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CEMCO STEEL PRODUCTS

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FRAMEWORK
A Journal of the Steel Framing Alliance

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several times a week I have the opportunity to hear a builder, a framer, an engineer or a manufacturer tell me a positive story. Sometimes it is about a new project they’ve won or how they’re converting their operations to steel. Other times it’s a product innovation, a discussion about new markets they’re opening up, or an idea for how to build a steel framed house more efficiently.

And sometimes I come upon positive stories completely by surprise—like a few weeks ago, when I dropped in on a friend in Phoenix. While there, we visited a residential job he was preparing to build steel trusses for, and then later we drove through a development of more than 100 steel framed houses that I’d never heard about.

Lack of communication isn’t the only thing obscuring these successes. A number of factors have made the last two years difficult for the expansion of market share for steel framing. A glut of framing lumber in the market has produced unusually low prices for wood. Economic and trade issues have temporarily limited the ability of the steel industry to invest in the development in this product area. And an unusually strong construction market has softened builder motivation to invest in converting to other framing systems that would require any worker training, redesign and other aspects of a “learning curve.”

But we still have reasons to feel optimistic. Despite historically low lumber prices, the latest market share report shows that steel framing is holding its own, and in some applications has shown significant gains. Moreover, the current glut of lumber will eventually dry up and wood prices won’t stay this low forever.

At the same time, steel framing costs are continually being cut by some of the brightest minds in the construction industry who drive innovation and improvements to manufacturing and framing efficiencies. Design standards and technical information are more readily available than ever. And let’s not forget that the quality of steel framing never changes.

As further evidence that the industry’s hard work is paying off, I recently had the pleasure to witness the Hawaii Pacific Steel Framing Alliance continue its growth by formally chartering the Big Island Chapter, and welcome its 12 new members.

At Steel Framing Alliance, we know there are thousands of other hidden gems out there, but we don’t always know how to find them. And we know that these success stories should be shared, once found. That’s why we’re putting together case studies of North America’s most important projects to showcase on our Web site and right here in FRAMEWORK. Companies whose projects are featured may use the case studies for their own promotions, as well.

These efforts are being spearheaded by Don Allen, director of engineering and development at the Alliance. Contact Don through our office or at steeldon@bellsouth.net and let him know what you and your clients are doing so we can share it with the rest of the current and potential steel framers out there.

Tell us your story!

Larry Williams
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The Steel Framing Alliance has launched a redesigned Web site. User-friendly and brand-aligned, the site promises simplified content and ease of navigation.

The site, www.steelframingalliance.com, contains:

- A new Store with all new publications, secure online purchasing, easy navigation and a search mechanism.
- A Become a Member online application, greatly simplifying the membership process for the user.
- A Find a Member searchable database with extended information about each member— to be upgraded as members update their member profiles online.
- A Members Only portion with updated content including free publications to premium members and significantly reduced prices on all resources for standard members.
- An updated list of projects in Research & Development, as well as an R&D Submittal Form for the user to request a project review by the Technology Team.
- A Media Room containing an updated photo library, an updated market stats sheet, and all 2003 and 2002 news releases.
- An Ask an Expert feature pointing the user to simplified inquiries via phone, fax or e-mail.
- Training text and a list of institutions, plus a link to order the National Training Curriculum.

Hawaii directors and officers announced

Mardie Torres, executive director for the Hawaii Steel Framing Alliance, announces the group’s new directors and officers.

Directors
Ralph Valentino
Sam Galante
S. Robert Lee
Wayne Lincoln
Gail Lincoln
Art Linn
Adam Sutton
Bobbie Kane
Craig Baldwin
Sunil Ray
Doug Pearson

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Gail Lincoln, Secretary
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Kelly Kasuhi, Membership
Barry Redmayne, Publications/Communications
Craig Baldwin, Trade Show
Sam Galante, Training Committee
Doug Pearson, PBLL/RM Committee
Wayne Lincoln, Gulf Committee

IBS to feature Alliance seminar

The National Association of Home Builders’ Convention Education Committee has approved the Alliance’s proposed seminar titled, “Steel Framing: The Future of Residential Construction.” It will be part of the regularly scheduled educational programs held at the 2004 International Builders Show, to be held Jan. 19-22, in Las Vegas.

