ECO-Block®

www.eco-block.com 1-800-595-0820

ECO-BLOCK® IS ECO-LOGICAL

Commercial

ECO-Block® is good for the environment, good for your health, and good for your pocketbook.

ECO-BLOCK® SAVINGS

- **High Performance Building -** ECO-Block® buildings consistently save 25- 50% in monthly utility costs [1]over the life span of the structure, translating into fewer resources consumed for the creation of energy. Beyond the insulating qualities of the foam block (R-22), the thermal mass of the concrete acts as an energy reservoir, which helps maintain an even indoor temperature. Consequently, the HVAC system can be scaled down up to 35%, offering another added cost savings.

- **Environmental Benefits -** An average 2,000ft² home built with ECO-Block® can save up to 47 trees, which would have been cut for creating lumber.

ECO-BLOCK® AS A "GREEN" BUILDING MATERIAL

- **Superior Quality of Insulated Concrete Forms (ICF) -** Due to the fact that ECO-Block® forms are essentially permanent concrete forms and provide the insulation of curing blankets, the cement used for an ICF concrete mix can carry a high percentage of post-industrial waste, which typically requires a longer curing time. This longer time translates into a higher strength (PSI) in the concrete than the mix would normally generate. Additionally, the reduced amount of portland cement equally reduces the amount of CO2 associated with the manufacturing of the cement.

- **Raw Materials Acquisition, Processing and Manufacturing -** ECO-Block® is manufactured from modified polystyrene bead, a natural gas and petroleum product. There is low embedded energy in the manufacturing of the bead, and minimal energy in the expansion and molding into forms. The bead is impregnated with 3 - 7% hydrocarbon blowing agent, pentane gas, which remains inert until expanded through steam and pressure. The expanded beads remain as air filled closed cells that have a high resistance to thermal energy transfer, and therefore are used to produce efficient insulating materials.

  There is no use of CFC or HCFC blowing agents that would escape into the atmosphere. This means ZERO Ozone Depletion Potential (O.D.P.). Since EPS is expanded as much as 50 times its original volume, it is a very efficient and economical use of basic raw material.

---

[1] Portland Cement Association Study, www.concretehomes.com 25 - 50%
Lubbock, Texas Affordable Housing Program, 33.6%; Ritchie Corp, Hayesville, Kansas 58.2%.

ECO-Block® uses recycled material whenever possible. All of the embedded webbing and a percentage of the connectors are manufactured from 100% post-industrial recycled copolymer polypropylene. Concrete itself is inert, non-toxic, and produced from natural and recycled materials.

- **Product Packaging** - ECO-Block® is 50% more efficient to ship and handle than other fixed block Insulated Concrete Forms (ICF), since it is sold in flat panels that pack tightly, thereby shipping virtually no air space. A minimal plastic wrap is used to contain a bundle of panels.

- **Product Distribution** - ECO-Block® is manufactured in several strategic locations throughout North America, generally within about 500 miles of any job site. Concrete is always sourced locally. This both supports the local economy and saves on transportation costs.

- **Product Installation, Use and Maintenance** - The ECO-Block® construction method involves minimal waste and all residual pieces can be recycled or reused in future projects. A structure built with ECO-Block® and concrete is more likely to withstand the ravages of fire, high winds, driving rains and earthquake. There is no wood rot or rodent damage and termites can't eat concrete; hence there is little maintenance or need to rebuild, improving the cost efficiency of the product over the lifetime of the building.

- **Disposal, Reuse and Recycling** - Manufacturing waste is kept to less than 3%, which is generated in the set-up of the forms. This material is reground and reused in other EPS foam products. In the expanded form, the foam material is recyclable, depending on cleanliness of the material and availability of recycling facilities.

ECO-BLOCK® AND INDOOR AIR QUALITY

- **Improving the Quality of Building** - The ECO-Block® building system does not contain CFCs, HCFCs, formaldehyde, asbestos or fiberglass. The EPS used in the ECO-Block® forms is completely stable and inert, and it will NOT break down over time.

- **Improving the Quality of the Interior Air** - ECO-Block® foam is hypoallergenic, which can be very important for those with sensitive skin.[2] It does NOT produce any fumes or gasses once installed.

- **Improving the Control of Air Quality** - Building with ECO-Block® greatly reduces the air infiltration into a structure, thereby allowing for greater control of the quality of the interior air. There are no drafts or cold spots.

ECO-BLOCK® AND INDOOR SOUND QUALITY

- **Improving the Sound Barrier —** ECO-Block® can gain a Sound Transmission Class (STC) rating of 50 or more, and has become an efficient building system for movie theaters. Homes are now being designed with media rooms, using ECO-Block® in the surrounding walls to isolate the sound.

---

[2] Huntsman Chemical Corporation, www.huntsman.com

ECO-BLOCK® CONTRIBUTIONS TO LEED™ CREDITS

The Leadership in Energy and Environmental Design (LEED™) Green Building Rating System is a priority program of the US Green Building Council, which evaluates environmental performance from a "whole building" perspective over a building's life cycle, providing a definitive standard for what constitutes a "green building". It is a voluntary, consensus-based, market-driven building rating system based on existing proven technology.

LEED™ is based on accepted energy and environmental principles and strikes a balance between known effective practices and emerging concepts. Unlike other rating systems currently in existence, the development of LEED Green Building Rating System™ was instigated by the US Green Building Council Membership, representing all segments of the building industry and has been open to public scrutiny. The system is designed to be comprehensive in scope, yet simple in operation.

This feature-oriented system is divided into 6 criteria and related credit areas:

- *Sustainable Sites (8 credits areas with 14 possible points)*
- *Water Efficiency (3 credits - 5 possible points)*
- *Energy & Atmosphere (6 credits - 17 possible points)*
- *Materials & Resources (7 credits - 13 possible points)*
- *Indoor Environmental Quality (8 credits -15 possible points)*
- *Innovation & Design (2 credits - 5 possible points)*

Different levels of green building certification are awarded based on the total points earned. To achieve the first level of certification, a building must score at least 26 of the total 69 available points. Thereafter, a silver level requires 33 points, gold level requires 39 and platinum level is 52 minimum points.

The LEED™ rating system requires submittal of comprehensive documentation that contains evidence that the designer has actually captured the credits claimed for certification. Software, such as the DOE2 developed by the Lawrence-Berkeley Laboratory can help calculate the specifics for a building, based on the values input by the user. The LEED™ certification process can require additional documentation provided by Eco-Block, by the concrete supplier, rebar supplier or by the engineer. None is unreasonably difficult; usually a letter of verification pertaining to the credit requirement will suffice.

This is an integrated system, and there are no direct plug-in credits for ECO-Block® in the LEED™ system, however ECO-Block® can contribute significantly in several credit areas. Architects working on LEED™ projects can receive a full package of documentation with the appropriate data to plug into the rating equations.

NOTES