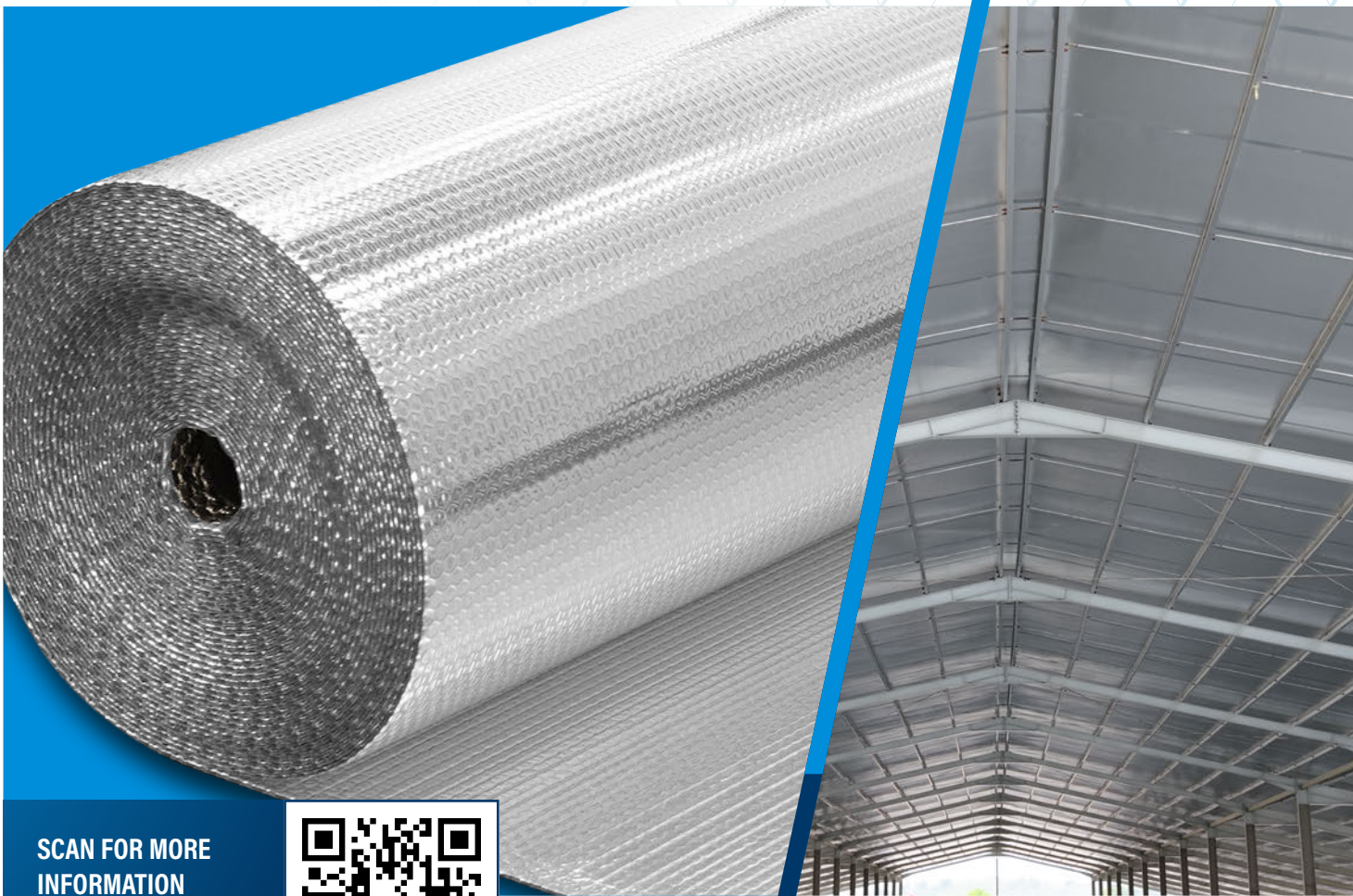




PT. CELLINDO SIGMAPERKASA

Smarter Insulation for Sustainable  
Performance & Tangible Energy Savings

# SIGMAFLEX



SCAN FOR MORE  
INFORMATION



[cellindosigma.co.id](http://cellindosigma.co.id)



**RIMA** International  
Reflective Insulation Manufacturers Association International



# Revolutionizing Insulation for a Changing Climate

Global warming continues to drive rising environmental temperatures, placing buildings under greater thermal stress and increasing energy consumption. Approximately 87% of heat entering through the roof is transmitted via infrared (IR) radiation — invisible electromagnetic waves that travel until absorbed, generating heat that then spreads through conduction and convection.

