

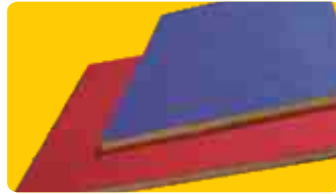
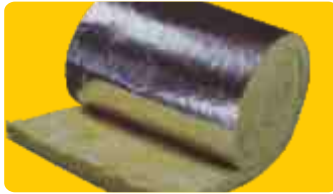
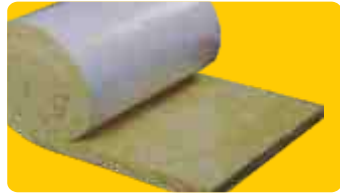
PGF FIBER GLASS WOOL PRODUCTS

écowool
BLANKET

écowool
BROWNIE

écowool
BOARD

EXIT



About PGF

PGF Insulation has more than 26 years of experience in designing, manufacturing and distributing glass mineral wool insulation for energy efficiency and climate control. With production site and sales office in Malaysia, the subsidiary of Poly Glass Fibre (M) Berhad ranks among the top glass mineral wool manufacturers in Asia.

Since 1984, PGF Insulation has consistently demonstrated its ability to invent products that improve quality of life.

We are the largest glass mineral wool insulation manufacturer in South East Asia with a closely woven distribution network. Our export market comprises countries such as Singapore, Australia, New Zealand, Taiwan, Japan, Vietnam, Indonesia, India, Pakistan, Bangladesh, United Arab Emirates, Kuwait, Bahrain, Ireland, Russia and many more.

Lets join our hands together to shape a greener pasture for our future. Together with PGF Insulation, we can insulate for a better future.

About GYPSSYSTEM

Gypsystem is a partnership concern in Trading and established in 1995 in the field of Professional Building insulation Materials. we have successfully positioned ourselves among the renowned organizations, engaged in trading and supplying a wide variety of Fiberglass wool products. In our range, We offer Fiberglass wool, Fiberglass Board, and other related products.

These are procured from leading and reputed vendors, Who manufacture these using superior quality raw materials in strict conformity with defined industry standards, Our offered range has become the preferred choice of various customers because of its features like heat resistance, mechanical strength, durable finish, impact and thermal resistance.

Our organization is one of the prominent names, engaged in trading and supplying. This ensures the delivery of defect free items



GYPSSYSTEM AUTHORISED STOCKIST

Delhi Shyam Gupta 09810534841	Mumbai Mayank Bhutany 09820268272	Cochin Benny 09349257232	Tamil Nadu Covai Fibre Trading & Company Babu - 09244522234
-------------------------------------	---	--------------------------------	---

QUALITY... Guarantee Safety
Strict Controls Guarantee a Level of
Quality on Which You Can Build



ECOWOOL BLANKET

DESCRIPTION

ECOWOOL blanket is a specifically designed glass mineral wool for thermal and acoustical insulation for roofing application. The new generation of glass mineral wool has been engineered to provide the highest level of thermal and acoustic performance for building occupants to achieve the optimum level of indoor comfort deserved.

Once installed, the high performance insulation blanket acts as a highly effective barrier to heat flow, keeping your building cool during hot weather and conserving the cool air indoors.

APPLICATIONS

Application focused, it combines cost efficiency with the highest standard of insulation performance when installed under metal deck roofs or clay tiles roofs.

ADVANTAGES

Optimal fibre diameter. Optimal fibre diameter ranging from 4-5microns produces more air chamber which enables the insulation to provide a better and enhanced performance.

Better fibre network. Fine, longer and evenly distributed fibre network helps in creating better tensile strength allowing the insulation to demonstrate superior durability, flexibility and feeling much softer.

Less dusty and less itchy. Specifically engineered to produce a comfortable and less dusty insulation. The insulation creates a pleasant work experience by reducing the tingling feeling during installation.

Mould Growth. Does not encourage growth of mould, fungus, bacteria or rodents.

Corrosiveness. Chemically inert. Will not cause or accelerate corrosion of steel, stainless steel, copper or aluminum due to its specifically inorganic and mineral composition.

Alkalinity, pH 9.

Exceptional Vapour Retarder. Factory laminated facing material offers low permeance properties which allows excellent long-term vapour sealing. A properly installed insulation blanket will help minimize concerns with concealed condensation.

