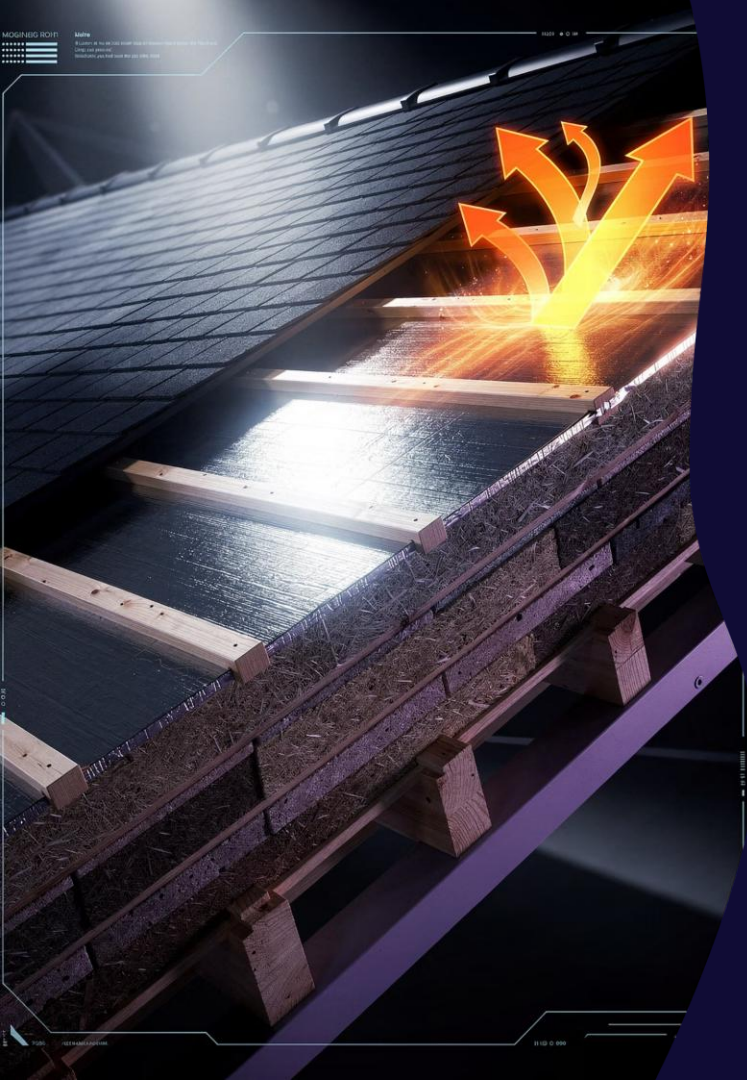




*EnViro*tuff™

Radiant Barrier

Smart Heat Protection Solution for Buildings



**San Miguel Yamamura
Woven Products Sdn. Bhd.**



What Is a Radiant Barrier?

Reflective Heat Protection Technology

A radiant barrier works by **reflecting radiant heat away** before it enters the building — keeping interiors cooler and reducing the burden on air conditioning systems.

Sun Emits Heat

Barrier Reflects Heat

Interior Stays Cool

By intercepting heat at the roof level, radiant barriers address the root cause of heat gain rather than simply managing its effects indoors.

Main Functions

- Reflect radiant heat
- Reduce roof heat transfer
- Lower attic temperature
- Improve indoor comfort
- Support HVAC efficiency

Best Used In

- Hot climate regions
- Metal roof buildings
- Attic applications
- Commercial roofing systems



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How Heat Enters Buildings

The Roof Is the Largest Source of Heat Gain

✗ Without Radiant Barrier

- Sun heats up roof surface
- Heat radiates into attic
- Ceiling transfers heat indoors
- Air conditioning works harder

✓ With Radiant Barrier

- Reflects radiant heat at source
- Reduces heat penetration
- Improves thermal comfort
- HVAC operates more efficiently





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Key Benefits

Why Customers Choose Radiant Barrier



Reduce Cooling Cost

Helps lower HVAC energy consumption and reduces monthly electricity bills significantly.



Improve Indoor Comfort

Reduces excessive indoor heat buildup for a more pleasant living and working environment.



Lower Attic Temperature

Helps maintain a cooler roof space, protecting structural elements and stored items.



Improve HVAC Efficiency

Less stress on cooling systems means longer equipment life and lower maintenance costs.



Easy Installation

Suitable for both new construction and retrofit projects with minimal disruption.

