


A Powerful Comparison of Continuous Insulation Envelope Options

The limiting flaw of conventional insulation is, by design, it allows heat to intrude and become stored in the attic. A superior concept provides a continuous insulation envelope which dramatically reduces the heat entering attic spaces. This eliminates the need to battle attic heat and its intrusion into the living areas. This system often provides additional useable storage space within the attic.

An initial solution was provided using spray foam technology. Whereas spray foam yields decent results by creating a continuous envelope system with high R-values, it also has profound drawbacks. Greenstar Panels™ provide a superior solution.

Without any of the adverse risks of spray foam, Greenstar Panels™ Hyper-Insulation challenges all three types of heat at the roof deck level providing a continuous insulation envelope. The new patented design of Greenstar Panels™ actively combats radiant, convective, and conductive heat drastically limiting their intrusion into the attic. Greenstar Panels™ use conventional construction and non-mechanical means to passively attain peak attic temperatures that match outdoor ambient temperatures in the summer and retain the structure's heat in the winter.

| | SPRAY FOAM INSULATION |  HYPER-INSULATION |
|--|---|---|
| Off Gassing & Health-Related Concerns? | Yes, including eye, nose, & throat irritations, headaches, breathing problems, & asthma | No, it is as safe as drinking from a Styrofoam cup |
| Shrinkage? | Yes | No |
| Deteriorates Over Time? | Yes | No |
| Radiant Barrier? | No | Yes, on both sides which benefits both summer & winter temperatures |
| Increases Shingle & Deck Temperatures? | Yes, and several shingle manufacturers void their warranty if spray foam is used | No, it actually lowers shingle deck temperatures by about 10 degrees, lengthening their life |
| Fire Hazard? | Yes, requires additional fire barrier application | No, Class A fire-rating |
| Impacts Insurance Coverage? | Yes, many carriers now require a separate rider in the customer policy | No |
| R – Rating of Insulation | 5 ½” inches of Open Cell Spray Foam = R 22 | 2” Greenstar Panels™ = R 38¹ |

¹ Architectural Testing in Fresno, CA provided the independent testing on a solar calorimeter benchmarking the results using 7 ½ inch of fiberglass batt insulation with R-30 value comparing to 2” Greenstar Panels™ producing the results which reflected a 27% reduction in solar heat gain using Hyper-Insulation.