

افيكو AFICO

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

AFICO Board Insulation (BD)



DESCRIPTION

AFICO Board Insulation is 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, and formed into semi-rigid rectangular boards or slabs. It is free from coarse fibers and shot due to its mineral composition.



FACING

AFICO Board Insulation is available unfaced or with a factory applied Kraft paper vapor barriers or other specific substract laminated on one side.



APPLICATION

AFICO Board Insulation is a semi-rigid and rigid glass fiber board intended for use in commercial, institutional, industrial and residential construction as thermal and acoustical insulation for exterior walls, interior walls and partitions, cavity wall construction, floor, precast structures and prefabricated houses. The semi-rigid boards with densities from 24 to 48 kg/m³ (1.5 - 3.0 lb/ft³) are flexible insulation boards for application over irregularly shaped surfaces where board-like properties are desired. The rigid boards with densities from 56 to 120 kg/m³, 3.5 - 7.5 lb/ft³ are even more rigid for strength, abuse resistance and a flat appearance.

Technical Data Sheet
 Product Code: **BD**



STANDARD AVAILABLE PRODUCTS

Nominal Manufacturing Specifications.
 Check for availability of other dimensions and densities

Product Type BD	Density		Thickness		Width		Length	
	kg/m ³	lb/ft ³	mm	inch	m	ft	m	ft
240	24	1.5	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
320	32	2.0	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
400	40	2.5	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
480	48	3.0	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
560	56	3.5	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
640	64	4.0	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
720	72	4.5	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
800	80	5.0	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
960	96	6.0	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8
1120	112	7.0	25	1	1.2	4	0.6	2
			38	1 ½			1.0	3.3
			50	2			2.4	8

* Standard Products and Sizes



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Performance & Physical Characteristics

Nominal Thermal Conductivity

W/m²·K or Btu·in/hr·ft²·°F (ASTM C 518) (BS 874)
"K" or "λ" value at mean temperatures

Type	0 °C	32 °F	10 °C	50 °F	24 °C	75 °F	50 °C	122 °F	75 °C	167 °F	100 °C	212 °F
240	0.031	0.21	0.032	0.22	0.035	0.23	0.039	0.27	0.043	0.30	0.047	0.33
320	0.030	0.20	0.031	0.22	0.033	0.23	0.037	0.25	0.040	0.27	0.044	0.30
400	0.029	0.20	0.030	0.21	0.032	0.22	0.036	0.25	0.039	0.27	0.043	0.30
480	0.029	0.20	0.030	0.21	0.031	0.22	0.035	0.24	0.037	0.26	0.041	0.29
560	0.030	0.21	0.031	0.21	0.033	0.23	0.036	0.25	0.038	0.27	0.042	0.30
640	0.030	0.21	0.031	0.21	0.032	0.22	0.036	0.25	0.038	0.27	0.043	0.30
720	0.030	0.21	0.031	0.21	0.032	0.22	0.036	0.25	0.039	0.27	0.043	0.30
800	0.030	0.21	0.031	0.21	0.032	0.22	0.036	0.25	0.039	0.27	0.043	0.30
960	0.030	0.21	0.031	0.21	0.032	0.22	0.036	0.25	0.039	0.27	0.043	0.30
1120	0.030	0.21	0.031	0.21	0.032	0.22	0.036	0.25	0.039	0.27	0.043	0.30

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)

$$R = \frac{T}{K} \quad \text{where "T" = Thickness and "K" or "λ" = Thermal Conductivity}$$

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

Product Type BD	Thickness (T)		THERMAL CONNECTIVITY (K-VALUE)		THERMAL RESISTANCE (R-VALUE)	
	mm	inch	w/m ² ·K	Btu.in/ft2hr.°F	m ² ·°K/W	hr.ft2.°F/Btu
480 (48 kg/m ³)	25	1	0.031	0.22	0.758	4.35 (4)
	38	1 ½	0.031	0.22	1.152	6.52 (7)
	50	2	0.031	0.22	1.515	8.70 (9)
640 (64 kg/m ³)	25	1	0.032	0.22	0.781	4.55 (5)
	38	1 ½	0.032	0.22	1.188	6.82 (7)
	50	2	0.032	0.22	1.563	9.09 (9)
960 (96 kg/m ³)	25	1	0.032	0.22	0.781	4.55 (5)
	38	1 ½	0.032	0.22	1.188	6.82 (7)
	50	2	0.032	0.22	1.563	9.09 (9)

Thermal Conductance "C" Value (ASTM C 518, ASTM C 177)

"C" It is ability of the product to conduct heat.

