NAHB Green Building Guidelines & Premier SIPs

Premier Building Systems
Stronger. Straighter. Greener.

The National Association of Home Builders (NAHB) Green Building Guidelines have been developed as a voluntary metric for building an environmentally responsible home. The guidelines were designed with the mainstream home builder in mind, and aim to provide builders with a guide to "effectively and holistically" incorporate environmental concerns into a new home.

Structural insulated panels offer many inherent green benefits. The NAHB Green Building Guidelines recognize the ability of SIPs to minimize the waste generated during the construction process and to reduce the energy usage of the completed home.

Resource efficiency is one of the guiding principles for NAHB's green building program. Using a SIP wall system will earn six resource efficiency points. A SIP roof will earn an additional six points. If the OSB used in the SIPs is certified through the Sustainable Forestry Initiative Program, the Forest Stewardship Council, or other credible third-party source, four points will be gained for each component (i.e. walls, roof, floors) built with SIPs.

Green homes must reduce environmental impact not only in the construction process but also through the lifetime of the home. Energy efficiency is another guiding principle of the Green Building Guidelines.

Up to 100 points can be gained based on the energy analysis of the home. The maximum score of 100 requires 40% savings over IECC 2003, with a minimum of 37 points awarded for 15% savings. SIP homes frequently achieve these levels of energy savings when combined with other high efficiency systems.

Using SIPs automatically qualifies the builder for eight envelope efficiency points and gives the builder a head start on gaining another ten points for effective air sealing.

The NAHB Green Building Guidelines also recognize Indoor Environmental Quality as a primary aspect of green building. If the home provides mechanical ventilation to the tune of 7.5 cfm per occupant, as well as kitchen and bathroom ventilation, seven points will be awarded. Most SIP homes use mechanical ventilation in accordance with this requirement. Homes that use a heat or energy recovery ventilator will earn ten points in addition to the above ventilation points.

Beginning with a resource efficient, well sealed, and effectively insulated building envelope is crucial for any home to be considered "green." Through the successful incorporation of a high performance SIP envelope with other green products and practices, builders can cost effectively meet the NAHB Green Building Guidelines' standards for a Gold, Silver or Bronze level green home.

NAHB GBG & Premier SIPs, Continued

The following outlines the possible points that may be acquired when using PBS SIPs in the construction process.

Resource Efficiency

Section	Detail	Points
2.1.6B	Provide a panelized wall framing system	**6**
2.1.6C	Provide a panelized roof system	**6**
2.6.2	Use certified wood and wood-based materials and products from credible third-party certified sources	**4**
2.7.1	Use products that contain fewer resources than traditional materials (4pts per component) * *Builder must use resource efficient products for at least two components to receive credit*	**8**
Note:	8 pts given for ATHENA Life Cycle Analysis (2.8.2)	
Total Possible Resource Efficiency Points w/PBS SIPs		**24**

Required *Resource Efficiency* Points	
Gold	**77**
Silver	**60**
Bronze	**44**

Energy Efficiency

Section	Detail	Points
Builders can choose to follow the performance path or prescriptive path requirements.		
3.2.1	**Performance Path:** Home must be tested with *ResCheck Analysis*	
3.2.1A	15% over IECC 2003 (Bronze)	**37**
3.2.1B	30% over IECC 2003 (Silver)	**62**
3.2.1C	40% over IECC 2003 (Gold)	**100**
Total Possible Performance Points w/PBS SIPs		**TBD by Analyst**
3.3.1	**Prescriptive Path**	
3.3.1A	Increase R-Value of building envelope by using SIPs	**8**
3.3.1B	Prescriptive air-sealing requirements (easy to meet with SIPs)	**10**
3.3.6.2	Conduct third-party tests to verify building performance	
	Blower Door Test < 0.35 Natural ACH	**8**
	Duct Blaster Test < 5% leakage to unconditioned space (no unconditioned leakage in complete SIPs home)	**8**
Total Possible Prescriptive Points w/PBS SIPs		**34**

Required *Energy Efficiency* Points	
Gold	**100**
Silver	**62**
Bronze	**37**

NAHB GBG & Premier SIPs, Continued

Indoor Environmental Quality (IEQ)

Section	Detail	Points
5.1.5	Composite wood products contain no added urea-formaldehyde resins	**6**
5.2.2	Provide mechanical ventilation at 7.5 cfm per person (consistent with SIP manufacturer recommendations)	
	Using exhaust and supply fans	**7**
	Balanced exhaust and supply fans	**9**
	HRV or ERV	**10**
5.3.4	Protect moisture sensitive materials on jobsite (consistent with SIP manufacturer recommendations)	**6**
Total Possible IEQ Points w/PBS SIPs		**38**
Required *Indoor Environmental Quality (IEQ)* Points		
Gold	**72**	
Silver	**54**	
Bronze	**32**	

For additional information on the Green Building Guidelines visit NAHB's website:

http://www.nahb.org/publication_details.aspx?publicationID=1994&sectionID=155