



In Sync with Nature



EcoBuild Duct Insulation (EDI)



# About EcoBuild

- 100% Natural
- High Quality
- High Value
- High Performance

EcoBuild Mineral wool is a product range which is predestined for the comfort and safety insulation inside a building. Made 100% out of natural resources, its performance protects the environment during the lifetime of a building. It is a further development of its existing high performing glass mineral wool insulation for building applications.

With exceptional handling benefits including superior softer touch and no odour. EcoBuild Building Rolls improves job-site efficiency, as it is less dusty and easier to work with, while also providing the excellent thermal, acoustic, fire and indoor air quality performance that customer demands. It meets the most stringent requirements, statutory or voluntary, in Europe on emissions of VOCs in the indoor air, thereby improving the quality of the environment in which we live and work. EcoBuild is already proven through zero phenol-formaldehyde emission certificate! Being non-hazardous to health according to WHO (World Health Organization), EcoBuild is therefore the ideal solution for interior building insulation.

- Natural Product - Made from 100% natural material
- Soft touch & No itch
- Odourless
- Preserves indoor air quality
- Natural Binder
- Performances that last forever
- Natural color



# EcoBuild Duct Insulation (EDI)

## APPLICATIONS

External insulation of rectangular and circular air ducting and airhandling equipment.

## DESCRIPTION

EcoBuild Duct Insulation is in the form of flexible rolls, semi-rigid and rigid slabs manufactured from stable glass with green binder. Easy to handle and cut to fit rectangular ducts and air handling equipment.

### Facings

EcoBuild Duct Insulation is available unfaced or with a glass reinforced aluminium foil/kraft facing (FSK) which combines a pleasing appearance with excellent vapour resistance.

### Standard Dimensions

Availability	Thickness(m)	Width (m)	Length (m)
Rolls	25,40,50,75,100	0.4,0.6,1.0,1.2	10 to 45 According to the thickness & density
Slabs	25,40,50,75,100	1.2	1.0 to 2.4

Other dimension and/or thickness upon request

### Nominal Density

Density		Availability
kg/m <sup>3</sup>	Lbs/ft <sup>3</sup>	
10 - 24	0.625 - 1.5	Rolls
24 - 48	1.5 - 3	Rolls or Slabs
48 - 96	3 - 6	Slabs

\* Other Dimension and / or thickness upon request

### Operating Temperature

Glass Mineral wool upto 232 °C (450 °F)  
Foil face 100 °C (212 °F)

### Permanence

EcoBuild Duct insulation has a high resistance to accident damage from knocks and handling during installation and maintenance. Dimensionally stable under varying conditions of temperature and humidity, rot proof, odourless, non-hygroscopic and will not sustain vermin and fungus.

### Combustibility

Glass Mineral wool is non combustable when tested in accordance with BS 476 (part4), ASTM E 136.

### Surface burning characteristics

When tested as per ASTM E 84 / NFPA 255 / UL 723  
Flame Spread Index - not over 25

Smoke Developed Index - not over 50

EDI achieves Class 1 when tested in accordance to BS 476 (part 7)

EDI achieves Class 0 when tested in accordance to BS 476 (part 6 & 7)

### Moisture Absorption

Less than 1% by volume when tested in accordance with ASTM C 1104. EcoBuild Duct insulation does 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.

FSK faced Duct insulation complies with ASTM E 96 Desiccant method. Permeability not to exceed 0.02 perms(Federal Standard HHB-100 B Type 1).

## NON TOXIC

EcoBuild Duct Insulation is not hazardous to health.  
(See KIMMCO-ISOVER MSDS)

# Applications



## Duct Insulation



### Description

EcoBuild Duct Insulation (EDI) helps in enhancing thermal comfort and energy saving. EDI prevents heat exchange and ensures chilled air to be transported at the desired temperature to the different parts of the building through the ducts. Insulation prevents the extra load on HVAC system and can save up to 30% energy required to cool the building. Over time, air ducts are prone to condensation problems and dripping water, EDI provides a solid cover around the air ducts to prevent this problem. EDI is a fire safe product as it prevents flame spread and has no toxic fume emission & droplets. It increases safety and provides vital time to evacuate the building in the event of a fire.

### Advantages

- Prevents condensation on ducts
- Enhanced Thermal comfort
- Increases energy saving
- Enhance Acoustic comfort
- Fire Safety
- Highly durable

## No Corrosion

Does not cause or accelerate corrosion of steel, copper or aluminum.

## Thermal Conductivity

The low thermal conductivity of EDI products is due to the fact that they consist of more than 95% air which is trapped and kept stationary by the thin fibers, below test values are tested as per ASTM C518.