("C" = W/m²·°K or Btu/hr·ft²·°F)

$$C = \frac{1}{R} \quad \text{where "T" = Thickness and "K" or "λ" = Thermal Conductance}$$

Working Temperature Limitations (ASTM C 411)

-51°C to +450°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 D 2020, UL 181)

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

pH 9

Surface Burning Characteristics (ASTM E 84, UL 723)

Base glass fiber is non-combustible when tested to ASTM E 84.

Facing	Flame Spread	Smoke Developed	Fuel Contributed
FRK	25	10	0

Specification Compliance

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

DCL : ASTM C 612

CE-EN : 1121-CPD-BA0136

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

Compressive Strength

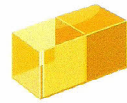
Type	240	320	400	480	560	640	720	800	960	1120
PSF at 10 % Deformation	12	16	20	25	40	60	100	150	200	250
PSF at 25 % Deformation	40	60	80	90	150	225	-	-	-	-

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 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 the structure.

"U" Value of typical Cavity Wall Construction



Performance & Physical Characteristics

Sound Absorption Coefficients (ASTM C 384)

Insulation Thickness	Sound Absorption Coefficient at Frequencies (Hz)					
	125	250	500	1000	2000	NRC
Flexible						
25 mm (1in)	0.14	0.27	0.53	0.69	0.84	0.60
50 mm (2in)	0.22	0.36	0.58	0.92	0.94	0.70
Semi-Rigid						
25 mm (1in)	0.09	0.26	0.64	0.90	1.10	0.70
50 mm (2in)	0.28	0.80	1.12	1.18	1.10	1.05
Rigid						
25 mm (1in)	0.10	0.26	0.69	0.99	1.08	0.75
50 mm (2in)	0.26	0.75	1.17	1.14	1.07	1.05

Installation Recommendation

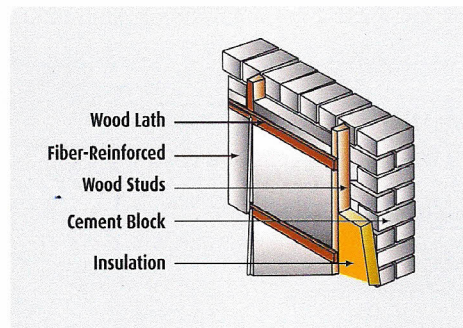
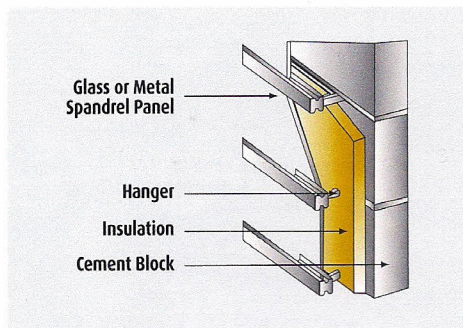
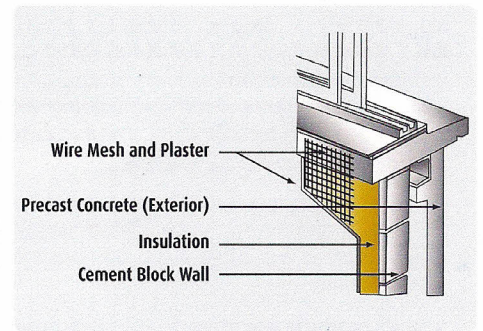
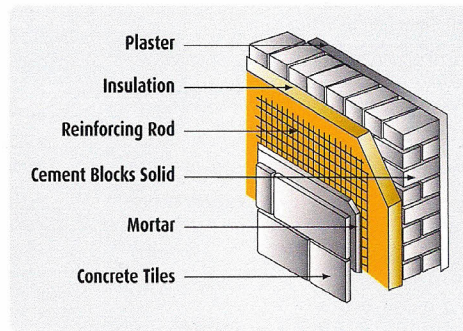
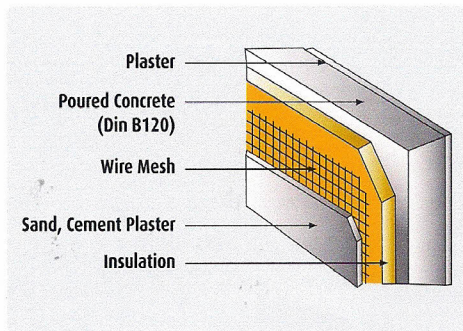
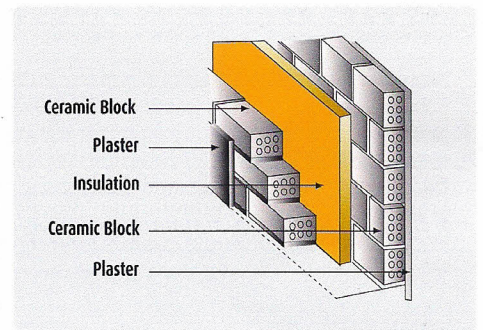
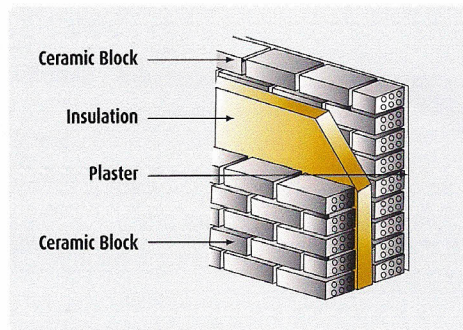
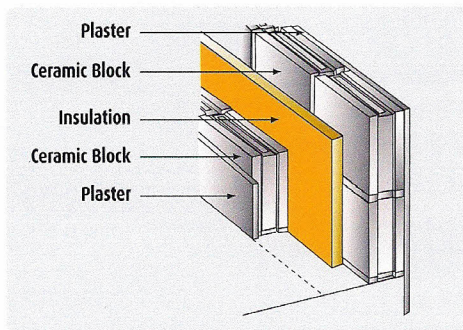
AFICO Board Insulation products can be easily cut with a knife and neatly fitted into irregularly shaped areas.

