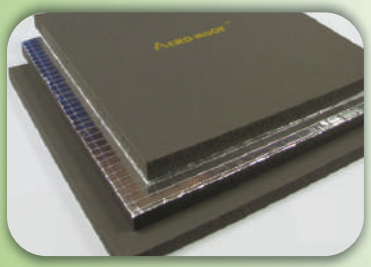
AERO-ROOF® Cool • Comfort • Hygiene

AERO-ROOF®

CLOSED CELL ELASTOMERIC THERMAL INSULATION LAMINATED WITH SCRIM REINFORCED ALUMINUM FOIL

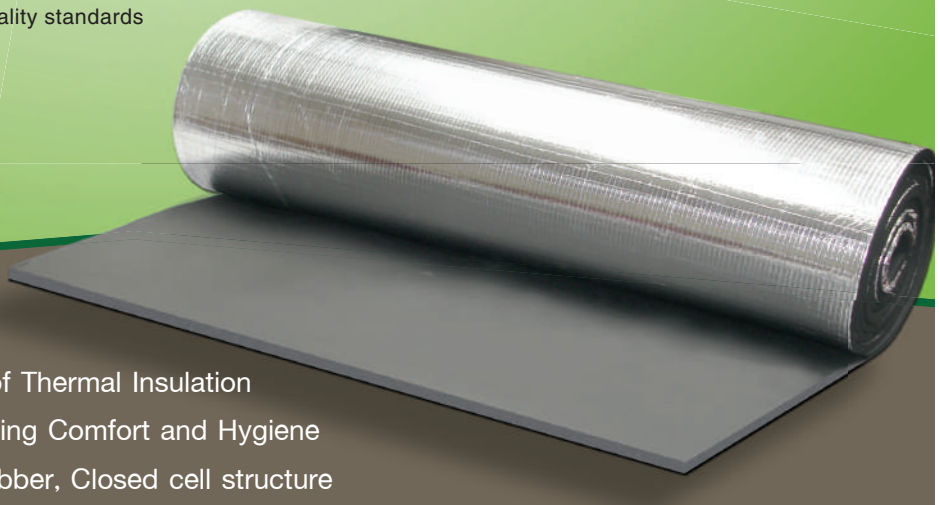




THERMAL INSULATION SHEET WITH
ALUMINUM FOIL PADDED UNDER THE ROOF

ISO 9001 ISO 14001 ISO 45001 ISO 50001 Made in Thailand EPD THAILAND GREENGUARD GOLD

Accredited with the highest internation quality standards



SET AWARDS 2023
Outstanding Innovative Company Awards

The Best Innovation of Thermal Insulation
Providing Indoor Cooling Comfort and Hygiene
Made by Synthetic rubber, Closed cell structure
Non-Flame Spread, No Cracking, No Dust, No Fungi

www.aero-roof.com

AERO - ROOF

Closed cell Elastomeric insulation for roofing system

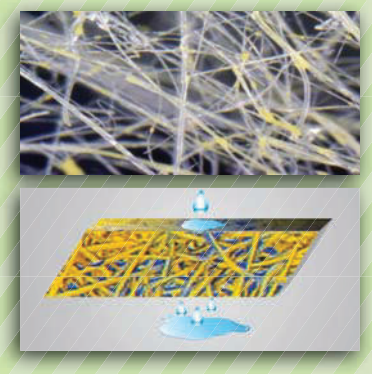
AERO-ROOF is insulation sheet laminated with aluminum foil and reinforced fiber. It is a lightweight insulation installed under the roof of the buildings to reduce heat from sunlight. **AERO-ROOF** is a thermal-setting material made of special synthetic rubber mixed with flame retardants, making it non-melt and non-flame spread when burnt. **AERO-ROOF** is closed cell filled with dry air, laminated with aluminum foil that enhances indoor light reflection. It is safe and easy to install with many advantages as follow:

- **Low water absorption that makes insulation property very stable even when water leaks through the roof.**
- **No crack and dust that is hazardous to human health. Not causing irritation to skin.**
- **Stable thermal conductivity value throughout service life.**
- **Non-melt and non-flame spread when burnt. Pass flammability standard test.**
- **Excellent UV and ozone resistance.**
- **Highly flexible that makes installation job fast and easy.**
- **Increase brightness in the building.**

