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*The Insulating Concrete Forms Magazine*

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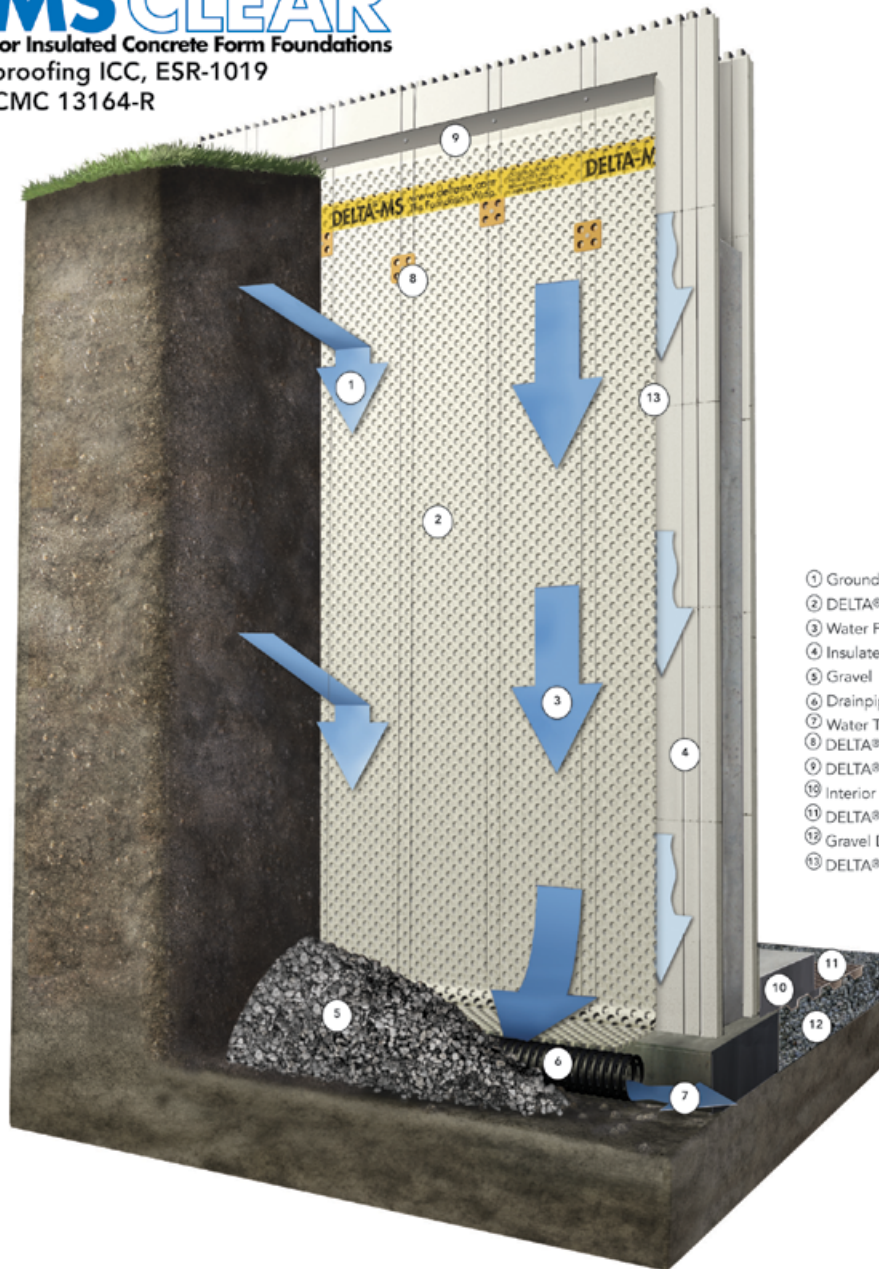


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# Inside This Issue

## Features

### 12 Finding and Training ICF Contractors

*ICF manufacturers spend millions every year to make sure there are trained ICF installers across the continent.*

12



### 14 ICF Builder Award Winners 2006

*The very best in ICF construction*

#### 15 Light Commercial:

**Boulder County Parks**

#### 16 Custom Home:

**Eagle Rising**

#### 19 Heavy Commercial:

**Grande Caribbean Condominiums**

#### 21 Residential Development:

**Casitas Vera Cruz**

14



### 16 Project Profile: Eagle Rising

*This "best custom home of the year" has sweeping radius walls and a bright airy interior.*

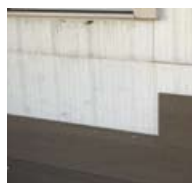
16



### 22 How To: Installing Siding over ICFs

*Wood, vinyl and cement board siding can easily be installed over ICFs.*

22



## Departments

### 6 As I See It: A Commitment to Accuracy

### 8 From the Mailbag

### 9 ICF News Roundup

### 28 Green Building: ICF Myths vs. Realities — Part II

**On the Cover:** The Holy Cross Catholic Church in Porterville, Calif. won 1st runner up, light commercial project in this year's ICF Builder Awards. For more information on this project and other award winners, see pg. 15 or visit [www.builderawards.com](http://www.builderawards.com). Photo courtesy Arxx Building Products.



### Publisher

Summit Publishing, LLC

### Advertising Manager

Craig Shorts

### Editorial Director

Clark Ricks

### Circulation Manager

Monica Hall

### Art Director

Jason Robinson

### Webmaster

Brad Moulton

### Contributors

Sherri Bebee

Hal Dyck

Juan Garcia

Robert Kindsvogel

Tom Patton

James Plagmann



### Summit Publishing

884 East 700 North  
Mapleton, UT, 84664

toll free: 877-229-9174

editorial: ext. 2

advertising: ext. 1

subscriptions: ext. 3

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WEEKLY TIMECARD

NAME: Bill Owen DATES: 12-16

	START	LUNCH	END	JOB CODES	JOBSITE/PROJECT	HOURS
Mon.	7:00	1/2	3:30		Brentwood	8
Tues.			3:30			8
Wed.			4:00			8 1/2
Thurs.			4:00		Crestview	8 1/2
Fri.			4:00			8 1/2

SIGNATURE: Bill Owen TOTAL HOURS: 41 1/2

**GIVE THEM THE JOBCLOCK.**

Employee Report

Owen, Bill Date Range: 2/12/2007 through 2/16/2007

Day	Date	Jobsite	Start	Stop	Cost Code	Hours	Total
Mon	2/12	Brentwood	7:08 AM	12:05 PM	Footing	4:57	7:38 hours
			12:41 PM	3:22 PM	Footing	2:41	
Tue	2/13	Brentwood	7:12 AM	12:07 PM	Footing	4:55	7:35 hours
			12:43 PM	3:23 PM	Footing	2:40	
Wed	2/14	Brentwood	7:12 AM	12:02 PM	Walls	4:50	7:53 hours
			12:46 PM	3:49 PM	Walls	3:03	
Thu	2/15	Crestview	7:17 AM	12:19 PM	Footing	5:02	7:58 hours
			12:50 PM	3:46 PM	Footing	2:56	
Fri	2/16	Crestview	7:13 AM	12:07 PM	Walls	4:54	7:49 hours
			12:44 PM	3:39 PM	Walls	2:55	
						<b>Total</b>	<b>38:53 hours</b>

Signature: Bill Owen Owen, Bill

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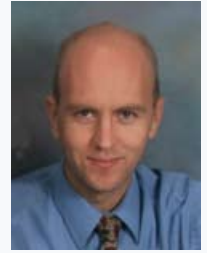
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## As I See It...

by Clark Ricks



### A Commitment to Accuracy

**I always know when this magazine arrives in your mailboxes because my phone rings constantly and my email overflows with comments, thoughts, and questions from readers.**

I suspected December's "Forecast Issue" would generate significant "buzz," but I was unprepared for the volume of response it generated. Most of the comments—favorable and otherwise—centered around a small story buried in the middle of the magazine titled *Factory Direct, For Better or For Worse*. To be more specific, they were directed at the graphic in that story, or more precisely the pricing in the graphic, which as many of you informed me, is not precise at all.

