



Signature Services

Innovative Climate Solutions for Home & Business



Controls Indoor Climates, Protects Health,
Lowers Energy Costs & Guards Privacy



Signature Services, LLC • Business & Residential
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How Reflective Barriers Work

Reflective Barriers that Reflect Heat

Reflective Barriers are an essential component in keeping astronauts from being burned to a crisp or frozen solid by extreme temperature swings in outer space. NASA couldn't relay on traditional insulation (foam, blown-in, or rolled batts), which merely *delays* the sun's radiant heat. Here on Earth, Reflective Barriers block 95-97 percent of the radiant heat entering or leaving a structure. Blocking heat from entering or leaving a home or building dramatically reduces energy costs.



Barriers that Block Harmful UV Rays

Ultra Violet (UV) rays have adverse effects on humans and livestock. UV rays cause physical and mental fatigue which leads to clouded judgment and increased health risks. Reflective Barriers block 95-97% of harmful UV rays in livestock, pigs and poultry facilities, lessen commodity costs (food and water) and death rates.

Barriers that Protect Privacy

Inexpensive RFID (Radio Frequency Identification) scanners can easily harvest financial information from wallets and purses in public spaces. They can also be used by hackers to crack computer networks. Reflective Barriers block 99.99% of RFID signals and EMWs. Blocking RFID is also useful in proprietary Inventory Management Systems that rely on the technology for product counts on retail showroom floors.



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Practical Application - Residential



Barriers in a Residential Attic

An attic feels like a furnace in the summer because traditional insulation absorbs heat like a sponge. Eventually, heat seeps through and continues its journey to a cooler temperature: your air-conditioned space. Reflective Barriers reflect heat, lowering energy costs and also maintaining a comfortable indoor temperature regardless of the season.

Reflective Barriers can save up to 50 percent on cooling costs, according to the DOE.

Reflective Barriers can also be installed in wall cavities, under concrete, in conjunction with radiant heating systems, and on ducts, pipes and garage doors.

What is the 'R' Value?

"R" value is a unit of resistance that measures how long it takes heat to pass through an object. Reflective Barriers reflect heat. There's no unit of resistance that measures how long it takes heat to pass through traditional insulation.

Will Barriers Damage My Roof?

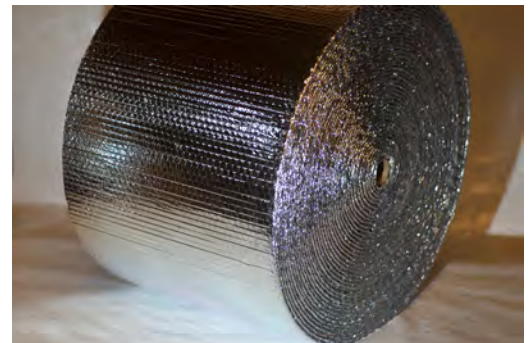
No. Shingle manufacturers have certified that Reflective Barriers go not damage a roof or void its warranty.

Do I have to remove old insulation?

No. Reflective Barriers actually make your present insulation more effective.

Have Barriers been tested?

The DOE tested Radiant Barriers against traditional insulation. An attic without a Barrier had the highest heating and cooling costs.



Practical Application - Agricultural



Barriers that Block ‘The Black Globe Effect’

Commercial growers discovered that humans and meat-producing animals like pigs, chickens and swine were susceptible to a phenomenon dubbed “The Black Globe” effect. The sun’s harmful UV rays adversely impact humans and animals even if they are housed in an enclosed facility shaded by the sun.

In humans, UV rays cause physical and mental fatigue which leads to clouded judgment and increased health risks. In animals, UV rays increase commodity costs (food, water, medicine). By blocking UV emissions from the sun, commodity costs are lowered and animal losses are lessened.



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Practical Application - Inventory Mgt.



Barriers that Block RFID to Enhance Inventory Systems

Inventory Management Systems utilize advanced technologies throughout the supply chain, tracking goods from DC's to the showroom floor.

