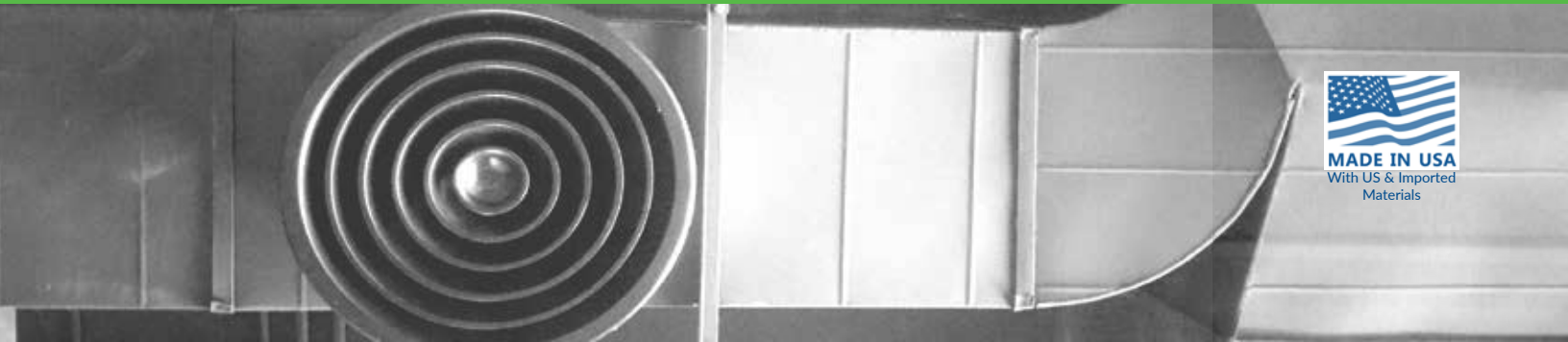




# HVAC Duct Insulation FI-FOIL® RBI SHIELD™ HVAC



## HIGH THERMAL PERFORMANCE REFLECTIVE INSULATION

**R-4.2**  
**R-6.0**  
**R-8.0**

FI-FOIL® HVAC Reflective Duct Insulation improves thermal performance with low-e surfaces that reflect heat rather than absorb it—resulting in greater efficiency and resiliency.

**Save Labor & Material Costs. Install it Faster with an Itch-Free, Low-e Duct Solution.**

- ✓ Blocks 94% of Radiant Heat Transfer
- ✓ Improves Duct Performance and Reduces Load on HVAC Systems
- ✓ Less Load on HVAC Systems Increases Energy Efficiency & Lowers Monthly Utility Bills
- ✓ Reduces Condensation to Improve Indoor Air Quality & Building Resiliency



- ✓ Class A / Class 1 Flammability Ratings
- ✓ Class 1 Vapor Retarder
- ✓ Clean, Sustainable Insulation that Keeps Buildings Cooler in the Summer & Warmer in the Winter

Tested to Meet Standards for:

- ✓ ASTM C1224 Reflective Insulation
- ✓ ASTM C1668 Reflective Insulation on Rigid Ducts
- ✓ ASTM E84 & E2599 Surface Burning Characteristics
- ✓ ASTM C411 Hot Surface Performance
- ✓ ASTM C335 Thermal Resistance
- ✓ ASTM E96 Water Vapor Permeance
- ✓ ASTM C1338 Fungi Resistance
- ✓ ASTM C1668 Pliability, Bleeding & Delamination
- ✓ ASTM C1258 Aging Resistance - Corrosion & Delamination



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# Technical Data

## FI-FOIL® RBI SHIELD™ HVAC

FI-FOIL® Reflective HVAC Duct Insulation is an ideal alternative to fiberglass providing both a path to improve overall system performance and an easier, itch-free installation. FI-FOIL® RBI Shield™ HVAC is a low-e double bubble insulation that cuts and fits easily around interior rectangular or round ductwork. The product provides three (3) R-value options that vary with the amount of enclosed air space.

FI-FOIL® HVAC Duct Insulation consists of two (2) low-e layers of reflective film bonded to two (2) premium inner layers of polyethylene to form a strong and durable double bubble insulation. The Low-e surfaces of FI-FOIL® reflect heat rather than absorb it providing a superior solution to reduce the load on HVAC systems and the environment while lowering monthly utility costs.

The following product performance and flammability compliance is printed on each roll: FI-FOIL CO. R-4.2 WITH 3/4" AIR SPACE; R-6 WITH 7/8" AIR SPACE; R-8 WITH DBL AIR SPACE/ FLAME SPREAD <25; SMOKE DENSITY <50.

