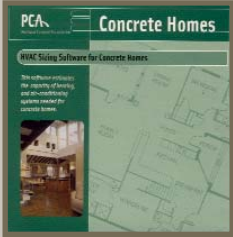


HVAC Sizing Software for Concrete Homes



The Department of Housing and Urban Development and the Portland Cement Association (PCA) recently sponsored the development

of computer HVAC sizing software. The new software calculates the HVAC systems' load capacity for residential buildings based upon different variables such as house dimensions, construction materials and thermostat set point. It is based upon U.S. Department of Energy 2.1E and various ASHRAE standards.

When it comes to sizing ICF buildings, it is essential to include the high steady-state R-value, thermal mass and low air infiltration rate that a Reward wall provides to an exterior building envelope. This can sometimes be a difficult challenge at the local level, because the local mechanical supplier is motivated to provide large HVAC systems, and they want to avoid future complaints that the building often is too hot or too cold. Additionally, the local HVAC designers are either not familiar with the performance of ICFs and/or their software does not factor in a high R-value, thermal mass or low air infiltration in its calculations.

The new software from the PCA does. It is very important to "right size" the mechanical systems to maximize the energy efficiency of Reward ICF exterior walls, keep initial mechanical system size

continued on page 6

2005 Convention Attendees Discover Satisfaction at Destination Discovery

"These people are diverse, interesting and exciting." "I always learn something, and it's like a family reunion." "The convention is always informative. It keeps us on the cutting edge and is preparatory for home shows in the spring." "It's relaxing, enjoyable and a learning experience. We like meeting new people in the industry. It's encouraging."

Those were just four of the overwhelmingly positive comments attendees wrote on their evaluation forms for the 2005 Reward Wall Systems Convention, "Destination Discovery."

"This was, without a doubt, the best lineup of speakers we've had since I have been associated with these events," said Director of Marketing Brandie Allen-Rezac. "Each speaker was an expert in his or her field with information to share that directly affects or benefits our customers' businesses."

Presenters included Martha Van Geem, a licensed professional engineer with Construction Technology Laboratories, Inc., Skokie, Illinois, speaking on moisture issues and HVAC sizing; Jennifer Grover Prokopy of Orange Grove Media, Chicago, speaking on increasing your visibility with local media; Steve Nelson of Mid-Country Mortgage Corp., Minneapolis, on the 3-In-1 Financing program; Michael Weber, Portland Cement Association on the overall health of the ICF Industry; Donn Thompson, Reward's commercial sales manager and LEED™ accredited professional on the value of green building in today's market; Les Ainsworth of Pumpco in Denver on safety during concrete placement; and Dave Barla, Reward's national sales manager on several interesting projects underway throughout the country. And of course, what's come to be known as "The Ed and Hank Show" in which President Ed Storm and Chief Operating Officer Hank Pfeiffer reviewed developments at Reward during 2004 and previewed what you can look for in 2005 and beyond.

A highlight of the convention was the keynote speaker, Keni Thomas. Thomas served as part of the famous "Black Hawk Down" mission in Somalia. The entire room was spellbound as he related his experiences during the operation in which the men of Task Force Ranger distinguished themselves in the most intense urban ground fighting since World War II. Thomas showed how intense preparation, excellent teamwork and the ability to take on leadership roles spells success, not only in extreme situations like the one he experienced, but also in life and in business.

The event ended with a closing dinner and awards ceremony. Awards for 2004 were given as follows:

- Outstanding ResidentialTri— State Insulated Concrete Forms, Mabel, Minnesota, for a 7,200 square foot home
- Outstanding Residential Multifamily— Advanced Building Systems, Inc., Raymond, Iowa, for the Ekho Ridge Townhome development
- Outstanding Light Commercial— Central Oregon Redi-Mix, LLC, Redmond, Oregon, for a NAPA Auto Parts Store. (See related story, page 3.)
- Outstanding Commercial— Parlin Properties & Development, Inc., Ft. Lauderdale, Florida, for the Best Western Pelican Beach Resort

continued on page 6



"The Ed and Hank Show" concludes another outstanding Reward convention.