Accuracy is a major concern for me. Other than a few typos here and there, this magazine has printed more than 400 pages of industry-specific information without a single factual error. Because accuracy

is so important, I've taken a substantial amount of space on the opposite page setting the facts straight.

**"Accuracy is a major concern for me...this magazine has printed more than 400 pages of industry-specific information without a single factual error!"**

I know that over the years, many of you have come to count on *ICF Builder* for reliable, accurate, unbiased information. I appreciate that trust, and together with my editorial staff, re-commit to live up to your expectations.

My ultimate goal is to assist the growth and success of the ICF industry. Hopefully, this magazine can be a resource to help you achieve

that; to educate customers, to improve skills, and to reach your target audience. ■



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# So... What does an ICF Really Cost?

by Clark Ricks, Editorial Director



The most talked about piece in last month's magazine was the story *Factory Direct, For Better or For Worse*.

The debate about the merits of traditional distribution channels vs. factory-direct is a legitimate and relevant question, and provoked a healthy discussion on the topic. Most readers that took the time to read the text of the article said it was a well-balanced and well-researched

piece. One manufacturer even reprinted it as a poster, displayed in his booth at World of Concrete.

The problem is that pictures always speak louder than words, and the illustration in this story misrepresented the costs of ICF production. Many called to alert me of the inaccuracy even before reading the article.

This comment from Rick Demetrius is typical, "I'm upset enough to cancel my subscription. I've been in this business for more than 20 years, and the prices listed on p. 16 are inaccurate... The blocks cost me considerably more as a distributor than the retail cost listed in that chart—and I know this is true for most major brands."

The chart was misleading largely because of the information it omitted, and as editor, I take full responsibility for that. At the very least, it should have included a note saying the prices were for illustration purposes only, and were not indicative of any particular brand, form type, or region.

There are dozens of factors that contribute to the price of an ICF. Blocks with molded ties cost significantly more to produce than knockdown panel systems. Forms with thicker sidewalls use more raw materials and logically cost more to produce. Fire-resistant bead also increases the cost. Shipping is a major factor, and regional price variations exist as well.

The biggest variable is the size of the form. NUDURA's block, eight feet long and 18 inches high, covers 12 sq. ft. Quad-Lock panels, on the other hand, measure 12x48 inches, or 4 sq. ft. Logically, comparisons based on price-per-form would be quite misleading.

But price comparisons provide only part of the picture. Instead of asking, "What's the cheapest form?" the question really should be, "What value do I receive for the price I pay?"

Code approvals, testing, and engineering support are valuable. Dealer/distributor networks add value too, by offering forms, bracing, waterproofing, window bucks, and other supplies in a single location. First-time installers especially appreciate the expertise distributors offer, which usually includes training and on-site technical support.

These value-added services are factored into the price of the ICF.

Bottom Line: High-quality forms with code approvals and manufacturer support will cost significantly more than the prices quoted, but they're worth every bit of it. ■

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## From the **MAILBAG**



Thanks for telling us what you thought of the recent issue. We appreciate your frankness, and will use your feedback to create an even better magazine.

*I was very impressed with the latest issue of ICF Builder. It is full of practical, useful, detailed information for the builder. You are clearly ratcheting your content up, and should have a bright future if you stay on this track. Congrats and nice work!*

Pieter Vanderwerf

Vanderwerf was recently awarded the Ritchie Scott Award, the ICFA's equivalent of Man of the Year. He has written numerous books on ICF construction and has designed at least two training courses for contractors. We join with the rest of the ICF industry in congratulating Pieter on this achievement.

*Your Dec./Jan. issue was the best one yet. It confirmed everything I've been saying about the industry for the last two years. Thanks again for putting out such a great publication.*

Tom Mosher

*As I read the recent ICF Builder (December 2006/January 2007), I noticed that the ICF Builder magazine included quotations from an "executive on condition of anonymity" and an "industry insider who spoke on condition of anonymity" in two articles, "Factory Direct, For Better or For Worse" and "The End of a Fragmented Industry?" As a former journalist and as a present public communicator, I have never liked nor used a source who speaks upon condition of anonymity. Without identifying the source, the reader is unable to assess the value of the statement... I would encourage you to make an editorial decision of using statements only from identified sources.*

Drake Snell – WebLok Distributor-Installer

I agree that anonymous sources should be avoided whenever possible. However, many times this is the only way to obtain information, especially if the topic is sensitive or controversial. Many of journalism's biggest stories, like Watergate, relied heavily on unidentified sources. The magazine does not rely wholly on these sources, but will continue to use them when necessary. Note that these sources are well-known industry executives, and their businesses and careers depend on our word. We will not divulge their names nor betray the trust they have shown us. ■

## C O R R E C T I O N S

*The Dec. 2006 issue incorrectly stated that Createc Corp. had an in-house ICF product line. Createc continues to serve as a contract molder of ICF block for a variety of national product brands.*

*The ICF Comparison Chart in the Dec. 2006 issue did not mention Arxx Building Product's Training Course. The company has a full range of training materials and teaches over 200 classes annually.*

*The ICF prices shown in the illustration "Factory Direct, For Better or For Worse" are inaccurate. Because of differing block sizes and services, price comparisons are extremely subjective. ■*





## Phoenix Files For Bankruptcy

ICF manufacturer Phoenix Systems and Components, Inc., has filed for Chapter 11 bankruptcy, a process which protects it from its creditors while it tries to restructure.

The company, based near Omaha, Neb., insists that it has not lost any substantial customers, and that it has lined up financing to keep it going through the restructuring.

But the firm is currently facing lawsuits from its bank and former distributors, and those familiar with company operations say it's doubtful it will survive. A hearing is scheduled in mid-February to reclassify the bankruptcy as Chapter 7, which would dissolve the business.

Molding equipment for the Phoenix ICF block has been acquired by two independent manufacturers, ICF Systems USA and ICF Systems of Wisconsin, so despite dire predictions about the corporation, "the Phoenix block lives on," says Ken Sieradski, with ICF Systems USA.

They continue to produce block daily at their plants in Indiana and Wisconsin and can ship anywhere in the U.S. "The product is in stock for immediate shipment," says Sieradski.

To place an order, call 877-262-2775 or 800-934-2304.

## New Executives at ICF Companies

Within the last three months, several major ICF companies have added to or restructured their management teams.

Quad-Lock Building Systems has hired Michael Kane as regional sales manager for the Southeast United States. "We are very pleased to have Michael join our team," states Rhyno Stinchfield, director of sales for Quad-Lock, "he has a proven track record in building sales territories and, from our business perspective, has unique viewpoints and experiences within the construction industry."

Reinis Pukinskis has also joined the Quad-Lock management team as key accounts manager. "Reinis has been affiliated with Quad-Lock for more than a year now; we feel very fortunate to have him dedicated to our team," reports Stinchfield.

BuildBlock Building Systems has a new North American Sales Director. Prior to his current position, Zester Hatfield was a commercial contractor in Mexico for twelve years specializing in concrete and tied steel structures, decorative concrete block, and Terrazzo floors. His construction field knowledge is complemented by several years of successful sales and management experience.