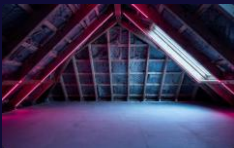


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Target Applications

Suitable for Multiple Building Types



Residential

- Attics
- Roof decking
- Garage ceilings



Commercial

- Warehouses
- Retail outlets
- Office buildings



Industrial

- Factories
- Logistics hubs
- Manufacturing plants



Agriculture

- Poultry farms
- Livestock buildings



USA Market

Rising Heat & Energy Costs in USA Buildings

Residential Problems

- Hot attic spaces
- High electricity bills
- Uneven indoor temperature

Commercial & Industrial

- Heat buildup under metal roofs
- Worker discomfort
- Increased HVAC load
- Higher cooling expenses

Key Hot Climate Regions

Texas	Florida
Arizona	California
Nevada	

These states experience extreme summer heat, driving significant demand for effective thermal management solutions in all building types.



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Residential Market Opportunity

Strong Demand in Residential Homes

Homeowner Pain Points

- Hot upper floors
- Poor attic ventilation
- Rising electricity cost
- Summer heat discomfort

Radiant Barrier Solution

- Cooler attic environment
- Better indoor comfort
- Improved HVAC performance
- Energy-saving enhancement

- ✓ Homeowners in hot states like Texas and Florida report significant reductions in cooling costs after radiant barrier installation.



Metal Building Opportunity

Metal Roof Buildings Generate Extreme Heat

Common Issues

High Indoor Temperature

Metal roofs absorb and radiate intense heat directly into the building interior.

Heat Trapped Under Roof

Poor thermal separation causes heat to accumulate in the upper building zone.

Worker Discomfort

Extreme heat reduces productivity and creates unsafe working conditions.

Increased Cooling Demand

HVAC systems are overloaded, driving up energy costs significantly.

Radiant Barrier Helps By

- Reflecting roof heat before it enters
- Reducing indoor heat load substantially
- Supporting better working conditions
- Lowering HVAC operating hours

- ④ Metal buildings are among the highest-priority applications for radiant barrier technology due to the extreme heat conductivity of steel roofing.





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Agriculture & Poultry Market

Growing Need for Heat Management

Poultry & Livestock Buildings Need

- Better indoor temperature control
- Reduced heat stress on animals
- Improved ventilation efficiency

⚠ Heat stress in poultry and livestock directly impacts animal health, growth rates, and farm productivity — making thermal management a critical investment.

Benefits of Radiant Barrier

- Lower roof heat load
- Support indoor climate stability
- Reduce cooling pressure
- Improve animal welfare conditions
- Reduce operational energy costs





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Why ASTM E84 Matters

Important for the USA Building Industry

ASTM E84 Evaluates

- Flame spread behaviour
- Smoke development performance
- Surface burning characteristics

Important For

- Architects
- Contractors
- Consultants
- Commercial building projects

ASTM E84 certification adds market credibility and confidence — enabling specification in commercial, industrial, and institutional building projects across the USA.



Installation Flexibility

Suitable for Various Installation Methods



Under Roof Decking

Applied directly beneath roof decking to intercept heat before it enters the attic space.



Attic Rafters

Draped or stapled between rafters for effective residential attic heat management.



Metal Roof Systems

Installed under metal roofing panels to dramatically reduce radiant heat transfer.



Wall Systems

Applied within wall assemblies to provide additional thermal protection on all sides.

New Construction

Integrated during the build phase for optimal performance.

Retrofit Projects

Easily added to existing buildings with minimal disruption.

Commercial Upgrades

Scalable solution for large-scale commercial improvement projects.

Energy Efficiency Positioning

More Than Just "Foil"

POSITIONING STRATEGY

Position as a Complete System

Heat Management Solution

Energy Efficiency Enhancement System

Customer Value Delivered

- **Lower Cooling Load**
Reduces the demand placed on air conditioning systems.
- **Better Indoor Comfort**
Creates a more pleasant environment for occupants year-round.
- **Improved Building Efficiency**
Contributes to overall building energy performance ratings.
- **Long-Term Operational Benefits**
Sustained savings and comfort over the building's lifetime.





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USA Market Potential

Growing Demand for Energy-Saving Solutions

Market Drivers

- Rising electricity costs nationwide
- Hotter weather conditions year on year
- Green building awareness and regulation
- Expansion of the warehouse sector
- Increasing cooling demand across all sectors

High Growth Potential Segments

1 Residential Retrofit

Millions of existing homes in hot states are prime candidates.

2 Metal Buildings

Rapidly growing industrial and logistics sector.