For Vertical Applications: **AFICO Board 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 Board Insulation** can be installed by the use of impaling pins against horizontal surfaces.

On Masonry Surface: **AFICO Board Insulation** can be installed between withes and on wall faces with impaling pins, mechanical fasteners and/or adhesives.

On Precast Concrete: **AFICO Board Insulation** can be installed using impaling pins and/or appropriate adhesives.



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MAINTENANCE

No maintenance is required. **AFICO 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** 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 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 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.

AFICO PRODUCTS

Acoustical Ceiling Panels
Blanket Insulation
HD Series Blanket Insulation

Board 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
Quiet Liner Board

PRODUCTS CODE

ACP
BKT
HDB
BD
RI/RD
CWI
MBI
FDW
DL
DLB
MBD
PI
PWI
TIW
QL
QLB

For more information call the insulation professionals:



H.O. & Factory:	P.O. Box 1289, Dammam 31431, Saudi Arabia Tel: +966 3 847 2901 / 847 1519 / 847 2301 Fax: +966 3 847 3605 E-mail: info@afico.com.sa
Dammam Office:	P.O. Box 1289, Dammam 31431, Saudi Arabia Tel: +966 3 847 2901 / 847 1519 Fax: +966 3 847 3605 E-mail: info@afico.com.sa
Riyadh Office:	P.O.Box 251, Riyadh 11411, Saudi Arabia Tel: +966 1 472 5555 ext. 5980 Fax: +966 1 291 0162 E-mail: info@afico.com.sa
Jeddah Office:	P.O. Box 7504, Jeddah 21472, Saudi Arabia Tel: +966 2 670 0020 ext. 134 Fax: +966 2 671 4566. Email: info@afico.com.sa
Gulf Regional Office:	P.O. Box 44493, Deira, Dubai, U.A.E. Tel: +971 4 294 1211 Fax: +971 4 294 1168 E-mail: info@afico.com.sa
Export Office:	P.O. Box 90-284, Jdeidet El Metn, Beirut - Lebanon Tel: +961 1 900962 Fax: +961 1 900963 E-mail: info@afico.com.sa



info@afico.com.sa



www.afico.com.sa

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