Arxx has brought on Robert Coveney as Vice-President of Sales. Coveney has extensive experience in the construction industry, most recently overseeing sales for a large hardwood flooring company.

## Georgia Leads the Way in Green Construction

ICFs are gaining popularity in the Southeast not only because of their durability, but also because they work well with the growing "green building movement."

Georgia was recently recognized as a leader in constructing

LEED-certified buildings, with 31 projects across the state. The first platinum LEED-certified building in the Southeast is in Lithia Springs, a suburb of Atlanta.

The Southface Eco Office, also in Atlanta, is nearing completion, and is on track to also qualify for LEED's Platinum-level rating for new construction.

The Eco Office is built with American Polysteel ICFs to maximize energy efficiency, and will be finished with an acrylic stucco from Sto Corp.

The three-story structure, approximately 10,000 sq. ft., will serve as headquarters for Southface Energy Institute, a non-profit organization that promotes sustainable homes, workplaces and communities.

## Residential Slowdown May Soon End

Although the current housing slowdown is expected to persist into the middle of next year, economists with the Federal Reserve claim builders may have seen the worst of the downturn.

"Although residential construction continues to sag, some indications suggest that the rate of home purchases may be stabilizing, perhaps in response to modest declines in mortgage interest rates over the past few months and lower prices in some markets," said Federal Reserve Chairman Ben Bernanke.

Bernanke also noted that the index of mortgage applications for home purchases has been trending up since July.

"Although these developments are encouraging, we should keep in mind that even if demand stabilizes in its current range, reducing the inventory of unsold homes to more normal levels will likely involve further adjustments in production," he added.

At today's sales pace, it would take seven months to clear out the backlog of unsold homes.

## Quad-Lock Gets Miami-Dade Approval

Quad-Lock Building Systems Ltd. announced that its insulating concrete forming (ICF) system is now an approved product for use within Miami-Dade County.

The Miami-Dade County Building Code is one of the toughest in the nation, and is a model for codes in other hurricane areas. "This approval has far-reaching influence as many other jurisdictions, some as far away as the South Pacific, rely on Miami-Dade County's product approval process," says Douglas Bennion, Senior Training Consultant at Quad-Lock. "Basically, if we are approved by Miami-Dade County, we can now streamline permitting and building processes for our dealers and their customers in many, many markets."

ICF Construction is ideally suited to coastal areas. "Where damage was extensive after Hurricane Katrina, we saw that most of the structures that were left standing were made of concrete" says Rhyno Stinchfield, director of sales. "With this approval, we expect to strengthen our

market position in the Southeast United States and the Caribbean. We are now able to pull the trigger on a number of large, pending projects”.

For more information on Quad-Lock and its products visit [www.quadlock.com](http://www.quadlock.com), email [info@quadlock.com](mailto:info@quadlock.com) or call 1-888-711-5625.



## New CHBC Manager

The Concrete Home Building Council (CHBC) has hired Catherine “Kate” Driscoll as the new CHBC Senior Program Manager. Kate has been a Washington D.C. “insider” for over six years, “with leadership experience to

compliment the CHBC and our industry.”

“I continue to be amazed by the wealth of resources available for this developing industry,” says Driscoll. “The highlight of my first weeks has been the conversations with the members of the council. The excitement around the role of the CHBC within the industry is contagious.

“2007 promises to be an exciting year. Between building upon the existing momentum of the CHBC, reaching new audiences, and continuing to be an information source for current industry professionals, I plan to be very busy.”

## Concrete Homes More Popular

The National Association of Home Builders (NAHB) reports that in 2005, concrete homes accounted for 17.9% of all new single-family detached homes. That’s up 1.6% from 2004. The study, conducted together with the PCA, confirms that concrete homes are rapidly gaining in popularity.

“More than one out of every six new houses built last year utilized an above-grade concrete building system,” says Craig Schulz, market research director for PCA.

The percentage of new homes built with above-grade ICFs is not yet available for 2005. However, in 2004 ICFs accounted for 4.7% of the market. Even more telling, ICFs are gaining market share more quickly than any other concrete construction method. In 2004, ICFs gained 0.7%, while precast and removable forms gained only 0.2% and masonry’s share declined.

## Fox Blocks Passes Florida Code

Fox Blocks, a division of Airlite Plastics Company has announced that it has been approved as a building product by the Florida Building Code.

Dave Jackson, a sales representative at Fox Blocks, says this “marks the first of several national and local building code approvals that Fox Blocks expects to receive in the next few months.” The Florida state approval is for the entire state excluding Miami-Dade County.

Fox Blocks’ Florida Certificate of Product Approval # is FL7497. The application can be viewed online at [http://www.floridabuilding.org/pr/pr\\_app\\_srch.aspx](http://www.floridabuilding.org/pr/pr_app_srch.aspx)

If you would like more information about Fox Blocks, contact Dave Jackson at 1-877-FoxBlocks or [Dave@FoxBlocks.com](mailto:Dave@FoxBlocks.com) or visit [www.FoxBlocks.com](http://www.FoxBlocks.com). ■



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~ William J. Koll  
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# The Importance of ICF Training

*One major advantage of buying ICFs through a distributor is the level of training, service, and support they provide. Over the years, perhaps no company has done more to educate and train ICF professionals than Arxx Building Products. This story is the first in a series of articles dealing with finding, training, and supporting professional ICF installers. –The Editor*

**Arxx is a pioneer in the ICF business.** From the outset it has been important for us to train contractors on how to use the product correctly and efficiently.

Our first training class was in February 1996, and since then, we have trained over 33,000 contractors in the classroom and more than 4,500 contractors in the field. In addition, we've presented specialized training to more than 1,400 architects through the American Institute of Architects (AIA).

The entire industry has benefited tremendously over the years because of our commitment to training. Training is a key element in building up the ICF market, and creating an experienced ICF contractor base gives credibility to the product and success in sales. Training and support are the keystones to better buildings, construction efficiency, and profitability for everyone involved.

## Why Do You Recommend Professional Installers?

ICFs are the main structural element of the building, so knowledge and installation training is very important for the integrity of the entire structure.

It's best to have ICFs installed by a builder that has been trained by the ICF company that he plans to use. The ICC, in the evaluation report for each ICF product, states that the product must be installed according to the manufacturer's recommendation. (This is why Arxx does not sell direct to the DIY homeowners.)

With over 80 ICF companies in the market, the installation techniques can differ dramatically. As with every building product there are tricks of the trade, engineering requirements, and unique application techniques that have been developed over time. These need to be shown and taught to the trainees.

We have developed a full range of documentation materials, which include a training video/DVD, installation guide, design guide,

prescriptive engineering manual, answer picture book, estimating software and other tools to help educate installers and specifiers.

Our regional sales managers have all been trained as instructors, and in turn they have trained some of our distributors to be instructors. Between them, they have presented over 2,300 training courses to classes from 6 people to 100. Arxx conducts approximately 225 full-day classes every year.

## What is a Class Like?

Arxx typically focuses on training masonry or general carpentry tradesmen. We understand that it is very important to provide a complete, intensive day of training. The trainees have taken a full day out of their schedule, which is time and money to them. A typical class is approx. 7-8 hours in a classroom with the product.