Reflective Barriers are employed to contain RFID technology that are meant to count products on the showroom floor. Without this containment, RFID scans could pick up inventory waiting to be processed in loading docks or back-room storage areas. Reflective Barriers block 99% of RFID signals across the electromagnetic spectrum.



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Practical Application - Sheds & Buildings



Barriers that Lower Energy Costs, Increase Worker Efficiency

Maintaining a comfortable indoor climate increases worker efficiency in metal buildings, pole barns and DC's.

Unbearable indoor temperatures accelerates physical and mental fatigue, clouding judgment and increasing the risk heat-related illnesses.

Reflective Barriers block 95-97% of the radiant heat emitted by the sun, increasing worker efficiency and protecting sensitive machinery. Reflective Barriers also lessen the energy costs required to maintain a comfortable working environment.



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Practical Application - Military



Barriers that Distort Surveillance Technology

While many Reflective Barrier applications are classified, what is known is that the material's reflective technology helps US soldiers "hide" from the enemy.

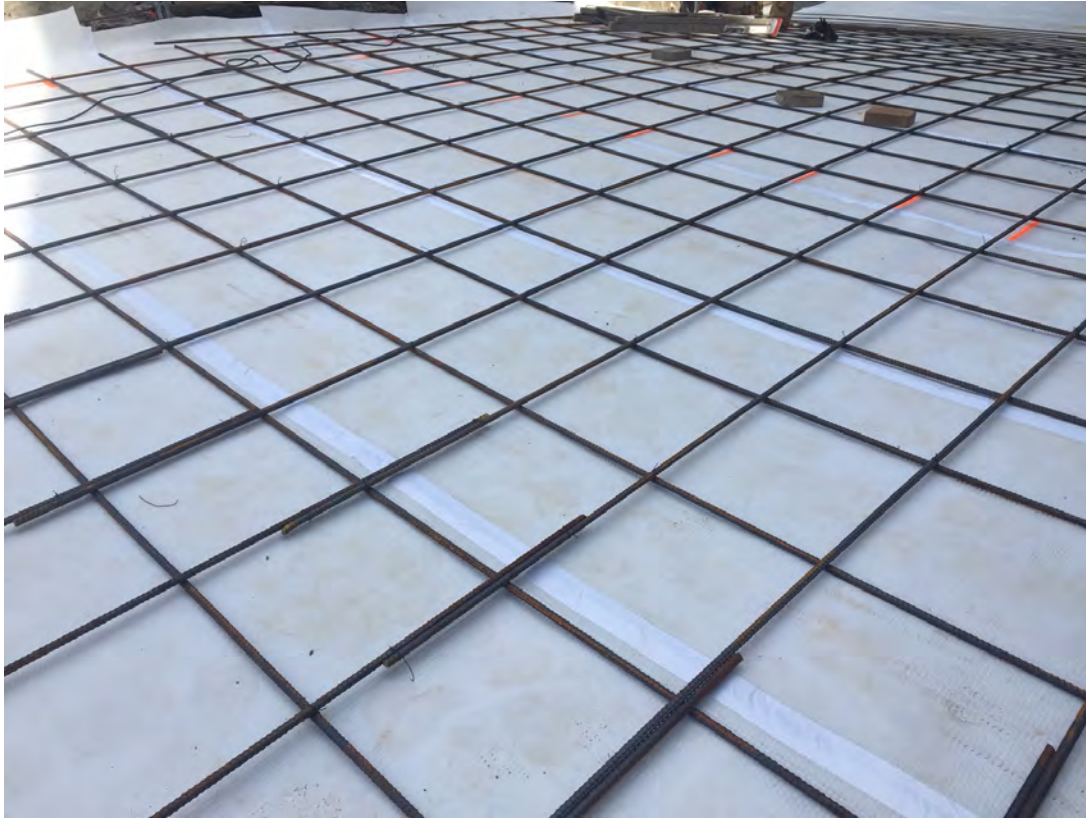
Enemy combatants often have access to inexpensive sophisticated technology that help surveillance systems identify location of opposing forces.

