



Thermal
Insulation

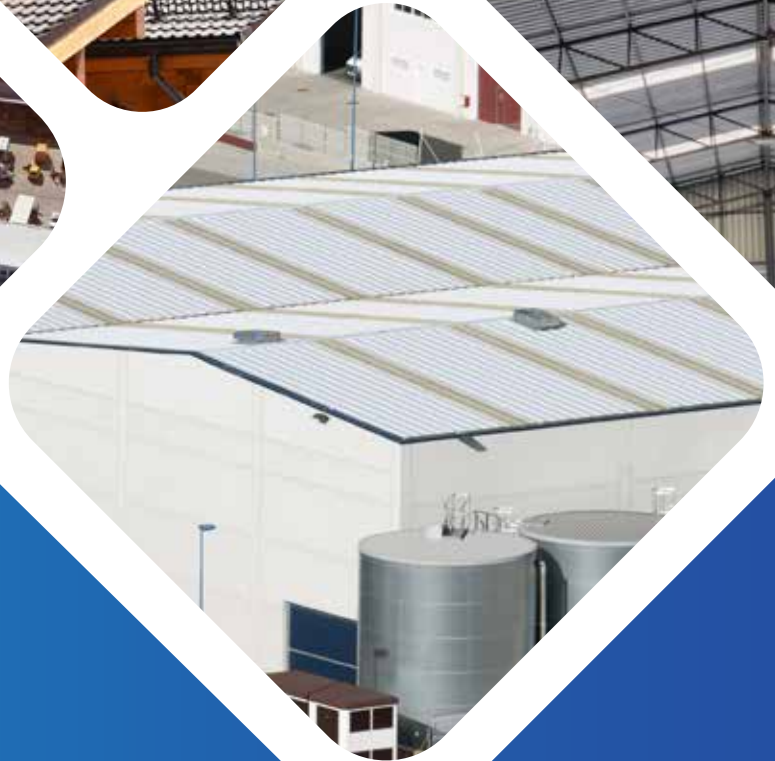


Acoustic
Insulation



Non-combustible

MicroFiber®



MicroRoof

Home & Building Roofing Insulation



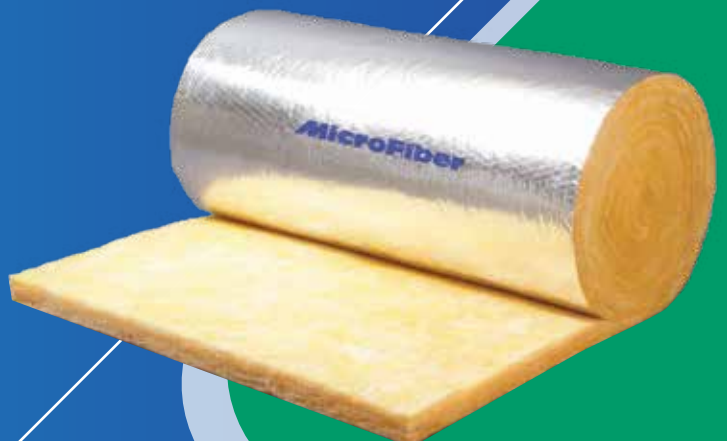
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GLASS WOOL



FIRE RETARDANT



Inflammable



ACOUSTIC



Outstanding acoustic performance



BAHT PER THERMAL



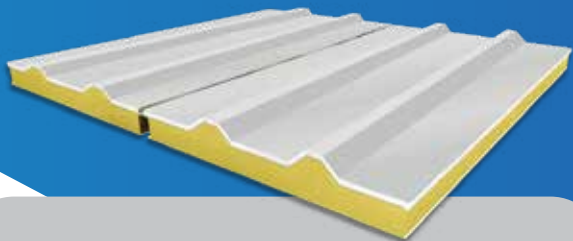
Less expensive per money spent for thermal performance (K-Value)



HEALTH & SAFETY



Considered as non-toxic material and not carcinogenic to human accredited by IARC