The course covers:

- Job set-up and tools
- Basics of laying out the walls
- Cutting, bending, and placement of rebar
- Windows, doors, lintels, and specialty forms
- The Build: foundation, main floor, second floor, gables
- Concrete: pre-placement checklist, placement, consolidation, safety
- Alignment and bracing
- Accessory Products: waterproofing, parging, window bucks
- Finishes: exterior and interior, electrical and plumbing
- Overview of engineering
- Material estimating and time management
- Review of Arxx documentation
- Becoming a distributor
- Sales and ordering
- Technical support

The classes have a hands-on section where everyone can build walls, cut forms, and cut and install rebar. At the end of the training there is a test which must be completed. With a passing grade (75%) the trainee receives a certificate of completion as "Classroom-Trained Arxx Installer" and a wallet card identifying this person as having completed the Arxx training.

### Is There Field Verification?

After successfully completing the classroom training, all participants are required to be reviewed by a representative in the field on their own project. This is a practical review to make sure that what was learned in the classroom is being applied in the field. Successful completion of the field review promotes the classroom-trained installer to "Arxx Contractor."

### Do You Offer Specialized Training Courses?

Arxx has also developed a number of other structured training courses to suit different markets and level of expertise. These include:

- AIA-accredited Seminars, geared towards architect, and designed specifically for AIA credits.
- Advanced Contractor Training, dealing more with the business side of the ICF sales and marketing, bigger projects, networking.
- Commercial Strategy Training, dealing with sales, marketing, value engineering, bidding, contracts and construction management.
- On-site Training, taking the class to the jobsite with hands-on training.

Arxx training, and the development of the ICF market as a whole gained immense credibility from the late Richie Scott. Richie had an overwhelming passion to educate everyone and give them the knowledge and confidence to build with ICFs.

This philosophy is instilled in Arxx today. The depth of documentation materials, as well as the experience and knowledge of the trainers is one reason contractors and architects prefer Arxx training.

*Tom Patton is manager of commercial development & technical support at Arxx Building Products. ■*





Photo Courtesy Sherri Bebee/Arxx Building Systems

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# 2007 BUILDER AWARD WINNERS ANNOUNCED

**Winners of the 2006 ICF Builder Awards have been announced.**

The award competition, hosted by this magazine, is designed to advance the ICF industry by recognizing and rewarding innovation and excellence in ICF construction.

The Builder Awards have proven to be an extremely popular competition. We received numerous entries, all of which were noteworthy projects. The winning projects, listed in the pages that follow, will be featured throughout the year in full-length project profiles. Several of the outstanding finalists will also be featured.

If you want in-depth information on all the winning projects now, including scoring on the finalists, it's available on the awards website: [www.builderawards.com](http://www.builderawards.com). The website also contains dozens of outstanding photographs that will not appear in the magazine.

The awards are designed to showcase "milestone projects"—projects that set new standards for the industry through their size, complexity, and architecture—so the judging criteria is weighted to favor these factors

over simply "looking pretty" or square footage alone (see below for complete judging criteria).

Reward Walls submitted more winning projects than any other ICF brand, with 5 entries that placed in three of the four categories. Arxx was right at the top as well, receiving awards for two of their light commercial projects. IntegraSpec continued its dominance in the heavy commercial category, taking top honors for the second year in a row. NUDURA and Lite-Form were the other winning brands used.

Due to the surprising number of entries received for apartments, condominiums, resorts, and the like, next year's contest will include a new Multi-Family category.

The 2007 Contest Rules and Judging Criteria will be similar to this year, and will be published in the April '07 issue of ICF Builder magazine. Entry Notebooks will be due in mid-October. Notebooks can be submitted by contractors, distributors, manufacturers, architects, or others on the project team, and there are no restrictions on brand type. ■



## WINNING PROJECTS WILL BE FEATURED AS FOLLOWS:

**April/May:** Best Custom Home Finalists

**June/July:** Best Development Project

**August/Sept:** Best Light Commercial Winners

**October:** Best Heavy Commercial Winners

## JUDGING CRITERIA

**Size – 20%:** Bigger projects are more visible, and usually more complex.

**Complexity – 15%:** A home with many angles, wall thicknesses, or other construction considerations scores higher than a simple rectangular footprint.

**Percentage ICFs – 10%:** Not just exterior walls, but also interior walls and even foam decking systems for floors.

**Sustainable Design – 15%:** Daylighting, site use, recycled materials, rainwater collection, and other factors.

**Energy efficiency – 10%:** Roof insulation, doors, windows, radiant heat, solar/geothermal energy etc.

**Architecture – 10%:** Aesthetic appeal.

**Quality – 10%:** Attention to detail, quality of finishes, straightness of walls, etc.

**Site Considerations – 10%:** Construction and site challenges, e.g. built through a northern winter, built on an "unbuildable" lot, shaved weeks off the construction schedule, etc.

# BEST LIGHT COMMERCIAL

## BOULDER COUNTY PARKS



Photo Courtesy Sherri Bebee/Arxx Building Systems

### Project Fast Facts

**Project Name:** Boulder County Parks and Open Space Administration Building

**Location:** Longmont, Colo.

**Total Building Size:** 21,000 sq. ft

**Cost:** \$3.9 million

**Project Start-to-Finish Time:** 570 days

### Construction Team

**Owner:** Boulder County

**Architect:** Boulder County

**General Contractor:** Boulder County

**ICF Installer:** Boulder County

### Products Used

**ICF System:** Arxx

**Exterior Finish:** Hardi-Plank by James Hardie

# LIGHT COMMERCIAL RUNNERS UP

## HOLY CROSS CATHOLIC CHURCH



## EAST BAY SUITES



Photo Courtesy Connie Chisolm/Reward Wall System

### Project Fast Facts

**Project Name:** Holy Cross Catholic Church

**Location:** Porterville, Calif.

**Total Building Size:** 18,500 sq. ft.

**Cost:** \$4.2 million

**Project Start-to-Finish Time:** 540 days (18 months)

**Owner:** Roman Catholic Church, Fresno Diocese

**Architect:** Townsend Architectural Group

**General Contractor:** Dayco Construction

**ICF Installer:** R.C. Kucala Masonry

**ICF System Used:** Arxx

### Project Fast Facts

**Project Name:** East Bay Suites

**Location:** East Marias, Minn.

**Total Building Size:** 28,000 sq. ft.

**Cost:** \$3.8 million

**Project Start-to-Finish Time:** 10 months

**Owner:** Sterns Associates

**Architect:** Pope Associates

**General Contractor:** Morcom Construction

**ICF Installer:** S and C Masonry

**ICF System:** Reward Wall Systems

# BEST CUSTOM HOME



# Eagle Rising



Photos Courtesy James Plagmann

**When Bob Lagow began planning his dream home on a beautiful site a few miles north of Ft. Collins, Colo., he wanted it to blend seamlessly with the landscape.**

“It’s a spectacular piece of land,” Lagow says. “It’s 20 acres backing onto a 20,000-acre wildlife refuge... Before we built, I camped out on the land every month of the year to determine where we wanted the house and how to situate it.”

Architect James Plagmann also visited the property several times, eventually selecting a broad saddle between two hills that afforded 360-degree views of the scenery. Golden eagles circling the site inspired Plagmann to pattern the home in the shape of an eagle with outspread wings.

“It has a visually stunning form, even from the ground,” writes Plagmann. “The eagle metaphor is not forced, and the home works very well... This project optimizes the use of ICFs while also pushing the limits of the product. Also, the owners absolutely love the house.”

The judging panel loved the house as well. Not only did the home win *Best Custom Home of the Year*, but beat out every other entry in this year’s contest to take *Best Overall Project of the Year*.

Paul Foresman, who headed up the panel, wrote, “A very





creative, unique, one of a kind design! The mixes of octagonal and circular shapes work well together and jointly create a very interesting, pleasing design. The quality and material selections are excellent, showcasing a warm, exciting, eclectic home!”

