



Specification Sheet

SkyFlex is a tough flexible air barrier for use in residential and commercial building applications. The product consists of two layers of aluminum foil laminated to a layer of woven polyethylene. SkyFlex includes low emittance exterior layers that reduce heat transfer when exposed to air films or enclosed air spaces in building cavities. R-values can be calculated using the ASHRAE book of fundamentals. The product also can be used as a vapor retarder. SkyFlex is available in 500 square foot rolls in 48" or 51" widths.

Air Barrier Definition

An air barrier is a material preventing or reducing the passage of air through the building enclosure system. Air barrier materials are measured by air permeance. An air permeance equal to or less than 0.02 L/(s·m²)@75 Pa, as tested in accordance to ASTM 2178, qualifies as an air barrier material. Air barrier systems typically are assembled from materials incorporated in assemblies that are interconnected to create enclosures. Each of these three elements has measurable resistance to airflow. The recommended minimum resistances or air permeances for the three components are listed as follows:

Material	0.02 L/(s·m ²)@75 Pa
Assembly	0.02 L/(s·m ²)@75 Pa
Enclosure	0.02 L/(s·m ²)@75 Pa

Materials and assemblies that meet these performance requirements are said to be air barrier materials and air barrier assemblies. Air barrier materials incorporated in air barrier assemblies that in turn are interconnected to create enclosures are called air barrier systems.

Air Barriers is a Building Construction

In multi-unit/townhouse/apartment construction the air barrier system separates the conditioned air from any given unit and adjacent units. Air barrier systems also typically define the location of the pressure boundary of the building enclosure. The air barrier system also separates garages from conditioned spaces. In this regard the air barrier system is also the "gas barrier" and provides the gas-tight separation between a garage and the remainder of the house or building.¹

1. BSD-104: Understanding Air Barriers, Building Science Corporation.

R-Value is the resistance to head flow. R-values can be calculated using the using the Thermal Resistance Tables from the ASHRAE Handbook.

Wall System R-value Examples:

SkyFlex	One Side Exposed to Attic	Added R = 1.7
	0.75" Enclosed Air Space	Added R = 2.9
	1.50" Enclosed Air Space	Added R = 2.6

Based on a Mean Temperature of 50 degrees F, 30 degrees differential.

Product Information

Width of Roll	48"	51"
Diameter	5"	5"
Lineal Footage	125'	118'
Coverage	500 ft ²	500 ft ²
Weight	14 lbs.	14 lbs.

Test Data

ASTM E 2178 Air Permeability	<0.02L/(s·m ²)@75 Pa
ASTM E-96 Water Vapor Permeance Class 1 Vapor Retarder	0.01
ASTM E-84-94 Surface Burning Flame Spread Rating	<25
Smoke Developed Rating	<450
ASTM C1371 Emissivity	0.03
ASTM D-117 Tear Resistance MD	16 lbs.
XD	31 lbs.
C-1338 Mold and Mildew	No Growth

Table of Emittances E-Values

Aluminum Foil03-.05
Common building materials, including wood, masonry, and standard mass insulation.82-.90

Emissivity is the ratio of the total radiant flux emitted by a body to that emitted by an ideal black body at the same temperature. Emittance ranges from 0 to 1.0, the lower the better for thermal performance.

