

RBI Shield™

Specification Sheet

Fi-Foil RBI Shield™ is a premium Reflective Bubble Insulation (RBI) with a **Lifetime Limited Warranty**. R&D developed, tested, and manufactured in the U.S.A. to the highest quality standards. Fi-Foil RBI consists of a premium reflective film and a blend of several compounds to ensure the surface won't delaminate, crack, pit, chalk, peel or discolor. Formulated for greater strength and elasticity with an added blend of antioxidants, sunscreen, and color stabilizing compounds providing a premium quality white polymer surface that won't fade over time.

Fi-Foil RBI serves as a vapor retarder. A unique manufacturing process that bonds the polymer and reflective film together in one-step allows trapping and maintaining more air in each bubble for a higher quality insulation and improved energy efficiency year-round.

Product Information

Width	16"	24"	48"	66"	72"
Coverage	166 ^{ft}	250 ^{ft}	500 ^{ft}	688 ^{ft}	750 ^{ft}
Length	125'	125'	125'	125'	125'
Diameter DB	22"	22"	22"	22"	22"
Diameter SB	16"	16"	16"	16"	16"
Staple Tab	✓	✓	✓	✓	✓
Tape Tab	✓	✓	✓	✓	✓
Square Edge	✓	✓	✓	✓	✓

Test Data

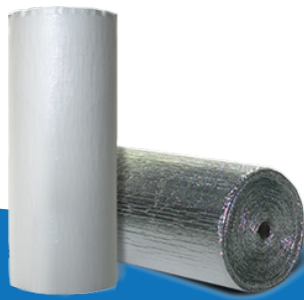
	RWSB REFLECTIVE/WHITE SINGLE BUBBLE	RWDB REFLECTIVE/WHITE DOUBLE BUBBLE	RRSB REFLECTIVE/REFLECTIVE SINGLE BUBBLE	RRDB REFLECTIVE/REFLECTIVE DOUBLE BUBBLE
ASTM E96 Water Vapor Permeance	0.01 PERMS	0.12 PERMS	0.04 PERMS	0.02 PERMS
ASTM C1258 Temp & Humidity Resistance	-	0.42 PERMS	0.37 PERMS	0.27 PERMS
ASTM C1338 Mold & Mildew	Pass	Pass	Pass	Pass
ASTM D3310 Corrosiveness	No Cracking or Pitting	No Cracking or Pitting	No Cracking or Pitting	No Cracking or Pitting
ASTM C1224 Pliability	No Cracking or Delamination	No Cracking or Delamination	No Cracking or Delamination	No Cracking or Delamination
ASTM C1224 Bleeding & Delamination	No Bleeding or Delamination	No Bleeding or Delamination	No Bleeding or Delamination	No Bleeding or Delamination
ASTM C1371 Emissivity	0.05	0.05	0.05	0.05
ASTM E903 Reflectivity	0.95	0.95	0.95	0.95
ASTM C411 Hot Surface Performance	-50°F to 250°F	-50°F to 250°F	-50°F to 250°F	-50°F to 250°F
ASTM G155 UV Exposure	90% Retention after 4k hrs	90% Retention after 4k hrs	90% Retention after 4k hrs	90% Retention after 4k hrs
FLAMMABILITY				
ASTM E84 In accordance with E2599	CLASS A	CLASS A	CLASS A	CLASS A
ASTM E84 Flame Spread	0	0	0	0
ASTM E84 Smoke Developed	<50	<50	<50	<50
NFPA 286 Fire Rating - Full Room	CLASS A	CLASS A	CLASS A	CLASS A
STRENGTH				
ASTM D638 Tensile Strength MD	265.4 lb _f /IN ²	94.3 lb _f /IN ²	265.4 lb _f /IN ²	94.3 lb _f /IN ²
ASTM D638 Tensile Strength TD	234.4 lb _f /IN ²	93.0 lb _f /IN ²	234.4 lb _f /IN ²	93.0 lb _f /IN ²
ASTM D2261 Tensile Strength MD	1.91 lb _f /IN ²	5.0 lb _f /IN ²	1.91 lb _f /IN ²	5.0 lb _f /IN ²
ASTM D2261 Tensile Strength TD	2.23 lb _f /IN ²	6.0 lb _f /IN ²	2.23 lb _f /IN ²	6.0 lb _f /IN ²
ASTM C165 Compression Strength @25% Thickness	0.28 lb _f /IN ² 3/16"	0.53 lb _f /IN ² 3/8"	0.28 lb _f /IN ² 3/16"	0.53 lb _f /IN ² 3/8"

