

Insulating HVAC Metal Ducts with F/BB/F Reflective Insulation

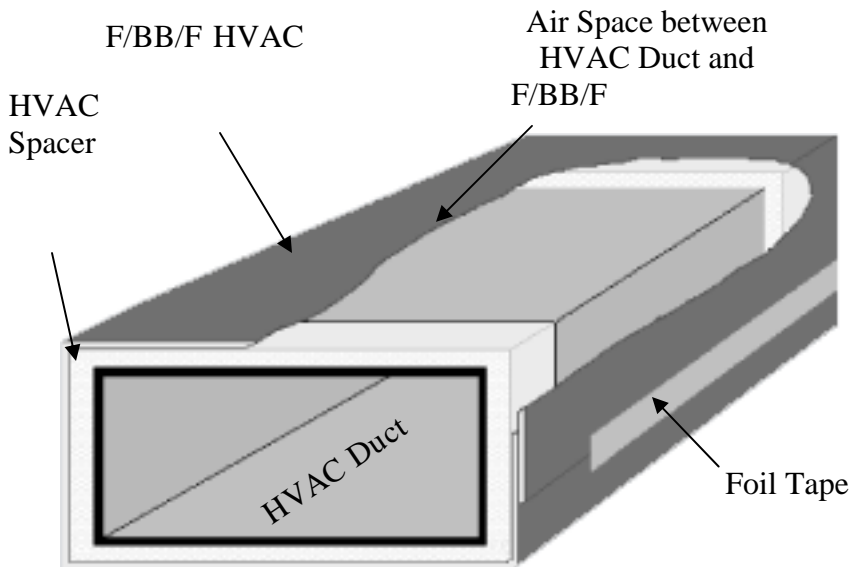
F/BB/F System

Insulating HVAC ducts is now easy and inexpensive with a F/BB/F HVAC Duct Insulation System. The system consists a spacer and a high performance reflective insulation that also functions as a vapor barrier. The system contains no harmful fibers and achieves an R-value of R-6.0. The HVAC System can be installed on new metal ducts or over existing insulated HVAC Ducts.



DESCRIPTION

The system creates an air space between the air ducts and product along with an exterior low-emittance air film. This system is designed for installation in new and existing building applications to cover rectangular and round HVAC Air Ducts. The F/BB/F Duct Insulation System is easy to install, lightweight, fiber-free, and inexpensive compared to other types of duct insulation.



Feature Summary



- Vapor Retarder
- Class A Flammability Rating
- Lightweight Material
- No Itchy Fibers
- Saves Energy
- New and Retrofit
- Rectangular and Round Ducts

SPECIFICATIONS

F/BB/F HVAC

F/BB/F HVAC consists of a 5/16" thick polyethylene encapsulated air bubbles heat laminated to two exterior layers of 99% pure aluminum foil. The polyethylene encapsulated air bubbles serve as an effective thermal break, while the two outer layers of aluminum reflect and do not emit up to 97% of all radiant energy. The entire systems also serves as a vapor barrier.

Foil Tape

Foil Tape has an internal scrim which makes it easy to tear across but difficult to tear lengthwise. This keeps Foil Tape from splitting after installation. With superior quick stick at normal temperatures and superior low temperature performance at freezing, Foil Tape is an excellent choice for sealing ductwork insulation.

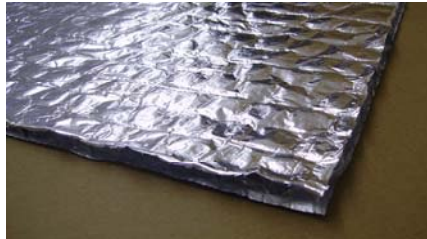
Test Data

F/BB/F HVAC Reflective Insulation

Flammability Ratings ASTM E84-94		
Foil/Foil	Flame Spread	<25 Class A
	Smoke Development	<50 Class A
Thermal Performance		
Emissivity.....		0.04
Reflectivity.....		96%
Thermal Resistance		
ASTM C335 - Air to Air.....		R-6.0
	Surface to Surface.....	R-4.5
Mold and Mildew		
ASTM C1388.....		Pass
Pliability		
ASTM C411-04		No Cracking or Delamination
Corrosivity		
ASTM D3310,		No Corrosion or Tarnishing
Contact with steel		
Water Vapor Permeance		
ASTM E-96.....		<1 perm
Puncture Resistance		60.05 lbs/in ²
Service Temperature		-60°F to 180°F



