

# افيكو AFICO

Arabian Fiberglass Insulation Company Ltd.  
 J.V. of Zamil Industrial & Owens Corning Corp.

## AFICO Roof Deck Board Insulation

Technical Data Sheet  
 Product Code: RI/RD

### DESCRIPTION

**AFICO Roof Insulation and 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** is available unfaced as standard. It is also available with other facing upon requirement. The facings are also available with UL fire resistant rating.

### APPLICATION

**AFICO Roof Deck Insulation** is rigid glass fiber board for thermal of structural roof decks. It is designed for use over flat or low slopping 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 & 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 NOMINAL DENSITY

112 kg/m<sup>3</sup>. – 7.0 lb/ft<sup>3</sup>  
 Nominal Manufacturing Specifications.  
 Check for availability of other dimensions and densities.

### STANDARD AVAILABLE PRODUCTS

Nominal Manufacturing Specifications.  
 Check for availability in other dimensions.

Thickness mm	inch	Size mm x mm ft x ft	Thermal Resistance	
			(m <sup>2</sup> .°C/W)	(hr.ft <sup>2</sup> .°F/Btu)
25	1	1200 x 1000 4'x3'	0.74	4.17
33	1 5/16		0.97	5.47
38	1 1/2		1.12	6.25
44	1 3/4		1.29	7.29
50	2		1.47	8.33
57	2 1/4		1.68	9.38
62	2 7/16		1.82	10.16
64	2 1/2		1.88	10.42

### NOMINAL THERMAL CONDUCTIVITY

(BS 874) (ASTM C 518)  
 "K" or "λ" - value

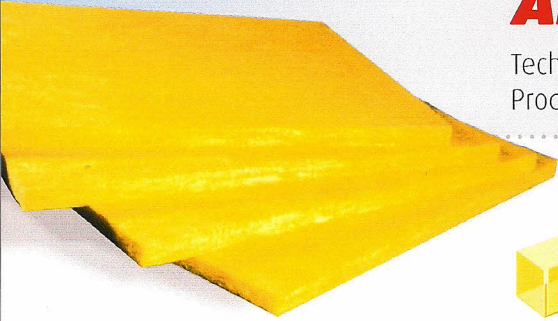
Mean Temperatures		W/m. °C	Btu.in/ft <sup>2</sup> . hr.°F
10°C	50°F	0.033	0.23
24°C	75°F	0.034	0.24
50°C	122°F	0.034	0.24
75°C	167°F	0.037	0.26
100°C	212°F	0.039	0.27

\* Standard Products and Sizes



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## Performance & Physical Characteristics

### Thermal Resistance (ASTM C 167)

"R" is a measure of the resistance to heat flow of a material of any given thickness. ("R" = m<sup>2</sup>. °C/W or hr. ft<sup>2</sup>. °F/Btu.)

$$R = \frac{T}{K} \quad \text{where "T" = thickness} \\ \text{and "K" or "λ" = thermal conductivity}$$

### Thermal conductance, 'C'-VALUE (ASTM C 518, ASTM C 177)

$$C = \frac{1}{R} = W/m^2 \cdot ^\circ C \text{ or Btu/hr.ft}^2 \cdot ^\circ F.$$

It is the ability of the product to conduct heat.

### Working Temperature Limitations

-4°C to +350°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.

### Alkalinity

pH 9

### Corrosiveness (ASTM C 665)

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

### Mold Growth (ASTM D 2020, UL-181)

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

### Resilience

90% Recovery after compensation to 50 Psi.

### Puncture Resistance (ASTM D 781)

34 kg or 75 lbs. for all thickness.

### Moisture Absorption (ASTM D-07 B, ASTM C 553)

In conditions of 95% relative humidity at 49°C for 96 hours, moisture absorption is less than 0.2% by volume when tested in accordance with ASTM C553. **AFICO** products do not absorb moisture from the ambient air nor water by capillary attraction, only water under pressure can enter the insulation products but that will quickly dry out owing to the material's open cell structure.

### Compressive Strength (ASTM C 726, ASTM C 165)

#### **AFICO** Roof Insulation

Based on 100 cm<sup>2</sup> or 15.5 in<sup>2</sup> finished product sample at 25% deformation. Minimum board average 8,274 KPA (192 Psi).

#### **AFICO** Roof Deck Board Insulation

225 kg/m<sup>2</sup> or 500 lbs/ft<sup>2</sup> at 10% deformation.

### Surface Burning Characteristics (UL 723, ASTM E 84, ASTM E 136)

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

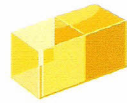
### Specification Compliance

**AFICO** Roof Insulation complies with the property requirements of the following specifications:

- U.S. Federal Specification HH-I-526 C
- ASTM C 726
- Underwriter's Laboratories UL I-90 and I-60 ratings
- Factory Mutual FM Class I Rating
- DCL ASTM - C 533 - C 547 - C 612 - C 665
- CE-EN 13162