NO ODOR
NON-TOXIC

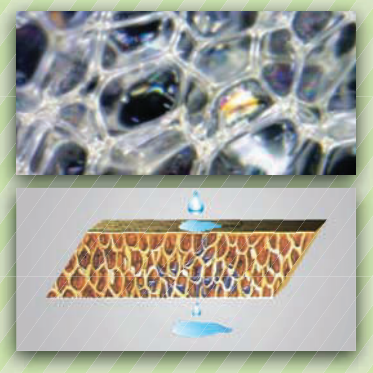


Cell Structure



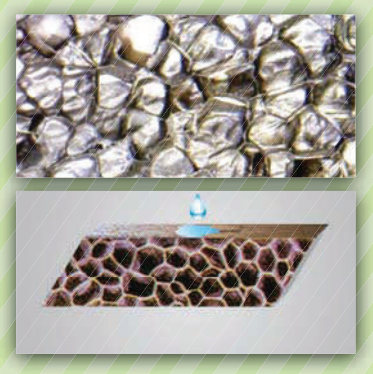
FIBERGLASS

(open-cell structure insulation)
Fiberglass thermal insulation is made from compacted small glass fibers. Air occupies the spaces between the fibers which allow atmospheric air, moisture or water penetrates into the insulation. Fiberglass insulation is an open cell structure insulation, very high water absorption and water vapor permeability. When pouring water on the fiberglass, water can pass thru and fiberglass insulation becomes wet which means much less thermal insulation property (very high K.Value).Especially when insulation on low temperature application, moisture from atmosphere will be forced to penetrate into insulation mass and then insulation becomes wet throughout the insulation. K.Value will increase rapidly (K. Value of water=0.60w/m K), condensation will occurs continuously not only condensation area but also whole insulation system, resulting in short service life, fungi, bacteria and odor.



PU/PE FOAM

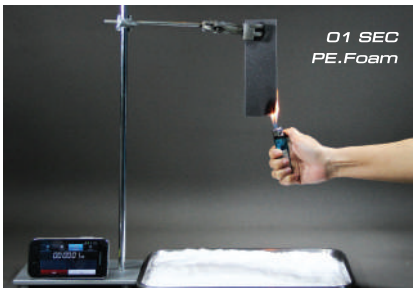
(semi-closed cell structure insulation)
PU/PE foam are made of polyols and polyisocyanates mixed with HCFCs or similar gases (ozone depletion gases) as a blowing agent. If the density is below 120 kg/m^3, the wall of each cell is very thin and easily broken during process. This makes low density PU foam has water absorption value over 10% by weight according to ASTM D 1056, which is not classified as closed cell insulation. Lower density PU/PE foam has higher water absorption and water vapor permeability, while HCFCs gases slowly moving out from the insulation. When insulated on low temperature application, moisture from atmosphere will be forced to penetrate into insulation mass, and then K.Value will increase rather fast after use for a period of time. During fire accident, hydrogen cyanide gas (HCN) is generated, which is a toxic gas used in chemical weapons and is fatal within a few minutes.

