

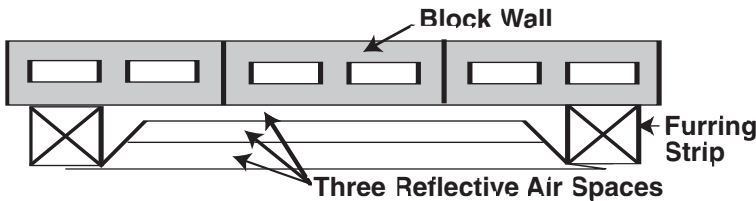


## VR Plus Shield REFLECTIVE INSULATION

Comfort and Energy Solutions. It's our Business.

### Standard and Hi-Perm Versions

Fi-Foil's VR Plus Shield™ is a triple-layer reflective insulation intended for use in vertical wall cavities formed by furring strips attached to the inside of masonry walls. VR Plus Shield™ is formed by an outer layer of 35 lb. white kraft paper coated with polyethylene, a layer of 30 lb. natural kraft paper laminated to a minimum 0.00025" 99% pure aluminum foil, and a layer of minimum 0.00035" 99% pure aluminum foil. Upon installation the layers open using internal expanders. The internal airspaces range between 1/4" and 1/2". The thickness of the third air space is dependent on the thickness of the furring strips. The Hi-Perm version includes small perforations for applications not requiring a vapor retarder.



VR Plus Shield™ – Reflective Insulation

#### Product Information

Furring/Stud Spacing	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.

### How Reflective Insulation Works

Heat is transferred by three methods, conduction, convection and radiation. Most insulating products resist heat transfer by forming small air or gas pockets between layers of building materials such as fiberglass, recycled paper, or foam. The small spaces restrict air movement, thereby reducing heat flow by convection. Reflective insulation functions by forming these dead air spaces with layers of paper, plastic, and aluminum. In addition to reducing heat flow by convection, the high reflectivity and low emissivity of the aluminum foil has the added benefit of blocking up to 97% of the radiant energy, so radiation heat transfer is significantly reduced.

#### R-Values

##### Heat Flow Horizontal

	VR Plus Shield	VR Plus Shield Hi-Perm
1-1/2" Cavity	<b>R-7.1</b>	<b>R-7.0</b>

ASTM C-236 R-Value Test. The R-values of VR Plus Shield™ increase with the thickness of furring strips. With the use of VR Plus Shield™, the thickness of cavity is slightly increased because it is applied to the surface of the strips. Therefore all measurements are considered nominal.

#### Test Data

ASTM E-96 - Water Vapor Permeance	0.20
ASTM E-96 - Water Vapor Permeance Hi-Perm	5.42 perms
ASTM E-84 - Flammability	
Flame Spread Rating	20
Smoke Developed Rating	10
Interior Wall & Ceiling Finish Classification	Class A
ASTM D-3310 - Corrosivity	None
ASTM C-1224-99 (9.2.1 & 9.2.2) Adhesive Performance	
Bleeding	None
Delamination	None
Pliability	No signs of cracking or delamination
ASTM C-1338 Mold & Mildew	Pass
ASTM C-1371 - Foil Emittance	0.034

### Read This Before You Buy

The label shows the R-value of this 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 upon the climate, the type and size of your house, the amount of insulation already in 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.

#### Compliance and Approvals



REPORT #01-1127.12

Meets  
ASTM C1224-97



Legacy Report #2133A



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