As cooling systems work harder to maintain indoor comfort, conventional insulation solutions often prove inadequate against this dominant form of heat transfer. Modern buildings require more than basic thermal resistance. They demand high-performance insulation that effectively minimizes radiant heat gain, enhances energy efficiency, and supports long-term sustainability.

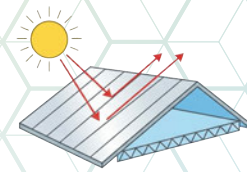
Secure total heat protection  
with the high-performance  
**SIGMAFLEX**

# Why SIGMAFLEX Sets the Standard

**SIGMAFLEX** sets the benchmark in thermal protection with its high-performance, double-sided radiant barrier technology, engineered to reflect up to 97% of radiant heat. Unlike conventional insulation materials such as fiberglass or cellulose that merely slow heat transfer, SIGMAFLEX actively blocks and reflects radiant heat before it penetrates the building envelope.

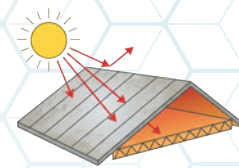
By effectively reducing heat gain, SIGMAFLEX enhances indoor comfort, optimizes air-conditioning efficiency, and lowers energy consumption. It delivers a smarter, more cost-effective solution for both residential and commercial environments.

## Utilizing SIGMAFLEX



Internal temperature 30° C

## Without SIGMAFLEX



Internal temperature > 35° C

### Layers

SIGMAFLEX's 12-layer manufacturing technology ensures superior physical performance over conventional alternatives.

5 layers

12 layers

### Heat reduction

Patented pure aluminum design maximizes heat reduction, surpassing the performance of 5-layer solutions.



### Strength

SIGMAFLEX's 12-layer architecture provides enhanced structural stability for greater durability and strength.



### Pressure / Durability

A more durable bubble structure that is less prone to breaking, long-lasting, and ensures optimal performance at all times.



### Look

Unlike the wrinkled appearance of 5-layer setups, the 12-layer design maintains a sleek and refined aesthetic.



Conventional insulator

**SIGMAFLEX**

# Engineered Insulation Technology with Clear Performance Benefits

Central to this advancement is SIGMAFLEX’s in-house Research and Development (R&D) division, which works closely with client and industry feedback to refine quality standards, optimize technical performance, and customize solutions for specific project requirements. Guided by a strong commitment to innovation and customer-centric development, SIGMAFLEX continuously enhances product performance, efficiency, and overall value to meet evolving industry demands.



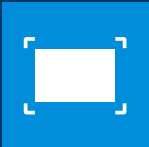
## Advantages & Benefits



Designed with a patented pattern that delivers up to 11% greater efficiency.



Manufactured using premium, insulation-grade pure aluminium.



Built for precise and seamless installation.



Flame-retardant certified for Class B1 compliance under ISO 13501 standards.



Sustained performance and durability over many years.