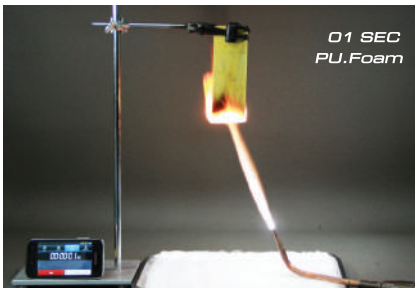


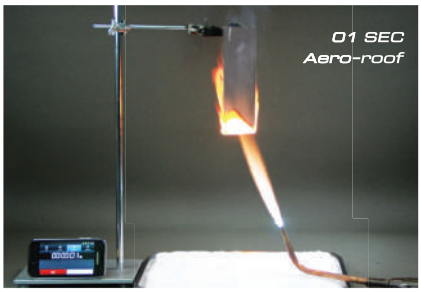
AERO-ROOF

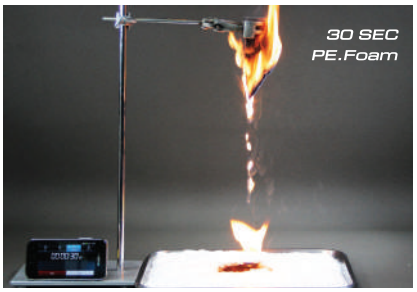
AERO-ROOF is made from synthetic elastomer based material with a great number of tiny singular closed cell. A single cell is enclosed by walls, each cell contains dry gases (mainly nitrogen gas) emitted from blowing agent. Elastomeric closed cell is classified as closed cell when water absorption value is less than 10% by weight according to ASTM D 1056. Thousands of cell walls act as multi-layer water and moisture barrier, resulting in very low water absorption and water vapor permeability in comparison with other types of insulation materials. As described above, AERO-ROOF has a low and stable thermal conductivity property of the insulation (low and sable K.Value), which is an ideal thermal insulation for low temperature applications with long service life.

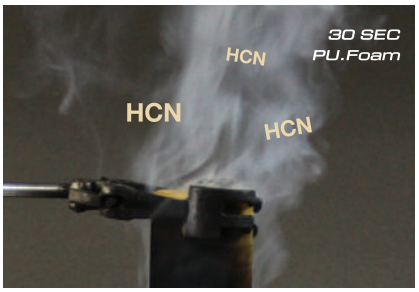
AERO - ROOF NON-COMBUSTIBLE NO FLAME SPREAD

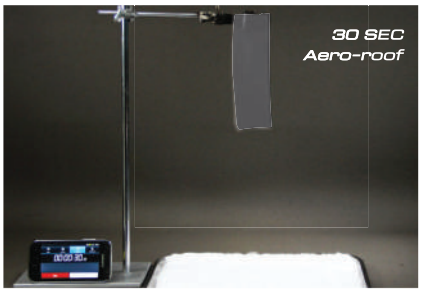












AERO-ROOF SPECIFICATIONS

AERO-ROOF Specification :

Description	AERO-ROOF	Test Method
Material	Synthetic Rubber	-
Cell Structure	Closed Cell	-
Service Temperature	$0^{\circ}C$ to $100^{\circ}C$	Pass
Density	45 ± 10 Kg/m^3	ASTM D1667
Thermal Conductivity	*0.035 W/mK	ASTM C518
Water Absorption	≤ 5% by mass	ASTM C1763
Flammability	Self-Extinguishing	ASTM D635
	Class V-0 (Thickness 13 mm.)	UL94
	Class 0 (Thickness 10 mm.)	BS 476 Part 6,7
Nitrosamine Contents	Not Detected	FDA CPG 7117.11
Fungi Resistance	Pass	ASTM C1338

*Remark : * Thermal Conductivity ± 0.003 W/mK*

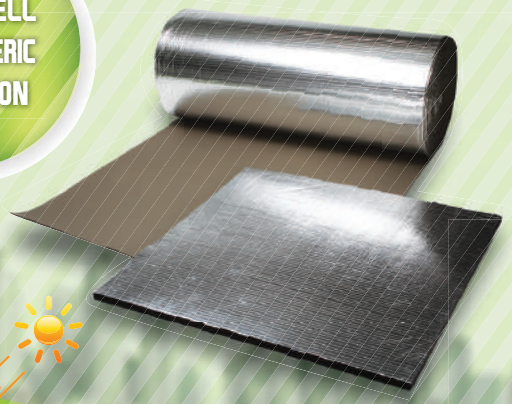
Aluminum Foil 1 side

CODE	THICKNESS (MM.)	WIDTH (M.)	LENGTH (M.)	M^2
ARN1012010RSF	10	1.2	10	12
ARN1312010RSF	13	1.2	10	12
ARN1912010RSF	19	1.2	10	12
ARN2512008RSF	25	1.2	8	9.6

AERO-ROOF THICKNESS COMPARISON WITH OTHER MATERIALS

THICKNESS COMPARISON					
FIBERGLASS	AERO-ROOF	P.E Foam	AERO-ROOF	BUBBLE	AERO-ROOF
25 mm/1"	5 mm	5 mm	3-5 mm	4 mm	3 mm
50 mm/2"	10 mm	10 mm	5-10 mm	10 mm	5 mm

CLOSED CELL ELASTOMERIC INSULATION



Thermal insulation sheet laminated with aluminum foil padded under the roof is especially designed to suit all types of roofing. The structure is closed cell synthetic rubber insulation laminated with aluminum foil, which provides high efficiency in heat resistance with no flame spread. Service life can last more than 10 years.



