

Why is SAFEWALL[®] considered GREEN?

According to the Environmental Build News (EBN) the following is based on their guidelines for green building criterion and their codification of green specifications in a “Green Spec” directory.

“Our tactic with the GreenSpec directory is to identify quantifiable, easily verifiable, standards where those could be defined, and then base other decisions about what should be included on the collective wisdom of our editorial staff. ...You must have confidence that the process used to select products for inclusion is logical and based on good information and careful analysis. We have attempted to lay out our process for selecting products for the GreenSpec directory.”¹

1. Products Made with Salvaged, Recycled, or Waste Content

The materials used to produce a building product—and where those materials came from—is a key determinant of green.

Products with pre-consumer “Post industrial” recycled content - recycling refers to the use of industrial by-products, as distinguished from material that has been in consumer use. Fly ash, a byproduct of coal firing energy plants, is used in the Safewall[®] designed concrete system. We use a high percentage of fly ash which displaces the need for manufactured Portland cement. Fly ash improves the sustainability, permeability and strength of the cured concrete and eliminates the need for disposal into a landfill.

Products made from waste material — Safewall[®] design concrete is made up of cement, sand, aggregate and additives. The aggregate portion of concrete can be made up of previously salvaged concrete that has been crushed and stone or rock waste and reutilized as the aggregate portion of concrete keeping it out of landfills.

2. Products That Conserve Natural Resources

Aside from salvaged or recycled content, there are a number of other ways that products can contribute to the conservation of natural resources. These include products that serve a function using less material than the standard solution, products that are especially durable and therefore won't need replacement as often.

Products that reduce material use — Products meeting these criteria may not be distinctly green on their own but are included in *GreenSpec* because of resource efficiency benefits that they make possible. Once again fly ash and reutilized crushed concrete and salvaged scrap stone or rock reduce the need for manufactured cement and reduce the need for mined stone, rock and lime.

Products with exceptional durability or low maintenance requirements — these products are environmentally attractive because they need to be replaced less frequently, or their maintenance has very low impact. Sometimes, durability is a contributing factor to the green designation but not enough to

¹ Some of the formatted guidelines included in this article are from the NATIONAL GREEN BUILDING STANDARD - Working Draft- March 22, 2007 and Environmental Building News • January 2000, Revised, January 2006

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distinguish the product as green on its own. Nothing is more sustainable than concrete construction, resistant to rot, decay, pest infestation and mold and mildew. Because of concrete's structural superiority, buildings designed with Safewall® will better withstand damage caused by water, wind, and heat/fire. Safewall® structures require much less ongoing maintenance and will have an increased useful life as compared to most wood based structures.

3. Products That Avoid Toxic or Other Emissions

Some building products are considered green because they have low manufacturing impacts, because they are alternatives to conventional products made from chemicals considered problematic, or because they facilitate a reduction in polluting emissions from building maintenance.

Alternatives to hazardous products - A Safewall® concrete structure helps to mitigate the off-gasing effect of VOC's (Volatile Organic Compound) improving the overall health component of a building.

Products that reduce or eliminate pesticide treatments - Periodic pesticide treatment around buildings can be a significant health and environmental hazard. The use of certain products can obviate the need for pesticide treatments, and such products are therefore considered green. Concrete is not a food source for any organism/insect and does not therefore attract pest. Because of the solid concrete wall construction with minimal cold joints, no mechanical joints which are required with panelized walls, no plastic webbing piercing the concrete surface (like in an ICF structure), a Safewall® structures may reduce the need for pesticides to control wood destroying organism. The contiguous nature of the formed and poured-in-place Safewall® system helps to create a superior mechanical barrier helping to prevent intrusion of insects.

4. Products That Save Energy

The ongoing environmental impacts that result from energy used in operating a building often far outweigh the impacts associated with building it. Many products are included in GreenSpec for this benefit.

Building components that reduce heating and cooling loads.- The Safewall® type system of construction significantly increases the energy efficiency component of a structure. The thermal mass effect of concrete walls in conjunction with properly installed insulation for a particular climate will give better energy efficiency available for that structure. According to a published Portland Cement Association study of various climate conditions and wall systems, The PIP – Poured-In-Place (like Safewall®), in certain climate areas, performed as well as a 2" x 12" wood framed wall insulated to R38. ²

The raw materials (cement, sand, aggregate) involved in the creation of concrete usually come from local markets, mines, quarries etc. within a 500 mile radius of its use requiring less transportation and the negative environmental effects that that would entail.

5. Products That Contribute to a Safe, Healthy Built Environment

Buildings should be healthy to live or work in and around, and product selection is a significant determinant of indoor environment quality. Green building products that help to ensure a healthy built environment.

² PCA Residential Construction Energy Study For PCA R&D Serial No. 2518,

Products that do not release significant pollutants into the building - Included here are zero - and low-VOC paints, caulks, and adhesives, as well as products with very low emissions, such as nonformaldehyde manufactured wood products. Concrete by its nature is a low VOC, nonformaldehyde emitting substance. The Safewall® structure will help to contribute to the maximum health safety of a building environment.

Products that block the introduction, development, or spread of indoor contaminants

Certain materials and products are green because they prevent the generation or introduction of Pollutants—especially biological contaminants—into occupied space. Solid concrete construction will give increased barrier protection against moisture intrusion helping to prevent an environment suitable for mold growth. Mold and mildew will not thrive on the surface of concrete because of its nonpervious and inorganic nature assisting in preventing the spread to interior wall space which will help to mitigate mold growth.³

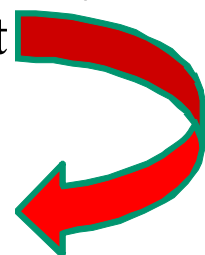
Products that help control noise — Noise, both from indoor and outside sources, adds to stress and discomfort. A Safewall® concrete system gives a greater possible barrier from outside noise preventing it from adversely affecting the occupants inside thereby maximizing the noise comfort of a structure.⁴

CONCLUSION

“GREEN” has become a catch-all term and the above five categories are not considered an exhaustive list. The above list is intended to give the reader an overall view of the environmentally positive and the sustainable nature of the Safewall® branded solid concrete wall system.

"In the past, the history of home building was centered not on sustainability but, for duration cycles of available products in the market place. Today the paradigm movement is the commitment towards “Green” encompassed with sustainability and the availability of better products. This movement is now starting and will be driven, not by the builders and material suppliers, but by the demands of the Homeowner themselves. " [Ken Krantz]⁵

**The Design, Energy Efficiency,
and Sustainability make it**



³ Office of Air and Radiation Indoor Environments Division (6609J) EPA 402-K-02-003, 2002

⁴ Sound Transmission Class (or STC) is an integer rating of how well a building partition attenuates airborne sound. In the USA, it is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations (see ASTM International Classification E413 and E90). Outside the USA, the Sound Reduction Index (SRI) ISO standard is used.

⁵ **Ken Krantz** has previous contracting experience on many successful commercial / industrial concrete projects is the CEO and Founder of Safewall Companies.

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