

# Understanding 2015 NGBS, Green Construction and Product Selection

This document intends to explain how Stego® Wrap, StegoCrawl®, and the Pango® Termite Defense System fit into the 2015 National Green Building Standard™ (ICC/ASHRAE 700-2015).

## 2015 NGBS Green Building Practices Where Product Selection Can Make Significant Impacts Include:

### Under-Slab Vapor Retarder Requirements

Moisture management is identified as a mandatory practice under the *Enhanced Durability and Reduced Maintenance* (602.1.1.1), and an under-slab vapor retarder is explicitly required as part of the building envelope: the vapor retarder must meet the corresponding provisions provided by either the ICC IBC Section 1907 or the ICC IRC R506.2.3. Stego Wrap Vapor Barrier and Retarder products and the Pango Termite Defense System, along with their respective accessories, can be used to easily satisfy these mandates.

### Crawl Space Vapor Retarder Requirements

Depending upon the type of crawl space conditions that may exist on the project, certain design characteristics and installation methods may be mandatory or help to earn points. Under *Crawlspaces* (602.1.4), a vapor retarder is mandatory in conditioned crawl spaces and can help to earn six points in unconditioned vented crawl spaces. The unconditioned crawl space is considered again with energy efficiency mandates; the visual inspection option under *Air Sealing and Insulation* (701.4.3.2) establishes the use of a Class I (permeance of 0.1 perms or less) vapor retarder over exposed earth. In each case, the vapor retarder must be lapped a minimum 6 inches and taped, with additional vertical lap and sealing methods required for the conditioned crawl space application. StegoCrawl Wrap Vapor Barrier, along with StegoCrawl accessories, provide an easy and cost-effective way to address these requirements.

### Termite Barrier Option

Four points can be earned under *Termite Barrier* (602.1.5) where a continuous physical foundation termite barrier is installed. In geographic areas that have moderate to heavy termite infestation potential (per Figure 6(3) Termite Infestation Probability Map) a “no or low toxicity treatment” must also be installed. In geographic areas that have very heavy termite infestation potential a “low toxicity bait and kill termite treatment plan” must also be selected and implemented. The Pango Termite Defense System is certified by NGBS as a continuous physical foundation termite barrier. NGBS defines a continuous physical foundation termite barrier as “an uninterrupted, non-chemical method of preventing ground termite infestation (e.g. aggregate barriers, stainless steel mesh, flashing, or plastic barriers).”

### Radon Control Requirements

*Radon Control* (902.3) measures mandate design and installation in compliance with ICC IRC Appendix F for buildings located in Zone 1 (High Potential “Red” Zone according to the EPA), and points can be earned by utilizing an active or passive radon system in all three Zones (7 - 10 points are possible). Radon control measures require the use of a continuous polyethylene sheeting (a soil-gas-retarder) in both active and passive systems. Stego Wrap, StegoCrawl Wrap Vapor Barrier and Pango Wrap can act an integral part of these systems, all of which have been tested to determine their radon diffusion coefficients.



CATEGORY	SECTION	CREDITS	STEGO WRAP VAPOR BARRIER	STEGOCRAWL WRAP VAPOR BARRIER	PANGO TERMITE DEFENSE SYSTEM
Moisture Management Building Envelope	602.1.1.1	Mandatory	✓		✓
Unconditioned Crawlspace	602.1.4.1	6 Points	✓	✓	
Conditioned Crawlspace	602.1.4.2	Mandatory	✓	✓	
Termite Barrier	602.1.5	4 Points			✓
Radon Control	902.3	7 - 10 Points*	✓	✓	✓

\* 7 - 10 points are possible by incorporating a full radon control system.

## 2015 NGBS Green Building Practices Where Product Selection Can Help Satisfy Green Intentions

### Brownfield Site Selection

Through Green Building Practices relating to Site Selection (401.3) and Lot Selection (501.1), points can be earned by selecting sites and/or lots recognized as Brownfields. While Stego Wrap will not directly affect this credit, Brownfield redevelopment often requires special remediation to take place to prevent possible soil contamination from compromising the building envelope. Stego Wrap Vapor Barrier maintains extremely low permeance, life of the building protection against most harmful soil gases found in brownfield sites. Stego Wrap can be an integral component of an overall remediation strategy.

### Recycled Construction Waste

To encourage removing construction materials from the waste stream, under *Recycled Construction Materials*, at least two general categories of types of products are selected and must be selected and recycled offsite. Plastics are among the categories of materials identified, under which Stego Wrap would fall (scrap or excess Stego Wrap and StegoCrawl can be recycled). Three or more points are possible within this Green Building Practice depending on the number of construction material categories selected and effectively recycled.

### Energy Efficiency Requirements

*Minimum Energy Efficiency Requirements* (701) is a general section mandating specific performance paths and requirements in order to achieve a minimal level energy efficiency. Embodied within the intent of this credit is a reduction in the energy consumed by the building, including any utilized HVAC system(s). Stego Wrap, StegoCrawl Wrap, and Pango Wrap prevent significant amounts of water vapor from entering the building envelope from below the foundation or crawl space. This reduced moisture migration can significantly decrease the latent moisture load and subsequent power required by the HVAC system to maintain indoor humidity and temperature levels. Stego Wrap, StegoCrawl Wrap, and Pango Wrap may not reduce power consumption levels enough to earn a point or points under this credit on its own, but it can certainly contribute to an overall energy optimization strategy. Many variables are involved with energy optimization; please contact the Stego Industries Technical Department for more details on this subject.