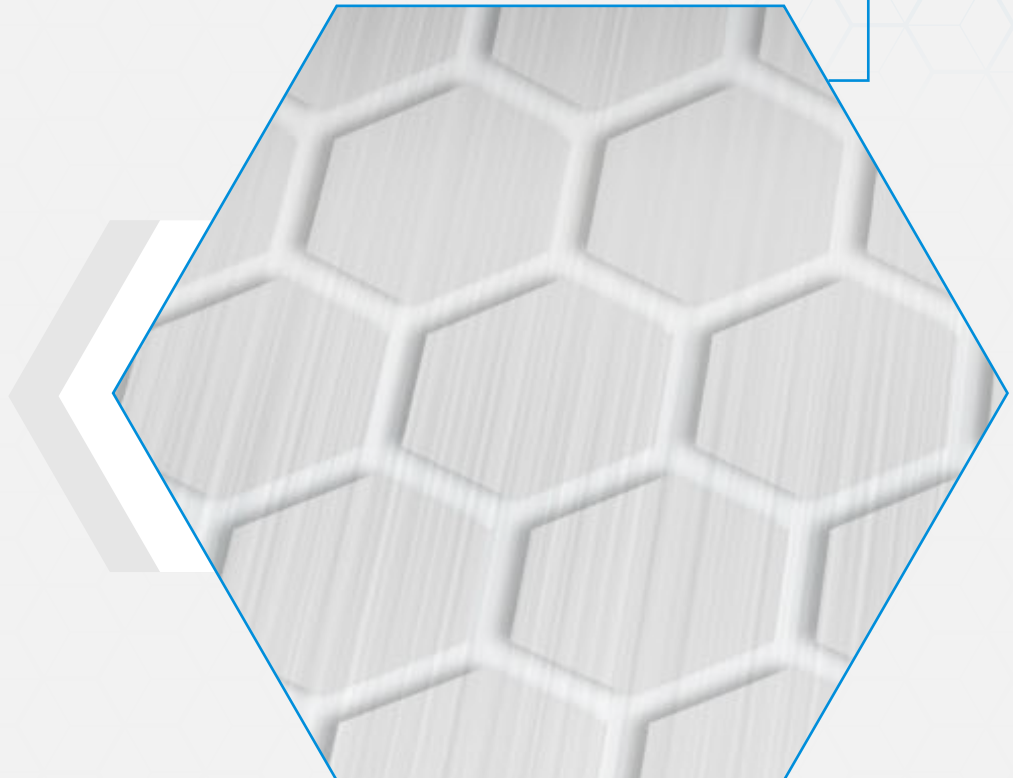
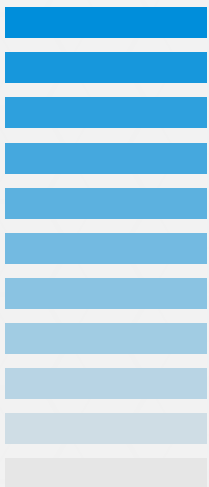
# Patented Hexagonal Design for Enhanced Efficiency

SIGMAFLEX panels featuring a patented hexagonal structure incorporate sealed air pockets that effectively reduce conductive and convective heat transfer. This efficient design optimizes insulating air cells with minimal material, resulting in a cost-effective, slim, and lightweight panel without compromising performance.

Independent testing shows our proprietary pattern improves efficiency by up to 11% over traditional insulation, giving SIGMAFLEX a clear competitive edge. From residential construction to aerospace, automotive, and heavy industry, it delivers strong structural performance and reliable thermal management where it matters most.

Thoughtfully designed and patented for enhanced heat insulation

Up to **11%** more efficient than traditional insulation



# Tested & Compliant with International Fire Standards

SIGMAFLEX insulation panels are engineered to meet the industry’s fire safety standards. Certified under EN ISO 13501, they achieve flame-retardant (FR) classifications for Class B1 compliance, ensuring dependable fire resistance across a wide range of building and industrial applications.

## Distinguishing Authentic Flame-Retardant Layers of SIGMAFLEX Products from Counterfeits

Standard flame-retardant aluminum insulation typically features a distinctive white bubble-core layer for easy FR product identification. However, the market is currently seeing an influx of imitation products, where non-FR alternatives use white pigment on standard materials to replicate the appearance of certified FR insulation. Always cross-reference the insulation’s fire-safety ratings (ASTM/EN) against the manufacturer's technical data sheet. Authentic flame-retardant products may have these certifications printed directly on the material for easy verification.

### Non-FR counterfeit



Results of the burn test

3D visualization of the insulation

Exposure to fire causes non-FR insulation products to deteriorate, resulting in damaged layer structures and coat blackening.

