

Self-Seal

An Innovative Insulation Solution
For HVAC Ducts





Self adhesive glass Mineral wool duct insulation



Rolls and Slabs



Fast Installation:

Self-Seal sticks 100 % on the duct surface makes it very easy to apply and eliminates the use of glue and additional fastener pins



Thermal Comfort:

Minimum heat loss or gain through HVAC duct



Acoustic Comfort:

High level of acoustic performance against noise break-out from the duct.



Fire Safety:

Made from non-combustible glass mineral wool



Condensation control :

Prevents condensation occurring on the vapor retarder facing

Alghanim Industries and French construction giant Saint-Gobain ISOVER join forces together after the recent launch of their new stone wool plant in Yanbu Saudi Arabia and the integration of KIMMCO in Kuwait.

With a 40 year track record in manufacturing, technology and supply of insulation materials and solutions to the Middle East markets, KIMMCO and Saint-Gobain ISOVER now offer their full range of glass wool and stone wool products and solutions under the brand KIMMCO-ISOVER.



Self-Seal for all types of HVAC metal duct insulation

Description

Self Seal is a self-adhering Glass mineral wool roll and slab for thermal and acoustic insulation of HVAC ducts. Self-Seal completely eliminates the use of flammable liquid glue and improves greatly the ease and speed of installation thereby saving cost and time. Self-Seal insulation are resilient and light weight rolls and slabs with factory-laminated vapor retarder facings on the outer side and factory-applied self-adhesive layer on other side.

Application

Self-Seal offers thermal insulation for HVAC ducts. It can be easily installed on rectangular, flat oval and circular HVAC ductwork. Self-Seal can be used for external or internal HVAC ducts operating at temperature between 4 °C and 100 °C.

Advantages

- Superior thermal insulation properties
- Self-adhesive glass mineral wool insulation
- Strong and full adhesion the duct surface
- Ease of installation
- High acoustic performance
- Moisture resistant
- Long life - No aging
- Environmentally friendly

Savings

- Eliminates the need of liquid insulation adhesive
- Eliminates the use of insulation fastener pins
- Thermal comfort with Low energy consumption
- Savings on manpower and logistic cost & time
- Reduced project lead time due to easy of application





Economical and efficient duct insulation

Thermal & Acoustic Comfort:

Enhanced comfort by reducing heat loss or gain through HVAC duct, conditioned air reaches the designated spaces at temperatures close to design conditions. Suitably insulated duct may therefore be operated at reduced levels, saving energy, while providing the same level of comfort. Self-Seal also provides high level of acoustic performance against noise break-out from the duct.

Fast Installation:

Self-Seal comes with best in class adhesive layer which sticks 100 % on the duct surface makes it very easy to apply and eliminates the use of additional fasteners. In addition, Self-Seal saves time and logistics in sourcing adhesive and eliminates the risk of stocking flammable insulation adhesive

Condensation control :

Self-Seal installed over sealed sheet-metal ducts reduces the likelihood of condensation occurring on the duct surface or on vapour retarder facing. Self-Seal are available with FSK and Aluglass facing with very low permeability, < 0.02 and 0 perm respectively

Aging:

Self-Seal are made primarily using naturally available silica sand and recycle glass. The product performance does not deteriorate its insulating properties over time. Self-Seal was tested at TUV- PSB, Singapore and successfully passed aging tests

Fire performance:

Base glass mineral wool are classified as non-combustible when tested in accordance with BS 476 (part 4) and EN 13501 - 1. In case of fire, product does not emit toxic smoke or develop flaming droplets.

Test	Results
BS 476, part 6 & 7, surface spread of flame	Class 0
ASTM E84, system tunnel test	Class A(1) Flame spread ≤ 25 Smoke development ≤ 50
EN 13501-1	Reaction to fire classification : A1 (un-faced , base wool)

Compressed Packaging

Self-Seal pays off even before the ventilation system is put into operation. Thanks to compressed packaging – The product will reduce the transportation costs and optimize the usage of packaging. The storage on site – will occupy less space which leads to a higher flexibility in planning of the project.





Technical data:

Product Range

Slabs

Density (kg/m ³)	Thickness (mm)	Length (m)	Width (m)
24	50-100	1.0	1.2
32	40-100		
48	25-100		

Rolls

Density (kg/m ³)	Thickness (mm)	Length (m)	Width (m)
24	25-75	5-10*	1.2
32			

Other densities and thickness may be available on request

Physical Characteristic and Performance

Characteristic	Unit	Value	Standards
Width	m	0.6-1.2	ASTM C167 ASTM C303
Length	m	1 (Slabs)	
		5 - 10 (Rolls)	
Thickness	mm	50-100	
Facing	-	FSK or Aluglass	ASTM C1136 (Type I & II)
* Reaction to Fire	-	A1	EN 13501-1
# Surface burning Characteristics		Class A	ASTM E84
# Fire Rating / Surface spread of flame		Class O, Class 1	BS 476 part 6 & 7
*Non Combustibility		Non Combustible	ASTM E136/ BS476 part4

Al facing side

* Glass wool only

Thermal Conductivity:

Thermal conductivity of Self-Seal slabs and rolls when tested according to ASTM C518/ C177 is as below

Mean Temperature	Thermal Conductivity in w/m.k for the following densities in Kg/m ³			
°C	24	32	36	48
0	0.031	0.030	0.029	0.029
10	0.032	0.031	0.030	0.030
25	0.035	0.033	0.032	0.031
50	0.039	0.037	0.036	0.035

About Self-Adhesive Layer

Factory laminated Self-adhesive are specially developed layer with reinforcements for stability and covers 100 % of the substrate resulting in adhesive strength that out performance that of regular insulation adhesive.



