QUESTIONS & ANSWERS-ROOF/ATTIC APPLICATIONS

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

Q. How does SOLARBORD reflect the heat if it faces down?
A. The aluminum that is laminated to SOLARBORD 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, SOLARBORD 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 SOLARBORD 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, SOLARBORD provides an environment of lower operating temperatures which translates to a more efficient air conditioning system.

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

Q. Will SOLARBORD affect the reception performance of an antenna or satellite dish mounted in the attic?
A. Yes. SOLARBORD 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 SOLARBORD be installed on gable walls?
A. Yes. Gable walls are also an area that allows radiant energy to enter the house. Utilizing SOLARBORD in this application only adds to the benefits that existing SOLARBORD roof sheathing provides. Here again, the foil side of the board should face the attic.

Q. Can SOLARBORD be installed only on specific portions of the roof?
A. Although some benefit will be derived by a partial installation of SOLARBORD, this is not recommended. Your benefit will be proportional to the amount of the roof area in which SOLARBORD is installed. Full benefit requires a complete envelope of the aluminum surface, including gables.

Q. Can other materials be installed against SOLARBORD in the attic?
A. No. An airspace must exist on the foil side of SOLARBORD in order to achieve radiant thermal shield benefits.

Q. How long will SOLARBORD provide a radiant thermal shield before I need to replace it?
A. One of the best features of SOLARBORD 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 SOLARBORD?
A. The impact of SOLARBORD (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 SOLARBORD, even with very conservative savings estimates, SOLARBORD 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 SOLARBORD representative can work with you to estimate these savings.

Q. What is the R-value of SOLARBORD?
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 SOLARBORD is a Radiant Thermal Shield, the use of a mass insulation measurement will result in no true R-value. The benefits of SOLARBORD 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 SOLARBORD 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. SOLARBORD 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. SOLARBORD 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. SOLARBORD works by stopping 97%* of the radiant heat from entering the attic. Performance of SOLARBORD 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 SOLARBORD 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.