### SIGMAFLEX product

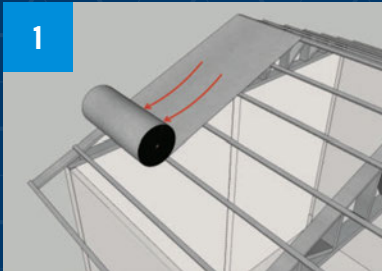


Results of the burn test

3D visualization of the insulation

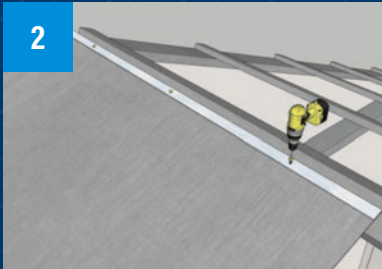
SIGMAFLEX products, especially those with added flame-retardant (FR) properties, experience minimal damage when exposed to fire.

# SIGMAFLEX's Installation Guides (Step 1-5)



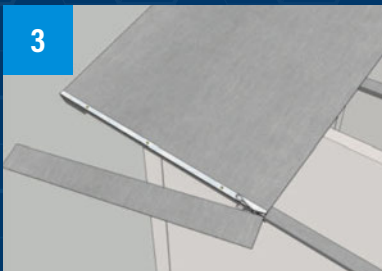
## Unroll the first sheet

Spread the SIGMAFLEX sheet along the roof surface from top to bottom.



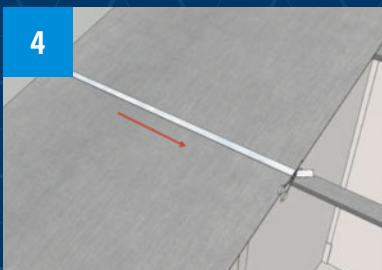
## Secure the top edge

Place a strip plate at the top end of the sheet, cut it to match the sheet width, then fasten screws evenly along the strip plate.



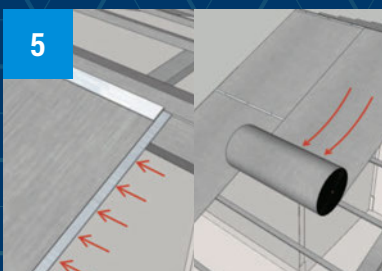
## Tension and secure the bottom edge

Pull the sheet downward to tighten it, place a strip plate at the bottom end, cut to width and fasten screws evenly.



## Add intermediate strip plates (if needed)

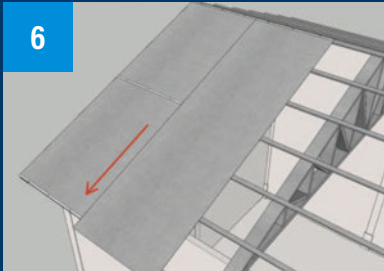
For spans exceeding 10–12 m, add strip plates at every 10–12 m interval to prevent the sheet from being blown away by wind.



## Install the next sheet

Slide half of the bottom strip plate under the first sheet to act as a base plate, then unroll the next sheet alongside the first.

# SIGMAFLEX's Installation Guides (Step 6-8)



6

## Repeat securing for each new sheet

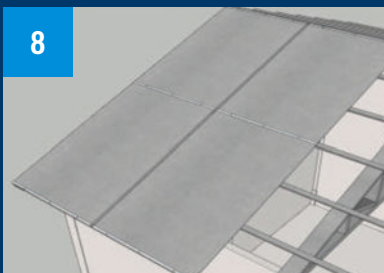
For each additional sheet, repeat step 2–4 (secure the top edge, tension downward, secure the bottom edge, and add intermediate strip plates as needed).



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## Seal the joints

Apply metalizing tape along every seam where two sheets meet. This closes the gaps between sheets and prevents roof leakage.



