

## 1.2 BENEFITS OF ICF CONSTRUCTION

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### Benefits of ICF Construction

Insulated concrete form homes and buildings are much stronger, safer, quieter and energy efficient than those built with traditional construction materials. Made of three primary components; high R-value expanded polystyrene foam, rigid plastic ties and steel-reinforced poured concrete, ICF's are quickly becoming the building method of choice for both residential and commercial structures. The use of ICF's began more than a half century ago and has continued to gain popularity throughout the construction industry - especially now because of their disaster resistant, energy efficient and sustainable attributes.

The bulk of a home or building's environmental footprint is caused by the energy consumed in the heating and cooling of the structure over its lifetime. The high performance thermal envelope provided by Greenblock ICF construction can offer significant contribution towards reducing the energy consumption needed to control the interior climate of the structure. Additionally, the lack of air infiltration and the resistance to moisture through the exterior walls eliminates the growth of mold and pests penetration thus creating a healthy indoor environment for occupants.

#### ***Greenblock insulated concrete forms are:***

##### ***- Energy Efficient***

The expandable polystyrene foam in a Greenblock wall provides a consistent R 17-24 (depending on product used) Thermal Resistance over the life of the product. Combined with the thermal mass of the concrete and the lack of air infiltration through the solid walls, the "effective" R value of Greenblock walls is much higher than the foam by itself. While actual R values will vary from structure to structure, ICF buildings require significantly less energy to heat and cool than typical wood frame or concrete block homes and buildings.

##### ***- Sound Resistant***

ICF structures achieve documented levels of STC (Sound Transmission Classifications) 50 (inaudible) or higher. Wood frame and CMU structures are typically rated an average STC 25, meaning people inside of the structure can hear and understand voices outside the structure. Outside noise such as traffic, airplanes, construction and even lawnmowers and leaf blowers are greatly reduced, making the structure a quiet, peaceful sanctuary.

##### ***- Strong and Safe***

ICF structures are much stronger than traditional building methods and

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materials. They provide exceptional protection from severe forces of nature, such as hurricanes and tornados. ICF foundation walls resist cracking and buckling up to five times better than concrete block walls. Greenblock walls are built with steel-reinforced concrete and fire-resisting expanded polystyrene foam, and they carry a 2 to 4 hour fire rating depending on which product is used. ICF structures also improve indoor air quality by eliminating the cracks and crevices that can trap moisture and foster mold and mildew growth.

### **- Environmentally Friendly**

The decision to construct with Greenblock ICFs is an environmentally responsible choice. Buildings constructed with ICFs will require significantly less energy to heat and cool throughout their useful life while providing a safe, comfortable, healthy indoor environment for occupants. Greenblock ICFs are non toxic. No CFC, HCFC or formaldehyde is used during their production. Greenblock web ties are produced with 100% reprocessed polypropylene and every effort is made to collect and recycle job site waste at local and regional recycling facilities. (Builders can earn significant green certification credits).

### **About Greenblock, Inc.:**

Greenblock's ([www.greenblock.com](http://www.greenblock.com)) roots originated in Europe over 40 years ago and moved to the United States and Canada in the late 1980's. With several integral modifications from the time of its inception, today's Greenblock continues to be the superior choice for high efficiency wall systems, noted for outstanding design and ease of use. Over the years, a significant number of structures have been built with Greenblock. Projects that range from stem walls, basements, single and multi-story residences, apartments, condominiums, schools, hospitals, hotels, towers and even swimming pools. Government agencies and utility companies are now recognizing the superior features of insulated form-built structures and are beginning to recommend its use for environmental and energy conservation benefits.