Attendance at steel-framing seminars held during IBS has averaged more than 150 and included a broad range of builders, developers and framers from around the country.

Participating personnel at the Alliance are beginning to plan the content and are considering an emphasis on the use of steel in locations where a builder can be immediately successful, including interior walls, floor and basements. The content of the presentation would focus on:

- Facts and figures from research that show cost savings.
- Tools needed, learning curve, sourcing materials and basic installation.
- Step-by-step instructions about getting started.

The Alliance welcomes further input and participation.
Steel shines in Kansas City

More than 4,000 outstanding vocational students joined in the excitement of hands-on competition in 75 different trade, technical and leadership fields in July in Kansas City, Kansas, at the annual National Leadership and Skills Conference. Sponsored by SkillsUSA—VICA, 70 “best of the best” carpentry students and 38 Teamwork members worked against the clock to build projects designed to test their overall carpentry skills, including framing, exterior trim and stair building. Contestants were judged on accuracy, ability to read and interpret blueprints, workmanship, safety and the proper use of tools and equipment.

The championships recognize the achievements of vocational students and encourage them to strive for excellence and pride in their chosen fields. This was the fourth year for steel in the carpentry contest and the first.

The Alliance thanks Lorenz Salazar of Dietrich Metal Framing for his help all week on the convention floor, as well as members Geoffrey Jennings of EnerLoc Systems Inc., Kim Roberts of Dietrich Metal Framing, and Randy Tate and Shannon Miller of Grabber Construction for advance preparation and attending the events.

Another highlight of the week was SkillsUniversity. Sponsored by the Alliance with help from DeWalt and Dietrich, more than 40 educational seminars were offered to vocational instructors and students. Steel was highlighted in two well-attended sessions titled “Steel in Residential and Light Commercial Construction.” At the conclusion SkillsUSA—VICA Student President Carl Wetzler presented a plaque to the Alliance for its continuing support.

Students compete in metal-framing skills at the annual SkillsUSA competition.

Steel to grace New American Home

The Alliance has arranged for the contribution of steel framing members to the New American Home, a custom display property built as part of NAHB’s IBS to highlight innovations and the state of the art in construction and design.

Rizzuto and Feazell will lead the program with regular instructor Nader Elhajj, director of research and development for the National Association of Home Builders Research Center, and special guest lecturers will share their experience and advice for incorporating cold-formed steel into construction projects.

Course content focuses on the differences in processes required to work with steel over traditional framing materials, as well as steel framing in combination with other framing materials, including concrete block, ICF and wood. Various topics related to steel construction will be covered, including design and standardization, tools, fasteners, bearing and non-bearing walls, roof trusses, floor joists, ordering and delivery cut lists.

Tuition includes a toolbox loaded with course-related textbooks, lab materials and resources, plus registration to METALCON 2003 seminars and exhibits. Tools for the hands-on portion of the course will be supplied by the show.

Participants must be contractors, builders or framers. They will have the opportunity to build a steel structure on the METALCON exhibit floor, which will then be donated to a local domestic-violence shelter.

The Stud University program runs from Saturday, Oct. 25, to Monday, Oct. 27. METALCON 2003 begins Oct. 28.

For more information or registration, contact Claire Kilcoyne at (617) 965-0055.

Lines ringing for steel

New regular reports from the NAHB Research Center Toolbox hotline reveal a large number of inquiries related to steel framing. During June and July, the hotline received more than three inquiries per day from a wide spectrum of users, including designers, builders and framers, and homeowners asking about steel. In March and April, steel-framing inquiries represented nearly 25 percent of calls handled by the hotline.
New VP at Dietrich

Worthington Industries Inc. has announced the appointment of George Harakal to vice president—construction of Dietrich Metal Framing, one of its business units.

