



Questions and Answers
www.r-control.com

Structural Insulated Panels

QUESTIONS YOU MAY HAVE

1. Q. WHAT IS THE R-CONTROL STRUCTURAL INSULATED PANEL (SIP) SYSTEM?

A. An extremely strong super insulated structural panel building component used for exterior walls, roof/ceilings, and floors. R-Control SIPs are made from engineered wood facings adhesively bonded to expanded polystyrene high performance rigid insulation.

2. Q. WHY SHOULD I CONSIDER USING THE R-CONTROL SIP SYSTEM OVER CONVENTIONAL STICK BUILT METHODS?

A. If you plan to own or occupy the building or house, there are several excellent reasons to consider R-Control SIPs.

Comfort — One of the most exciting features of an R-Control structure is the comfort benefit to the homeowner. R-Control SIPs create an inside home environment that is more easily and economically controlled. In addition to superior physical comfort, R-Control SIP structures are also very quiet and clean.

Thermal Performance — Stick built walls were originally designed to be structural, not insulated. With R-Control, the insulation is not an afterthought, but an integral part of the structure. The insulation is solid, so there is no air movement within the wall, nor are there studs acting as thermal breaks that reduce energy efficiency and homeowner comfort.

Strength — Structural testing and real world storms and earthquakes have challenged R-Control SIP strength performance. In tests of strength, R-Control SIPs have proven stronger than stick framed construction methods.

Quality — R-Control SIPs assure you of straight, flat walls with no bulging framing members. Straight walls are virtually impossible to achieve with stick framing. Attraction of dirt particles to thermal shorts caused by framing members is eliminated. A continuous wood surface provides a sound nailbase for conventional exterior finishing materials. This is also an advantage for interior finishing, as well as hanging cabinets and pictures.

Speed of Construction — R-Control SIP is a faster method of construction. Many R-Control SIP contractor users report 30% to 50% increased productivity in their framing.

3. Q. WHAT TYPE OF HOMES CAN BE BUILT WITH R-CONTROL SIPs?

A. R-Control SIPs can be used in all designs: custom homes, engineered homes, restaurants, office buildings, schools, churches....the options are endless. Homeowners, builders, and designers who want to use a superior building technology can all benefit from R-Control SIPs.

4. Q. WHY DO R-CONTROL SIP STRUCTURES OUTPERFORM CONVENTIONALLY CONSTRUCTED BUILDINGS AND HOMES WITH THE SAME R-VALUE?

A. The R-Value rating of a specific material or wall assembly was not intended to be the measure of thermal efficiency of a home. R-Value only measures resistance to heat loss by conduction. Other forms of heat loss are convection, radiation and especially infiltration (leakage). Conventional framing with batt insulation promotes convection, radiant and infiltration heat loss.

5. **Q. WHAT IS THE R-VALUE?**

A. R-Control SIPs are manufactured with values of R-15, R-23, R-30, R-37 and R-45. Testing at Oak Ridge National Laboratories showed that R-Control SIP walls are far superior to conventional stick frame and batt insulated walls. A 4-1/2" R-Control SIP panel was 45% better than 2x4's with batt insulation and in fact also was better than 2x6's with batt insulation.

6. **Q. WHAT IS THE COST OF R-CONTROL COMPARED TO A CONVENTIONAL STICK BUILT STRUCTURE?**

A. The cost of any home or building is significantly dependent upon design. Basically, R-Control SIPs offset small additional material costs through labor savings. However, R-Control structures produce significant savings to the owner when low monthly utility bills arrive.

7. **Q. HAS THE R-CONTROL SIP SYSTEM BEEN THOROUGHLY TESTED, AND DOES IT HAVE BUILDING CODE ACCEPTANCE?**

A. Yes. Extensive testing has been performed by many independent laboratories. R-Control SIPs are UL (Underwriters Laboratories Inc.) listed and a Third Party Certified product. R-Control SIPs have the recognition of meeting the requirement of all the national model building codes. Please refer to the current R-Control evaluation report issued by the International Code Council Evaluation Service (ICC-ES).

- International Building Code (IBC)
- International Residential Code (IRC)
- Uniform Building Code (UBC)
- National Building Code
- Standard Building Code



R-Control is also recognized by the Department of Housing and Urban Development (HUD), as well as having other individual state and country approvals.

8. **Q. HAVE R-CONTROL SIPs BEEN PROVEN STRUCTURALLY IN EARTHQUAKES AND STORMS?**

A. Yes. R-Control SIPs have exceptional strength to resist typical loads caused by seismic activity and high winds. R-Control Building Systems has documentation of six homes which used R-Control components that withstood the 7.2-magnitude earthquake in Kobe, Japan in January 1995. These homes were located just miles from the quake's epicenter and stood solidly against the tremendous force of the earthquake. R-Control SIP structures have also withstood tornados in Georgia and straight line winds and tree trunks crashing into them in Michigan.

9. **Q. HAVE R-CONTROL SIPs BEEN FIRE TESTED?**

A. Yes. R-Control Panels have been fully tested for surface burning characteristics and smoke development, room fire test, thermal barrier and hourly fire tests on wall, ceiling and roof assemblies.

10. **Q. HOW DO R-CONTROL SIPs RESIST TERMITES?**

A. R-Control SIPs are no more susceptible to insect infestation than other forms of construction. However, R-Control has identified and thoroughly researched a natural mineral product that is effective for termite resistance. The mineral is non-toxic. R-Control embodies this natural mineral within the R-Control SIP for optimum termite resistance. The process is so unique and beneficial, it has been patented. Even with this effective termite treatment provided by R-Control Building Systems, preventative building practices should be employed by the builder, and maintained by the homeowner.

11. Q. HOW ARE WINDOWS AND DOORS INSTALLED IN R-CONTROL SIPs?

A. Openings for windows and doors can be built right into the R-Control SIP at the factory, or cut in during field construction. Boundary framing is then installed and the window or door is conventionally set.

12. Q. WHAT EXTERIOR OR INTERIOR FINISH CAN BE USED WITH R-CONTROL SIPs?

A. All types of sidings, claddings and roofing materials can be applied to R-Control SIPs. The wood face of R-Control SIPs provides an excellent nail base and eliminates stud searching.

13. Q. HOW IS ELECTRICAL WIRING INSTALLED IN R-CONTROL SIPs?

A. Each panel contains a vertical and horizontal electrical chase in the EPS core. Wiring is pushed through chases during construction. Electrical boxes screw mount to the face of the R-Control SIP.

14. Q. SINCE R-CONTROL STRUCTURES ARE SO WELL CONSTRUCTED, DO THEY REQUIRE MECHANICAL VENTILATION?

A. Yes. Air to air exchangers are used to bring in fresh air, preheat the air and assist in the removal of humidity and stale air. Comfort to the occupants is unparalleled. Cost of operation is minimal.

15. Q. DO R-CONTROL SIPs CONTAIN UREA FORMALDEHYDE, CFCs, HCFCs, or HFCs?

A. No, and they never have.

16. Q. HOW DO R-CONTROL SIPs HELP THE ENVIRONMENT?

A. Many ways! The raw materials in R-Control SIPs have low energy requirements to make them. The structural skins of R-Control SIPs are made from renewable controlled growth wood resources. For years and years R-Control structures will save fuel used for heating and cooling. The resulting pollutants from burning fuels like natural gas, oil and coal are dramatically reduced. The environment is then spared the contributing "green house" effect of burning additional fuels that conventionally built structures require.

Industry Affiliations:

SIPA, NAHB, AIA,
SPRI, NRCA, EPSMA



R-Control Building Systems

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