Lagow, who has no previous experience with ICFs, stacked all of the exterior walls himself, assisted by his wife Sandy and a retired contractor who lives nearby. Despite the design’s difficulty, with sweeping radius walls and more than a dozen corners, he reports that construction was fairly straightforward.

“We had a day or day-and-a-half of training with NUDURA reps, who came and helped us get it started,” Lagow says. “I have a problem not liking to hang over tall edges and walk on shaky platforms, so it was challenging in that way, but we had no



## Project Fast Facts

### Project Statistics

**Project Name:** Eagle Rising  
**Location:** Livermore, Colo.  
**Total Building Size:** 4,000 sq. ft  
**Cost:** \$700,000  
**Project Start-to-Finish Time:**  
 480 days

### Construction Team

**Owner:** Bob Lagow  
**Architect:** James Plagmann  
**General Contractor:**  
 Mike Pettigrew  
**ICF Installer:** Lagow & Pettigrew  
**ICF System:** NUDURA

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Photos Courtesy James Plagmann



problems with installing the block,” he says.

“The project was just ideal for ICFs,” notes Plagmann. “The owner wanted an energy efficient house, as well as a quiet house in a very windy location. The combination of R-value, mass, and zero air infiltration maximize the energy efficiency, and the concrete stands up to the high winds.”

Plagmann incorporated several other energy-saving features into the design, including hydronic radiant heat floors, a super-insulated

roof, low-e windows, and passive solar design.

Located 7,400 feet above sea level, the home has already proven it can withstand some of Mother Nature’s worst.

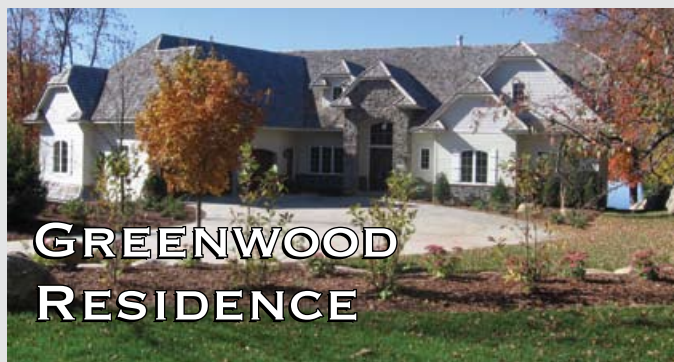
“We’ve had storms blow through here with 50- or 60-mile-per-hour winds, and I look up expecting to see the ceiling fan swaying, but it never is,” says Bob. “We love it here. It’s such a solid house. We’re getting a lot of winds and drifting snow this year, and the house is as solid as it can be.” ■

## CUSTOM HOME RUNNERS UP



Photo Courtesy Connie Chisolm/Reward Wall System

### GORNICK RESIDENCE



### GREENWOOD RESIDENCE

#### Project Fast Facts

**Project Name:** Gornick Residence  
**Location:** Eagan, Minn.  
**Total Building Size:** 9,200 sq. ft.  
**Cost:** \$1.98 million  
**Project Start-to-Finish Time:** 6 months  
**Owner:** Undisclosed  
**Architect/ General Contractor:** Vogue Homes  
**ICF Installer:** Advanced Wall Systems  
**ICF System Used:** iForm by Reward  
**Footings Used:** Form-A-Drain, by Certaineed

#### Project Fast Facts

**Project Name:** Greenwood Residence  
**Location:** Greenwood, Minn.  
**Total Building Size:** 10,000 sq. ft.  
**Cost:** \$4.9 million  
**Project Start-to-Finish Time:** 6 months  
**Owner:** Blake and Mari Anderson  
**Architect:** Vogue Homes  
**General Contractor:** Vogue Homes  
**ICF Installer:** Advanced Wall Systems  
**ICF System Used:** iForm by Reward

# BEST HEAVY COMMERCIAL



Photo Courtesy David Lindsey/IntegraSpec GulfSouth

## GRANDE CARIBBEAN CONDOMINIUMS

This remarkable building was profiled in the October 2006 issue of ICF Builder.

Thanks to the versatility of IntegraSpec, ICFs were used not only for the interior and exterior walls, but also the corbels, columns, and cornices that adorn the exterior. It has already withstood two hurricanes, and stands as a testament to the beauty and durability of ICF construction. ■

### Project Fast Facts

#### Project Name:

Grande Caribbean Condominiums

**Location:** Orange Beach, Ala.

#### Total Building Size:

160,000 sq. ft

**Cost:** \$7.9 million

#### Project Start-to-Finish Time:

12 months

### Construction Team

**Owner:** Grande Caribbean, LLC

**Architect:** David Lindsey

#### General Contractor:

Coastal Builders, Inc.

#### ICF Installer:

Coastal Builders, Inc.

### Products Used

**ICF System:** IntegraSpec

**Exterior Finish:** Hardi-Plank

by James Hardie

**Bracing:** WASS

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Grande Caribbean Condominium



**Awarded ICF Builder Best Heavy Commercial 2006**

*IntegraSpec Wins Second Year in a Row!*

**Features:**  
This 160,000 ft<sup>2</sup> condominium was constructed in a hurricane / tidal surge prone area. The Grande Caribbean features 101 units with ground level and underground parking, unique parapet walls and IntegraColumns.

**Benefits:**  
Fast construction with very little waste. IntegraSpec® totally eliminated the need for cranes and other heavy equipment. This project attracted 100% presales from clientele who wanted a quiet, safe, healthy, and energy efficient condo. In 2004, when this area of Alabama was hit hard by Hurricane Ivan, the condominium only suffered minimal damage to roof sheathing, while other surrounding buildings were devastated. No form compaction, no form lift – a truly "commercially designed" ICF.



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# HEAVY COMMERCIAL RUNNERS UP