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High Performance Insulation Systems since 1983
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How Reflective Insulation Works

Unlike traditional thermal insulation, Fi-Foil uses low-emissive (Low-e) radiant surfaces to **reflect heat rather than absorb it**. The Low-e surface(s) of reflective insulation is designed to face enclosed air cavities or air films across the building envelope to reduce transfer of heat energy across these air spaces, resulting in an overall greater performance of wall and ceiling systems. According to ASHRAE Handbook 26.14-15, reflective insulation can provide 2X the thermal performance of other mass insulation and materials. The reason is that reflective insulation technologies effectively **reduce all three (3) modes of heat transfer: conduction** (heat transfer between objects in direct contact), **convection** (the circular flow of heat through air and moisture) and **radiation** (the movement of heat in electromagnetic waves). In hybrid applications, ASTM studies have shown that when a radiant surface is installed facing a small air space in an enclosed cavity, the result is a reduction in convection in the cavity, which in turn reduces conductivity of the other mass insulating material(s) within the cavity. Using a reflective component not only improves performance of air spaces across the envelope when used alone--but it also notably improves the thermal performance of other mass insulation when used together as a hybrid in these assemblies. This provides superior performance and energy efficiency for more comfortable, sustainable, and resilient buildings.

R-Values

	Enclosed Air Space & Method of Installation	Heat Flow Down	Heat Flow Up	Heat Flow Horizontal
RWSB REFLECTIVE/WHITE SINGLE BUBBLE	1" DRAPE Over Top of Purlins 6" - 8" Attached to Bottom of Purlins or Sidewall Face of Purlins	R-6.0 R-12	R-3.2 R-3.5	R-3.9 R-3.9
RWDB REFLECTIVE/WHITE DOUBLE BUBBLE	1" DRAPE Over Purlins 6" - 8" Attached to Bottom of Purlins or Sidewall Face of Purlins	R-6.5 R-12	R-3.4 R-4.0	R-4.1 R-4.4
RRSB REFLECTIVE/REFLECTIVE SINGLE BUBBLE	1" DRAPE Over Purlins 6" - 8" Attached to Bottom of Purlins or Sidewall Face of Purlins	R-10 R-16	R-4.0 R-4.2	R-5.0 R-4.9
RRDB REFLECTIVE/REFLECTIVE DOUBLE BUBBLE	1" DRAPE Over Purlins 6" - 8" Attached to Bottom of Purlins or Sidewall Face of Purlins	R-10 R-16	R-4.1 R-4.7	R-5.5 R-5.4

R-values include lower air film. Testing and calculations in accordance with ASTM C1224/C236, ASTM STP1116 and ASHRAE Handbook—Fundamentals and National Bureau of Standards.

READ THIS BEFORE YOU BUY: This chart 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 including other factors to consider. The amount of insulation needed depends mainly on the climate you live in. Your fuel savings from the insulation will depend upon the climate, the type and size of your building, the amount of insulation already in your building, your fuel use patterns, and the number of people living or working in the building. 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 the insulation be installed properly.

CAUTION: Do not install this insulation in an area where it will or could be exposed to exterior elements including, but not limited to, direct sunlight, water, moisture, and/or intense heat. Do not install this insulation in open-air buildings such as structures having no side walls or partial side walls. The building should have four sides. This insulation *can be* installed in buildings with operable garage doors, other doors, and windows provided that the building is otherwise enclosed. If you have any questions about the application, please contact your regional sales manager or call our corporate office at 800.448.3401.

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