Reflective Barriers block heat-seeking drones and inexpensive lasers from identifying soldiers and munitions. Radiant Barriers also by reflect RFID and EMWs.



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Practical Application - Under Slab



Barriers that Improve Efficiency of Radiant Heating Systems

Radiant Barrier installed underneath a concrete slab will help keep floors warm in the winter and driveways ice free.

Radiant Barrier “bubble” reflective insulation ensures that 95 percent of the radiant heat is directed upward.

Without Radiant Barrier “bubble” underneath a radiant heating system, half of the heat generated could move downward, warming the ground.

“Bubble” rolls are seamless and available in up to 6-foot widths.



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Practical Application - Duct



Barriers that Keep Air Circulating in Duct Work Cool in the Summer

- Vapor Barrier
- Easy to install
- Lightweight and clean
- Resists growth of mold or mildew
- Not affected by moisture or humidity
- When sealed properly, aids in reducing duct leakage
- Reduces stress on AC units



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Product Data Sheet HD Barrier



P R O D U C T	
	HD Radiant Barrier Highest Quality
SPECS	Two-sided reflecting metalized film with polyethylene woven reinforcement
EMISSIONITY	0.05 95% Reflectivity ASTM 1371
PERMEA- ABILITY	5.88 Perms ASTM E-96
WEIGHT	32 LBS 1,000 Sq. Ft.
TEAR STRENGTH	Length: 21.9 Width: 24.56 Pounds Force ASTM D2216
PLIABILITY	70°±50°±5% Relative Humidity No Delamination ASTM 1313
ADHESIVE	180°±5% Relative Humidity No Delamination ASTM 1313
FLAME	Class A/Class 1 0 Flame Spread 5 Smoke Dev. ASTM E-84
FUNGI	Pass - No Growth ASTM C1338



**70G Material
Won't Rip or Tear**



**Reflects 97%
of Radiant Heat

Blocks 99% of
RFID and EMWs**

Heavy Duty Radiant Barrier

Perforated so it doesn't sweat, or
Solid to provide a vapor barrier

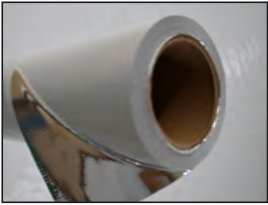
Recommended Uses:

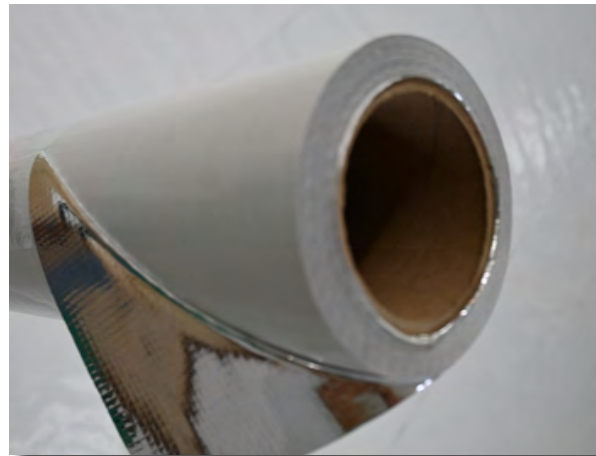
- Attic Applications (Stapled to Rafters)
- Over Mass Insulation (Blown-In or Batts)
- House Wrap

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Product Data Sheet Silver/White Barrier



