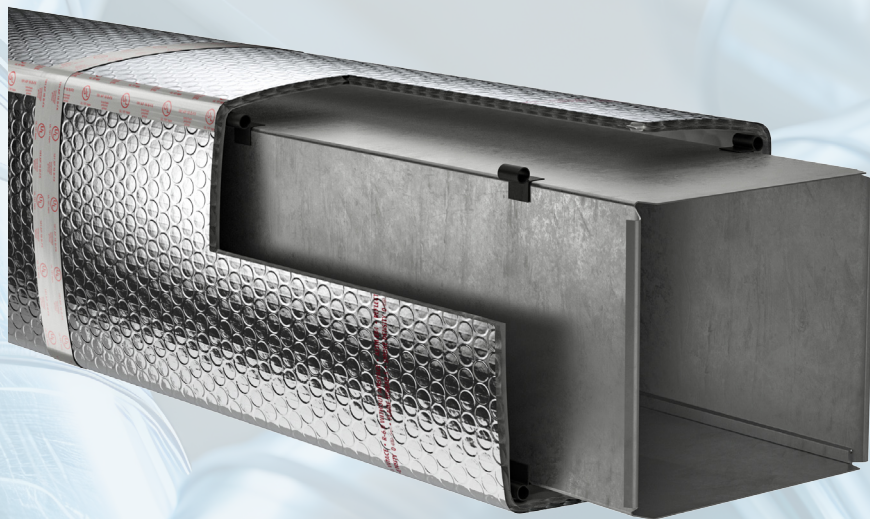




Reflectix

HVAC Solutions Guide

Providing Technologically Advanced Products
and Accurate Information for the HVACR Professional



REFLECTIVE
PRODUCTS

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Left to right: Standard Bubble (HVBP48100), Concrete Slab (DBWEF48125), Big Bubble (HVBB48075), Radiant Barrier (RB4812550), Standard Bubble (HVBP48050), Outdoor Duct Insulation (CDW48050), Return Air Duct Panning Bubble (HVRDBW1602503), and laying in front, Return Air Duct Panning Corrugate (HVRC1648025).

Testing & Certifications

All tests on Reflectix® Insulation products are performed at either nationally approved independent laboratories, or at leading universities. Tests are performed to current American Society of Testing and Materials (ASTM) Standards, when a standard exists.

Testing results on our Reflective Insulation (Reflective/Bubble/Bubble/ Reflective) product are listed below. For additional information on this product (or any other), please refer to our website at www.reflectixinc.com, or feel free to call our Customer Service Group at (800) 879-3645.

Nominal Thickness	5/16" (.312)
Weight	0.771 oz./ft²
Temperature Range	-30° to +180° F
Flame Spread	Less than 25*
Smoke Development	Less than 50*
Perm. Rating	0.02**
Puncture Resistance	60 lb./in.***
Vapor Transmission	0.02
Mold and Mildew	No Growth
Emittance	0.04
Tensile Strength	3.7 N/mm
Pliability	No Cracking
Hot Surface Performance	Passed (250° F)

Note: Not for use in direct contact on surface temperatures that are 180° F or greater.

* Intertek Testing ASTM Test Method E-84 **ASTM Test E-96 ***FSTM 101 B Method 2031

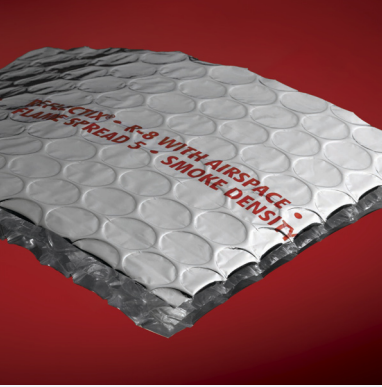
Product Standards

Resistance to fungi or bacteria: Reflectix® does not promote the growth of fungi or bacteria.

Testing and Certification Documents

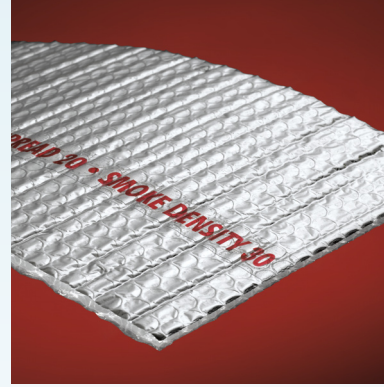
- Thermal Performance ASTM C1363
- Thermal Performance of Wall Systems ASTM C1363
- Thermal Performance ASTM C335
- Thermal Performance of Crawl Space ASTM C1363
- Hot Surface Performance ASTM C411
- Heat Transfer (Heat Flow Up, Down, Horizontal) ASTM C1363
- Thermal Performance of Reflectix® and Fiberglass in Walls ASTM C1363
- Heat Transfer of Air-Handling Ducts with Reflectix®
- Flame Spread and Smoke Density ASTM E84
- Mounting Method ASTM E2599
- Fungus Resistance Mil-Std 810B Method 508
- Pliability Test ASTM C1224
- Sound Absorption Test ASTM C423 and ASTM E795
- Sound Transmission Loss ASTM E90 and ASTM E413
- Water Vapor Transmission ASTM E96
- Tensile Strength ASTM D751
- Bleeding and Delamination ASTM C1668
- Emittance Testing ASTM C1371
- Thermal Performance of Water Heater Jackets
- Intertek: Surface Burning Characteristics of Building Materials ASTM E84 (Taped Joint Detail) Test Report # 3166908SAT-012
- Intertek: Surface Burning Characteristics of Building Materials ASTM E84 (Unslit) Test Report # 3166908SAT-011
- R&D Services: Resistance to the Growth of Fungi ASTM C1338 Test Report # RD072713FR
- State of California
- State of California Licensed Insulation Manufacturer
- State of Minnesota: Filed with Minnesota Insulation Standards Program
- R&D Services: Emittance Testing ASTM C1371
- R&D Services: Physical Properties Sheet Width, Length, Pliability, Water Vapor Permanence and Aged Water Vapor Permanence
- R&D Services: Water Vapor Transmission Test ASTM-E96 (Descicant Method)