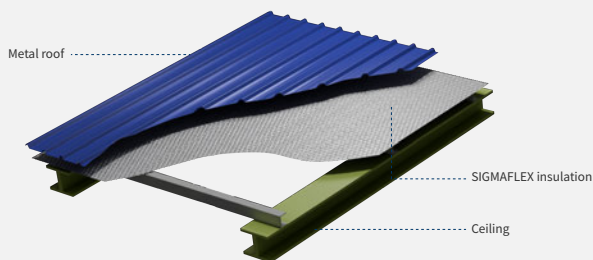
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## Repeat & installation complete

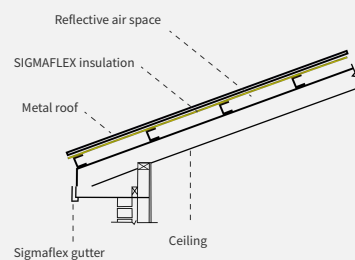
Continue installing subsequent sheets by repeating step 5–7. Work across the full width of the roof until the entire surface is covered, fully installed and ready to use.

### TYPICAL ASSEMBLY DETAIL

Isometric View



Side Elevation View



# Project Portfolio



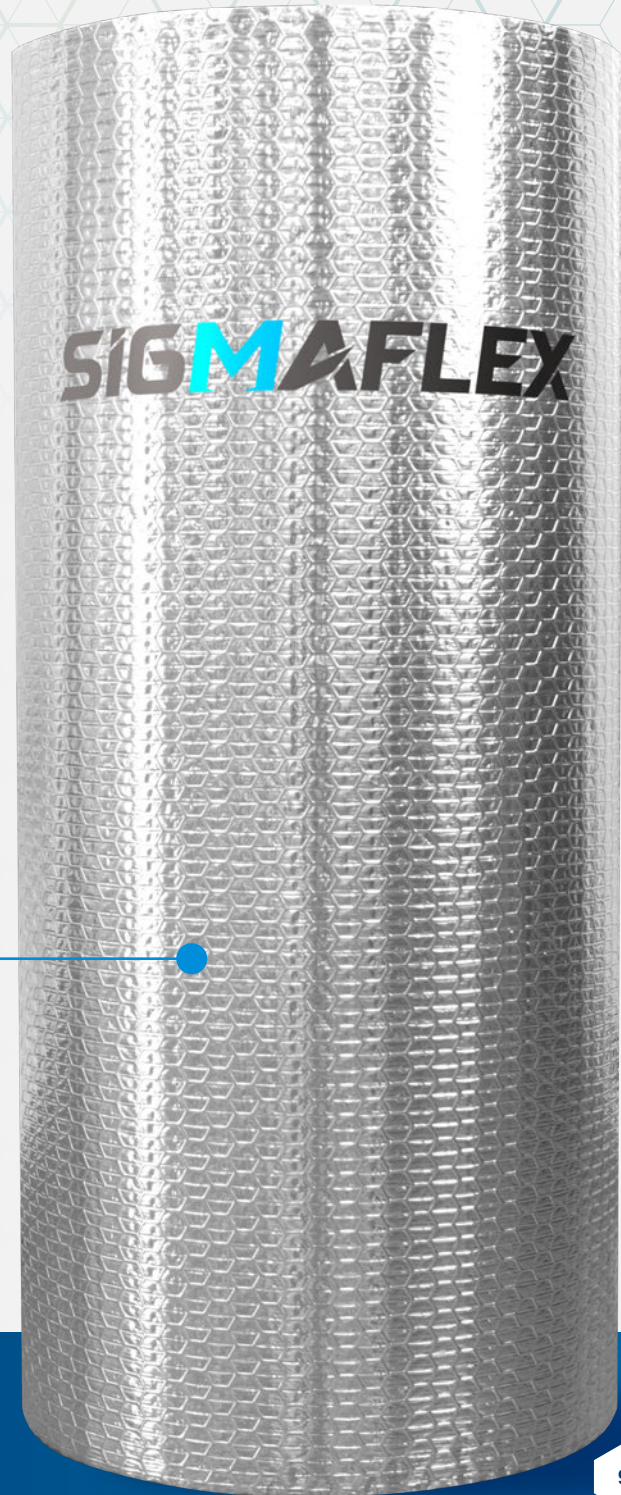
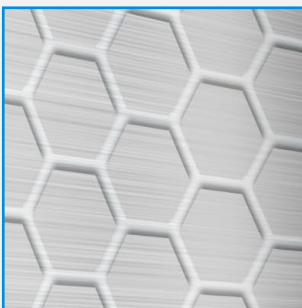
SIGMAFLEX delivers high-performance insulation systems tailored for modern industrial and commercial facilities.