P R O D U C T	
	HD Radiant Barrier Silver/White
SPECS	One side reflective one side white poly polyethylene woven reinforcement
EMISSIONITY	0.05 95% Reflectivity ASTM 1371
PERMEA- ABILITY	6.29 Perms ASTM E-96
WEIGHT	32 LBS 1,000 Sq. Ft.
TEAR STRENGTH	Length: 21.49 Width: 24.56 Pounds Force ASTM D2216
PLIABILITY	70°±50°±5% Relative Humidity No Delamination ASTM 1313
ADHESIVE	180°±5% Relative Humidity No Delamination ASTM 1313
FLAME	Class A/Class 1 0 Flame Spread 5 Smoke Dev.. ASTM E-84
FUNGI	Pass - No Growth ASTM C1338



RFID and EMW Blocker
Perforated so it doesn't sweat, or
Solid to provide a vapor barrier

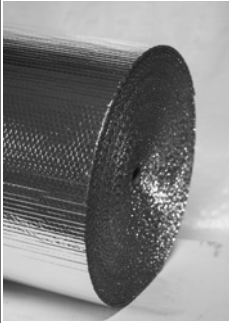
Recommended Uses:

- Inventory Management

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Product Data Sheet Single Bubble



P R O D U C T S		
	Single Bubble Double Foil	Single Bubble Foil/White
	SPECS	1/8th inch thick poly bubble with metalized film on both sides
	TEMP RANGE	-60°F to 180°F -51°C to 82°C
	VAPOR TRANS	.02 Perms ASTM E96
	FLAME	Class A/Class 1 0 Flame Spread ASTM E-84
	SMOKE DEVELOP	25 ASTM E-84
	FUNGI	Pass - No Growth ASTM C1338
	PUNCTURE STRENGTH	60 lbs/inch
	PLIABILITY	No Cracking
	SHRINKAGE	None



Single Bubble Recommended Uses:

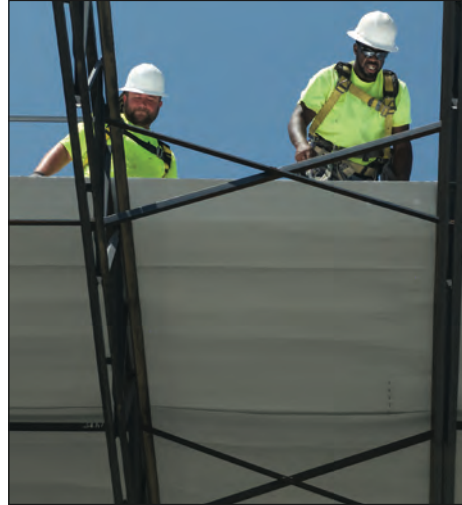
- Pipe Wrap • She Sheds • Side-Walls • Agricultural
- Vapor/Radon Barriers • Under Flooring • Crawl Spaces
- Basement Walls • HVAC • Shipping Containers • Tiny Homes

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Product Data Sheet Double Bubble



P R O D U C T S



	Double Bubble Double Foil	Double Bubble Foil/White
SPECS	1/4th inch thick poly bubble with metalized film on both sides	1/4th inch thick poly bubble with metalized film on one side
TEMP RANGE	-60°F to 180°F -51°C to 82°C	-60°F to 180°F -51°C to 82°C
VAPOR TRANS	.02 Perms ASTM E96	.02 Perms ASTM E96
FLAME	Class A/Class 1 0 Flame Spread ASTM E-84	Class A/Class 1 0 Flame Spread ASTM E-84
SMOKE DEVELOP	40 ASTM E-84	20 ASTM E-84
FUNGI	Pass - No Growth ASTM C1338	Pass - No Growth ASTM C1338
PUNCTURE STRENGTH	60 lbs/inch	60 lbs/inch
PLIABILITY	No Cracking	No Cracking
SHRINKAGE	None	None