PU



Flame retardant additive
may deteriorate overtime



No acoustic performance



More expensive than glass wool at the
same thermal performance (K-Value)



Create toxic smoke



EPDM



Flame retardant additive
may deteriorate overtime



No acoustic performance



More expensive than glass wool at the
same thermal performance (K-Value)



Create toxic smoke

MicroRoof

Use and Benefits

MicroRoof is an eco-friendly thermal and acoustic insulation solution for roofing system. The product comes in blanket roll and board type and can be laminated with high quality facing material. It is coated with water repellent coating, making it resistant to water absorption and moisture. MicroRoof solution is credited with TIS487, ASTM, NFPA 89A, Australian Standards, in making it the complete insulation solution to be used in green buildings.



Thermal Insulation

MicroRoof has low heat conductivity, making it the perfect material to insulate heat from entering buildings and residential areas in accordance to ASTM C518



Acoustic Insulation

MicroRoof has porous fiber structure, making it the perfect material to insulate sound from entering the buildings and residential areas in accordance to ASTM C423



Non-Combustible

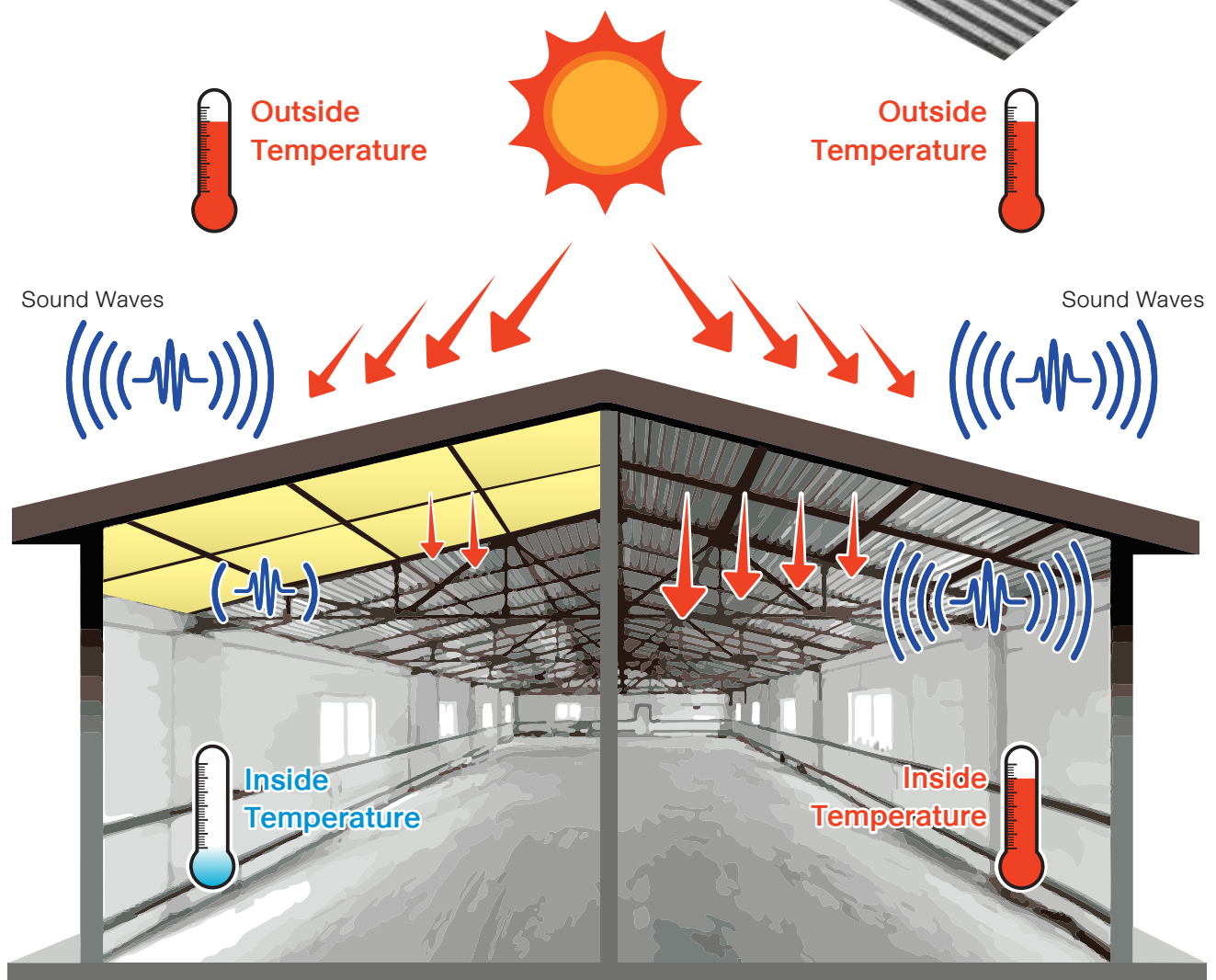
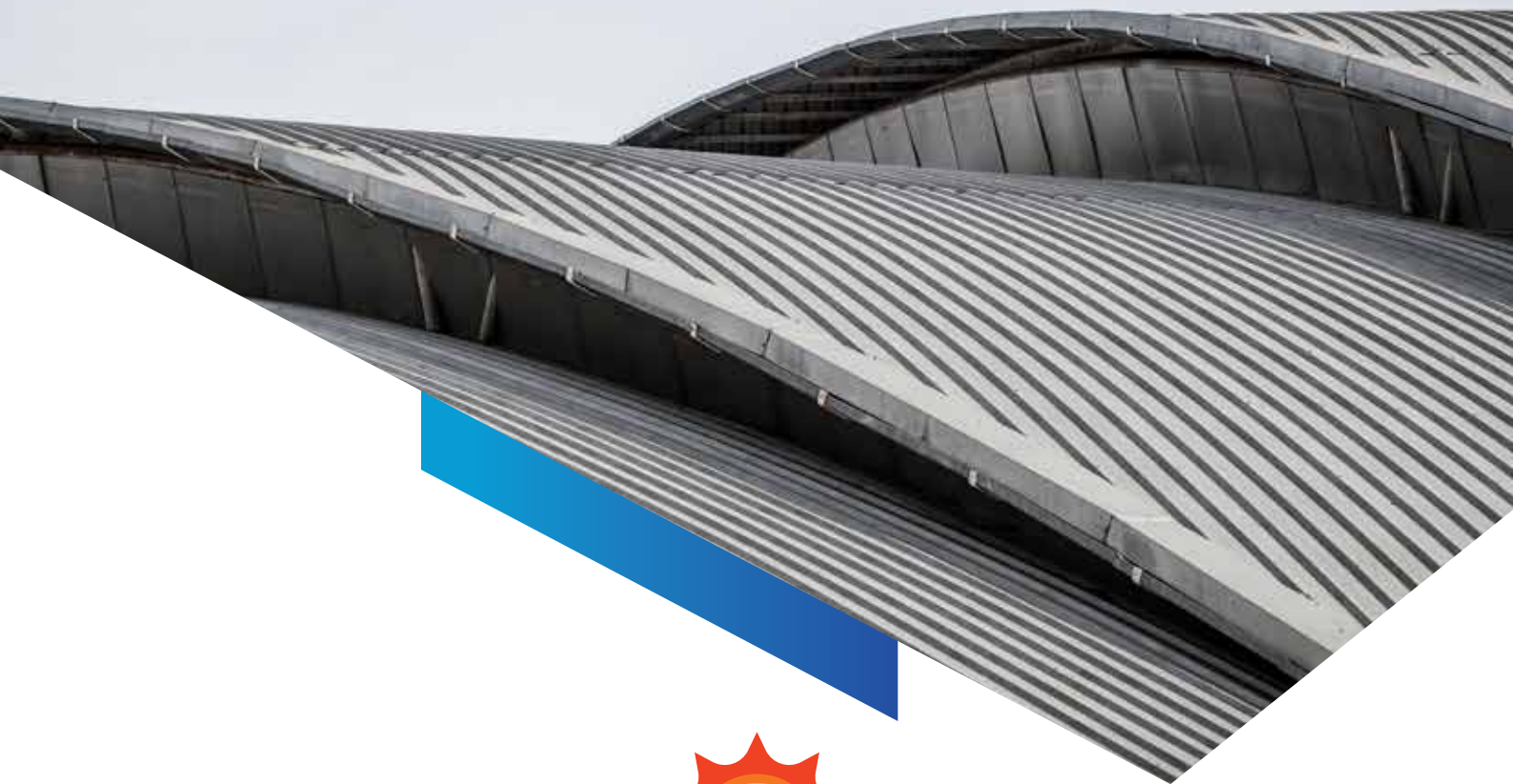
MicroRoof is made of non-combustible and inflammable material, making it safe to use within buildings in accordance to EN 13501 Class A1