Index

Architect Uses Reward	2
Ed. Center Aiming for Gold	2
Speed Key for NAPA Auto	3
Recipe for ICF Success	3
From the President	4
Helping Search Engines	4
Technical Tips	5
Stay Informed	5

Arizona Architect Uses Reward for Personal Home



Green building features achieved sustainability in addition to 30% savings on heating bills.

When Dennis Lee of Barry R. Barcus Architects, Phoenix, Arizona, decided to build a new home, he knew he wanted to incorporate a lot of green building features into it. For more than four years he had been interested in building for sustainability, and after a lot of research and comparison of building systems, he decided that ICF walls with their thermal mass and high R-value suited his needs best.

Working closely with his general contractor and Reward ICF subcontractor Mario Cardon of Ultraspec Homes in Peoria, Arizona, Lee designed and built a home using passive solar design; a high efficiency heat pump; high efficiency, low-e windows; and a highly insulated ceiling and roof.

“I insisted on an energy load count calculation because I knew the HVAC contractor would want to oversize the mechanical systems,” said Lee. He was right. The contractor wanted to size the HVAC at six or seven tons; however, the house ended up with just one 4-ton unit after the calculation, which performs just fine. “We included an interior masonry wall that absorbs heat during the day and disbursts it at night,” explained Lee. “With that and the other passive solar features in the house, we haven’t turned the heat on all winter, even though nighttime temperatures have been down in the 30’s.”

Having moved into the house in December, Lee conservatively estimates that he is averaging a 30% savings on his heating bills so far. “When designing for energy efficiency and friendliness to the environment, you have to consider the whole house and how the components work together, and the Reward insulated concrete walls were a big part of that,” he said.

PROJECT PROFILE

- Phoenix, Arizona
- One-story home with courtyard and patio
- 2,500 square feet of living space; 3,500 total
- Stucco exterior finish
- Flat roof with two inches of urethane foam
- R-35 blown in fiberglass insulation in ceiling
- 4-ton HVAC
- High efficiency TRANE heat pump with 2-stage compressor
- 11" iForm

Boy Scouts’ McGinnis Education Center Aiming for Gold LEED Rating



The architect expects to receive a Gold LEED™ rating by fall 2005.

PROJECT PROFILE

- Sharpsburg, Pennsylvania
- 11,000 square feet
- R-30 Homasote structural roof materials
- Cement board exterior siding
- R-10 high-performance windows
- Low-flow fixtures and waterless urinals
- Engineered lumber from rapidly renewable sources
- Heat recovery ventilation
- No air conditioning
- 630,000 BTU boiler heating unit
- 18' and 22' high walls
- 11" and 13" iForm

When you think of an organization that is concerned about the environment, the Boy Scouts of America is one of the first that comes to mind. That’s why it’s not surprising that the BSA Greater Pittsburgh Council’s new McGinnis Education Center has incorporated so many green building features that it is likely to be awarded a Gold LEED™ (Leadership in Energy and Environmental Design) rating.

Located 20 minutes from Pittsburgh at Camp Guyasuta in Sharpsburg, Pennsylvania, the McGinnis Education Center includes environmentally friendly elements throughout the structure. The Reward ICF walls, along with other features such as low-flow fixtures, high R-value windows and roof materials, and plans for proper ventilation, heat recovery and construction waste management all support the case for the Gold LEED rating.

The center actually consists of two separate buildings, one 2-story section, and one section with a cathedral ceiling. The two sections are connected by a mechanical room. In the cathedral ceiling section the windows are placed high up on the 18-foot walls to take advantage of as much sunlight as possible, and skylights are placed in the ceiling to help with air circulation.

ICF subcontractor Al Dennis of Solid Wall Construction in Grove City, explained that the back wall of the structure was backfilled more than half way up, so he used the 13" iForm and placed #5 vertical rebar one foot on center. For the rest of the building he used 11" iForm with the rebar placed 18" on center.