# Available in Models for Every Requirement

We offer a range of models, each designed with distinct specifications and performance advantages. Model identification is based on the following coding system:

- |           |           |
|-----------|-----------|
| SF-01RB   | SF-01RBF  |
| SF-01RBFC | SF-04RB   |
| SF-04RBF  | SF-04RBFC |
| SF-05RBR  |           |

## Details



# SF-01RB

## Description

SF-01RB is a standard, energy-efficient roof insulation ideal for warehouses, residential buildings, and light industrial use, offering reliable thermal protection and improved indoor comfort.

Standard method used:

ASTM C1371, ASTM F1252, ASTM E96, ASTM C1338, ASTM C1224, ASTM D882, ASTM D1938, ASTM C1258-08, ASTM C518-10, UL 723/E84, SNI 03-6771-2002

## Technical Specifications

Layer description	Alu - DIAPACK - Alu	Nominal thickness a. foil	4 mm
Hexagonal pack size	12 mm	Evaluation of fungi & bacteria growth	No growth
Weight (Real weight)	360gr/m <sup>2</sup>	Bleeding & delamination	Passed
Emmissivity	0.03 - 0.04		
Reflectivity	96% - 97%		
Sound reduction	11 dB		
Salt humidity test	No corrosion		
Pliability	Passed		
Ignitability	No		

# SF-01RBF

## Description

SF-01RBF is a standard, energy-efficient roof insulation for warehouses, residential, and light industrial buildings, providing reliable thermal protection and enhanced with flame-retardant (FR) properties for added fire safety.

Standard method used:

ASTM C1371, ASTM F1252, ASTM E96, ASTM C1338, ASTM C1224, ASTM D882, ASTM D1938, ASTM C1258-08, ASTM C518-10, UL 723/E84, SNI 03-6771-2002

## Technical Specifications

Layer description	Alu - FR DIAPACK - Alu	Nominal thickness a. foil	4 mm
Hexagonal pack size	12 mm	Evaluation of fungi & bacteria growth	No growth
Weight (Real weight)	360gr/m <sup>2</sup>	Bleeding & delamination	Passed
Emmissivity	0.03 - 0.04	Surface flame spread	Class A
Reflectivity	96% - 97%		
Sound reduction	11 dB		
Salt humidity test	No corrosion		
Pliability	Passed		
Ignitability	No		

# SF-01RBFC (Resistant to certain chemical substances)

## Description

SF-01RBFC is a standard, energy-efficient roof insulation designed for environments involving chemical processes. It offers reliable thermal protection and chemical resistance, making it suitable for factories that emit chemical vapors.

Standard method used:

ASTM C1371, ASTM F1252, ASTM E96, ASTM C1338, ASTM C1224, ASTM D882, ASTM D1938, ASTM C1258-08, ASTM C518-10, UL 723/E84, SNI 03-6771-2002

## Technical Specifications

Layer description	Alu Chemical - FR DIAPACK - Alu	Nominal thickness a. foil	4 mm
Hexagonal pack size	12 mm	Evaluation of fungi & bacteria growth	No growth
Weight (Real weight)	360gr/m <sup>2</sup>	Bleeding & delamination	Passed
Emmissivity	0.03 - 0.04	Surface flame spread	Class A
Reflectivity	96% - 97%		
Sound reduction	11 dB		
Salt humidity test	No corrosion		
Pliability	Passed		
Ignitability	No		

# SF-04RB

## Description

SF-04RB is a standard roof insulation solution with enhanced performance, offering greater thermal effectiveness compared to SF-01RB for improved energy efficiency and indoor comfort.