**AFICO** Roof Deck Board Insulation complies with the property requirements of the following specifications:

- U.S. Federal Specification HH-I-558 B, Form A, Class 1 and 2, ASTM C 612



## Performance & Physical Characteristics

### 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 section E15

### Installation

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

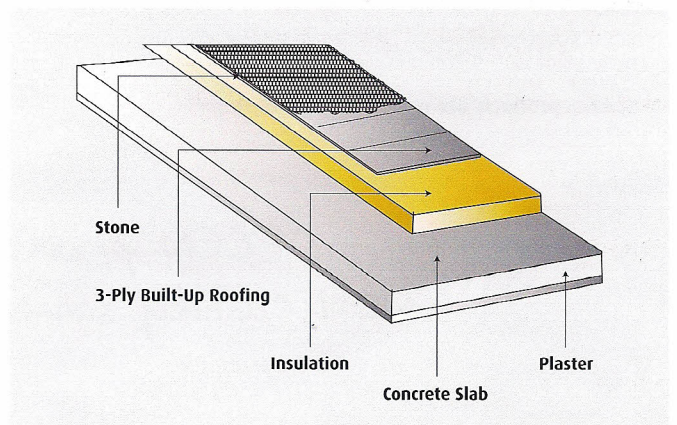
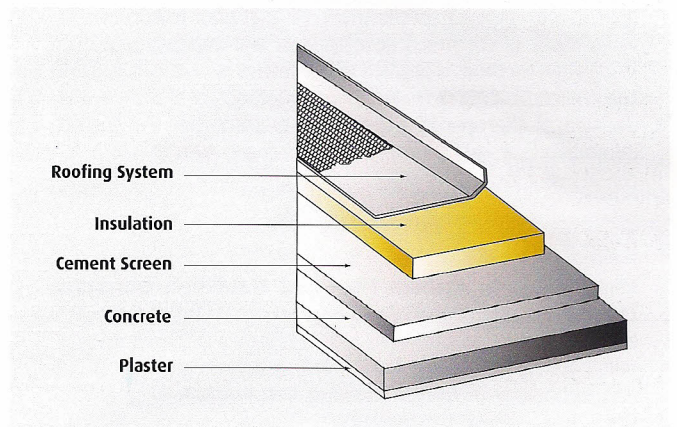
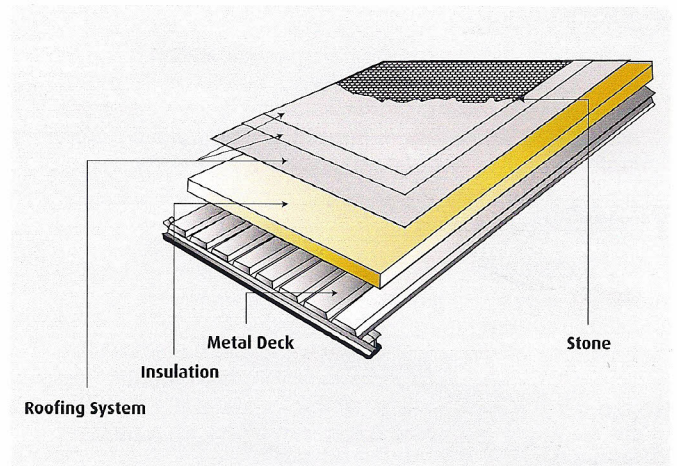
Decks should be rigid, tight, dry smooth, clean and free from defects and damage. Insulation should be laid in courses parallel to edges. End joints should be staggered unless roof tape is used. Insulation edges should be butted to provide moderate, not deformed, contact. Adequate asphalt, adhesive or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

For concrete decks, prime deck with asphalt primer using one liter per 2.5 m<sup>2</sup> of deck area. Embed insulation in a solid mopping of hot asphalt, using 15kg per 10m<sup>2</sup> 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 10m<sup>2</sup> 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 **AFICO**.

**AFICO Roof Deck Board** 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 **AFICO Roof Deck Board** as substrate for a loose laid membrane should be in accordance with the membrane manufacturer's requirements.



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## MAINTENANCE

No maintenance is required. **AFICO Roof Deck Board Insulation** 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** fibreglass 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 OC has no control over installation design, installation workmanship, accessory materials, or conditions of application, **AFICO** and/or OC does not warrant the performance or results of any installation containing their products. This warranty disclaimer includes all implied warranties, including the warranties of 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 **AFICO** materials and methods of fixing are the decision of the specifier, consultant or contractor. For further information or advice on specification of **AFICO** products, contact your local sales office.

## AVAILABILITY

Manufactured by **Arabian Fiberglass Insulation Company, Ltd.** (AFICO), member of **Zamil Industrial**, with headquarters and production facilities located in Dammam, Saudi Arabia, under license from and utilizing the manufacturing specifications and technology of **Owens-Corning Corporation** (OC), 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 **AFICO** as well as through a vast and reliable network of local distributors.

**Special products are manufactured on request.**

## AFICO PRODUCTS

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

## PRODUCTS CODE

ACP  
BKT  
HDB  
BD  
**RI**  
**RD**  
CWI  
MBI  
FDW  
DL  
DLB  
MBD  
PI  
PWI  
TIW  
AQL  
AWF  
PDB

For more information call the insulation professionals:



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Our GREEN promise:  
the healthy solution

- ENERGY SAVING
- ENVIRONMENTALLY FRIENDLY
- RECYCLED MATERIALS
- SOLUTION FOR GLOBAL WARMING



AFICO is committed to a greener, cleaner environment. AFICO have responded to this call for conservation by increasing the amounts of recycled materials in our products.

Authorized Distributor