Reflectix® HVAC/R Duct Insulation Products



Big Bubble Reflective Duct Insulation

Product SKU: "HVBB48075"



Standard Bubble Reflective Duct Insulation

Product Prefix: "HVBP"

Innovative Product

- R-6.0 when wrapped loosely around the duct
- R-8.0 with a 3/4" air space around the duct
- Requires less space than fiberglass to achieve an R-8.0

Product Description:

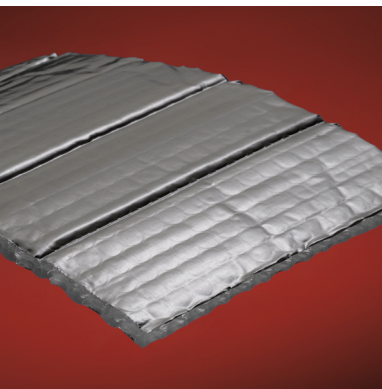
- A reflective duct insulation with two outer reflective surfaces, enclosing a 1" double big bubble layer
- Product is available in a 48 inch x 75 foot roll
- Printed code certification runs the length of the product

Our Most Versatile Product

- R-4.2 when wrapped loosely around the duct
- R-6.0 with a 3/4" air space around the duct
- R-8.0 when installed with 3/4" air space against the duct, 1 wrap of product, additional 3/4" air space, 2nd wrap of product.
- Easy to handle and quick to install

Product Description:

- A reflective duct insulation consisting of two outer reflective surfaces, enclosing two high-strength bubble layers
- Product is available in 12, 16, 24, 36, 48, and 60 inch widths, by 50, 100, and 125 foot lengths
- Printed code certification runs the length of the product



All-Weather Outdoor Duct Insulation

Product SKU: "CDW48050"



Spacers for Duct Products

Product SKU: "HVSP02025"

Product SKU: "HVSPACER"

Heavy Duty for Harsher Environments

- R-4.2, R-5.6, and R-6.0
- R-8.0 when installed with 3/4" air space against the duct, 1 wrap of product, additional 3/4" air space, 2nd wrap of product.
- Use for outdoor, rooftop, or exposed duct applications
- R-8.0 with (2) 3/4" air spaces around the duct

Product Description:

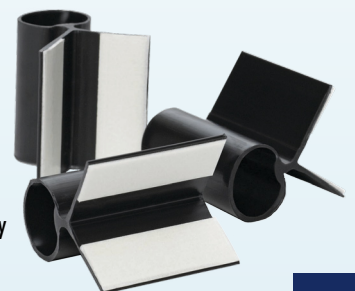
- Consists of two outer reflective surfaces, enclosing two high-strength bubble layers (outer facing reflective layer is 10x thicker)
- Product is offered in a 48 inch x 50 foot roll

HVSP02025 Product Description:

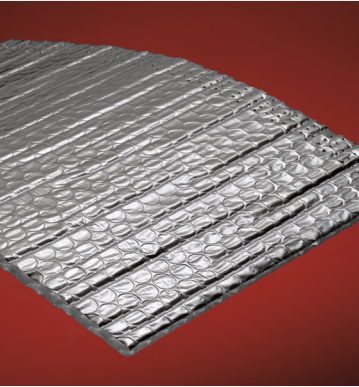
- Two inch wide Standard Bubble product used to create air spaces
- Available in a 2 inch x 25 foot roll

HVSPACER Product Description:

- Hard plastic corner spacers for use on rectangle ducts to create the required air spaces
- Equipped with 2-sided tape for easy application



Reflectix® HVAC/R Duct Insulation Products



Staple Tab Bubble Reflective Insulation

Product Prefix: "HVST"



Concrete Slab Insulation

Product Prefix: "DBWEF48125"



For Wall and Floor Systems

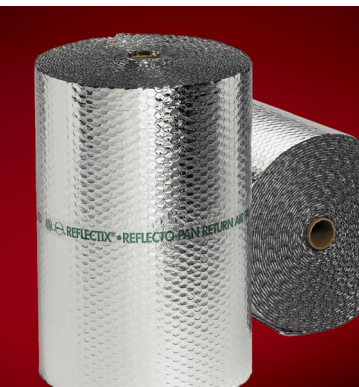
- Staple Tab provides ease of installation on 16" and 24" on-center applications
- Versatile and easy to install

Product Description:

- A reflective insulation consisting of two outer reflective surfaces, enclosing two high-strength bubble layers and staple tab edges
- Product is available in 16, 18, 24, & 48 inch widths by 50, 100, & 125 foot lengths

Product Description:

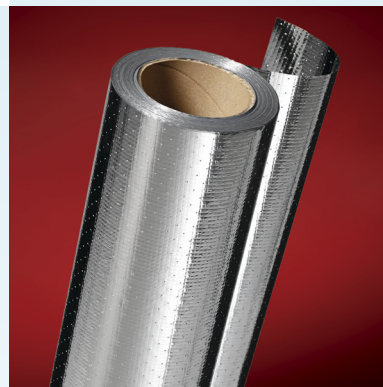
- Product consists of one layer of metalized polyester bonded to an external layer of clear polyethylene, and internally bonded to two layers of heavy gauge polyethylene bubbles (nominal thickness: 5/16") - Includes a printed orange tape that is installed with the tape facing up
- Metalized polyester is embedded under a layer of clear poly to protect it from lime in concrete.
- Available in a 48 inch x 125 foot roll



Return Air Duct Panning (Bubble or Corrugated)

Product Prefix: "HVRDBW" (Bubble)

Product Prefix: "HVRC" (Corrugated) Sheets



Radiant Barrier

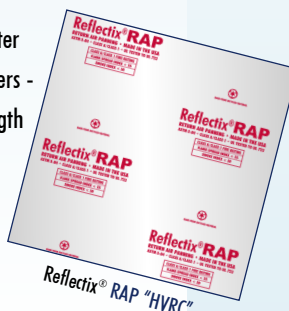
Product Prefix: "RB4812550"

Takes the place of Metal Return Air Ducts

- For installation between floor joists, walls or ceiling cavities, and open trusses

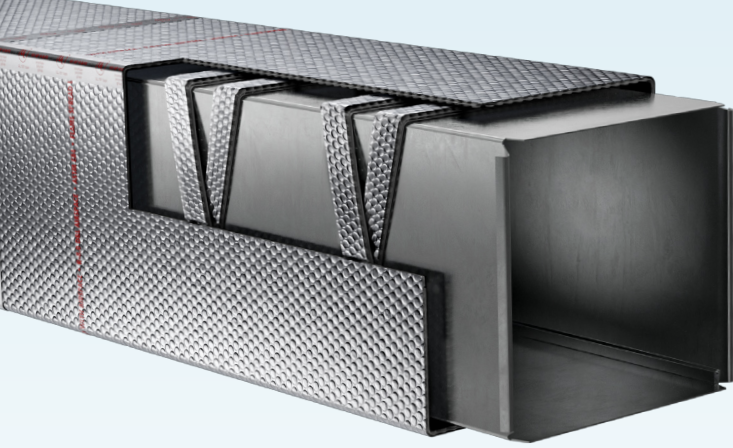
Product Description:

- The Reflectix® RAP (Bubble) "HVRDBW" product has an outer "reflective surface" bonded to two high-strength bubble layers - Product is available in 16", 24", and 32" widths, by 25' length
- The Reflectix® RAP "HVRC" sheets are reflective on both sides with a corrugated center
- The HVRC is available in 16", 19.5", 24", and 32" widths, by 4' sheets — Note the 32" is 36" in length



Product Description:

- Constructed of two outer 96% reflective films, bonded together, enclosing a heavy polyethylene fabric
- Product is perforated to allow air movement, to help reduce the risk of moisture and condensation
- Product is offered in a 48 inch x 125 foot roll

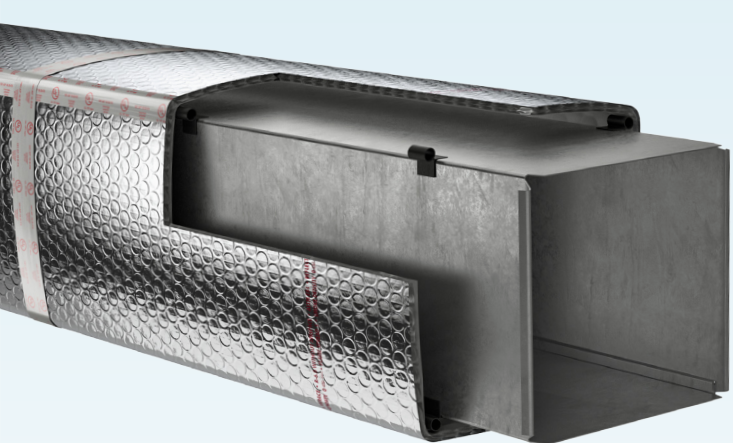


Duct Insulation – Standard Bubble

R-4.2, R-5.6, and R-6.0

Benefits:

- Costs less to install
- Itch and fiber free
- Class A/Class 1 Fire Rated
- Does not promote the growth of mold or fungi
- Inhibits condensation



Duct Insulation – Big Bubble

R-8.0

Benefits:

- Requires less space than fiberglass to achieve R-8.0 (with 3/4" air space)
- Costs less to install
- Itch and fiber free
- Class A/Class 1 Fire Rated
- Inhibits condensation

Recommended Products:

Bubble Duct Insulation, Product Prefix: "HVBP"

Installation Instructions:

R-4.2

Measure the circumference of the duct and add 2" to this measurement for product length. Wrap the product around the duct, overlapping the seam 1 – 2". Securely tape all seams using UL181 acrylic based tape.

R-6.0 Refer to "Duct Insulation – Big Bubble"

Wrap 2 layers of spacer "HVSP02025" every 24", or in a candy cane fashion, or one "HVSPACER" on each corner every 24". Measure the circumference of the duct and spacer, and add 2" for product length. Wrap the product around the duct, overlapping the seam 1 – 2". Securely tape all seams using UL 181 acrylic based tape.

R-8.0

Wrap 2 layers of spacer "HVSP02025" every 24", or in a candy cane fashion, or one "HVSPACER" on each corner every 24". Measure the circumference of the duct and spacer, and add 2" for product length. Wrap the product around the duct, overlapping the seam 1 – 2". Securely tape all seams using UL 181 acrylic based tape. Then repeat Step 1 adding spacers and additional wrap of product. When finished with second layer of product, secure all seams with UL 181 acrylic based tape.