Typical Installation of Seal-Seal Slabs

Surface preparation

Before installing any insulation ensure the ductwork dry, free from dust, cracks or grease and without any leaks

Measure the dimension of the duct to be insulated and cut the insulation
 Width of insulation needed = $((2 \times \text{height of duct}) + (2 \times \text{width of duct})) + 8 \times \text{thickness of insulation}$

Step 1

Place Self-Adhesive tape side of the insulation facing up, use standard insulation material cutting knife to cut required size.

Step 2

remove the liner paper from the insulation board and place the Insulation material on the surface to be adhered. Apply sufficient hand pressure to ensure that the boards are firmly stuck on to the duct surface. Repeat the same to apply insulation to the remaining sides of the duct.

Note: Care should be taken not to touch the adhesive surface to prevent glue loss, which eventually affects the adhesion strength of the insulation material to the surface)

Step 3

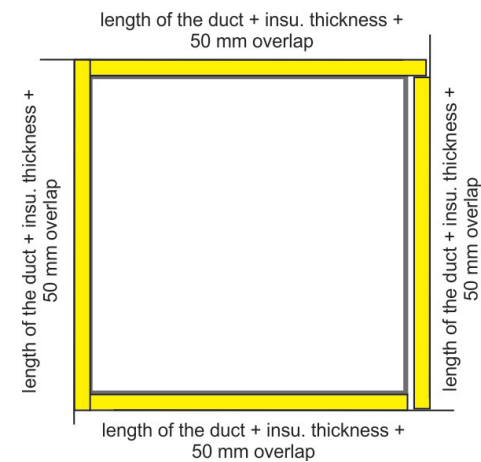
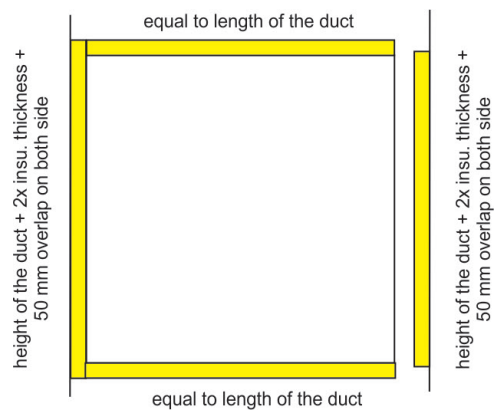
Position the pre-cut duct slab around the duct ensuring that the ends are butted tightly together.

Step 4

Tape every joint completely along the seam where insulation Butts together.
 Apply 3 inch suitable tape (Aluglass tape in case of Aluglass facing and aluminum tape in case of FSK facing) on the joints by positioning the tape along the longitudinal edge of the flap to allow 1 inch overlap on adjacent surface. Rub the tape firmly to ensure good sealing on the boards.

Required Tools and accessories

- Measuring tape
- Cutting Knife
- Spatula
- Marker
- Aluminum tape





Installation of Self-Seal Rolls

Surface preparation

Before installing any insulation ensure the ductwork dry , free from dust, cracks or grease and without any leaks

Application procedure Step by step:

- Measure and cut the self-seal roll considering total length of the duct (all 4 sides) and 4 times insulation thickness plus 50mm over lap.
- Total length of insulation = (4xlength of duct + 4X insulation thickness + 50 mm over lap)
- Clean all 4 side of the GI duct surface thoroughly to ensure that surface is dry & free from dust or grease.
- Mark a reference line in the center of the duct with help of marker
- Peel off Self-Seal liner sheet from one end with finger split and align the edge of the Self-Seal piece on the line marked
- Apply sufficient hand pressure to ensure the insulation piece firmly stick on the duct surface.
- Continue to peel the liner sheet & keep guiding the insulation roll to stick on other sides of the duct surface.
- Ensure to the maintain the insulation thickness at the corners of the duct.
- Close the edge with insulation overlapping, applying 3" tape
- Firmly rub the surface of the tape with a spatula to ensure good sealing on the roll surface

Required Tools and accessories

Measuring tape

Cutting Knife

Spatula

Marker

Aluminum tape



Handling and Storage

- Self-Seal should be stored inside a dry, cool and protected area
- When stacked outside, needs to be covered with waterproof material
- Self-Seal should be stored in original packing to avoid damages
- The package should be stacked on flat surface, elevated above the ground, away from walls

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