FIRE PROPERTIES

Tested in accordance with:

- B.S. 476: Part 4 Non-combustibility test for materials
- B.S. 476: Part 6 Fire propagation
- B.S. 476: Part 7 Surface spread of flame
- BOMBA Class "O"

SURFACE BURNING CHARACTERISTICS

Meets the surface burning characteristics and limited combustibility of the following standards:

- ASTM E84
- NFPA 90A and NFPA 90B



ROOF

TECHNICAL DATA SHEET



Read This Before You Buy

Insulation's effectiveness is measured in R-Value. R stands for the insulation's resistance to heat flow; heat escapes from your building and heated air enters your building. The higher the R-Value, the greater the resistance to heat flow and the greater your potential for saving energy, natural resources and money. Compare insulation R-Values before you buy.

R-Value = Thickness / K-Value

ECOWOOL BLANKET

EARLY FIRE HAZARDS

Does not ignite, evolve heat, spread flame or develop smoke when tested in accordance with Australia Standard 1530 : Part 3-1982.

Index	Unfaced	Faced
Ignitability Index	0	0
Heat Evolved Index	0	0
Spread of Flame Index	0	0
Smoke Developed Index	0 ~ 1	0 ~ 1

THERMAL CONDUCTIVITY

Tested and complies with ASTM C518 at 23°C mean temperature. Please refer to the table on product available for more information on the thermal resistance values.

Density	K- Value (W/m K)
10kg/m ³	0.0436
12kg/m ³	0.0422
14kg/m ³	0.0373
16kg/m ³	0.0370
18kg/m ³	0.0360
20kg/m ³	0.0350
24kg/m ³	0.0344
32kg/m ³	0.0333
48kg/m ³	0.0312

ACOUSTICAL PERFORMANCE

Not only an effective thermal insulation, ECOWOOL blanket acts as a baffle to reduce sound transmission both from outside and inside sources. It is tested and complies with ASTM C423. Type 'A' mounting.

TYPE	Center Frequency (Hz)						
	125	250	500	1000	2000	4000	NRC
10kg/m ³	0.46	0.62	0.88	0.87	0.86	0.97	0.80
16kg/m ³	0.23	0.31	0.58	0.80	0.87	0.95	0.65
14kg/m ³	0.39	0.68	1.06	1.03	0.91	0.98	0.91
24kg/m ³	0.36	0.64	1.04	1.06	1.05	1.10	0.95
26kg/m ³	0.19	0.35	0.71	0.86	0.94	0.97	0.70
48kg/m ³	0.38	0.72	1.11	1.07	1.04	1.07	1.00

PRODUCTS AVAILABLE

Type	Thickness (mm)	Width (m)	Length (m)
10kg/m ³	50, 75, 100	1.2	30, 15, 10
12kg/m ³	50, 75, 100	1.2	20, 12, 10
14kg/m ³	100	1.2	7.5
16kg/m ³	50, 75, 100	1.2	15, 10, 7.5
18kg/m ³	25	1.2	30
20kg/m ³	25	1.2	30
24kg/m ³	25, 50, 75	1.2	34, 12, 7.5
32kg/m ³	25, 50, 75	1.2	20, 10, 5
48kg/m ³	25, 50	1.2	15, 7.5

AVAILABLE FORM

Unfaced or Plain – designed for predictable thermal insulation performance with the added benefit of being an effective sound absorption material.

Also available in a full range of formaldehyde free insulation - **BROWNIE**



ROOF

TECHNICAL DATA SHEET

SHORT FORM SPECIFICATION

All glass mineral wool insulation shown on drawings or specified herein shall be ECOWOOL BLANKET with density of _____ kg / m³ (10kg/m³, 12kg/m³, 14kg/m³, 16kg/m³, 18kg/m³, 20kg/m³, 24 kg/m³, 32 kg/m³, 48 kg/m³) thickness of _____ mm (25mm, 50mm, 75mm, 100mm, 110mm, 120mm).

Thermal resistance "R-Value" of the insulation shall be R _____.

Technical specifications as shown in this literature are intended to be used as general guidelines only. The physical and chemical properties of sound control thermal and acoustical fibre glass insulation listed herein represent typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.

WHAT IS "FORMALDEHYDE-FREE" INSULATION?

Formaldehyde-free" insulation is glass mineral wool produced using a binder containing no formaldehyde. The trace amounts of formaldehyde found in traditional glass mineral wool do not present health concerns. In fact, there is no evidence to suggest that the level of formaldehyde released by traditionally bonded glass mineral wool insulation is at all harmful.