## ARMED FORCES RESERVE CENTER



## MEGAPLEX 20 THEATERS

Photos Courtesy Connie Chisolm/Reward Wall System

### Project Fast Facts

**Project Name:** Armed Forces Reserve Center

**Location:** Pinellas Park, Fla.

**Total Building Size:** 140,000 sq. ft

**Cost:** Undisclosed

**Project Start-to-Finish Time:** 18 months

**Owner:** Department of Military Affairs

**Architect:** URS Corporation

**General Contractor:** Hunt Construction Group

**ICF Installer:** ICON Structures, LLC

**ICF System Used:** iForm by Reward

### Project Fast Facts

**Project Name:** MegaPlex 20 Theaters

**Location:** South Jordan, Utah

**Ttl Bldg Size:** 206,000 sq. ft. (350,000 sq. ft of ICF walls)

**Cost:** \$24 million

**Project Start-to-Finish Time:** 13 months

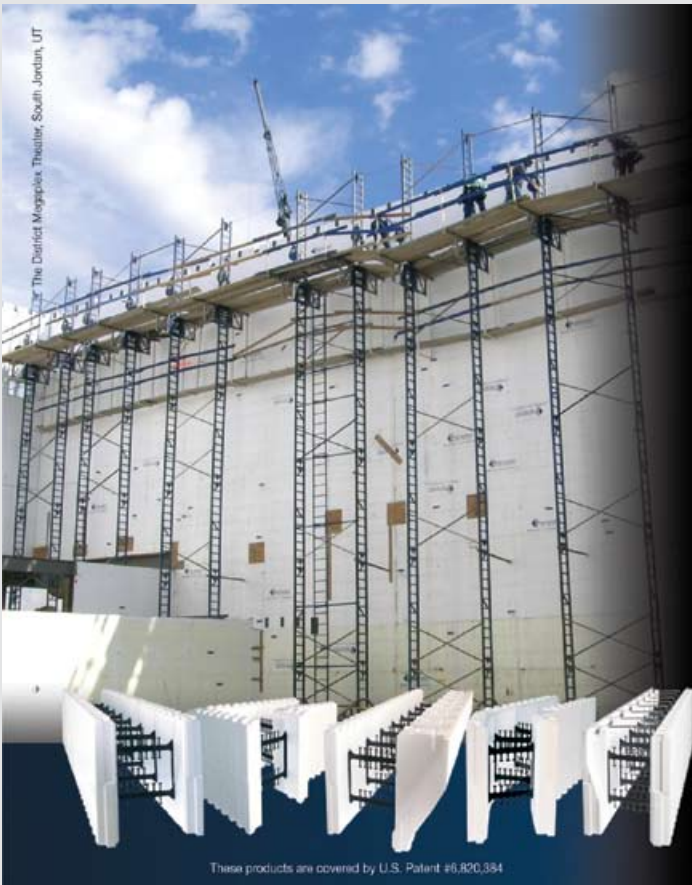
**Owner:** Larry H. Miller Theater Inc.

**Architect:** FFKR Architects

**General Contractor:** Sahara Construction

**ICF Installer:** IMS Masonry

**ICF System Used:** Reward Wall Systems



The District MegaPlex Theater, South Jordan, UT

These products are covered by U.S. Patent #6,820,384

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# BEST DEVELOPMENT

## CASITAS VERA CRUZ



Photo Courtesy: Steve Reiter/IC Walls

### Project Fast Facts

**Project Name:** Casitas Vera Cruz

**Location:** Bakersfield, Calif.

**Total Project Size:**

17 acres/133 homes (181,000 sq ft ICF walls)

**Cost:** \$20 million

**Project Start-to-Finish Time:** 11 months

**Owner:** Homecrete Homes

**Architect:** Paul Skarpohl & Associates

**General Contractor:** Homecrete Homes

**ICF Installer:** Insulated Concrete Walls

**ICF System:** Lite-Form

**Exterior Finish:** Traditional stucco

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How To

# Exterior Finishes

by Clark Ricks

Photo Courtesy: Hal Dyck

*This is the second of a two-part series exploring alternative wall finishes. Part I, published in the Dec. 2006 issue, discusses how to apply brick, stone, and vertical stamped concrete. Part II deals with applying siding and similar products.*

**Lap siding is a popular exterior finish for both residential and commercial ICF jobs.** Cement-board siding is particularly popular, due to its durability, ease of installation and fire-resistant qualities.

While ICF walls look dramatically different from plywood-sheathed frame construction, installation methods are surprisingly similar. In fact, any siding that can be applied to a wood-frame building can be applied to ICFs. With a little attention at the corners, siding can be installed more quickly and cost-effectively than any other exterior finish.

Siding is popular for both aesthetic reasons and price. James Hardie's Hardiplank, which claims to be the "most preferred, most used brand of fiber-cement siding" gives the following price comparison on their website:

"While prices vary from market to market, this is how Hardiplank siding compares in installed price with its competitors:

- Less expensive than Brick
- Less expensive than Synthetic Stucco
- Equal or less than Hardboard Siding
- More expensive than Vinyl"

"Installation over ICFs is very similar to wood or steel frame," says Mark VanDorselaer, a tech representative at James Hardie Building Products.

With most major brands of ICF, the siding can be applied directly to the foam. "The ties should have the same holding resistance as 20 gauge steel stud," says VanDorselaer, "so if you follow the fastening instructions for steel construction, there should be no problems."

Robert Kindsvogel, owner of Silver Spur Construction, an



*Vinyl siding is a low-cost exterior finish that looks great and requires little maintenance, as this ICF development in Halifax demonstrates.*

Photo Courtesy: Louis Lemoine/PolyCorp Developments



*These before-and-after shots show how cement-board siding can be a great choice for light commercial construction as well.*



Photos Courtesy: Reward Wall System

Oregon-based building contractor, agrees that contractors can install any type of siding over ICFs.

“We tell people that we can install any finish they want,” he says. Kindsvogel has installed cement-board, cedar lap, and even vinyl on custom homes over the years, with very few problems. The biggest challenges, he says, are at the corners, where furring strips may not exist; and the horizontal joints between blocks, since most furring strips usually don’t extend the full height of the block.

Hal Dyck, a siding contractor who recently completed a challenging ICF project in British Columbia, says, “The job went better than I figured it would. The walls were straighter than stick frame, which led to a smoother job. The local codes said you didn’t need a vapor barrier, so we saved a little there, as well.”

## Weather Barriers

Most ICFs will qualify as a “weather resistant barrier” and no additional sheathing is necessary. To be sure, check with your form manufacturer.

The LOGIX Installation manual, for instance, states, “Metal and vinyl siding can be installed directly over the top of the EPS... Hardiplank sidings can be attached directly onto the LOGIX embedded webs. Patrick Chan, a regional manager for the company, explains, “[Our] ICF walls do not require an air or vapor barrier. The closed-cell low permeance Type II EPS foam has a lower water permeance than what the building code requires.”

If “weather resistant” isn’t specified, the wall should be sheathed for the warranty to work.

Regardless, ICFs do require flashings associated with doors and windows. Penetration details should be in accordance with good building practice.

## Corners

Dyck says siding contractors do face a number of installation challenges when dealing with ICFs. “The only place you can attach the siding is where the plastic [furring] strips are,” he says. “If a strip isn’t within 5-6 inches of a window, the boards will be loose. And that applies to all openings:

doors, windows, even utility boxes.”

“Trim work around the corners can be difficult,” agrees Kindsvogel, “and it’s extremely product related. You really have to know the product you’re working with.”

Over the years, contractors have developed a number of simple solutions to dealing with these challenges. The solution that works best for you will probably depend on your experience, code requirements, and the products you’re working with.

The reason corners present difficulties is that most ICFs don’t have furring strips at the corners to attach trimboards to.

The easiest solution, of course, is to select a brand that does have attachment points at this location, such as LOGIX, BuildBlock or IntegraSpec. Amvic recently redesigned their corner block to address this exact problem; the new block provides a 3x5 inch area on both sides of the corner.

If your preferred ICF brand doesn’t have corner attachment points, it’s still relatively easy to attach the corner boards.

Kindsvogel simply wraps the corner with 28 gauge metal flashing, screwed to the nearest webs on each side. While he occasionally wraps the entire corner, usually he just uses a 3-inch band on each course and has no problems.

Dyck’s method is more time consuming, but sturdy. After the concrete is poured and cured, he removes the foam from the corners and fastens 2x6s to the concrete with anchor bolts. He admits that this was more wood than necessary, but he also knows the connection is solid.

Some contractors attach cornerboards with foam adhesive, and claim the bond is permanent and weatherproof, but others advise against it.

“The building inspectors that I have dealt with in the past are very hesitant about allowing any liquid adhesives to be used on any item in contact with the foam,” says David Zimmerman, a Reward distributor in Wisconsin. “Their concern is that the longevity of the bond has not been tested, even though the adhesives may claim to be foam compatible.”

Door and window openings usually don’t present a problem, since the siding



Photo Courtesy: Hal Dyck



Photo Courtesy: Amvic Systems



Photo courtesy Jim Buttrey/IntegraSpec



Photo courtesy Jim Buttrey/IntegraSpec



Photo Courtesy Robert Kindsvogel

ICFs accept just about every kind of siding, including vertical steel (left) cement-board (center) and real cedar (right).

channel stock can be fastened to whatever type of buck material is chosen, in a similar fashion as a wood framed building.