Long-Term Insulation Efficiency

MicroRoof is light-weighted, highly flexible, and able to recover from tensile & compressive strength, maintaining its insulation properties in long-term.





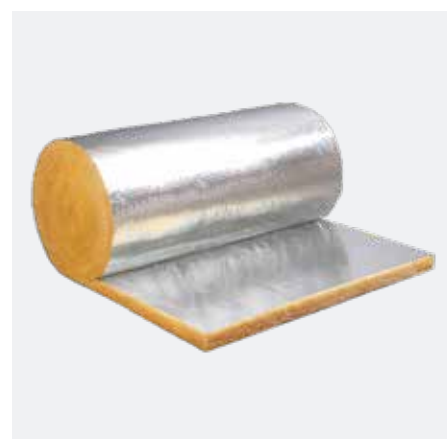
MicroRoof is laminated with high quality foil coated with fire retardant adhesive. It is highly resistant to the pulling force when being installed and is highly resistant to water absorption.

PRODUCT OVERVIEW



☐ **MicroRoof FLS**

Glass Wool laminated with single-sided aluminum foil



☐ **MicroRoof FLD**

Glass Wool laminated both side with aluminum foil

Product Type	Density (kg/m ³)	Thickness (mm.)	Size (m x m)		k-Value		R-Value	
			Blanket	Boards	W/mK at 20 °C mean	W/mK at 24 °C mean	m ² K/w at 20 °C mean	m ² K/w at 24 °C mean
1250	12	50	1.22 x 16.50	-	0.039	0.042	1.282	1.190
1275	12	75	1.22 x 11.50	-	0.039	0.042	1.923	1.786
1625	16	25	1.22 x 30.50	-	0.035	0.038	0.714	0.658
1650	16	50	1.22 x 15.25	-	0.035	0.038	1.429	1.316
1675	16	75	1.22 x 15.25	-	0.035	0.038	2.143	1.974
2425	24	25	1.22 x 30.50	-	0.033	0.035	0.758	0.714
2450	24	50	1.22 x 15.25	-	0.033	0.035	1.515	1.429
2475	24	75	1.22 x 15.25	-	0.033	0.035	2.273	2.143
3225	32	25	1.22 x 15.25	1.22 x 2.44	0.032	0.033	0.781	0.758
3250	32	50	1.22 x 15.25	1.22 x 2.44	0.032	0.033	1.563	1.515
3275	32	75	1.22 x 7.50	1.22 x 2.44	0.032	0.033	2.344	2.273
4825	48	25	1.22 x 7.50	1.22 x 2.44	0.031	0.032	0.806	0.781
4850	48	50	1.22 x 7.50	1.22 x 2.44	0.031	0.032	1.613	1.563
4875	48	75	1.22 x 7.50	1.22 x 2.44	0.031	0.032	2.419	2.344