Standard method used:

ASTM C1371, ASTM F1252, ASTM E96, ASTM C1338, ASTM C1224, ASTM D882, ASTM D1938, ASTM C1258-08, ASTM C518-10, UL 723/E84, SNI 03-6771-2002

## Technical Specifications

Layer description	Alu - BIG DIAPACK - Alu	Nominal thickness a. foil	8 mm
Hexagonal pack size	25 mm	Evaluation of fungi & bacteria growth	No growth
Weight (Real weight)	440gr/m <sup>2</sup>	Bleeding & delamination	Passed
Emmissivity	0.03 - 0.04		
Reflectivity	96% - 97%		
Sound reduction	20 dB		
Salt humidity test	No corrosion		
Pliability	Passed		
Ignitability	No		

# SF-04RBF

## Description

SF-04RBF offers the same enhanced thermal performance as SF-04RB, with added flame-retardant (FR) properties for improved fire safety.

Standard method used:

ASTM C1371, ASTM F1252, ASTM E96, ASTM C1338, ASTM C1224, ASTM D882, ASTM D1938, ASTM C1258-08, ASTM C518-10, UL 723/E84, SNI 03-6771-2002

## Technical Specifications

Layer description	Alu - FR BIG DIAPACK - Alu	Nominal thickness a. foil	4 mm
Hexagonal pack size	12 mm	Evaluation of fungi & bacteria growth	No growth
Weight (Real weight)	360gr/m <sup>2</sup>	Bleeding & delamination	Passed
Emmissivity	0.03 - 0.04	Surface flame spread	Class A
Reflectivity	96% - 97%		
Sound reduction	11 dB		
Salt humidity test	No corrosion		
Pliability	Passed		
Ignitability	No		

# SF-04RBFC (Resistant to certain chemical substances)

## Description

SF-04RBFC provides the same chemical-resistant and energy-efficient performance as SF-01RBFC, with enhanced effectiveness for improved overall insulation performance in chemically exposed environments.

Standard method used:

ASTM C1371, ASTM F1252, ASTM E96, ASTM C1338, ASTM C1224, ASTM D882, ASTM D1938, ASTM C1258-08, ASTM C518-10, UL 723/E84, SNI 03-6771-2002

## Technical Specifications

Layer description	Alu Chemical - FR BIG DIAPACK - Alu	Nominal thickness a. foil	4 mm
Hexagonal pack size	12 mm	Evaluation of fungi & bacteria growth	No growth
Weight (Real weight)	360gr/m <sup>2</sup>	Bleeding & delamination	Passed
Emmissivity	0.03 - 0.04	Surface flame spread	Class A
Reflectivity	96% - 97%		
Sound reduction	11 dB		
Salt humidity test	No corrosion		
Pliability	Passed		
Ignitability	No		

# SF-05RBR

## Description

SF-05RBR is a reinforced roof insulation with higher tensile strength and improved resistance to expansion and contraction. Its reinforcement weave enhances durability, making it suitable for countries with four seasons.

Standard method used:

ASTM C1371, ASTM F1252, UL 723/E84, ASTM E96, ASTM C1338, ASTM C1224, ASTM D624, ASTM D882, ASTM D1938, ASTM C1258-08, ASTM C518-10, SNI 03-6771-2002

## Technical Specifications

<b>Layer description</b>	Alu - FR DIAPACK - Woven Alu	<b>Nominal thickness a. foil</b>	8 mm
<b>Hexagonal pack size</b>	25 mm	<b>Evaluation of fungi &amp; bacteria growth</b>	No growth
<b>Weight (Real weight)</b>	510gr/m <sup>2</sup>	<b>Bleeding &amp; delamination</b>	Passed
<b>Emmissivity</b>	0.03 - 0.04	<b>Tear strength</b>	Passed
<b>Reflectivity</b>	96% - 97%		
<b>Sound reduction</b>	20 dB		
<b>Salt humidity test</b>	No corrosion		
<b>Pliability</b>	Passed		
<b>Ignitability</b>	No		