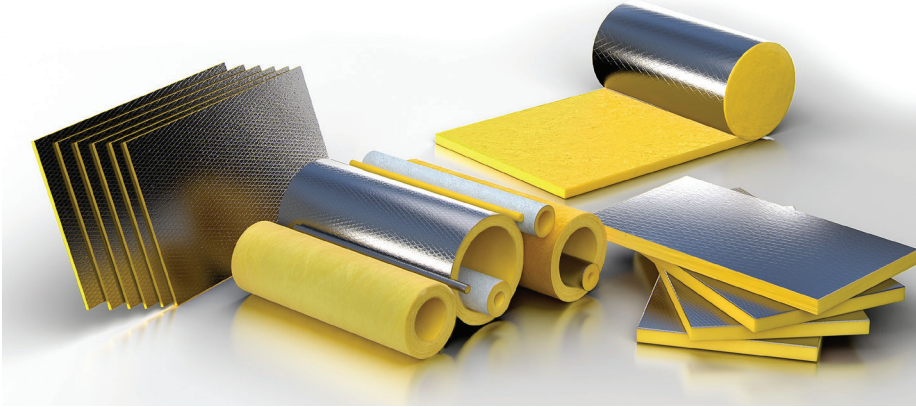
For more details on application to other deck surfaces, in multiple layers or with vapor barriers, contact our specialists

AFICO Roof Deck Board Insulation is placed directly on the roof deck, covered with a single-ply elastoplastic membrane, and then ballasted. Care should be taken to ensure all joints are tightly butted to minimize heat flow through the joints. The large size boards facilitate quick installation. Application of Roof Deck Board as substrate for a loose laid membrane should be in accordance with the membrane manufacturer's requirements.





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The AFICO 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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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 Roof Deck Board 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), 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.

Special products are manufactured on request.



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