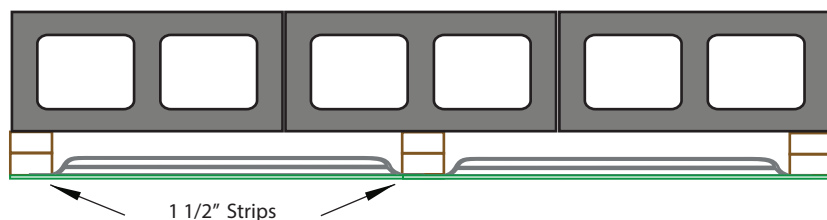




## Specification Sheet

Fi-Foil's VR Plus Shield™ is a multi-layer reflective insulation intended for use on furred-out masonry walls. VR Plus Shield™ is formed by an outer layer of white kraft paper coated with polyethylene; a layer of natural kraft paper aluminium foil laminate; and a layer of aluminum foil. Upon installation the three layers open using internal expanders. The internal airspaces range approximately 1/2". The thickness of the third airspace is dependent on the thickness of the furring strips. The Perforated version includes small perforations for applications not requiring a vapor retarder. VR Plus is available in both staple tab (for wood furring) and tape tab (for metal framing).



### Definition of Reflective Insulation

Reflective insulation is used to reduce the transport of energy across air spaces in a building envelope and consists of one or more low emittance surfaces (0.10 or less), bounding one or more enclosed air spaces. Reflective insulation can also use other layers of materials such as paper or plastic to form enclosed air spaces as part of the system. The performance of the reflective insulation system is determined by the emittance of the material(s), the lower the better, and the size of the enclosed air spaces. The smaller the enclosed air space, the less heat will transfer by convection. Reflective insulation is recognized by ASTM, The Federal Trade Commission and Code Bodies as an accepted insulation technology. R-values can be both tested or calculated using established ASTM standards.

Product Information		
Furring/Stud	16" O.C.	24" O.C.
Width Expanded	17.5"	25.5"
Diameter	12"	10"
Lineal Footage	375'	250'
Coverage	500 sq. ft.	500 sq. ft.
Weight	29 lbs.	27 lbs.

### R Values

Heat Flow Horizontal

	Solid	Perforated
1-1/2" Cavity	R 6.5	R 6.5
1-5/8" Cavity	R 7.1	R 7.1

The R Values are in accordance with ASTM C1224/236.<sup>1</sup> The R value may increase in applications with a deeper enclosed cavity air space. Contact us for calculations.

### Test Data

Product Version	Solid	Perforated
ASTM E 96 Water Vapor Permeance	0.018	2.6
ASTM E 84-11 in accordance with ASTM E2599 Flammability <sup>1</sup>		
Flame Spread Rating	< 25	< 25
Smoke Developed Rating	< 450	< 450
National Fire Protection Association Rating	Class A	Class A
ASTM D3310 Corrosivity	None	
ASTM C 1244/Section 9 Adhesive Performance		
Bleeding	None	
Delamination	None	
Pliability	No signs of cracking	
ASTM C1338 Mold & Mildew	Pass	
ASTM C 1371 Foil Emittance	0.034	

<sup>1</sup> Foil Side

### Compliance and Approvals

- Meets: ASTM C1224
- Compliance with the following code
  - 2020, 2018 International Building Code (IBC)
  - 2020, 2018 International Residential Code (IRC)
  - 2020, 2018 International Energy Conservation Code (IECC)
  - 2020, 2017 Florida Building Code (FBC)
  - 2020, 2017 Florida Residential Code (FRC)
  - 2020, 2017 Florida Energy Conservation Code (FECC)
- Evaluated in accordance with
  - ICC-ES AC 02 - Acceptance Criteria for Reflective Insulation, revised March 2017
- State of California Bureau of Home Furnishings and Thermal Insulation License #T1390, Registry #CA-T390 FL

<sup>1</sup> Discussion and Comparison of Test Methods ASTM C235 and ASTM C1363 R&D Services 2019; available under Resources in Technical Library at FiFoil.com

### Read This Before You Buy

The label shows the R-value of the insulation. R means resistance to heat flow. The higher the R-value, the greater the insulating power. Compare insulation R-values before you buy. There are other factors to consider. The amount of insulation you need depends mainly on the climate you live in. Also, your fuel savings from insulation will depend on the climate, the type and size of your house, and your fuel use patterns and family size. If you buy too much insulation, it will cost you more than what you will save on fuel. To get the marked R-value, it is essential that this insulation be installed properly.

### Verified Recycled Content >20%

VR Plus Width	16"	24"
Pre-Consumer	1.5	1.6
Post-Consumer	29.8	23.2
Total	31.3	24.8