## Gaps

Another common challenge is how to handle the gaps between furring strips. Most don't run the full height of the block, which leaves one to two inches of foam between every course. These gaps come in handy when electricians cut horizontal utility chases, but can be a real headache for siding installers.

"On a nine-foot wall, we had two rows where we had nothing to nail into," says

Dyck. "We decided to face-nail the siding, then came back and painted the nail heads to blend in.

Kindsvogel uses metal flashing to solve this challenge as well. A 3" roll covers the gap effectively, he says, and provides plenty of holding power for screws.

A third option is to use a brand that has a full-height furring strip. These include Standard ICF, Fox Blocks, NUDURA, and TF System. Incidentally, full-length ties also lead to easier pours, since they eliminate form compression.

Depending on your climate and the

type of siding, the best option may be furring out the wall with 3/4" lumber. Attach the lumber to the webs with screws, then nail the siding to the wood.

This has several advantages. First, it allows the siding installers to nail—instead of screw—the siding into place. Second, it allows air to circulate behind the siding, which may extend the life of both the material and the paint.

If you are applying siding vertically, this is perhaps the best way to ensure solid attachments. Of course, if the siding is vertical, the furring strips would run horizontally.

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## Air Gaps and Nailing Strips

If you are applying real wood siding, use furring strips. The LOGIX installation manual explains, "A good practice for installing wood siding on a wall is to apply the siding over vertical 1" x 2" (25mm x 51mm) wood nailing strips with a screen at the bottom. The screen keeps insects out while the space allows air to circulate behind the siding. The air circulation helps equalize the moisture content in the wood siding, which makes for much more dimensionally stable siding and longer lasting application."

The Wood Products Council claims that this air gap will extend by several times the normal life of both siding and paint.

John Krzic, technical director at Amvic, says, "Some of that is based on weather conditions, and some of it is based on the type of siding. The idea is to let the siding breathe and dry out on both sides equally."

## Nail vs. Screw

The biggest question in ICF siding is which type of fastener to use.



“I’ve had guys try and convince me that they can nail into the plastic furring strips, and you just can’t,” says Kindsvogel. “Even with ring-shank nails, it just doesn’t work.”

The siding manufacturers all recommend screws. “We recommend using a #8 galvanized screw; 16 inches on center is always best, but in some areas of the country, you can go 24,” says VanDorselaer.

Most ICF manufacturers also recommend screws. Patrick Chan, territory manager for LOGIX, states a common position. “Although air guns can be used, LOGIX ICF highly recommends the use of screw guns when attaching cement composite sidings. Non-corrosive #8 coarse thread wood screws are commonly used with Hardi Siding products.” Chan recommends a closer spacing—8” to 16” on center—and a longer screw—2 ½” to 3”—for optimal holding power.

Kindsvogel says his crew originally used a self-feed screw gun, but “It was hard to feel with a self feed gun,” he says. He uses electric screwdrivers to drive the screws individually.

Dyck actually conducted a pull-out test for one client. “We tried a number of systems (hand nailing, screwing, air nails, etc.),” he says. “Hand nailing has poor quality and is slow, screwing is much too slow plus the screws have to be counter sunk which compromises the finish on the siding. Nailing with air tools seems to be the best.”

“We did a test section, using a nail gun with 2” galvanized common nails fastened every 8” to the webs. With proper tool adjustment the nails remain flush with the finish and the wire that holds the nails together in the coil acts like a fish barb. We pulled on the plank to see if the nail would pull out, but the plank broke before the nail did.”

Zimmerman, the Wisconsin distributor, also typically recommends nailing. “I typically recommend a ring-shank galvanized roofing nail,” he says. “We have vinyl siding, attached using straight shank roofing nails into plastic furring strips, last a full 10 years and counting.”

One key is the weight of the siding. Narrow siding, as well as lightweight vinyl, can probably be nailed. Wider, heavier planks, including half-log siding, will require screws.

Another factor is how deeply the webs are embedded beneath the foam. Arxx Building Products, which makes the only block with an exposed web, claims their “exposed web provides a solid bearing for the attachment of finishes like... siding and brick ties. This dramatically reduces the likelihood of screw pops or siding sag.” Other manufacturers say that they have encountered no problems with sag when the siding has been properly screwed into place. Chan, at LOGIX, says that longer screws provide additional holding power



*Siding can be installed with a nail gun, but most manufacturers recommend screws for maximum durability.*

Photo Courtesy: Har/Dyck

and pull the siding in tight to prevent sagging.

The challenge is setting the screw to the right depth. If the screw is driven too deeply, it will compress the foam between the siding and the web and the siding will visibly bow between fasteners. If the screw is not tight enough, the siding will sag.

The bottom line is, while there is clearly more than one good method to fasten siding to the wall, in order for the warranty to be valid, installers must follow local codes and the manufacturer’s recommendations regarding the size and spacing of fasteners.

By following their recommendations and the suggestions in this article, you will be able to attach virtually any type of siding to ICF walls with no problems. ■

## Is That Really Wood?



One alternative to dimensioned siding products is vertical stamped concrete. Fossilcrete offers several stamps that imitate the look of wood planking or even log cabin construction.



“One product we’re really excited about is the weathered wood set and the beam stamp set,” says Stanton Pace, developer of the product. “It allows a builder to create the look of beautiful aged and stained wood with easy installation as well as a lower cost, and with much more freedom than conventional wood. It also lasts forever.”



Photos Courtesy: Stanton Pace/Fossilcrete

Last year, Pace introduced a stamp set to create a log cabin look. From more

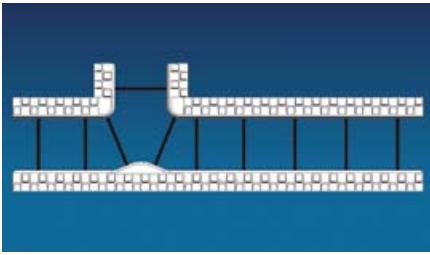
than a foot away, the product is indistinguishable from real wood. Judges at last year’s World of Concrete Show awarded it “Most Innovative Product.”

Pace says the patterns can be installed for \$10 to \$20 a sq. ft., and experienced installers can apply up to 1000 sq. ft. a day. He adds, “Fossilcrete has several unique characteristics, such as being completely waterproof, is installed without ties or mesh, and is one of the strongest finishes available anywhere at more than 2,700 psi.”

For more information on how to apply the product, see “Alternative Wall Finishes” in the Dec. ’06 issue of this magazine, or contact Fossilcrete at 405-525-3722. ■



# New Products



## T-form from Reward

Reward Wall Systems now offers a T-Form, part of their popular iForm product line. The product is intended to make construction of interior demising walls more efficient. It is expected to be available after Feb. 1, 2007

The T-form, like the rest of the iForm line, is universal and reversible, and is intended to reduce material waste and labor costs in the field. Currently, it is available only in the 11-inch (6" core) width.

"We heard contractors asking for an

efficient way to build interior walls... without having to do a lot of cutting in the field. The T-form does this, saving time and labor costs," said Kelvin Doerr, P.E. vice president of Engineering and Technical Services.

## V-Bucket Keeps Parts Dry

Vinyl Technologies, maker of the popular Vbuck line of window and door bucks, now offers an improved method of on-site storage. The V-Bucket—a 5-gallon pail with an organizer tray—keeps fasteners, corners, and other small parts clean, dry, and organized on the jobsite.