Note: For all applications, do not leave exposed duct or space where air can enter between the duct and the Reflectix®.

Note: Not to be used as duct liner.

Recommended Products:

Big Bubble Duct Insulation, Product Code "HVBB48075" (48"x 75')

Installation Instructions:

R-6.0

Measure the circumference of the duct, and add 2" to this measurement for product length. Wrap the product around the duct, overlapping the seam 1 – 2". Securely tape all seams using UL 181 acrylic based tape.

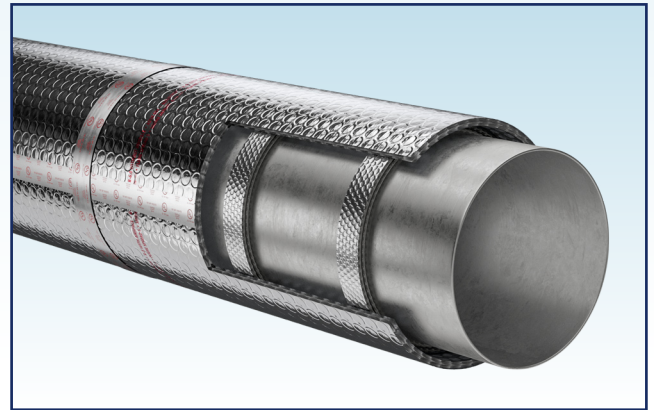
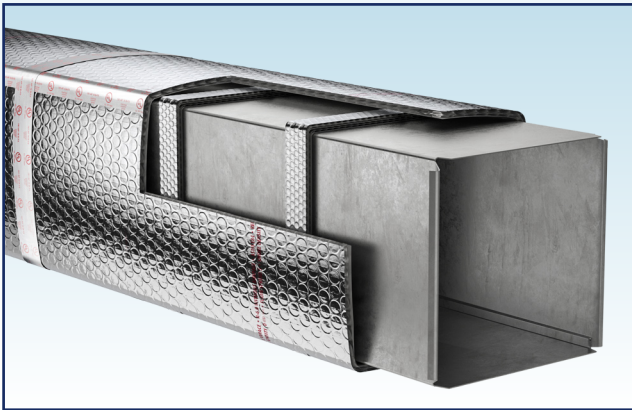
R-8.0

Wrap 2 layers of spacer "HVSP02025" either every 24", or in a candy cane fashion, or one "HVSPACER" on each corner every 24". Measure the circumference of the duct and spacer and add 2" to this measurement for product length. Wrap the product around the duct, overlapping the seam 1 – 2". Securely tape all seams using UL 181 acrylic based tape.

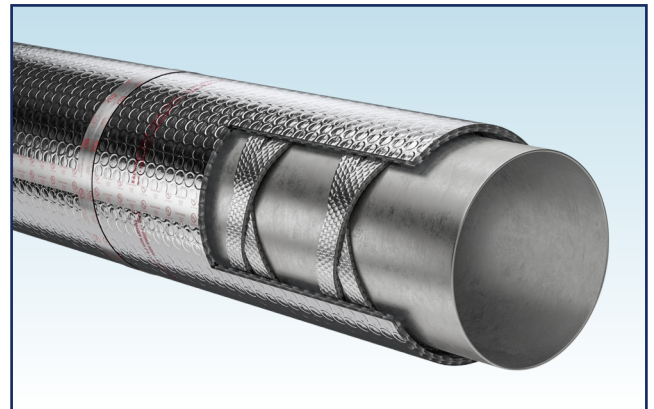
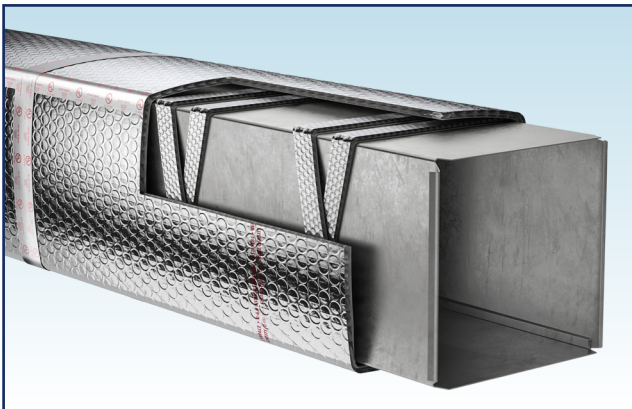
Note: For all applications, do not leave exposed duct or space where air can enter between the duct and the Reflectix®.

Note: Not to be used as duct liner.