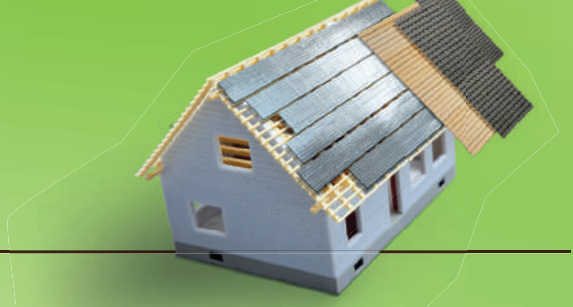


AERO-ROOF®

Under Roof Thermal insulation Cool • Comfort • Hygiene

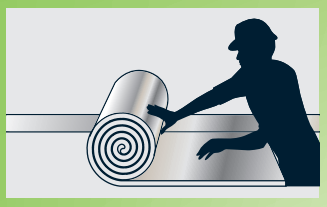
AERO-ROOF®

Easy to install • Suitable for all type of roofing

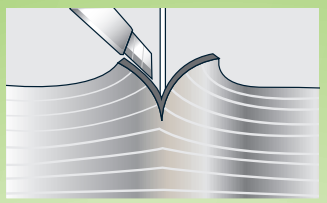


Installation of AERO-ROOF

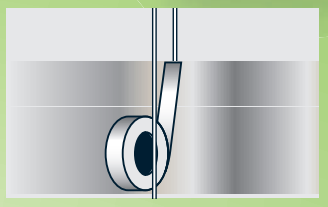
1.Installation on flat ceiling frame



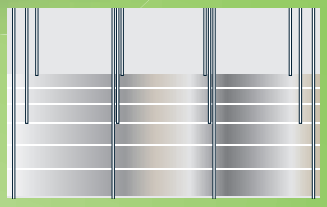
• Lay AERO-ROOF on top of the wire ceiling frame with the side of aluminum foil facing up.



• If the width of the wire ceiling frame is less than the width of AERO-ROOF cut AERO-ROOF as shown in the photo and insert AERO-ROOF to fit the wire ceiling frame.

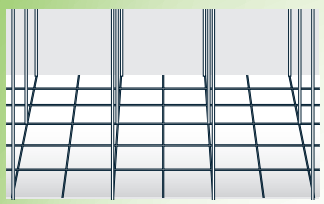


• Seal the joint on the foil side with Alutape aluminum tape, and seal the joint on the rubber side with Aerotape insulation foam tape.

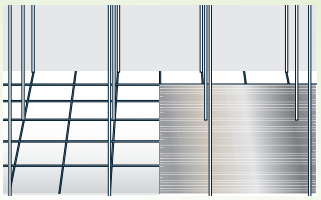


• Follow the previous steps until the whole area is finished, then make sure the installation is completed in good condition.

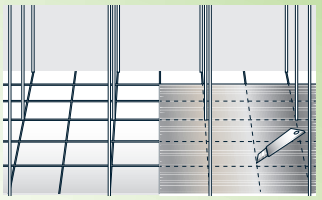
2.Installation on T-Bar ceiling frame



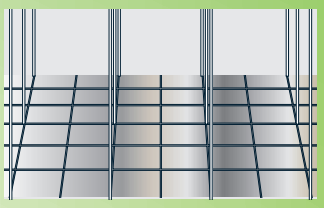
• Calculate the T-Bar ceiling area to determine the amount of AERO-ROOF required for installation.



• Lay AERO-ROOF on top of the T-Bar ceiling frame with the side of aluminum foil facing up.



• Cut AERO-ROOF to fit into the required area.



• Follow the previous step until every T-Bar frame is finished, then make sure the installation is complete in good condition.

Project Reference of AERO-ROOF















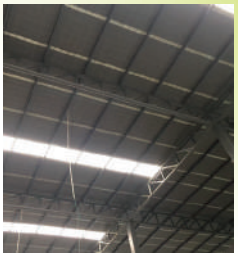












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