Mean Temperature °F	Thermal Conductivity in Btu.in/ft <sup>2</sup> h.F for the following densities in lbs/ft <sup>3</sup>												
	0.625	0.750	1.000	1.125	1.250	1.500	1.875	2.000	2.250	3.000	3.750	4.000	4.500
32	0.26	0.25	0.23	0.23	0.22	0.21	0.21	0.20	0.20	0.20	0.21	0.21	0.21
50	0.28	0.27	0.25	0.24	0.23	0.22	0.22	0.22	0.21	0.21	0.21	0.23	0.23
77	0.31	0.29	0.27	0.26	0.25	0.24	0.23	0.23	0.22	0.22	0.23	0.23	0.23
122	0.38	0.34	0.31	0.30	0.28	0.27	0.26	0.25	0.25	0.24	0.24	0.24	0.24
167	0.45	0.41	0.35	0.34	0.32	0.30	0.28	0.27	0.27	0.26	0.26	0.26	0.26
212	0.51	0.45	0.40	0.37	0.36	0.33	0.31	0.30	0.30	0.29	0.29	0.29	0.29

Mean Temperature °C	Thermal Conductivity in W/m.K for the following densities in kg/m <sup>3</sup>												
	10	12	16	18	20	24	30	32	36	48	60	64	72
0	0.038	0.036	0.034	0.033	0.032	0.031	0.030	0.030	0.029	0.029	0.030	0.030	0.030
10	0.040	0.038	0.036	0.035	0.034	0.032	0.032	0.031	0.030	0.030	0.031	0.031	0.031
25	0.044	0.041	0.039	0.038	0.036	0.035	0.034	0.033	0.032	0.031	0.032	0.032	0.032
50	0.055	0.048	0.044	0.043	0.041	0.039	0.037	0.037	0.036	0.035	0.036	0.036	0.036
75	0.064	0.059	0.051	0.048	0.046	0.043	0.041	0.040	0.039	0.037	0.038	0.038	0.038
100	0.074	0.065	0.057	0.053	0.051	0.047	0.045	0.044	0.043	0.041	0.042	0.043	0.043

These are typical values subject to normal manufacturing and testing variances

## CONFORMITY TO STANDARDS

American Standards		British Standards	ISO	Other Standards
C 165	C 1045	BS 476 (part 4, 6 & 7)	8301	UL 723
C 167	C 1101/ 1101M	BS 874	8302	NFPA 255, NFPA 90A & 90B
C 168	C 1104 / 1104M	BS 2972	9229	NAIMA Standards
C 177	C 1136 (Type 1 & 2)	BS 3533	9291	ASHRAE 90.1 & 90.2 requirements
C 303	C 1290 (Type 3)	BS 3958 (part 5),		SMACNA Standards
C 411	C1304	BS 5422		F.S. HH-B-100B (Type 1) superseded by ASTM C1136)
C 518	C1338	BS 5643		F.S. HH-1-521F(superseded by ASTM C665)
C 553	E84	BS 6676 (Part 1)		F.S. HH-1-558B(superseded by ASTM C612)
C 612 (Type I & II)	E96			
C 665 & 13.8 & 13.9	E 136			German Standards
C 686				DIN 18165, DIN 52612

## Duct Wrap Installation Procedures - Metal Duct

### Step 1

Wear Protection tools (dust mask & hand gloves)



### Step 2

Ensure that air duct service is free of oil, grease, or water and tightly sealed at all the joints.



### Step 3

Measure the dimension of the duct. Width of insulation needed shall be

**Width = (2 x height) + (2 x width) + 8 x thickness of insulation**



### Step 4

Apply adhesive on the outer duct surface. Ensure that full surface is glued.



### Step 5

With the foil side of the insulation facing up, Wrap the insulation around the duct ensuring that the ends are butted tightly together with no air gap.

Ensure that you are using the insulation with specified R value to avoid condensation.

### Step 6

Tape every joint completely with pressure sensitive aluminum tape along the seam where insulation butts together.

### Important Remarks:

- Self-adhesive aluminum foil tapes should, ideally, be reinforced and a minimum 75mm in width and have a thickness of at least 30 microns to ensure adequate adhesion
- For circular and rectangular ductwork the use of tie wires, lacing wire and clips are the most common methods.
- It is not recommended that an overlap method of installation is used. The overlap of material causes greater stress to be placed on the self-adhesive aluminum foil tape. This can result in delamination, breaking the vapor barrier provided by the tape.
- Self-adhesive aluminum foil tape should not be used as a mechanical fixing. Its function is to provide a vapor barrier between the foil surface and the separate foil faced insulation.
- Rectangular duct of 600mm width and greater shall be tighten with metal seam to avoid insulation sagging

# Commitment to Quality

## Properties of KIMMCO-ISOVER Products

- Excellent thermal performance
- Superior acoustic performance
- Excellent fire safety
- Environmentally friendly: made from abundantly available, non-strategic materials.
- Suitable for a wide variety of applications (flexible, semi-rigid, rigid and extra-rigid)
- Address a variety of performance requirements (wide range of facing materials)
- Easy to cut and install, minimum wastage on-site
- Comparatively light in weight
- Dimensionally stable
- No sagging or settling
- Complies with international standards

## Further, we are members of the following industry associations:

- Emirates Green Building Council (EGBC)
- Kuwait Green Building Council (KGBC)
- Qatar Green Building Council (QGBC)
- Singapore Green Building Council (SGBC)
- MASDAR (The Future Build)
- Middle East Mineral wool Insulation Manufacturers Association (MEMIMA)

## Our Commitment to the Environment

KIMMCO-ISOVER was selected as the sole insulation supplier and official collaborator with MASDAR city, the world's first zero-carbon, zero-waste city, in Abu Dhabi. We have a strong commitment to the environment, health and safety of our people, and surrounding communities, and actively collaborate with local and international environmental agencies. Further, KIMMCO-ISOVER products help developers achieve green building rating certifications such as LEED, Estidama and QSAS

## Our Product Listing & Certification

- DCL
- UL
- CE
- BV
- ABS

## Our Commitment to Quality

we have a strong commitment to quality, as recognized by our certification by international bodies such as ISO.



**KIMMCO ISOVER**  
SAINT-GOBAIN

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