“Incorporating these green building features is not difficult to do,” said project architect Gary Moshier of Moshier Studios. “It just takes some care and attention to detail from the architect and the builder. The U.S. Green Building Council spells out the LEED requirements very clearly, which makes our work much easier.”

Speed Was The Name Of The Game For NAPA Auto Parts Store



A four-man crew, two full time and two part time, completed these Reward walls in just seven weeks.

Speed was the name of the game for a NAPA Auto Parts store recently completed in Hillsboro, Oregon, located west of Portland.

It only took store owner Barry Hess a half hour to decide to switch to Reward ICFs from tilt-up after hearing about the energy efficiency and sound attenuation of ICF construction. And the Reward iForm™ walls went up in just seven weeks with a crew of two full-time and two part time installers.

“The store is located across the street from Hillsboro Airport and a helicopter training facility,” said Reward distributor Mark Schneider of ICF Construction, Inc., Terrebonne, Oregon. “They get the noise from both the regular airline traffic and the helicopters all day long, so sound attenuation was a major factor.” According to Hess, with Nike and Intel jets flying right overhead, it would be impossible to block 100% of the noise. But with the Reward walls and an R-50 roof, the noise is reduced dramatically. “I believe that what noise we do get is coming in through the roof, not the walls,” said Hess.

Oregon’s Business Energy Tax Credit also played a big part in swaying Hess from tilt-up to ICF. Through this program the Oregon Department of Energy offers a 35% tax credit for the eligible project costs to those who invest in energy conservation, recycling, renewable energy resources and less-polluting transportation fuels.

“Although the tax credit was a big factor, it wasn’t nearly as big as the lifetime costs for the building,” said Hess. “I didn’t want to build a store that I couldn’t afford to live in.” Hess is very pleased with his heating costs so far this winter. “When the outside temperature is 30° or above, we have been heating the entire building with one 4-ton heater,” he said. He went on to say that according to code they are required to move a lot of air within the building. “If we didn’t have to do that, we probably could’ve used just one 5-ton residential heater for our whole heating system instead of four 4-ton units,” he added.

The building, which measures nearly 14,000 square feet, features a store front with a 24-foot high warehouse, office, and storage area behind it. The building includes 30-foot clear spans with no support pillars over the doors.

PROJECT PROFILE

- Hillsboro, Oregon
- 13,981 square feet
- 16-ton HVAC
- ICF synthetic stucco exterior finish
- Flat steel roof with rubber membrane
- 24' high walls for warehouse area
- 13" iForm

Minnesota’s Vogue Homes Has a Recipe for ICF Success

The February/March, 2005 issue of Concrete Homes magazine, published by the Portland Cement Association, featured a six-page article on Vogue Homes, the leading ICF custom homebuilder in the Minneapolis-St. Paul area.

With good reason. For the last seven years John Vogstrom and his sons Eric and Paul have been building ICF homes in the Twin Cities area with a great degree of success. Their recipe for success includes four major ingredients:

1. Referrals and repeat business from previous customers

“About half of our business comes from referrals by people we have built homes for,” said Eric Vogstrom, president of Vogue Homes. “When our customers are pleased with how their project went, they recommend us to others. We always try to make our customers’ homebuilding a fun experience for them.”

2. Entries in the local Parade of Homes

For the past three years, Vogue Homes has entered houses in the Twin Cities’ spring and fall Parade of Homes. Every home they have entered in the Parade of Homes has sold either prior to the show or by the end of the show. Also, they are 3 for 3 in winning the People’s Choice Awards given out at the fall show each year.

3. Well-trained subcontractors

“All of our subcontractors have been in business a long time,” said Vogstrom. “When contractors aren’t familiar with ICF construction, it’s difficult to get them to try it because it’s something new. Our electrical and plumbing contractors, for example, aren’t intimidated by working with ICFs because they’ve done it all before. Our subcontractors all work well together, and it makes for a smooth project.”