F/BB/F



Foil Tape



F/BB/F HVAC Duct Insulation System

TOOLS YOU WILL NEED



Scissors or
Razor Knife

Tape Measure



INSTALLATION TIPS

- * Tape any tears in material with Foil Tape.
- * Seal around hangers and/or supports for the ducts

Follow all safety guidelines including but not limited to:

- * Inspect area for electrical hazards
- * Clear area of all slip, trip, and fall hazards
- * Use a safety harness or strap when working above 6 feet
- * Properly position and secure all ladders
- * Properly position and secure scaffolding
- * Beware and protect against puncture hazards
- * Be mindful of high attic temperatures and prevent against over exposure
- * Beware of dangerous animals and insects. Wear protective clothing.
- * Follow all guidelines concerning Confined Spaces and/or Permit Required Confined Spaces

Refer to ASTM C-727, Standard Practice for Installation and Use of Reflective Insulation in Building Constructions

ROUND/SPIRAL DUCT (METAL AND FLEXIBLE)

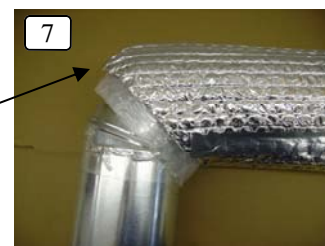
1. Inspect ducts where F/BB/F HVAC Duct Insulation System will be applied.
2. Make sure all duct joints, seams, and penetrations are sealed.
3. Measure and mark ductwork every 48" on center where Duct Insulation will be applied (1).
4. Install bubble spacers around duct at marks every 48" on center two times to form a 3/4" to 1" thick spacer (2). This will provide the necessary air space for the most efficient use of the F/BB/F HVAC Duct Insulation System.
5. Measure the circumference of the air duct and spacers or measure the diameter of the air duct and multiply this number by four in order to find the approximate length of product to use. Cut F/BB/F HVAC to this length and install around the duct leaving half of the HVAC spacer exposed for the next section of F/BB/F HVAC. Continue with this method of installation until complete (3).
6. Tape all seams with UL approved Foil Tape (8).

RECTANGULAR DUCT (METAL AND DUCT BOARD)

1. Follow Steps 1 through 3 above
2. Wrap the spacer around your hand once to form a "doughnut" shape (4). Stick this "doughnut" shaped spacer on the corner of the duct so that it overlaps to each side by about 2" (5).
3. Measure the outside edge (perimeter around duct including spacers) to find the approximate length of product to use. Cut F/BB/F HVAC to this length and install around the duct leaving half of the HVAC spacer exposed for the next section of F/BB/F HVAC. Continue with this method of installation until complete.
4. Tape all seams with UL approved Foil Tape (8).

ELBOW

1. Install the HVAC spacer twice around the middle of the elbow (6).
2. Measure duct to the outside edge of the elbow and cut F/BB/F HVAC to this length (7).
3. Install F/BB/F HVAC around the HVAC duct. Start at the bottom and wrap around the outside of the elbow.
4. Trim the F/BB/F HVAC on the inside of the elbow so that the F/BB/F HVAC is cut at an angle that matches the angle of the elbow (7).
5. Install the next section of F/BB/F HVAC the same as in steps 2 and 3 above.
6. Tape all seams with UL approved Foil Tape (8).



* These are the manufacturer's recommended installation instructions. However, there may be other methods of installation that can achieve the desired insulation results of this product. For more information on the F/BB/F HVAC Duct Insulation System, please call us.

F/BB/F HVAC Duct Insulation System

GENERAL INFORMATION

How F/BB/F HVAC Duct Insulation Works

F/BB/F HVAC Duct Insulation can be installed around air-handling ducts to provide the thermal resistance required by most building codes. The reflective insulations that are most effective have low-emittance facers on both sides of a core material such as polyethylene encapsulated air bubbles. The interior sides of the insulation face an enclosed air space that is between the outside surface of the duct and the aluminum facer. Spacers are used to maintain the air space. The exterior side of the insulation has a low-emittance facer with an air-film resistance that is enhanced by the reduced radiation to the surrounding air.

The total thermal resistance of a F/BB/F HVAC Duct Insulation is comprised of three parts. (1) the thermal resistance of the enclosed reflective air space, (2) the material R-Value of the reflective insulation, and (3) the exterior air film resistance. The overall thermal resistance is the sum of these three individual thermal resistances. The thermal resistance of a F/BB/F HVAC Duct Insulation was tested using a version of the ASTM Standard Test Method C-335.



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