### COMPLIANCE

Compliance with the following codes:

- 2024, 2021 International Building Code (IBC)
- 2024, 2021 International Residential Code (IRC)
- 2024, 2021 International Mechanical Code (IMC)
- 2024, 2021 International Energy Conservation Code (IECC)



### TECHNICAL DATA

|  |  |                                  |
|--|--|----------------------------------|
| <b>FLAMMABILITY</b>                        |  |                                  |
| ASTM E84 In accordance with E2599          |  | CLASS A                          |
| ASTM E84 Flame Spread                      |  | 0                                |
| ASTM E84 Smoke Developed                   |  | <50                              |
| <b>STRENGTH &amp; PERFORMANCE</b>          |  |                                  |
| ASTM C1371 Thermal Emittance               |  | 0.06                             |
| ASTM E96 Water Vapor Permeance             |  | 0.01 PERMS                       |
| ASTM C1258 Aging Resistance - Corrosion    |  | No Corrosion                     |
| ASTM C1258 Aging Resistance - Delamination |  | No Delamination                  |
| ASTM C1668 Bleeding & Delamination         |  | No Bleeding or Delamination      |
| ASTM C1668 Pliability                      |  | No Cracking or Delamination      |
| ASTM C1338 Fungi Resistance                |  | No Fungi Growth                  |
| ASTM C411 Hot Surface Performance          |  | PASS (up to 250°F)               |
| Temperature Range                          |  | not to exceed 180°F <sup>1</sup> |
| Nominal Thickness                          |  | 5/16"                            |
| Weight                                     |  | 0.77 oz. per sqft.               |

1 Not for use in direct contact on surfaces that exceed 180°F.

Testing to ASTM E84-23a verified by [Capital Testing and Certification Services](#)  
 Reports: [T-17324-R1 Appendix A2](#), [T-17323-R1 Appendix A1](#), Feb 7, 2024

Testing to ASTM standards under C335 verified by [R&D Services, Inc.](#)  
 Reports: [RD24263-R1](#), [RD24310-R1](#), [RD24427-R1](#), Apr 15, 2024

Testing to ASTM standards under C1668 verified by [R&D Services, Inc.](#)  
 Report [RD231336-R3](#), Apr 15, 2024

### FI-FOIL® HVAC COMMON PRODUCTS

| Item Number      | Description   | Width | Length | Coverage | Diameter | Weight |
|------------------|---|-------|--------|----------|----------|--------|
| F-HVAC24200-RBI  | HVAC Duct Insulation - Reflective Bubble Roll         | 24"   | 100'   | 200 SF   | 21 in    | 13 lb  |
| F-HVAC24250-RBI  | HVAC Duct Insulation - Reflective Bubble Roll         | 24"   | 125'   | 250 SF   | 24 in    | 15 lb  |
| F-HVAC48400-RBI  | HVAC Duct Insulation - Reflective Bubble Roll         | 48"   | 100'   | 400 SF   | 21 in    | 24 lb  |
| F-HVAC48500-RBI  | HVAC Duct Insulation - Reflective Bubble Roll         | 48"   | 125'   | 500 SF   | 24 in    | 28 lb  |
| F-HVACSPACER-RBI | HVAC Duct Insulation Spacers - Reflective Bubble Roll | 2"    | 100'   | 24 ROLLS | 22 in    | 28 lb  |

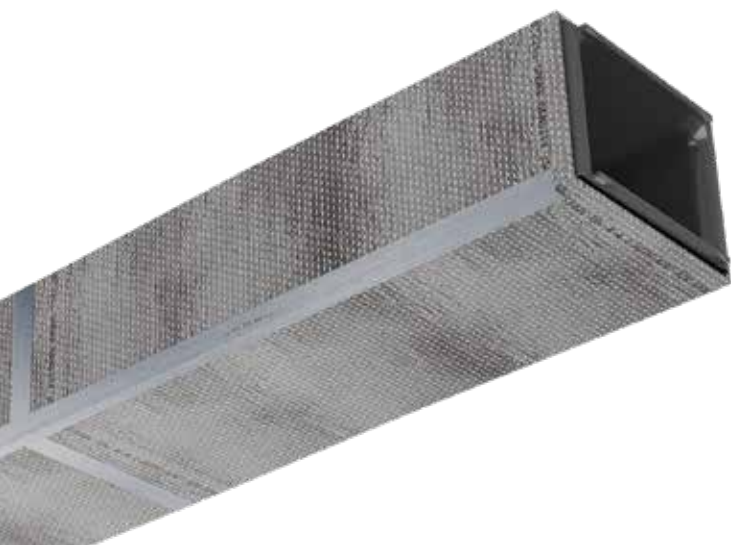
Additional sizes are available, see our [HVAC Line Card](#).

# Installation Guide

## FI-FOIL® RBI SHIELD™ HVAC

### MANUFACTURER'S INSTALLATION INSTRUCTIONS

#### R-4.2



Be sure all metal joints, seams, and penetrations are sealed properly.

Measure circumference of the duct.

Cut FI-FOIL® HVAC bubble insulation longer than the circumference of duct to allow an overlap on both sides and top of duct.

Wrap bubble insulation loosely around the duct to create a 3/4" air space between the duct and insulation; be sure the printed compliance is facing outward and clearly visible.

Tape all linear and circumference joints, overlap by 1"-2" using a UL181 foil tape; be sure tape is firmly secured to create an airtight seal.

