



QUESTIONS & ANSWERS-ROOF/ATTIC APPLICATIONS

Q. Which way should SOLAR BOARD face?

A. In order to block the radiant energy from your hot roofing materials, the foil side of SOLAR BOARD must face the attic space. The high purity aluminum (99+%) laminated on SOLAR BOARD requires an air space in order to provide radiant thermal shield benefits. SOLAR BOARD must not be installed with foil side in contact with the roofing materials.

Q. How does SOLAR BOARD reflect the heat if it faces down?

A. The aluminum that is laminated to SOLAR BOARD reflects radiant energy very efficiently and it does not radiate heat very well. The fact that the foil faces the attic creates the air space required for a radiant thermal shield to function. Because it is installed in this manner, SOLAR BOARD will emit (transfer) only about 3%* of the radiant energy to the cooler air space below it, this 97%* of the radiant energy that ordinarily is transmitted to your attic interior is blocked. An additional benefit of facing the foil down is the fact that it does not gather dust which can limit the effectiveness of a radiant thermal shield.

Q. How does SOLAR BOARD save money?

A. The savings are achieved through a combination of several related physical changes impacting the radiant energy in your home and the systems used to cool it. Essentially, the savings are achieved by reducing the amount of electricity consumed by your HVAC system to maintain the comfort level you desire.

- I. A reduced attic air temperature results from lower amounts of radiant energy entering the attic space.
- II. Lower attic air temperature and decreased levels of radiant energy lowers the surface temperature of the fiberglass insulation, which in turn reduces heat transfer through the ceiling into the living space.
- III. Additionally, because the fiberglass absorbs less radiant heat, the house cools down quicker in the early evening.
- IV. Because of the effect of the first three items, less heat is transmitted by the interior ceiling, the occupants of the house absorb less radiant energy (heat), and feel a comparable degree of comfort at a higher thermostat setting.
- V. And finally, for those homes with duct work in the attic, SOLAR BOARD provides an environment of lower operating temperatures which translates to a more efficient air conditioning system.

Q. Will SOLAR BOARD damage my shingles?

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

Q. Will SOLAR BOARD affect the reception performance of an antenna or satellite dish mounted in the attic?

A. Yes. SOLAR BOARD will interfere with reception quality when antennas or satellite dishes are mounted in the attic. Exterior mounted antennas and satellite dishes are recommended.

Q. Should SOLAR BOARD be installed on gable walls?

A. Yes. Gable walls are also an area that allows radiant energy to enter the house. Utilizing SOLAR BOARD in this application only adds to the benefits that existing SOLAR BOARD roof sheathing provides. Here again, the foil side of the board should face the attic.

Q. Can SOLAR BOARD be installed only on specific portions of the roof?

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

QUESTIONS & ANSWERS-ROOF/ATTIC APPLICATIONS

Q. Can other materials be installed against SOLAR BOARD in the attic?

A. No. An airspace must exist on the foil side of SOLAR BOARD in order to achieve radiant thermal shield benefits.

Q. How long will SOLAR BOARD provide a radiant thermal shield before I need to replace it?

A. One of the best features of SOLAR BOARD is that it does not require any maintenance, and its effectiveness does not deteriorate over time.

Q. Is it possible to estimate the energy and cost savings I can expect with SOLAR BOARD?

A. The impact of SOLAR BOARD (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 SOLAR BOARD, even with very conservative savings estimates, SOLAR BOARD will save you money. This is particularly true if your home is mortgaged, and the incremental expense is spread over the life of the mortgage. In these cases the savings go in your pocket starting the first month you own the home. Your SOLAR BOARD representative can work with you to estimate these savings.

Q. What is the R-value of SOLAR BOARD?

A. R-value by definition measures the resistance for heat flow. It is a measure designed to evaluate the benefits of mass insulation through testing. As SOLAR BOARD is a Radiant Thermal Shield, the use of a mass insulation measurement will result in no true R-value. The benefits of SOLAR BOARD can be measured based on reduced heat flux, decreased energy consumption, and decreased surface temperatures of the contents of the shielded area. The estimated savings and effectiveness can be accurately calculated using sophisticated computer-modeling programs in compliance with ASTM C1340.

Q. What benefits does SOLAR BOARD provide that fiberglass does not?

A. There are three types of Heat Flow into your home:

- I. Conduction – Heat Flow through a solid (building material)
- II. Convection – Heat Flow by air movement
- III. Radiation – Heat Flow radiated through air by a hot solid (roofing materials and ceilings)

Fiberglass primarily slows heat flow by conduction and to a small degree by convection. Mass insulation does not reduce radiation in fact it absorbs it. SOLAR BOARD on the other hand blocks 97%* of the radiant heat generated by your hot roofing materials. This in turn lowers the amount of radiant heat that is absorbed by the surfaces of both your HVAC equipment, and the fiberglass insulation. This allows HVAC system to operate more efficiently, and the fiberglass insulation to be more effective at slowing the transfer of heat into the living space. SOLAR BOARD is not recommended as a substitute for conventional fiberglass insulation. It simply works in partnership with fiberglass and other conventional insulation to improve effectiveness.

Q. Can I accomplish the same result with improved attic ventilation?

A. No. Even though improved ventilation will lower the air temperature in your attic, this will not produce significant reductions in energy usage. This is because the radiant heat will continue to pass through the air space and heat the surface of the insulation. This radiant heat will in turn be transferred through the insulation to the living space. SOLAR BOARD works by stopping 97%* of the radiant heat from entering the attic. Performance of SOLAR BOARD and your ventilation system will be improved by using the combination of products. As with any energy saving systems or materials, and initial investment will improve the comfort levels in your home, and produce energy and economic savings for years to come.

Q. Can SOLAR BOARD be used for wall sheathing?

A. Yes. Please refer to our installation instructions.

* The 97% reflectivity and 3% emissivity were derived from the aluminum foil laminate utilizing an emissometer in accordance with ASTM C1371.