

ECOWOOL® BROWNIE V2 ROOFWHITE

ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket, the environmentally friendly range of ECOWOOL® glass mineral wool insulation, manufactured by PGF Insulation is made for fire safety, thermal and acoustic insulation application. It is manufactured using up to 80% of recycled glass and incorporates the new SensiTouch Technology, featuring an improvised version of the binding technology of ECOWOOL® BROWNIE V2.

ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket is pre laminated with a vapour barrier film for additional benefit of condensation control, fire resistance, sturdy and attractive finishing surface. The vapour barrier facing is scrim reinforced to withstand tearing during and after installation, which eliminates the need for additional wire mesh support. The glass mineral wool insulation blanket range covers multiple densities, thicknesses and dimensions to suit typical construction applications and to fulfil a broad spectrum of building requirements.

Brownie



SensiTouch TECHNOLOGY

Ultra low VOC (volatile organic compound) emission. Innovative new binding technology that incorporates a natural anti-formaldehyde ingredient and is ultra low in VOC. Compliant with Singapore Green Building Council (SGBC) and Environmental Choice TVOC and Formaldehyde emission criteria. Tested in accordance with ISO 16000-9:2006.

Firm product for an ease of installation. Exceptional stiffness and recovery characteristics, making it a preferred choice for the insulation installers out there.

Soft touch less itch. New binder formula with improvised manufacturing technology that produces skin-friendly fibres to minimize allergic reaction during product handling and installation



APPLICATION

Designed to be installed under metal deck or tiles roof. The insulation acts as a highly effective barrier to heat flow, keeping your building cool during hot weather and conserving the cool air indoors. ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket enables a roof system to achieve a high Sound Transmission Class (STC) and Impact Insulation Class (IIC) rating as well as offers superior fire safety performance. The pre-laminated glass mineral wool insulation is designed to provide attractive interior finishes, durable and assisting in controlling moisture. The vapour barrier facing significantly reduce the transmission of moisture (from the warm side) into the insulation, thus reducing potential for condensation occurrence.

FEATURES AND BENEFITS

Sustainable product. PGF Insulation is committed to providing environmentally sustainable products. ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket is free from CFCs, HCFCs and any other material, with ozone depletion, potential in their manufacture/ composition content, and represent no known threat to the environment. Made from nearly 80% recycled glass and locally sourced raw materials, the glass mineral wool insulation is perfectly in tune with sustainability and environmental concerns.

Soft to touch and less itchy. Specifically engineered to produce a softer feel and less itchy product compared to conventional glass wool. The insulation creates a pleasant work experience by reducing the tingling feeling during installation.

Hypoallergenic. Unlikely to cause an allergic reaction.

Improves indoor air quality. SensiTouch Technology reduces the overall formaldehyde exposure. Satisfying the growing indoor air quality (IAQ) needs, a better smelling indoor environment and less formaldehyde in the air.

Optimal fibre diameter. Optimal fibre diameter 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 that feels much softer.

Airborne noise treatment. Reduces transmission of unwanted noise through metal and tile roof in industrial, residential and commercial buildings.

Non-corrosive. Chemically inert and will not cause or accelerate corrosion of steel, stainless steel, copper or aluminum. Hydrogen ion concentration at pH 6~7. Tested in accordance with ASTM C 665-12.

Mould-free. Does not encourage growth of mould, fungus or bacteria. Tested in accordance with ASTM C1338-08.

Low water vapour absorption. Absorbs <0.2% by volume. Tested in accordance with ASTM C1104.

Maximum service temperature. Can be manufactured to withstand temperatures of up to 450°C. Tested in accordance with ASTM C411-17& ASTM C447-15.

Zero odour emission. Does not emit any unpleasant odour. Tested in accordance with ASTM C1304.

CERTIFICATIONS

MS1020:2010 certified. ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket is MS1020:2010 certified. The certification is accredited by SIRIM QAS.

CIDB COA compliant. ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket is CIDB COA compliant according to CIDB Act 520.