4. Code approvals

Vogue Homes has never been denied a building permit. Most of the building officials they deal with are familiar with ICFs, so are open to ICF construction. Vogstrom explained that they always come prepared with Reward’s engineering specifications and have the engineering information ready ahead of time. Sometimes they even bring the forms and rebar for the official to see first hand, or bring the official to a building site to experience the strength and benefits of ICF construction.

“The real key to success is good customer service— during construction and after,” said Vogstrom.



From the President

by Ed Storm



This is a great time to be a part of the ICF industry, and even better to be a part of Reward Wall Systems, Inc. For a variety of reasons, nearly everyone in the ICF industry is optimistic about the future of ICF construction—the industry is growing well, ICFs are becoming more main stream and ICFs have made significant advancements on all fronts.

And within the ICF industry, Reward continues to grow each year. We've had seven consecutive years of consistent growth, and our business and company are stronger than ever before. All this in spite of the fact that 2004 saw rising prices for raw materials, part of which we absorbed, lowering our profit margin. Our financial performance in 2004 was very solid, our overall financial strength improved and our sales were up significantly. One of the things I'm happiest about is the growth of our customer base—we are acquiring more large-scale commercial customers and increasing diversity, while at the same time retaining the foundation and core of our business, our residential customers.

Many of the advancements the ICF industry has made have been Reward's, such as the 54-foot high walls of the Marriott Exhibit Hall in Orlando, made possible by our 15" iForm. We have expanded and improved our product line, and we plan to continue doing that. We have increased our manufacturing capacity, reducing shipping costs for our customers all over the country, and we plan to continue doing that.

Many of the technical advancements for ICFs have been Reward's also. Our engineering department is the best in the industry and has put us in the forefront of product development, testing and code approvals. We also have the industry's best quality control procedures, which has resulted in fewer complaints from significantly higher form sales.

Reward's marketing efforts have paid off in several nice articles in major trade magazines during 2004 that increased visibility not only for Reward, but also for ICF construction in general. And the marketing tools we provide to our customers, from the web site to brochures and advertising aids to programs like the 3-In-1 Financing program, help them to increase their market share in their regions.

As a company we enjoy the continuing challenge of setting the pace for the ICF industry. We have momentum, we are making progress, and we are pleased with the challenges and responsibilities that accompany the industry leadership role we have assumed.

Helping Search Engines Find Your Web Site

So you got your web site up and running, and boy does it look good! Now what? How are your potential customers going to find it?

The best way to be sure people find your web site is to include your web site address on everything you send out from your company, including company stationery, business cards, brochures and flyers, and advertising. If people have your web site address in front of them, they will go directly there.

Another way people find you is through a search engine, but the key is to get the search engines to list your site high enough for people to find it. Few people realize how much that is unseen on their web site affects how search engines rank and list it. Here are a few simple things you can do to increase your web site's visibility to the search engines.

1. Get rid of any web design that uses frames. You can tell if a web site is designed with a frame if you scroll down the page and the material at the top of the page remains stationary while the text disappears behind it. The trouble with the frame design is that it intrudes between the web crawler or "spider" and the text it is looking for.
2. Look at the titles, descriptions and key words listed on your source page. You can see these by going to "View" and selecting "Source" on the drop-down menu. Currently search engine spiders look at the page titles and descriptions and compare the words contained in them to the text on the page itself to determine the relevance of the page.
3. Include relevant text on your home page. The search engine spiders look for **text**, not graphics, that contain relevant search words. For example, if you want people to find you by searching for "concrete homes," be sure to include the words "concrete homes" on your home page as well as in your titles, descriptions and keywords.
4. Increase both internal and external links. Google, the search engine the majority of people currently use, assigns value for how the pages of your web site are linked together and how many external web sites link to yours. Internally, link each of your pages to the others at the bottom of each page. Also, try to get your site linked from other companies' sites. However, be careful of sites that offer to link you simply for search engine visibility and really don't relate to what your site is all about. Your site can be penalized by the search engines for such links.