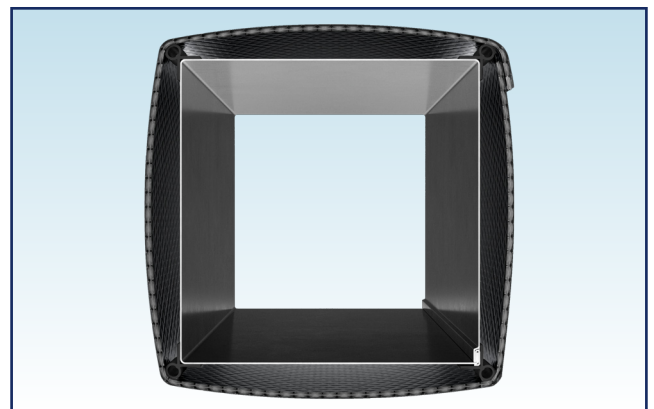
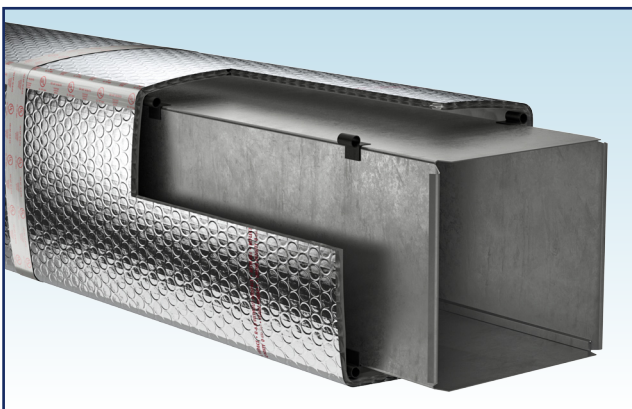
Spacer Options for the R-6.0 Standard Bubble and the R-8.0 Big Bubble



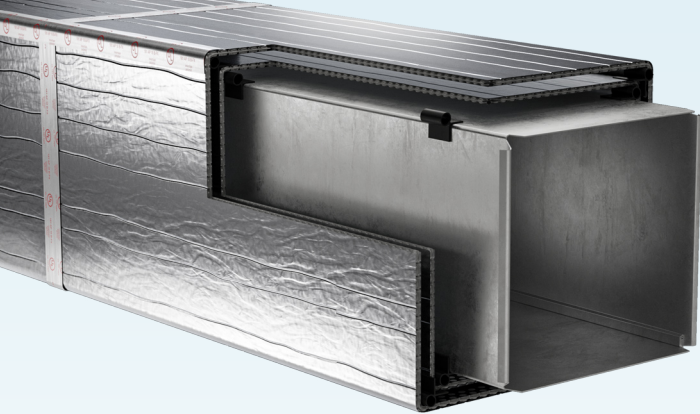
2" Spacer Perpendicular to Duct (Square and Round Ducts)



2" Spacer Candy Cane Crisscross (Square and Round Ducts)



Corner Spacers / Cross Section (Square and Round Ducts)



Duct Insulation – Outdoor

R-4.2, R-5.6, R-6.0, and R-8.0

Benefits:

- Outside layer of foil is a heavier gauge material to better withstand outdoor elements as well as inhibit birds and rodents
- Not affected by moisture or humidity

Recommended Products:

Duct Insulation Outdoor, Product Code “CDW48050”

Installation Instructions:

R-4.2

Measure the circumference of the duct and add 2” to this measurement for product length. Wrap the product around the duct, overlapping the seam 1 – 2”. Securely tape all seams using UL 181 acrylic based tape.

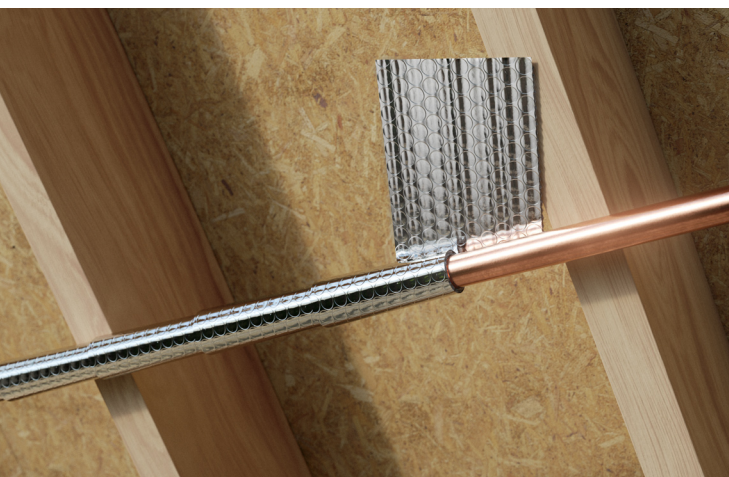
R-6.0

Wrap 2 layers of spacer “HVSP02025” every 24” or in candy cane fashion, or one “HVSPAC-ER” on each corner every 24”. Measure the circumference of the duct and spacer and add 2” to this measurement for product length. Wrap the product around the duct, overlapping the seam 1 – 2”. Securely tape all seams using UL 181 acrylic based tape.

R-8.0

Wrap 2 layers of spacer “HVSP02025” every 24” or in candy cane fashion, or one “HVSPAC-ER” on each corner every 24”. Measure the circumference of the duct and spacer and add 2” to this measurement for product length. Wrap the product around the duct, overlapping the seam 1 – 2”. Securely tape all seams using ul181 acrylic based tape. Then repeat step 1 adding spacers and additional wrap of product. When finished with 2nd layer of product secure all seams with UL 181 acrylic based tape.

Note: Not to be used as duct liner.