"In making the switch to the formaldehyde free insulation, PGF Insulation is not correcting any health problem with the product ."

- Free from formaldehyde
- Reduced VOCs (volatile Organic compounds)
- Improved indoor air quality
- Comply with GREENGUARD Indoor Air Quality requirements
- Guaranteed performance for the life of your home
- Over 80% recycled content
- Easy to install

“1st
FORMALDEHYDE FREE
mineral wool insulation
in India”

BROWNIE
FORMALDEHYDE
FREE

NO PHENOL, FORMALDEHYDE, ACRYLICS OR ARTIFICIAL COLOURS



GLASS MINERAL WOOL INSULATION

PGF Insulation is proud to present to you our latest product – **BROWNIE**, the second generation ECOWOOL.

On top of the superior insulation features brought by ECOWOOL, **BROWNIE** is formaldehyde free. It employs natural polyester-based binder that is free of formalin, phenol or any other artificial chemicals.

BROWNIE helps to improve indoor air quality and offer a sustainable alternative for earning points in a variety of green programs such as GBI and LEED®

Savings and comfort when you install **BROWNIE**

Insulate and
\$ SAVE

WHAT IS FORMALDEHYDE?

Formaldehyde is a colorless gas with a characteristic pungent odor. It is an important precursor to many other chemical compounds, especially for polymers. In 2005, annual world production of formaldehyde was estimated to be 23 million tonnes (50 billion pounds). Commercial solutions of formaldehyde in water, commonly called formalin, were formerly used as disinfectants and for preservation of biological specimens.

In view of its widespread use, toxicity and volatility, exposure to formaldehyde is a significant consideration for human health. On 10 June 2011, the US National Toxicology Program has described formaldehyde as "known to be a human carcinogen".

THE ROLE OF FORMALDEHYDE IN INSULATION?

From the time glass mineral wool was invented, manufacturers have used formaldehyde as a binder ingredient in the manufacturing process to help glue or "bind" the glass fibres together. The binder gives the insulation its shape and the ability to recover from a highly compressed package. However, the level of formaldehyde in glass mineral wool is negligible as compared to other building materials.

SHOULD INSTALLERS OR BUILDING OWNERS BE CONCERNED ABOUT FORMALDEHYDE EMISSIONS FROM GLASS MINERAL WOOL INSULATION?

No! During the manufacturing process, the binder is cured at very high temperatures, virtually eliminating the formaldehyde content. Although there is a small amount of formaldehyde present in the traditional glass mineral wool, it does not present any health concern.

Trace levels of formaldehyde are all around us - in paper towels, fabric softeners and cosmetics. Even apples, potatoes and fish contain trace amounts of formaldehyde.

DOES FORMALDEHYDE IN TRADITIONAL GLASS MINERAL WOOL INSULATION PRESENT HEALTH ISSUES?

No. The trace amounts of formaldehyde in traditional glass mineral wool insulation do not cause health or indoor air-quality issues. For instance, the U.S.A. Environmental Protection Agency (EPA) do not even list glass mineral wool as a major source of formaldehyde in the home.

Therefore, the trace amounts of formaldehyde in glass mineral wool insulation are not a concern to human health or the environment. In absolute agreement with this, the North American Insulation Manufacturers Association (NAIMA) mentioned that:

"Consistent with the Environmental Protection Agency and the U.S. Consumer Product Safety Commission, we do not consider the trace amounts of formaldehyde found in glass mineral wool insulation to be a concern to human health or the environment." NAIMA, 3-22-02

Existing research on PGF Insulation existing glass mineral wool with phenol-formaldehyde binders contains levels of formaldehyde that could potentially be released from a finished ordinary product are so low as to present virtually no risk. There is simply no health problem presented by the trace amounts of formaldehyde in traditional fiber glass.

Table 1: Formaldehyde Emission Rate By Different Building Materials

PRODUCT	FORMALDEHYDE EMISSION RATE
Top coat, floor finish - after 22 hours	(mg2/m-hr)*
1/4 inch UF particleboard	4.66
5/8 inch particleboard underlayment	1.58
½ inch hardwood veneer plywood	0.508
R-19 Glass mineral wool Insulation	0.17

Source: "Emission Rates of Formaldehyde from Materials and Consumer Products Found in California Homes", T.J. Kelly, D.L. Smith and J. Satola, Environmental Science and Technology, 1999, 33, pp. 81-88

BROWN is GREEN



ECOWOOL BOARD



FACTORY LAMINATED FACING

Laminated with a high end durable single or double sided aluminum foil facing. The FSK (foil/scrim/kraft) material is laminated online using specialized heater for FSK faced board.