These four factors can help your site's visibility with the search engines, but there is much more you should consider when looking at search engine optimization. Good information about search engine optimization is available at <http://searchenginewatch.com/webmasters>.

"The main thing to keep in mind is that the rules are constantly changing," said Roger Willey of Outsource Marketing, Omaha, Nebraska. "There are many elements that affect the overall success of a web site, but none matter if the site isn't easily found." ■

LEED™ and Green Building with Reward

Much is currently being written about LEED credits and green building, but understanding how a typical product can fit within the LEED system can be difficult. The following information briefly describes the goals and benefits of working with LEED and outlines the categories where the benefits of Reward Wall Systems can assist a project in qualifying for LEED credits.

The United States Green Building Council, (USGBC), had clear objectives and benefits in mind in founding the LEED Rating System. These objectives include: reducing the depletion of our natural resources, making green construction more profitable, creating a safer, more comfortable interior environment, and minimizing strain on local infrastructure. Building Green offers important benefits including competitive initial costs, reduced operating costs, increased building valuation, greater durability, improved employee productivity, and reduced owner liability.

To embrace these goals and gain these benefits, a significant number of owners of government buildings, schools and other commercial projects are beginning to specify LEED in design and construction. Right now in the U.S. there are 166 LEED certified projects and 1,802 registered projects. When the design team registers a project, they are indicating they intend to complete all steps necessary to apply to become LEED certified. Registration is the first step in the process and brings with it access to the various tools and resources available on the USGBC website.

LEED (Leadership in Energy & Environmental Design) is a system or standard of measurement for designing, constructing, operating and certifying a building to a “Green” standard. It is a whole-building, integrated design process. The whole-building approach encourages and guides a collaborative and integrated design and construction process. All components of and within the building are evaluated to determine the LEED points. There are four levels of LEED certification:

LEED Certified	26-32 points
Silver Level	33-38 points
Gold Level	39-51 points
Platinum Level	52+ points (69 possible)

The higher the number, the greater the amount of LEED related objectives and benefits that have been incorporated and achieved within a project.

LEED and Reward

Reward ICFs do not provide any points for LEED certification by themselves. However, when taken together with other components of the building, they contribute to the LEED points awarded. Reward can also contribute to prerequisites that exist for some categories. These prerequisites are not awarded any points, but must be met to enable a project to qualify for LEED certification.

Of the six credit categories for which points are awarded, the first two categories, **Sustainable Site** and **Water Efficiency** are concerned with the building site, landscaping, and water usage, and Reward ICFs do not contribute in any of these areas.

In the third category, **Energy and Atmosphere**, Reward ICFs can help a project qualify for prerequisite energy performance standards and up to 10 LEED points for optimized energy performance. Points are awarded on a graduated scale ranging from one point if the energy performance of the new construction is 15% better than the

prerequisite requirement to ten points awarded if the energy performance is 60% better than the required minimum standards.

Reward ICFs can help projects qualify for credits under the fourth category, **Materials and Resources**, because points are awarded for recycling construction waste from the jobsite. A project can earn one point for diverting 50% of total construction waste away from landfills, and two points for diverting 75% of all waste generated for the entire project. This can be calculated by weight or by volume. Virtually all of the Reward waste is recyclable - forms, rebar and concrete.

Reward ICFs also contribute because the ties within the forms are made of post industrial recycled plastic. A project earns one point if 5% of the total materials used are recycled and two points if 10% are. Approximately 20% of the iForm uses post-industrial recycled content. Specific calculations would be necessary for each project, in which the recycled content of Reward would be factored in with all of the recycled construction materials from the total project.

Finally, Reward can contribute for local/regional materials. The project can earn one point if 20% of all of the project’s materials are manufactured within a 500 mile radius and two points if 50% are. In many cases Reward ICFs are produced in close proximity to the job site, and the concrete and rebar also can be obtained locally.