Pipe Wrap

R-2.0

Benefits:

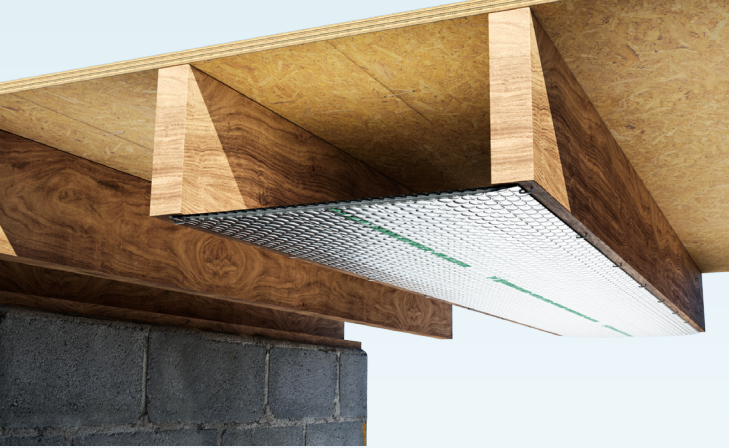
- Easy to handle and costs less to install
- Reduces condensation on cold pipes
- Does not compress, collapse or disintegrate

Recommended Products:

Spiral Pipe Wrap, Product Prefix “SPW”

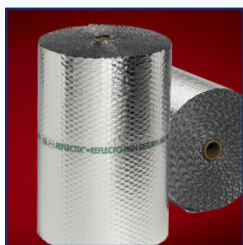
Installation Instructions:

- Spiral wrap the product overlapping a minimum of 1/2” inch
- Securely tape the seams with a Reflectix® Foil Tape. (Goal is an air-tight, snug seam seal.)



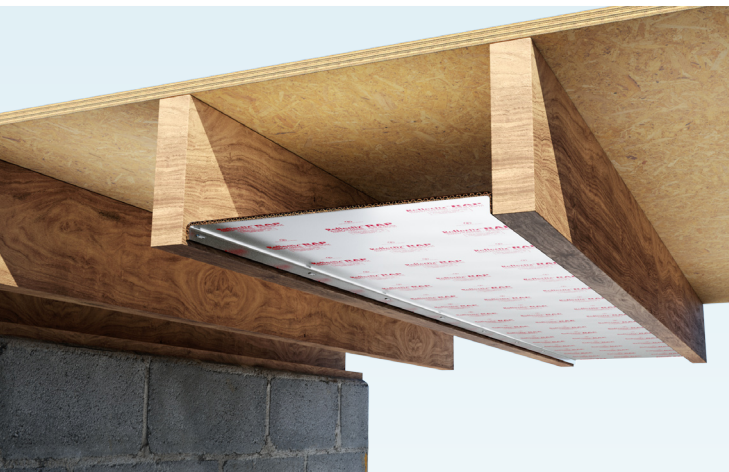
Return Air Duct Panning Reflectix® Wrap (Bubble)

Single Reflective with Double High Strength Bubble



Benefits:

- 30 - 40% less costly than sheet metal, and corrugated aluminum panels
 - easier install
- Reduces noise through plenum
- Class A/Class 1 Fire Rated



Return Air Duct Panning Reflectix® RAP (Corrugated)

Double Reflective with Corrugated Center



Benefits:

- No shop fabrication required
- Class A/Class 1 Fire Rated
- Saves on labor cost of installation

Recommended Products:

Reflectix® RAP, Product Codes "HVRDBW1602503" and "HVRDBW2402502"

Installation Instructions:

- Staple Reflectix® RAP between the floor joist, or to the side of the floor joist. Open web trusses are acceptable.
- Start at the end of the house to begin at start of the run. Staple Reflectix® RAP to the sub-floor just behind the return air grate. Products are always installed with print side out or down.
- Staple Reflectix® RAP to the bottom of the floor joist every 2" to 3". Additional approved attachment methods include steel staples, sheet metal screws, and roofing nails. Seal the seams with UL 181 acrylic based tape.

Important Information for both Panning Applications:

- In the 2021 International Mechanical Code Commentary - Section 602.3; sheet metal has traditionally been used for both stud cavity, and joist space plenums. Code does not specify types of materials allowed for panning the bottom of open joists to create joist plenums. Traditionally, sheet metal has been used, however, composite materials have and are used.
- Check local codes before installation for compliance in your area.
- Installation instructions and illustrated drawings are recommendations only, while proper local construction methods are the responsibility of the installer.

Recommended Products:

Reflectix® RAP, Product Prefix: "HVRC"

Note: Products are always installed with print side out or down.

Note: Approved attachment methods include; steel staples, sheet metal screws, and roofing nails.

Installation Instructions:

Starting before return air trunk has been installed:

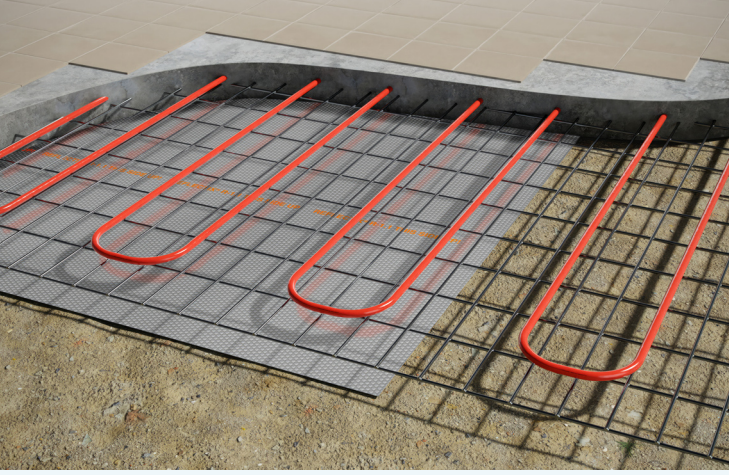
- Install Reflectix® RAP "HVRC" centered between joists & 2" or more past the top side of the duct. This provides for a tight seal when final trunk has been installed.
- Staple tabs to the bottom of the joists using a minimum 3/8" staple, every 2".

