



Specification Sheet

Radiant Barrier Insulation

FSK Shield™ is an economy grade single-sided foil facing that is comprised of 0.0003" aluminum foil bonded to 30 lb. natural kraft paper with a flame retardant adhesive and is reinforced with tri-directional fiberglass scrim. FSK Shield™ is intended for use as an attic, roof, or wall radiant barrier and as a class A insulation facing. The product also can be used as an effective vapor barrier. FSK Shield™ is available in 1000 square foot rolls 54" wide. Other widths available by special order.

Radiant Barrier System (RBS) is a building construction consisting of a low emittance (normally 0.1 or less) surface (usually aluminum foil) bound-ed by an open air space. RBS is used for the sole purpose of limiting heat trans-fer by radiation and is not specifically intended to reduce heat transfer by con-vection or conduction.

How Do Radiant Barriers Block Heat Transfer & What are the Benefits? In a home without a radiant barrier at the roof line, your roof radiates solar-generated heat which elevates attic temperatures upward to 150 degrees or higher. These higher temperatures will increase the heat gain in your air con-ditioning ducts and reduce the performance of mass insulation (the R-values of mass insulation are determined at 75oF - higher temperatures lowers the R-value). In addition, the extreme temperatures will saturate the building mate-rials in the attic. This stored heat acts as a heat sink and will continue to trans-fer heat into the living area of your home even after the sun has set, making your air conditioner run longer and consume more electricity. A radiant barri-er stops 97% of radiant heat transfer which improves the perfor-mance of the insulating material and lowers attic temperatures as much as 30oF. Another benefit is that a cooler attic will transfer less heat into air conditioner ducts. Radiant barriers also expand the use of space in your home like garages, work-rooms, porches, etc. Radiant barriers also reduce winter heat loss.

R-Value is the rating given to show the resistance "R" to heat flow and is used to compare insulation materials that trap air or a gas or reduce heat flow by convection and conduction. Therefore, R-values are not a true measure of the thermal performance of Radiant Barrier Systems.

Thermal Performance – FSK Shield™ has thermal applications other than as a Radiant Barrier. However, in all cases, FSK Shield™ should be installed so the foil is exposed to an airspace or thermal performance will be compromised. R-values in closed cell configurations such as wall, ceiling, and floor cavities can be calculated using the ASHRAE book of fundamentals.

Effective Air Space Emittance is the radiation heat transfer property "E" of an air space determined by the emis-sivity of the surfaces bounding that air space.

Emissivity is the ratio of the total radi-ant flux emitted by a body to that emit-ted by an ideal black body at the same temperature.

Vapor Barrier Application – FSK Shield™ can be used as an effective vapor barrier and can be installed with foil or paper exposed. All seams should be taped with Fi-Foil's foil tape.

Class A Flame Spread Facing – FSK Shield™ can be used to improve flame spread and smoke developed ratings of wall systems, specifically unfaced fiber-glass batts and can be installed with foil or paper exposed. Installing FSK Shield with the foil side exposed will provide better flame spread rating. Tape seams with Fi-Foil's foil tape.

Product Information	
Width of Roll	54"
Diameter	5"
Lineal Footage	222'
Coverage	1000 sq. ft.
Weight	25 lbs.
Test Data	
ASTM E-96 Water Vapor Permeance	0.02
ASTM E-84/UL 723 Surface Burning Kraft Exposed Flame Spread Rating.	25
Kraft Exposed Smoke Developed Rating	10
Foil Exposed Flame Spread Rating	5
Foil Exposed Smoke Developed Rating	0
FSKShield & Unfaced Batt Flame Spread Rating.	15
Smoke Developed Rating	0
ASTM E-408 Emissivity	0.03
ASTM D-828 Tensile Strength lbs./in	MD:40; XD:25
Scrim pattern per lineal inch	MD:2; XD:3
ASTM D-774 Mullen Burst Strength	40 psi
ASTM C-1136 Mold and Mildew	Pass
Dimensional Stability percent length change	0.25%
Low Temperature Resistance no cracking or delam	-40°F
High Temperature Resistance no cracking or delam	240°F
Puncture Resistance, Beach puncture units (Joules)	25

Table of Emittances E-Values (the lower the better)

Aluminum Foil03-05

Common building materials, including wood, masonry, and standard mass insulation.82-90