☐ **MicroRoof ENF**

Glass Wool encapsulated with aluminum foil



☐ **MicroRoof WMP**

Glass Wool laminated with white vinyl sheet



☐ **MicroRoof FWMP**

Glass Wool laminated with aluminum foil and white vinyl sheet

Property	Specification	Test Method
Temperature range	540 C (1000 F)	ASTM C411
Water absorption	<0.5 kg/m ²	EN 1609
Vapor absorption	<0.06	ASTM C1104
Fungi resistance	No growth	ASTM C1338
Surface burning characteristics	Flame spread < 25	ASTM E84 / UL 723
	Smoke developed < 50	
Fire test	Class 0	BS 476 Part 6,7
	Ignitability index 0	
	Spread of flame index 0	
	Heat evolved index 0	AS 1530-3
	Smoke developed index 1	
	Class A1	EN13501-1

MicroRoof

FM APPROVED PROJECTS



Fabrinet



Microchip



Caterpillar



Baxter



PROJECT



CONTINENTAL | Rayong



PANDORA | Lamphun



SIAM PARAGON | Bangkok



CENTRAL WORLD | Bangkok



SIRIRAJ PIYMAHARAJKARUN HOSPITAL | Bangkok



THAI PARLIAMENT HOUSE | Bangkok



HOMEPRO

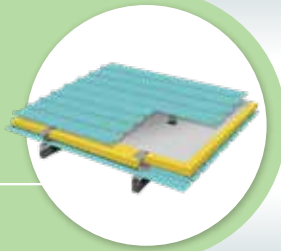


MAKRO

Roofing Insulation **Installation**

MicroRoof can be installed with metal sheet roofing, concrete roofing, and ceramic roofing with the installation instruction as below:

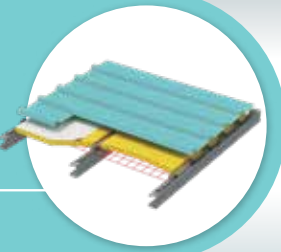
1



Glass Wool installation with double layer metal roof

- a. Easily installed with both older and newer buildings, especially building with metal roof infrastructure
- b. Able to install thicker glass wool insulation to enhance its thermal and acoustic insulation property, as well as reinforcing the roof infrastructure with inflammable material
- c. Installed with Liner Sheets below the product for aesthetics

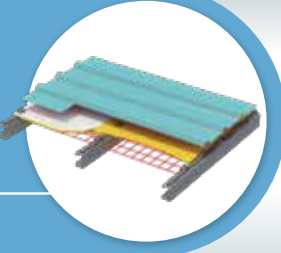
2



Glass Wool installation with single layer metal roof (Please also help check its technical name)

- a. For installation with newer buildings with metal roof infrastructure
- b. Easily installed for roof infrastructure under construction
- c. High density glass wool sheets or blankets with thickness over 50 mm should be placed on or along the batten
- d. A connector should be used to avoid pressure from stacking and to preserve glass wool solution quality over time

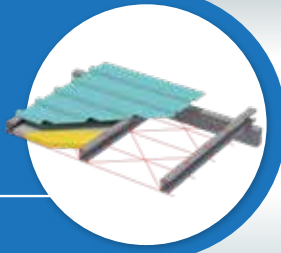
3



Glass Wool installation with single layer metal roof

- a. For installation with newer buildings with metal roof infrastructure

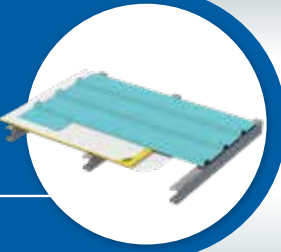
4



Glass Wool installation with single layer metal roof (Please also help check its technical name)

- a. For installation with newer buildings with metal roof infrastructure
- b. Suitable for roofing system under improvements

