FI-FOIL®

Performance & R-value Statement

Reflective Bubble Insulation

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 also notably improves the thermal performance of other mass insulation when used together with it as a hybrid in these assemblies. This provides superior performance and energy efficiency for more comfortable, sustainable, and resilient buildings.

Our RBI Products

FI-FOIL® RBI Shield™ Reflective Bubble Insulation
FI-FOIL® RBI Shield™ MAX Woven Reinforced Reflective Bubble Insulation
FI-FOIL® RBI Shield™ HVAC Reflective Duct Insulation

What You Should Know

READ THIS BEFORE YOU BUY: The R-values for Reflective Bubble Insulation are shown in literature and product visualizers across our pages at fifoil.com. '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. Other factors include 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.