Repeat Steps 1-5 to cover entire length of ductwork.

An airtight seal of all joints and penetrations will create an enclosed air space for thermal performance of R-4.2 when FI-FOIL® HVAC insulation is loosely wrapped; be sure to start installation at the end of the duct and do not leave any exposed duct to ensure maximum performance of the system.

#### NOTES:

- 1- The installation instructions in this guide are meant as recommendations only; checking local building codes and following required construction methods is the responsibility of the installer. Instructions are meant to illustrate relative placement of FI-FOIL® HVAC insulation products and FI-FOIL® makes no claims that these assemblies are universally accurate.
- 2- FI-FOIL® HVAC Insulation products are designed for indoor applications only; all warranties are void if used in exterior building applications.
- 3- Not to be used as duct liner.



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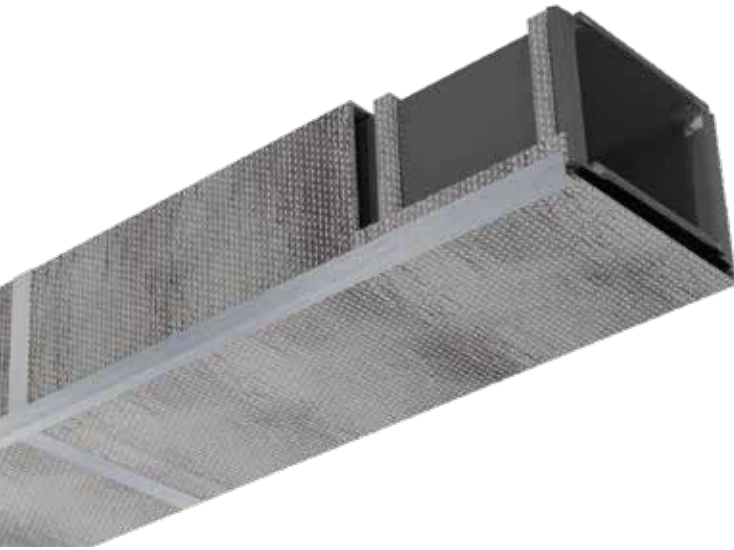
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# Installation Guide

## FI-FOIL® RBI SHIELD™ HVAC

### MANUFACTURER'S INSTALLATION INSTRUCTIONS

#### R-6.0



Be sure all metal joints, seams, and penetrations are sealed properly.

Wrap FI-FOIL® HVAC 2" spacer material around the duct three (3) times and secure to duct at approximately 20"-24" intervals along length of ductwork.

Measure circumference of duct at mid-point over the spacers.

Cut FI-FOIL® HVAC bubble insulation longer than the circumference of duct with spacers to allow an overlap.

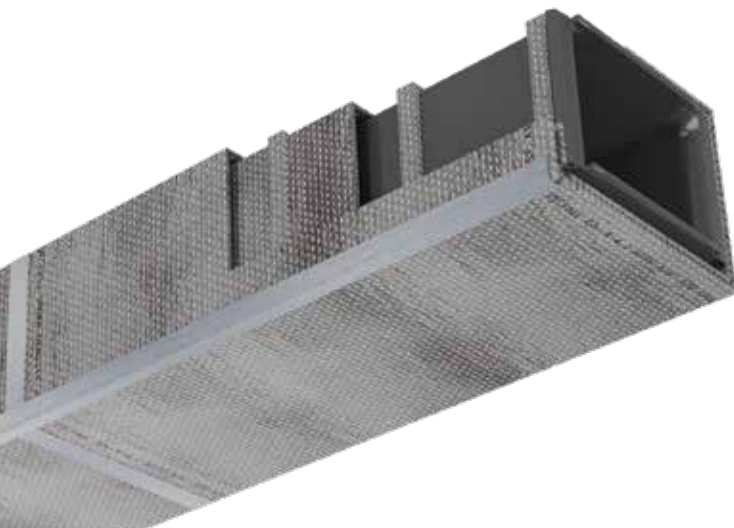
Wrap bubble insulation around the duct with spacers to create a 7/8" air space between the duct and insulation; be sure the printed compliance is facing outward and clearly visible.

Tape all linear and circumference joints, overlapping by 1"-2" using a UL181 foil tape; be sure tape is firmly secured to create an airtight seal.

Repeat Steps 1-6 to cover entire length of ductwork.

An airtight seal of all joints and penetrations will create an enclosed air space for thermal performance of R-6.0 when FI-FOIL® HVAC insulation is wrapped over spacers; be sure to start installation at the end of the duct and do not leave any exposed duct to ensure maximum performance of the system.

#### R-8.0



Follow Steps 1-7 above under R-6.0 instructions.

Repeat Steps 2-7 again for an R-8.0 installation.

A double wrap of spacers with an airtight seal of all joints and penetrations will create two (2) enclosed air spaces for thermal performance of R-8.0 when FI-FOIL® HVAC insulation is wrapped over spacers in each layer; be sure to start installation at the end of the duct and do not leave any exposed duct to ensure maximum performance of the system.



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