Starting after return air trunk, beam or wall plate:

- Install "HVRC" by scoring 1" lip across the end of the panel and bend down 90 degrees.
- Center product between bottom of joist. Butt it tightly to existing trunk, beam, or plate.
- Tape seams with an aluminum tape or UL 181 acrylic based tape.
- Staple side tabs to the bottom of the joists using a minimum 3/8" staple, every 2".

Adding the next section of Reflectix® RAP "HVRC":

- Butt leading edge of sheet to the next butt edge of sheet, tightly.
- Staple and tape seams as before (described above).
- Continue repeating the process until you have reached the end of the return.

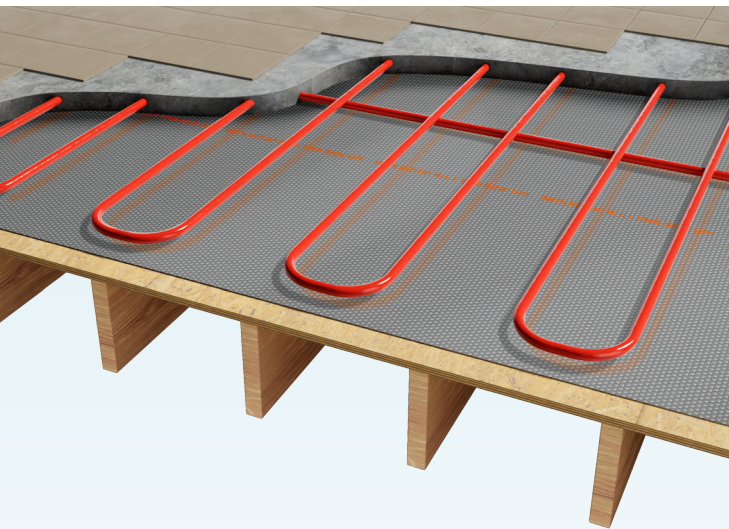


Radiant Floor in a Concrete Slab

R-1.1

Benefits:

- Easy to handle and install
- Promotes even heat distribution
- No nesting characteristics for insects



Radiant Floor Over an Existing Floor

R-1.1

Benefits:

- Promotes even heat distribution
- Vapor retarder
- Increases system efficiency

Recommended Products:

Concrete Slab Insulation, Product Prefix: "DBWEF"

Installation Instructions:

- Unroll the Reflectix® Concrete Slab Insulation product over the base material with the printed orange tape side facing up, prior to pouring the concrete.
- Butt the seams of the product and seal with 3" wide white poly tape.

Note: Utilize a flat edge taping tool to assure good adhesion on all tape. Install Radiant Floor System per manufacturer's specifications.

Recommended Products:

Concrete Slab Insulation, Product Prefix: "DBWEF"

Installation Instructions:

- Unroll the Reflectix® Concrete Slab Insulation product over the existing floor, prior to pouring the concrete (printed orange tape side facing up) - Cut the product flush with the walls.
- Butt the seams of the product. Seal with 3" wide white poly tape.

Note: Utilize a flat edge taping tool for good adhesion on all tape. Install Radiant Floor System per manufacturer's specifications.

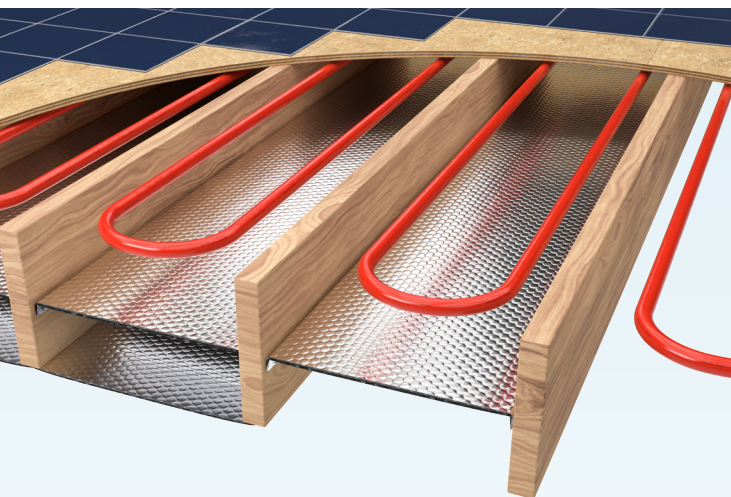


Radiant Floor in a Sub-Floor

R-4.6

Benefits:

- Directs heat into living space
- Easy to handle and install
- Cuts with a utility knife



Radiant Floor Wood Joists

Up to R-21

Benefits:

- Reflects 96% radiant energy back into sub-floor
- Product is dust and fiber free
- No nesting characteristics for insects

Recommended Products:

Double Reflective Insulation, Product Prefix: "HVBP"

Double Reflective Insulation, Product Prefix: "HVST"

Recommended Products:

Single Reflective Insulation, Product Prefix: "HVDBW"

Installation Instructions:

- Unroll the Reflectix® product over the existing floor (reflective side facing up). Cut the product flush with the walls.
- Butt the seams and seal with 2" wide Reflectix® Foil Tape. Note: Utilize a flat edge taping tool for good adhesion on all tape.
- Install Radiant Floor System per manufacturer's specifications, sleepers and new (top) subfloor.

Installation Instructions:

Underside of Floor Joist – R-21:

- Install product per "Crawl Space" application on page 10.

Inside Joist Cavity – Air Space Dependent

R-value / Radiant Reflector:

- Install a single layer of the Reflectix® Staple Tab product inside the joist cavity. Allow 0.75" to 3.5" below the heating coils (as recommended by the manufacturer).