THERMAL AND ACOUSTICAL SOLUTION

The extremely fine fibres create an enormous number of minute air spaces, making the insulation highly effective for sound absorption and thermal properties. They yield readily to impact and protect facings from puncture or tearing.

DESCRIPTION

ECOWOOL board is specifically designed to provide superior fire resistance, acoustical and thermal insulation properties when installed in glass, metal or stone spandrel systems or in fabricated metal pans. ECOWOOL, the new generation of glass mineral wool has been engineered to provide the highest levels of thermal and acoustic performance for building occupants to achieve the level of indoor comfort deserved.

Made from nearly 80% recycled glass and locally sourced raw materials, ECOWOOL range of glass mineral wool is perfectly in tune with sustainability and environmental concerns.

ADVANTAGES

Optimal fibre diameter. Optimal fibre diameter ranging from 4-5 microns produces more air chambers which enables the insulation to provide a better enhanced performance.

Better fibre network. Fine, longer and evenly distributed fibre network help in creating better tensile strength allowing the insulation to demonstrate superior durability.

Less dusty and less itchy. Specifically engineered to produce a comfortable and less dusty insulation. It creates a pleasant work experience by reducing the tingling feeling during installation.

Absorbs Disturbing Sound. Exceptional sound-absorbing properties. Eliminates unwanted boundary reflections and controls excessive room reverberation. NRC rating up to 1.0

Mould Growth. Does not encourage growth of mould, fungus, bacteria or rodents.

Alkalinity. pH 9.

Corrosiveness. Chemically inert. Will not cause or accelerate corrosion of steel, stainless steel, copper or aluminum due to its specifically inorganic and mineral composition.

APPLICATIONS

Custom curtain wall construction. Exterior curtain wall cavities – exceptionally well suited to curtain wall construction in terms of both installation and performance.

Standard metal panel construction. Field-installed between an interior liner and the outer metal panel using boards that are plain or faced with a factory-applied vapour retarder.

New and retrofit construction. Provides thermal and acoustical insulating values for exterior curtain wall cavities, parking structures, mechanical rooms, theaters, casinos and other construction applications.

General construction. A versatile insulation, it is also an ideal thermal barrier for masonry or concrete structures such as shopping centers, banks and other types of low-rise buildings. In masonry applications, the glass mineral wool boards faced with an FSK vapour retarder are installed between "Z" or hat channels applied directly to the masonry surface. Normally, gypsum board and/or architectural panels are then used as interior surfaces.



THERMAL / ACOUSTIC

TECHNICAL DATA SHEET

FIRE PROPERTIES

- Tested in accordance with (plain/unfaced):
- B.S. 476: Part 4 Non-combustibility test for materials
 - B.S. 476: Part 6 Fire propagation
 - B.S. 476: Part 7 Surface spread of flame
 - BOMBA Class "O"
 - ASTM E84
 - NFPA 90A and NFPA 90B
 - Australia Standard 1530 : Part 3-1982

Read This Before You Buy

Insulation's effectiveness is measured in R-Value. R stands for the insulation's resistance to heat flow; heat escapes from your building and heated air enters your building. The higher the R-Value, the greater the resistance to heat flow and the greater your potential for saving energy, natural resources and money. Compare insulation R-Values before you buy.

R-Value = Thickness / K-Value

ECOWOOL BOARD

ACOUSTICAL PERFORMANCE

Tested and complies with ASTM C423.