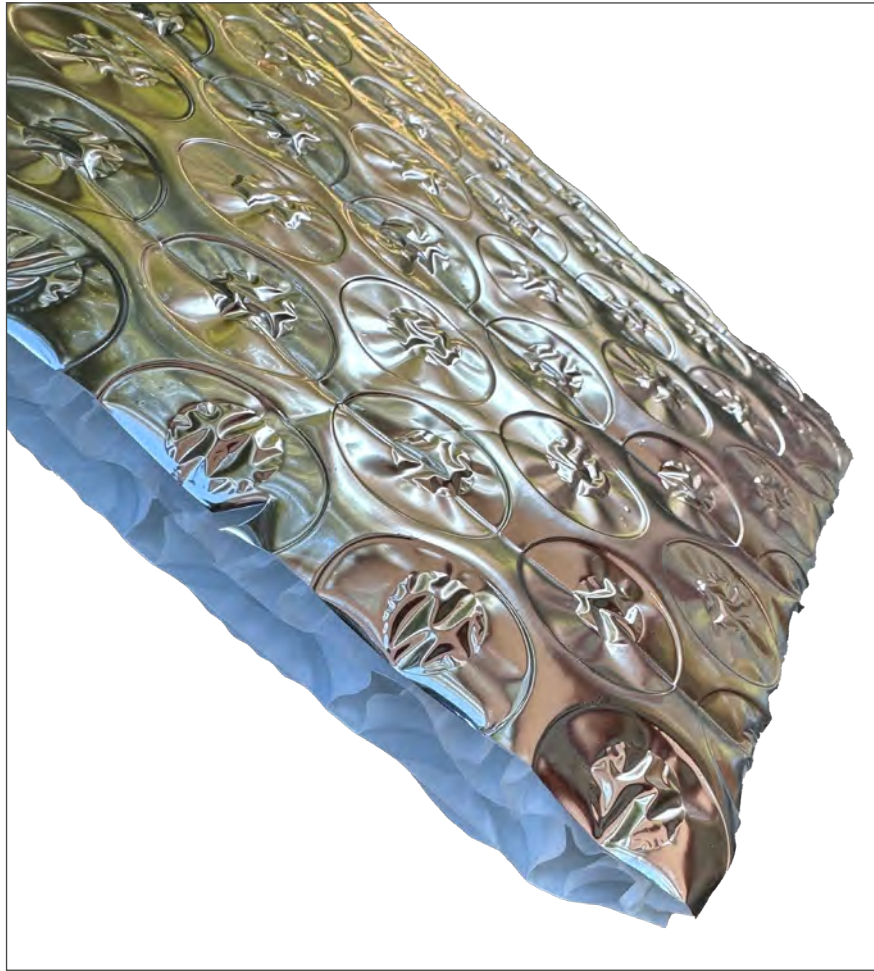
Double Bubble Ideal Uses:

- Metal Buildings • Warehouses • Side-Walls • Agricultural
- Vapor/Radon Barriers • Under Concrete • Crawl Spaces
- Basement Walls • HVAC • Shipping Containers • Tiny Homes

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New Products

Big Bubble



‘Big’ Bubble Ideal Uses:

- Metal Buildings • Warehouses • Side-Walls • Under Concrete
- Crawl Spaces • Basement Walls • HVAC • Shipping Containers • Tiny Homes

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MANUFACTURED IN THE USA

All Signature Services, LLC, radiant and reflective barrier products meet the guidelines established under the

Buy American Act.

The **American Recovery and Reinvestment Act (ARRA)** does not include a requirement as to the origin of the raw materials to make our radiant barrier products. Where possible, we purchase raw materials domestically to promote and support the American economy.

Signature Services, LLC, is proud to supply quality radiant barrier products to customers around the world.

We are a
“**Made in the USA**” company.



Innovative Product Uses



Contact Us for a Confidential Design Quote



What's the difference between Single and Double Bubble Barrier?

Both reflect 95-97 percent of radiant heat and block 99 percent of RFID and EMWs. Double Bubble is much easier to install because it's thicker and heavier.

What's the difference between Foil/Foil and Foil/White?

The difference is cosmetic.

Have Barriers been tested?

The DOE tested Radiant Barriers against traditional insulation. An attic without a Barrier had the highest heating and cooling costs. Barriers also block 99 percent of RFID and EMW.

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