Examples of benefits based on air space depth above product:

0.75" air space = R-4.6 · 3.5" air space = R-8.2

Inside Joist Cavity w/Mass Insulation Below –

Air Space Dependent R-value / Radiant Reflector:

- Install a single layer of the product inside the joist cavity above a mass insulation batt. Utilize Reflectix® Staple Tab product (Refer to method #2).

Note: Verify that this method is acceptable for the type of radiant floor system being installed.

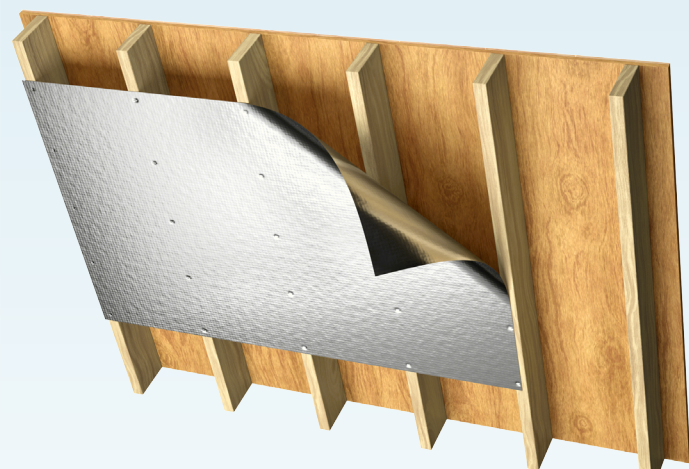
Inside Joist Cavity w/Mass Insulation Above –

R-2.7 to R-4.6:

- Install a single layer of the Reflectix® Staple Tab product to the side of the floor joist below the mass insulation.

Examples of benefits based on an enclosed air space depth below product:

0.5" Air Space = R-2.7 · 0.75" Air Space = R-4.6



Attic Radiant Barrier

Benefits:

- Blocks 96% of radiant energy from entering the home
- Reduces a home's AC usage by up to 10%
- Improves efficiency of attic-mounted HVAC and ducts
- Product is perforated to allow air movement to help reduce risk of moisture and condensation

Recommended Products:

Radiant Barrier, Product Prefix: "RB"



Crawl Space R-21

Benefits:

- Fiber / itch free install
- Vapor / moisture retarder
- Perfect for retrofit

Recommended Products:

Double Reflective Insulation, Product Prefix: "HVBP"

Double Reflective Insulation, Product Prefix: "HVST"

Note: Attic Radiant Barriers provide benefit on hot sunny days. For this reason, they are recommended primarily for installation in the Southern Zone of the USA (due to the amount of AC usage), but will provide reduced heat gain into the home regardless of the home's geographic location. Verify your location with our Zip Code Zone Locator at www.reflectixinc.com/zip-code-zone-locator/, or call (800) 879-3645.

Installation Instructions:

Underside of Rafter Method (depicted to the left):

- Check the attic for any needed repairs. Unroll the Reflectix® as you work and cut it to suitable lengths (8' to 12') with scissors or utility knife. Allow for proper ventilation. Install product perpendicular to the rafters with a 2" overlap on the seams (No taping required). Staple to the rafters at 2" to 3" intervals. Leave a 2" to 3" gap on each side of the roof peak and a gap at the lower edge of the roof line. Staple to the face of the studs on gables and insure at least a 1" gap around all vents.

Rafter/Truss Cavity Method:

- Southern Zone of USA ONLY - Verify location recommendation with our Zip Code Zone Locator at www.reflectixinc.com/zip-code-zone-locator/, or contact our Customer Service Group at (800) 879-3645.
- Staple directly to the decking (in between rafters/trusses).

Between the Trusses (Reflective/Bubble Product):

- Install Staple Tab (HVST) product to the side of the trusses or rafters (No product in contact with decking).

Installation Instructions:

- Inspect the crawl space and make any needed repairs before installing the Reflectix® Reflective/Bubble product.
- For floor joists that are 16" on-center, the installation is easiest with the Reflectix® Staple Tab (ST) product.
- Determine if there are pipes and ducts which hang below the floor joists. They will need to be insulated. Reflectix® Pipe Wrap and Duct Insulations are designed specifically for this use. There is no need to wrap water pipes or duct work that fall between floor joists. Reflectix® will provide adequate insulating without extra wrapping.
- Begin at one end of the house and staple the first course of product to the top of the band board or the subfloor (also terminating this course in this fashion).
- Insert the first course of product half way up into the joist cavity and staple the edge of the product to the side of the joist. The goal is to split the joist cavity into two approximately equal enclosed air spaces.
- Follow this step with a second course of product on the bottom surface of the joist. Face staple the edge of the product to the bottom of the floor joists. Seal seams with Reflectix® Foil Tape to create a vapor barrier. At each end of the joist cavity, staple the product up to the band board.

Review These Important Safety Guidelines Prior to Installation:

- ALWAYS check local building codes before starting.
- ALWAYS check the area you are insulating and make any needed repairs. Any worn wiring should be replaced.
- ALWAYS make sure work areas are well ventilated and well lighted.
- ALWAYS use eye protection when operating a staple gun.
- ALWAYS use caution and common sense when using a staple gun. Be aware of where electrical wiring is located. Stapling into a wire can cause severe shock or death. **NEVER** staple into electrical wiring.
- ALWAYS be careful working with large pieces of Reflectix® on windy days.
- When installing Reflectix® on bright sunny days, it is best to wear sun glasses.
- Do not work in areas such as attics when temperatures are too hot.
- Visit our website at www.reflectixinc.com for additional product and installation information.



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