

### **Will reflective insulation prevent condensation? If so, how?**

Yes. Reflective insulation is often an outstanding solution to condensation problems. The thermal break provided by the air space prevents warm, moist air inside a building from interacting with cold air on the other side of the surface. When installed correctly, with secure seams, condensation should not occur on the surface of the building.

### **Do I need to tape the seams?**

Taping the seams is highly recommended, especially as interior condensation is an issue. Heated metal buildings in colder climates are especially susceptible to condensation problems, as well as agricultural buildings housing livestock. If there are no concerns about interior condensation, taping the seams is an option.

### **Are there places reflective insulation or a radiant barrier can be installed in an existing structure?**

Yes, there are many places these products can be used to help lower energy consumption and costs, such as in an attic, around a water heater, as garage door insulation and in crawl spaces, just to name a few.

### **Should reflective insulation be installed on gable ends?**

Yes. Gable end walls are also an area that allows radiant energy to enter the house. The foil should face the attic.

### **Can reflective insulation be installed only on specific portions of the roof?**

Although some benefit will be derived by a partial installation, this is not recommended. Your benefit will be proportional to the amount of the roof area in which the product is installed. Full benefits requires a complete envelope of the aluminum surface, including gables.

### **Will reflective insulation damage my shingles?**

No, there is a wide range of mechanisms at work which dissipate the heat blocked by the reflective insulation. Studies have shown that shingle temperatures only rise approximately 2-5°F using radiant barriers and remain well within the 200°F shingle temperature that most shingle companies warrant.

### **Can reflective insulation be installed on walls?**

Yes it can but the proper air space must be maintained between the foil surface and any other materials. This may require additional construction methods and materials to create the required air space.

### **Can other materials such as spray foam be installed against reflective insulation in the attic?**

No. An air space must exist on the foil side of the reflective insulation in order to achieve radiant thermal shield benefits. Spraying foam over the full surface will totally negate any benefits.

### **Is it possible to estimate the energy and cost savings I can expect?**

The impact of reflectives (much like conventional insulation) depends upon the climate, and the heating and cooling habits of the homeowner. It is possible to make general estimates using average climactic data for an area, assuming average desired interior temperatures and local electricity rates. A sophisticated computer modeling program has been used to refine these estimates. However, due to the inexpensive nature of installing a reflective product, even with very conservative savings estimates, reflectives will save you money.

### **How does an IRCC/low emissivity coating work?**

An IRCC works by changing the emittance of the surface where it is applied. Building products, such as wood, brick, painted surfaces and plasterboard exhibit high emissivities (0.7 - 0.95). When heated above the temperature of adjacent surfaces, they radiate most of their heat energy to cooler surfaces. An IRCC works by lowering their surface emittance to 0.24 or lower, lessening their ability to radiate heat.

### **Why would someone choose an IRCC over a sheet reflective insulation or radiant barrier?**

An IRCC is normally applied using airless spray equipment, resulting in very low labor costs and greatly reduced installation times. Also, a water based IRCC can be safely installed in existing structures where the costs of installing foil or film products may be prohibitive or impractical. An IRCC may also be used in many manufactured products (such as infrared heat reflectors of automotive parts) where it is impractical to adhere foil or film radiant barriers.

### **Can IRCCs be used with radiant heat systems?**

Yes. It is an effective heat reflector when used behind wood stoves or on walls adjacent to ceiling mounted radiant heaters in commercial applications.