## New Foam Adhesive

Fomo Products, Inc. has developed Handi-Stick, a durable polyurethane foam construction adhesive compatible with all types of polystyrene.

Handi-Stick Polystyrene Construction has an extremely quick working time, and was developed specifically for ICF construction. Fomo also makes Handi-Stick Subfloor, which has a longer open time of 20 minutes and Handi-Stick General Use with an open time of 5 minutes.

"No other foam adhesive specified for polystyrene offers a greater bonding power than Handi-Stick," says Tom Fishback, technical director at Fomo Products.

"Polyurethane adhesives are tough,



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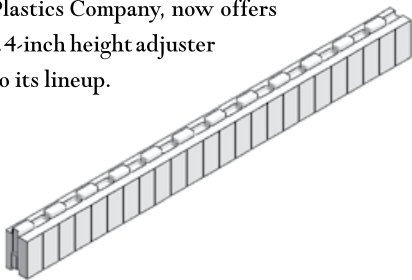
flexible, and will not lose bond strength with aging. In fact, Handi-Stick will outlast any building where it is used," Fishback says.

One can of Handi-Stick is equivalent to 30 standard tubes of caulk-type adhesives. "When dispensed, Handi-Stick delivers more than 1,000 lineal feet of adhesive bead without changing cans... The professional dispensing gun provides maximum control of the applied adhesive, which will reduce waste and eliminate any mess."

For information about Handi-Stick, phone (800) 321-5585 or visit [www.fomo.com](http://www.fomo.com).

### Fox Blocks Height Adjuster

Fox Blocks, a division of Airlite Plastics Company, now offers a 4-inch height adjuster to its lineup.



The height adjuster allows Fox Blocks wall constructors to insert an extra 4" of wall height without the need for cutting full blocks. One row of 4" height adjusters can be inserted for every 10 feet of vertical height.

This new height adjuster can be used with any of the 4", 6" or 8" Fox Blocks shapes.

For more information about Fox Blocks, please call Dave Jackson at 1-877-FoxBlocks or [Dave@FoxBlocks.com](mailto:Dave@FoxBlocks.com) or visit [www.FoxBlocks.com](http://www.FoxBlocks.com).

### New Database of ICF Products

A new ICF products database makes it easy for contractors to find all the products they need in one convenient place. Whether you're looking for bracing, waterproofing, exterior finishes, or the actual insulating concrete forms, [www.icflist.com](http://www.icflist.com) can help you find out what your options are, and who to contact for more information.

The directory is organized by category and sub-category, and already contains information for more than 75 companies that

offer ICF-related products. Contractors and distributors interested in learning about new products can visit the site now by clicking on the "Find a Product" button at [www.icflist.com](http://www.icflist.com). Product manufacturers can view, add, or upgrade their listing by calling 877-229-9174 ext. 1 for more information. ■



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# Green Building

by Juan Garcia



## I am often asked “What is the R-Value?” when describing different building materials.

In terms of the ICF, the R-Value is sorely underestimated. R-Value is a laboratory term that has little to do with reality. In many engineering texts, R-Value is defined as resistance to thermal flow of warm air. However, the term and the tests for R-Value were designed to measure fiberglass and cellulose insulations of decades long ago.

Unfortunately, the terms and tests have not evolved to meet the new technology of modern times. Laboratories have no desire to recreate a new definition or test methods that would ultimately cause them liability. In other words, they are not going to redefine anything that would cause them to be discredited. There is no universal test for energy values currently available or in use.

For example, what if you were a geologist who staked his reputation that there was no “Lost Dutchman Mine” because you had examined the geology and determined that the area where this mine is supposed to be in is a non-mineral bearing formation. Would you then some years later want to reverse yourself and say that the information you made your living giving out as fact was in error? No. You would claim that although you acknowledge that although the new results are correct, your initial claims were also correct for that time.

The basis for all test procedures is the Scientific Method. In this

test method you propose a theory and then go through a series of tests to prove or disprove it. Now, how can a test that was designed for non-solid insulations such as cellulose and fiberglass have any bearing on solids like foam and concrete?

Until such time that a universal test can be formulated to determine the energy values of differing materials, it is misleading to simply use old terminology on new methods and materials.

I am asking you to evaluate what you know works verses what a lab technician tells you. In order to publish results, a lab must be able to cite their work, methods used, controls for testing and stand firm on the fact that if brought into a court of law that they could repeat (or a lab with identical equipment could repeat) their tests and come up with a similar result.

Here’s an example: A lab tech theorizes that a book of matches will be 75% effective (or that an average 7.5 matches will light of every 10 in the book). His test will take place in the lab at 76 degrees of temperature (because that is the temperature that he is comfortable) and the environmental conditions will be the lab’s (no wind, no significant humidity etc.)

This technician then strikes all the matches in the book (let us say that there are 20 matches) and all of them light and burn for at least 10 seconds (because he does not want to burn his fingers as he holds it longer). His conclusion and the lab’s is that the said book of Brand X matches is 100% effective and exceeds all test requirements.

Now, is this reality? Certainly in the laboratory conditions and with the test sample it is. However, is this also reality at 11,000 feet above sea level in a blizzard on the top of a mountain? I would submit to you that no, this is not reality. So it is with R-value and ICF’s.

Testing is valuable as a basis for knowledge. Every scientist in the medieval world knew that the world was flat. However, that was before sailors who knew what worked, found the world to be spherical. Will you spend your life letting experts tell you what they can repeat in the lab or will you use what works?

The debate over terminology and test methods will continue to rage. Perhaps in your children’s or grandchildren’s lifetime the solution will be evident.

What will we do today? We will persevere with the information that we have. We will decide for ourselves what works and what is obsolete. The ICF industry is growing at an average of 30-50% in industrial and residential theaters. As more ICF structures are built, evidence of what works continues to mount. This growth rate is too high to be an accident. The truth is that ICF’s are a valid and dynamic force in the worlds’ economy. Use what works!

*Juan Garcia is an internationally respected energy and green building consultant. He can be reached at (602) 690-1365. ■*

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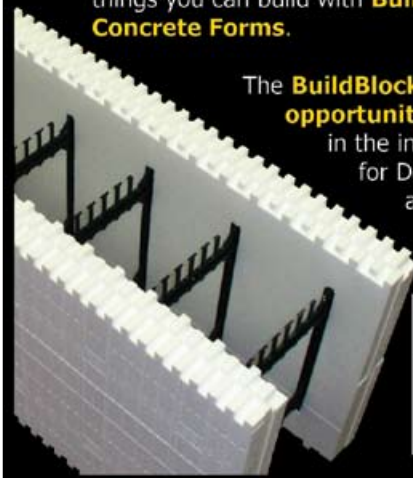


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## Ad Index

Amvic Building System	8
BuildBlock Building Products	11, 29
Con-Form Pacific (SmartBlock)	28
Construction Forms, Inc.	10
Cosella Dorken Products, Inc.	3
Dryvit Systems, Inc.	BC
Epro Waterproofing Systems	IBC
Exakttime, Inc.	5
Fine Line Footing Forms, Inc.	27
FossilCrete	21
Fox Blocks	7
Greenblock Worldwide Corp.	26
Insulated Concrete Walls	21
IMS Masonry	30
IntegraSpec	19
Lite-Form Technologies (Lite-Deck)	30
Metwood Building Solutions	29
Mono Brace	13
Northwestern Ohio Foam Products	26
NUDURA	17
Perma Crete	6
Plumwall, Ltd.	8
Quadlock Building Systems, Inc.	IFC
Reward Wall Systems	20
TheBarrierInsulation.com	11
Vinyl Technologies (V-Buck)	24

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