PERFORMANCE

Fire safety properties. Inherently non-combustible and doesn't fuel fire or propagate flames therefore, ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket won't burn if exposed to fire. Tested in accordance with:

- **B.S. 476: Part 4 Non-combustible (only for glass mineral wool)**
- **B.S. 476: Part 6 Fire propagation**
- **B.S. 476: Part 7 Surface spread of flame**
- **UL Classified & FM Approved (only for facing material)**

Thermal conductivity. Offers incredibly high thermal performance, giving the right thermal comfort for every environment. Tested in accordance with ASTM C518 at 20°C mean temperature. Please refer to the product availability table for more information on the thermal performance values.

Acoustical performance. Not only an effective thermal insulation, ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket acts as a natural and effective sound barrier. Designed to reduce transmission of unwanted noise through roof in industrial, residential and commercial buildings, ECOWOOL® BROWNIE V2 blanket is effective at blocking airborne noise. Tested in accordance with ISO 140-3:1995. Please contact PGF Insulation sales representative for more information on the transmission loss for metal deck roof system.

Energy efficiency and lighting investment cost. With the use of prelaminated vapor barrier film our ECOWOOL® BROWNIE V2 ROOFWHITE roof can reduced the number of lighting fixtures required by 18% -20% hence reduce the lighting investment cost by 10% - 20%. The total numbers of lighting investment cost reduction will depend on the lighting design and technical requirement. Based on the case study carried out, our Roofwhite will greatly reduce the energy consumptions and make the building more energy efficient. Our product offer 85% light reflectance which is higher when compare with plain galvanized metal roof deck light reflectance of 62%.

Factory laminated facing. ECOWOOL® BROWNIE V2 ROOFWHITE roof blanket is prelaminated with a durable white vapour barrier facing material that serves as low permeance vapour retarder for buildings. The facing acts as a vapour barrier, provides excellent light reflectivity, adds structural strength and eliminates the need to wire mesh. The white surface creates an aesthetic interior finishing.

WMP-VR POLYPROPYLENE Facing Material

FACING COMPOSITION	DESCRIPTION	VALUES (ENGLISH)	VALUES (METRIC)
White Film	Polypropylene	0.0015 inch	38.1 micron
Adhesive	Flame Resistant		
Reinforcing	Tri-directional	5 / inch (MD)	20 / 100 mm (MD)
	Fiberglass/Polyester	4/ inch (XD)	16 / 100 mm (XD)
Kraft	Natural	11 lbs / 3000 ft ²	18 g / m ²

* Meets ASTM C1136, Type IV

WMP-VR FIRE TESTING

	ASTM E84 / UL 723		CAN ULC-S102M		BS 476
	Film Side	Kraft Side	Film Side	Kraft Side	Class
Flame Spread	10	15	15	15	0
Smoke Developed	10	5	30	45	Surface

* Physical Properties based up statistical average. Weight / Thickness +/- 10%

WHAT MAKES ECOWOOL® BROWNIE V2 ROOFWHITE SO DIFFERENT?

Prelamination Film Case Study.

Lamtec White Facing Reduces Lighting Investment Cost and Annual Electricity Cost

Objective:	Compare the lighting fixture requirements and energy costs using Lamtec white metal building facings versus a conventional galvanized metal roof deck.
Project:	Two (2) industrial facilities totaling 420,000 ft ² , completed in 2010 Building 1- 260,000ft ² faced with WMP-50 in the roof Building 2- 160,000ft ² faced with WMP-UV in the roof
Specifications:	Interior precast walls painted with eggshell off white finish Approximately 30 foot candles maintained illumination T5HO high bay 6 lamp 324 watt wide distribution fluorescent light fixtures with up-lighting Ceiling height varies between 25 and 32 feet Lighting installed at 22 ft. above finished floor

		Fixture Count Plain Galvanized	Fixture Count LAMTEC White	Fixture Facing Reduction	kW Reduction	Annual Saving
Building 1	260,000 ft ²	544	434	110	42.27	\$28,994
Building 2	160,000 ft ²	322	264	58	22.27	\$15,228

Calculations based on:

