

ECOSHADES INC.

"Home of the Hot Water Tank Heater Jacket"
and Energy Efficient Products

FACTS ABOUT ECOSHADES 'CERTIFIED' COMMERCIAL GRADE REFLECTIVE FOIL

Understanding Reflective Foil Insulation: Over the many years that we have been involved with Reflective Foil Insulation we have been asked many of the same questions from our Customers who are still relatively new and unfamiliar with Reflective Foil Insulation and its benefits. There are now more Reflective Foil Insulation options on the market, and unfortunately many are 'imitations' that do not conform to industry standards and are not treated and safe to be used indoors. Purchasing a proper 'Certified Commercial Grade Reflective Foil Insulation' is paramount in delivering **ENERGY SAVING** results and keeping you safe. Here are some guidelines to help you make a better and safe choice.

Are All Reflective Foil Insulations The Same? No. Absolutely not. Reflective Foil can be masked to look like 'Certified Reflective Foil Insulation'. Using a Reflective foil product that is not certified can be dangerous. Buying Reflective Foil Insulation from your local corner Hardware store may save you a few dollars but it may not be certified. Our Reflective Foil insulation goes through testing beyond industry standards and is treated to not emit dangerous toxics and is also certified with a **Class 1/Class A Fire Rating**.

All of our products are tested beyond industry standards.

- Our products are Environmentally safe
- Non-toxic and Non-carcinogenic
- Will **NOT** promote Mold or Mildew
- Performance is Unaffected by Humidity
- Fiber Free for easy installation

Certifications:

- Class 1/Class A Fire Rating
- RIMA International Member
- ASTM E84-09
- ASTM E2599-08

What is Reflective Foil Insulation? Reflective Foil Insulation is a 'radiant barrier' consisting of metalized film sandwiched between a single or double layer of air bubbles. The bubble core and the metalized film (outer layer) provide the perfect combination of heat reflection and thickness that outperforms other materials that rely on mass (thickness) for their thermal values and performance.

How does Reflective Foil Insulation work? Reflective Foil Insulation is based on reflective technology that blocks Radiant Heat gain or loss. Reflective Foil radiant barriers work best when there is an air space on one side of the product which works by reflecting the Radiant Heat back in the direction of the Heat source.

What is the R-Value of Reflective Foil Insulation? Reflective Foil insulation does not use the same rating system as traditional insulations that use R-Values. Reflective Foil insulation has little to no R-Value. Reflective Foil works completely different than traditional insulations. It is engineered based on 'reflective technology' to reflect 96% of Radiant Heat transfer back to its source. R-Value is associated with fibrous insulations and their ability to prevent 'heat transfer' by using thick, dense insulations and having the ability to hold and absorb heat loss/gain. Reflective Foil Insulation is more affective at preventing 'Radiant Heat' transfer than any R-Value Fibrous insulations. Any R-Values pertaining to Radiant Barriers are generally rating the system.

Understanding the (3) Different types of Heat Transfer: Conduction, Convection and Radiant

Conduction: Conduction is best described when there is direct contact between two solids. The hotter object passes heat to the cooler object. An example would be a pan that is placed on a heating element of a stove, where the heat conducts into the pan and then conducts into the food in the pan.

Convection: Convection occurs when Heat passes through fluids (liquid and gases). A fluid is anything that has loosely moving molecules. Fluids rise when heated. This up and down motion is called convection currents. An example would be an electric heater in a cold room. As the warm air rises in the room the colder air drops feeding the heating element to create more warm air. This is called 'convective heat' and continues until the air space is at a temperature of equilibrium.

Radiant: Radiant energy is caused by electromagnetic radiation. Radiation is how heat moves through open air spaces in waves and does not require molecules to pass air. An example would be stepping outside on a sunny day and the heat of the sun can be felt immediately on your face. Although the sun is not touching you, the impact being created by the sun's radiant heat is absorbed by your skin. This is known as 'Radiant Heat Transfer'.

What Insulation type should you choose:

Understanding the (3) different types of Heat transfers helps to choose the best insulation type required. For 'Radiant Heat' the best insulation is a 'Certified Commercial Grade Reflective Foil Insulation'. For 'Conduction Heat' the best insulation is a fiberglass/cellulose type of insulation or a combination of fiberglass/cellulose and Reflective Foil insulation. For 'Convection Heat' the best insulation is a fiberglass/cellulose type of insulation or a combination of fiberglass/cellulose and Reflective Foil insulation.

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