For **Indoor Environmental Quality** Reward ICFs can help a project qualify for thermal comfort credits. The reduced air infiltration and thermal mass of Reward walls moderates internal temperature fluctuations and helps control humidity.

Designers also can apply for LEED credits for new or creative approaches under **Innovation and Design Process**. The long life cycle of the Reward concrete structure and enhanced mold growth control are features of our system that might help a project earn additional points within this category.

For more information about the LEED certification program, go to www.leeedbuilding.org. Here you can find examples of past LEED certified projects, how to register, the fee structure, LEED Rating System guides, and other references. ■

Stay InFORMed

🔗 **Armed Forces Center Earns Award.** One of Reward’s premier projects, the C.W. Young Armed Forces Reserve Center in Pinellas Park, Florida, recently was chosen as the *Best Community Impact Project* by the *Tampa Bay Business Journal*. Since September 11, 2001, the U.S. government requires that force protection be built into any new government construction, increasing the cost for reinforcement in standard reinforced concrete. However, by using Reward’s iForm instead of reinforced CMU’s, general contractor Hunt Construction Group was able to realize a 25% savings on the wall construction. The Armed Forces Reserve Center has been a highly visible project for Reward, and has been featured in national magazines such as *Building Design & Construction*.

🔗 **iForm™ Patented.** On November 23, 2004, the Director of the U.S. Patent and Trademark Office notified Chief Operating Officer Hank Pfeiffer that Reward’s iForm product has been granted Patent #6,820,384. The patent was granted for iForm as a system—the configuration of the EPS panels together with the interior ties. You will see the patent number appearing on all Reward literature wherever it’s appropriate.

2005 Convention (cont. from pg 1)

- Green Building— Solid Wall Construction and Turner Construction Company for the Boy Scout Education Center in Sharpsberg, Pennsylvania (See related story, page 2.)
- Special Recognition— Hunt Construction Group and Icon, Inc. for the JW Marriott Grande Lakes Exhibit Hall in Orlando, Florida
- Rookie of the Year— Southern Stucco, LTD of Raymond, Alberta
- Top Producer— Cemstone of Mendota Heights, Minnesota
- Chuck Lipari Distinguished Service—John Miller of Tri-County Building Systems, Burton, Ohio, a pioneer distributor in the Reward network who is consistently one of Reward's top customers and continually promotes the Reward brand in his area.

With so many other events for builders scheduled in January and February each year, Reward has decided to hold the National Convention every other year instead of annually. "We realize it takes a significant commitment in terms of time and money on the part of our customers to attend the convention each year," said President Ed Storm. "That's why we think more of our customers will be able to attend if the convention is held every other year. The 2005 convention was a quality experience for all of us. Not only did we have an outstanding lineup of presenters, we all had the opportunity to visit face to face— Reward staff with customers as well as Reward customers with each other. That is a value we want as many of our customers as possible to receive."

The next Reward convention is scheduled for January 2007. ■

HVAC Sizing

(cont. from pg 1)

and costs to a minimum, and most importantly, prevent any future moisture issues. The best way to utilize the software is to develop a relationship with your local mechanical designers. Educate them on how ICF walls perform and how to size the mechanical systems, then provide them with the HVAC sizing software and be sure that they use it.

This software is for the use of professional mechanical designers only, not for contractors, distributors or owners, and it allows the user to input the ICF R-value, the concrete thickness, the air infiltration value, the roof insulation, the window insulation, building dimensions, building orientation and occupancy. The program then provides peak load and capacity required along with a bar diagram of the component loads. Because of the tight exterior envelope that a Reward wall provides, it is important to plan for getting adequate fresh air into the building with a high efficiency air exchanger.

HVAC Sizing Software for Concrete Homes can be purchased for \$60 through the PCA by calling 847-966-6200 or from their website at www.portcement.org. Ask for PCA publication #CD044. ■

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