Hours of operation/year = (260 days/year)*(24 hours/day) = 6240 hours/year

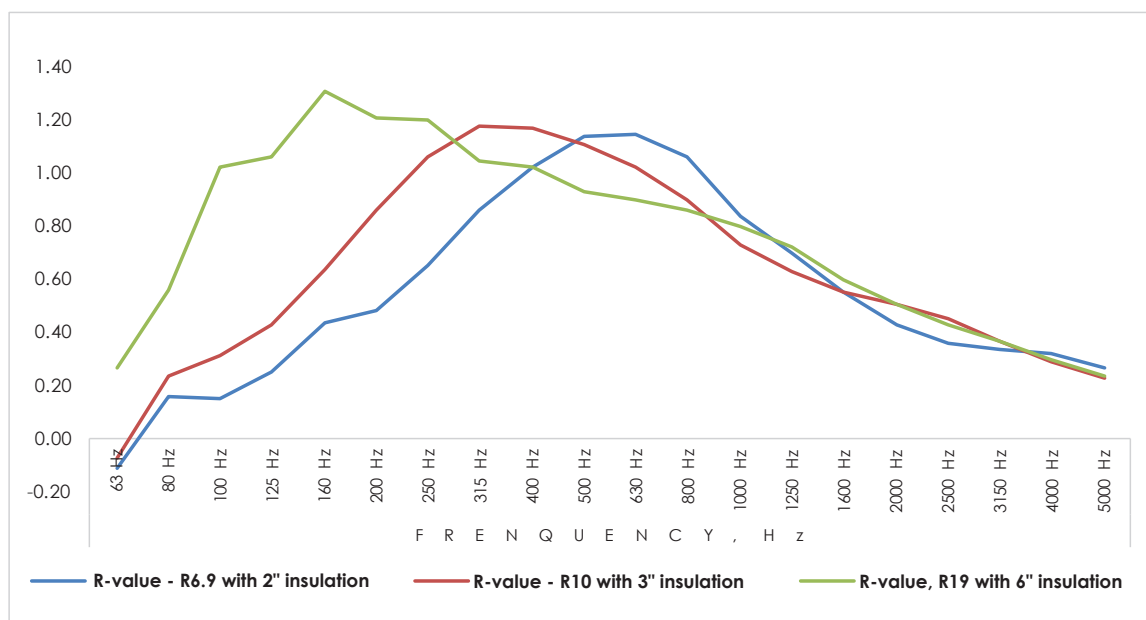
Electricity Cost = \$0.11/kW hour

*The light reflectance of Lamtec facings is provided on the specification sheets available at www.lamtec.com

**Light reflectance determined in testing by Atlas Services Group on May 3rd, 2011.

Acoustical Test Result for Metal Building Facing.

Sound absorbing materials tend to be frequency dependent, i.e., one material may perform extremely well at low frequencies and not as well at high frequencies.



* Acoustical testing has been performed according to ASTM C423, "Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method".

** The sound absorption coefficients are provided for frequencies of 63 Hz to 5000Hz.

*** The NRC is calculated by averaging the sound absorption coefficients at 250, 500, 1000 and 2000 Hz.

**** R-values quoted above are in imperial values, the equivalent R-values in metre are R1.2 (for 6.9), R1.7 (for R10) and R3.3 (for R19).

PROJECT REFERENCES

Alibaba Hub, Sepang.



PRODUCT AVAILABILITY

Type	Density (kg/m ³)	K-Value (W/m K)	R-Value (m ² K/W)	Thickness (mm)	Width (m)	Length (m)
EWBL 1.35	16	0.0366	1.35	50	1.2	14.4
EWBL 2.00	16	0.0366	2.00	75	1.2	9.2
EWBL 2.30	16	0.0366	2.30	85	1.2	10
EWBL 2.70	16	0.0366	2.70	100	1.2	7.9

**Other sizes are also available. Please contact our sales personnel for more information.

SPECIFICATION STATEMENT

Insulation material shown on drawings or specified herein shall be of approved, ____mm thick ECOWOOL® BROWNIE V2 ROOFWHITE EWBL ____ glass mineral wool insulation. ECOWOOL® BROWNIE V2 glass mineral wool insulation shall be certified to MS1020: 2010 and shall be non-combustible, tested and comply with BS 476: Part 4 :1970

WARRANTY

This product is covered by a 10 years product warranty.

For full details, please go to www.ecowool.com.my

* Terms & conditions apply.



Technical specifications as shown in this literature are intended to be used as general guidelines only. The physical and chemical properties of the glass mineral wool 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. The suitability of the product is not binding for special individual cases. Warranty and liability upon delivery shall be in accordance with our General Terms and Conditions. No responsibility is assumed for the correctness of this information.