3 Warehouses

E-commerce growth driving massive warehouse construction.

4 Agriculture Sector

Increasing awareness of heat management in farming operations.





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Recommended Sales Approach

Focus on Solving Heat Problems

Ask Customers These Questions

Is the building too hot?

Is cooling cost increasing?

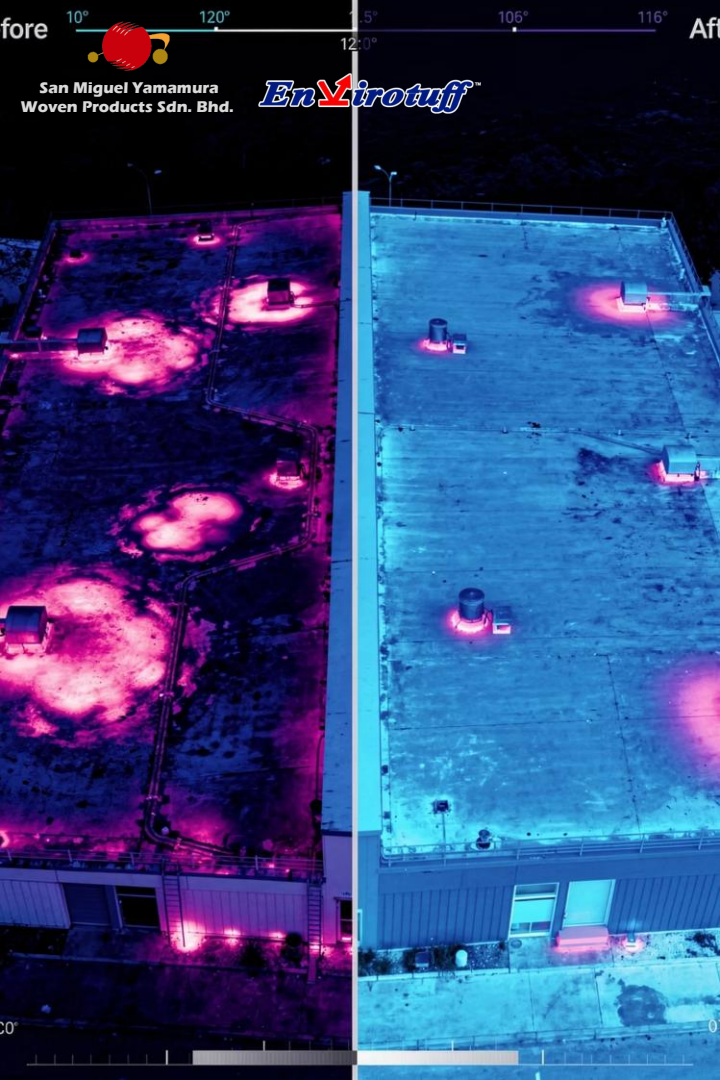
Is HVAC always running?

Are workers uncomfortable?

Then Position With Confidence

"Our radiant barrier helps reduce radiant heat entering the building — lowering cooling costs, improving comfort, and supporting HVAC efficiency."

Lead with the problem, then present the solution. Customers respond to outcomes, not technical specifications alone.



Marketing Strategy

Effective Promotion Strategy for the USA Market

Demonstration-Based Selling

- Infrared temperature comparison
- Before & after roof testing
- Thermal imaging visuals

Digital Marketing

- Social media videos
- Installation tutorials
- Contractor education content

Industry Outreach

- Roofing contractors
- HVAC companies
- Building distributors
- RIMA membership



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Why Choose San Miguel Yamamura Woven Products

Reliable Manufacturing Partner



Export Experience

Proven track record supplying international markets with consistent quality and reliable delivery.



Consistent Production Quality

Rigorous quality management processes ensure every product meets specification.



Technical Support

Dedicated technical team available to assist with product selection, installation guidance, and application queries.



Product Development Capability

Ongoing R&D investment to develop solutions that meet evolving market requirements.



OEM / Private Label Flexibility

Flexible manufacturing arrangements to support partner branding and custom product requirements.

Supporting long-term market growth in the USA — your trusted manufacturing partner for radiant barrier solutions.



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Radiant Barrier Solutions for Smarter & Cooler Buildings

San Miguel Yamamura Woven Products (SMYWP)
Helping Buildings Stay Cooler & More Energy Efficient



Residential

Cooler homes, lower bills



Industrial

Better working conditions



Agriculture

Healthier livestock environments



Commercial

Energy-efficient operations