

# ECO-Block New Zealand

www.eco-blocknz.co.nz

phone: 021-760-590

## *Residential*

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

### ECO-BLOCK SAVINGS

- **Energy Efficiencies** - ECO-Block buildings consistently save 25- 50% in monthly utility costs 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-3.78), the thermal mass of the concrete acts as an energy reservoir. This helps maintain an even indoor temperature. Consequently, the HVAC system can be scaled down by up to 35%, offering another added cost savings.
- **Environmental Benefits** - An average 200 m<sup>2</sup> 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

- **Raw Materials Acquisition, Processing and Manufacturing** - 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 Expanded Polystyrene (EPS) is expanded to approximately 50 times its original volume, it is a very efficient and economical use of basic raw material. 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 Insulated Concrete Forms (ICF). 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 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.

---

\* Portland Cement Association Study, [www.concretehomes.com](http://www.concretehomes.com) 25 - 50%  
Lubbock, Texas Affordable Housing Program, 33.6%; Ritchie Corp, Hayesville, Kansas 58.2%.

- **Disposal, Reuse and Recycling** - Up to 5% (maximum allowable for structural stability) of the EPS foam is recycled material. 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.\*\* 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 achieve 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.

## **ECO-BLOCK OVERSEAS AND ENERGY-EFFICIENT MORTGAGES (EEM)**

In the USA, the FHA has devised an Energy-Efficient Mortgage (EEM) program to help achieve national energy-efficiency goals, reduce pollution, and provide better housing for people who might not otherwise be able to afford it. By considering the savings on monthly utility bills when determining how large a mortgage the household can afford, as many as 250,000 more new home buyers could qualify per year, according to a 1986 study by the Joint Center for Housing Studies. Although EEM's have been available in some States since 1980, they have been little understood or marketed.

There are three components to this system. The **Energy Rating System** employs an independent auditor to rate the energy efficiency of the home. The home is then awarded points, or stars to possibly earn the **Energy Star Rating**, which qualifies the home for an **Energy Efficient Mortgage (EEM)**.

- **USA Energy Rating System** - A Home Energy Rating System increases affordable housing opportunities by:
  - *Reducing utility bills*
  - *Increasing home resale value*
  - *Expanding a family's range of home ownership choices*
  - *Qualifying more families for Energy Efficient Mortgages*

---

\*\* Huntsman Chemical Corporation, [www.huntsman.com](http://www.huntsman.com)

Similar to the EPA rating that is given to vehicles stating the estimated miles a car can go on a gallon of gas (mpg), the EPA measures how efficiently a home uses energy for its heating and cooling purposes. Unlike an energy audit, or a house inspection, a Home Energy Rating evaluates the energy efficiency of a house (not the occupants, nor just the structure of the dwelling). The criterion is that the home exceeds the current building codes by 30%. The Home Energy Rating is meant to stand over time and to be transferable to subsequent occupants of the home. Independent third-party verification by a certified Energy Auditor is needed for this rating.

- **U.S.A. Energy Star Home** - EPA Energy Star Homes have passed stringent energy efficiency guidelines established by the EPA Energy Star Homes program and verified by third party energy auditors. EPA Energy Star Home builders are committed to building comfortable, high quality, energy efficient homes that enable you to buy more house for the money, while enhancing your home's value.

The Home Energy Rating system awards stars on a scale of 1 to 5, equivalent to points from 1 to 100. To gain five stars, the home must have scored a minimum of 86 points. This rating qualifies buyers for an Energy Efficient Mortgage.

- **U.S.A. Energy-Efficient Mortgages (EEM)** - This program allow buyers of energy efficient homes to qualify for up to a 5% stretch in their debt-to-income ratio because of their lowered monthly utility costs. EEM is one of many FHA programs that insure mortgage loans. This encourages lenders to make mortgage credit available to borrowers, such as first-time home buyers, who would not otherwise qualify for conventional loans on affordable terms and to residents of disadvantaged neighborhoods, where mortgages may be hard to get.

FHA-approved lending institutions-which include many banks, savings and loan associations, and mortgage companies can make loans covered by EEM insurance. \*\*\*

- **ECO-Block as a Major Contributor toward U.S.A. EEMs** - Building with ECO-Block is a big step toward gaining the 5 star rating. The R-value of the ECO-Block forms alone is R-3.50, easily 30% above the minimum standard for the current energy code. In addition, air infiltration is greatly restricted, which allows for scaling down up to 35% of the HVAC system. These factors, combined with a reasonably energy efficient window, door and roofing system will make a 5 star rating easy to achieve.



---

\*\*\* For more information on the U.S.A.'s EEM program - [www.hud.gov/offices/hsg/sfh/eem/energy-r.cfm](http://www.hud.gov/offices/hsg/sfh/eem/energy-r.cfm)