TYPE	Thickness (mm)	Center Frequency (Hz)						
		125	250	500	1000	2000	4000	NRC
24kg/m ³	25	0.24	0.36	0.67	0.87	0.88	0.92	0.70
	50	0.36	0.64	1.04	1.06	1.05	1.10	0.95
32kg/m ³	25	0.19	0.35	0.71	0.86	0.94	0.97	0.70
	50	0.38	0.72	1.11	1.07	1.04	1.07	1.00
48kg/m ³	25	0.22	0.38	0.80	0.91	0.96	0.99	0.75
64kg/m ³	50	0.36	0.64	1.04	1.06	1.05	1.10	0.95
80kg/m ³	50	0.38	0.72	1.11	1.07	1.04	1.07	1.00

PRODUCTS AVAILABLE

ECOWOOLBOARD (1.22m Width x 2.34m Length)								
24kg/m ³			K-Value : 0.0353W/mK					
Thickness	15mm	25mm	40mm	45mm	50mm	75mm	100mm	
R-Value	0.425	0.71	1.13	1.28	1.42	2.12	2.83	
32kg/m ³			K-Value : 0.0337W/Mk					
Thickness	15mm	25mm	40mm	45mm	50mm	75mm	100mm	
R-Value	0.44	0.74	1.18	1.33	1.48	2.23	2.97	
48kg/m ³			K-Value : 0.0329W/mK					
Thickness	15mm	25mm	40mm	45mm	50mm	75mm	100mm	
R-Value	0.45	0.76	1.21	1.36	1.52	2.28	3.04	
50kg/m ³			K-Value : 0.0329W/mK					
Thickness	15mm	25mm	40mm	45mm	50mm	75mm	100mm	
R-Value	0.45	0.76	1.21	1.36	1.52	2.28	3.04	
64kg/m ³			K-Value : 0.0329W/mK					
Thickness	15mm	25mm	40mm	45mm	50mm	75mm	100mm	
R-Value	0.45	0.76	1.21	1.36	1.52	2.28	-	
80kg/m ³			K-Value : 0.0329W/mK					
Thickness	15mm	25mm	40mm	45mm	50mm	75mm	100mm	
R-Value	-	0.76	1.21	1.36	1.52	-	-	
96kg/m ³			K-Value : 0.0329W/mK					
Thickness	15mm	25mm	40mm	45mm	50mm	75mm	100mm	
R-Value	-	0.76	1.21	1.36	1.52	-	-	

THERMAL CONDUCTIVITY

Tested and complies with ASTM C518 at 23°C mean temperature. Please refer to the table on product available for more information on the thermal conductivity and resistance values.

AVAILABLE FORMS

Unfaced or Plain - unfaced boards are designed for thermal and acoustical insulation applications.

Faced with FSK (Foil/Scrim/Kraft) - Faced boards can be used where a vapour barrier is needed. Available either in single sided or double sided FSK Foil.

Faced with WGF (Woven Glass Fabric) - Faced with rich matte black color acoustic material. This lightweight, high-tensile strength fabric which will not rot, tear or wear.

SHORT FORM SPECIFICATION

Plain or Unfaced

All glass mineral wool insulation shown on drawings or specified herein shall be ECOWOOL BOARD ____ (24kg/m³, 32kg/m³, 48kg/m³, 50kg/m³, 64kg/m³, 80kg/m³) with thickness of ____ mm (15mm, 25mm, 40mm, 45mm, 50mm, 75mm, 100mm).

Thermal resistance "R-Value" of the insulation shall be R ____.

Faced

All glass mineral wool insulation shown on drawings or specified herein shall be ECOWOOL ECOWOOL BOARD ____ (24kg/m³, 32kg/m³, 48kg/m³, 50kg/m³, 64kg/m³, 80kg/m³) with thickness of ____ mm (15mm, 25mm, 40mm, 45mm, 50mm, 75mm, 100mm) and faced with ____ (single sided FSK, Double sided FSK, WGF) facing material.

Thermal resistance "R-Value" of the insulation shall be R ____.

Also available in a full range of formaldehyde free insulation - BROWNIE

PGF Insulation Sdn. Bhd. (228905-M)



THERMAL / ACOUSTIC

TECHNICAL DATA SHEET

PRODUCT RANGE

Available in either semi rigid or rigid form
 Semi Rigid Board : EWBR 2532, EWBR 5048
 Semi Rigid Board : EWBR 5032, EWBR 2548

Rigid Board : EWBR 2564, EWBR 5064
 : EWBR 2580, EWBR 5080
 : EWBR 2596, EWBR 5096

Technical specifications as shown in this literature are intended to be used as general guidelines only. The physical and chemical properties of sound control thermal and acoustical fibre glass insulation listed herein represent typical average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations They are supplied as a technical service and are subject to change without notice. Any references to numerical flame spread or smoke developed ratings are not intended to reflect hazards presented by these or any other materials under actual fire conditions.