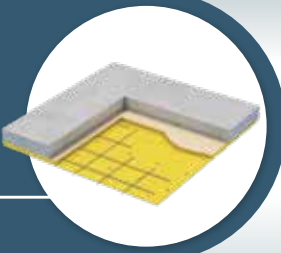
5



Installation across the purlin without wire mesh support

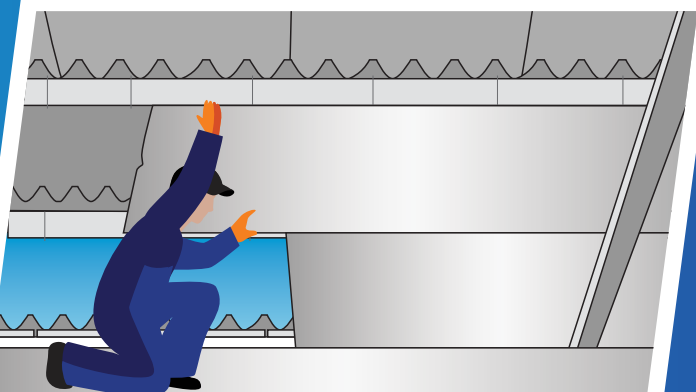
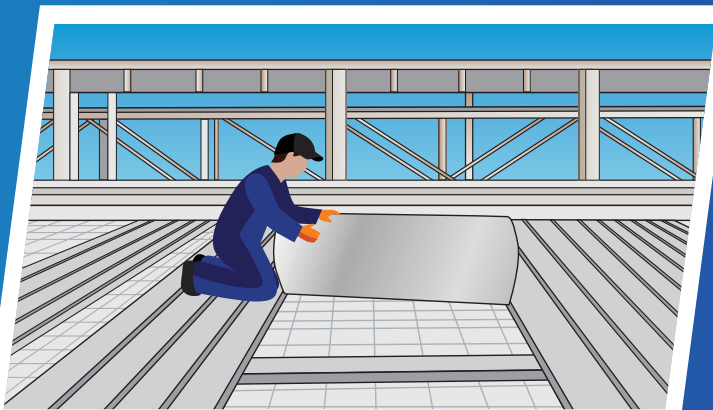
- a. Easy to install on new/ under-construction roof without wire mesh support.
- b. Suitable for roof with a distance of purlins within 1.5 meters.

6



Glass Wool installation with Concrete Slab

- a. For installation with both older and newer buildings, commonly used with commercial buildings
- b. Cleats should be installed; it should be done so that the building infrastructure remains unaffected
- c. Attach glass wool insulation with concrete slab with spindle pin or cleat with distance of 20-60 cm.



Tips and cautions

! Installation Tips

- Surface which glass wool would be installed on should be cleaned prior to installation
- During installation, installer should wear gloves, concealing apparel, an wear mask to prevent contact with dusts during installation
- Should separate clothing worn during installation and regular clothing when being cleaned
- Tears in insulation or facing material should be fixed with aluminum foil tape
- Avoid installation in areas with chemical vapor to prevent corrosion over time
- Be mindful of electric current when installing close to area with active electric grid

! Storage Tips

- Glass wool should be stored in areas without moisture and is unexposed to sunlight
- Keep Glass Wool in a sealed container, away from chemical vapor and acid
- Glass wool scrap should be disposed by professional waste management staff

Other Tips

- Glass wool is not edible
- If direct contact with glass wool causes irritation, wash and soak the irritated area with warm water
- If direct contact with glass wool causes severe irritation, it is recommended that a medical professional should be contacted for advise



MicroRoof

Certification and Safety



Green Label :
Thailand



LEED :
Leadership in Energy and
Environment Design



Energy Saving Label



Carbon Reduction
Label



ISO 9001 : 2008
Certificate



OHSAS 45001 : 2007
Certificate



ISO 14001 : 2004
Certificate



Thai Industrial Standards
Institute TIS 486-2527,
TIS 487-2526



American Society for
Testing and Material



Underwriters
Laboratories



National Fire Protection
Association



British Standard
Institute



Australian Standards



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