In his role as vice president, Harakal will oversee Dietrich’s residential and building systems marketing and delivery. An integral part of his position will include coordinating the efforts of various startup businesses within the division and facilitating their rapid growth.

“Alliance staff through his engineering expertise and thorough understanding of the construction process. Allen has been involved in commercial and residential steel framing since 1990. His designs include some of the light-gauge steel framing in the Georgia Dome and Atlanta Olympic Stadium, as well as hundreds of steel-framed projects across the Southeast. He has helped build several steel-framed homes, including his own house in metro Atlanta, and has been involved in the development and testing of steel-framed truss systems. Lecturing regularly on light-gauge steel design and construction issues, Allen served as both presenter and moderator at the First International Conference on Steel in Green Building Construction, and has been principal speaker at METALCON International for the past six years. Allen has also written numerous articles on cold formed steel framing, and has a special interest in the structural role of materials in sustainable construction and development. Allen is a graduate of Georgia Tech with a degree in civil engineering, and a registered professional engineer in the states of Alabama and Georgia. He is a member of the Southface Energy Institute, former vice president of LGSEA, and is the chairman of the General Provisions subcommittee of the American Iron & Steel Institute’s Committee on Framing Standards.

Allen joins Alliance staff

Joining AISI

Jay W. Larson

Currently, the team in the process of executing a program focusing on encouraging membership renewals by communicating the value of their membership, including the above-mentioned sell sheets now available on the Web site. Later this year, the team will develop a recruitment and retention program. The details will be announced during the fourth quarter.

MARKETING TEAM

Membership sell sheets are posted to new Web site (see story on page 4). They can be found on by clicking on Become a Member. Publications available on the previous Alliance Web site and USA fulfillment stock were evaluated and specific ones were kept for the site’s Store page. New title pages were added to selected publications. Orders for hard-copy publications, excluding the National Training Curriculum, will now be directed to the Alliance headquarters office.

MEMBERSHIP TEAM

New Business?

✓

Major barriers have been identified and strategic vision statements written. Work continues on the success of the Alliance. Larson of his new position.

In announcing Larson’s appointment, AISI Vice President of Construction Market Development Dell Boring said, “Jay’s training and experience make him uniquely qualified to lead our standards development program and to provide critical technical support for the Steel Framing Alliance.”

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Larson will continue to serve as leader of the Alliance’s Research Team, as well as play an integral role in the success of the Alliance. “I am very pleased to remain part of the cold-formed steel-framing industry and look forward to serving in this new capacity,” said Larson of his new position.

Larson is a civil engineering graduate of Lehigh, with both bachelor’s and master’s degrees, and a registered professional engineer. In his spare time, Larson serves as a Habitat for Humanity leader and as a Scoutmaster. He and his family will continue to reside in Bethlehem, Pa.

MARKETING TEAM

Alliance has joined the staff of the American Iron & Steel Institute as director, construction standards and development. He comes to AISI following 23 years as part of the Bethlehem Steel Construction Marketing Team, where he gained extensive experience in commercial construction. He has also chaired AISI’s Committee on Framing Standards since its inception, and has been actively involved in the AISI Construction Program throughout most of his career.

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Having the right tools to start your venture into steel framing will both help you have a successful experience and enable you to expand your horizons beyond the most basic tasks.

Contrary to popular belief, people wanting to add steel framing to their repertoire of skills can outfit their tool belts for under $400. A seasoned steel framer taught me long ago that anyone serious about steel framing can accomplish the task with as few as four important tools: a good electric screwgun (not a drill), a good pair of electric shears, a magnetic level and a chalk line.

As steel framing has grown, major tool manufacturers like DeWalt, ET&F, Makita, Aerosmith, Bosch, Hitachi, and Paslode have designed additional tools to make the tasks associated with steel framing less labor intensive through the use of cordless and pneumatic technologies.

Screwguns

The most critical tool to any successful steel framing project is an adjustable clutch screwgun. It is the primary tool on the jobsite, and will be used for the connections, the most labor intensive through the use of cordless and pneumatic technologies.

Shears and more

Another valuable tool on any steel-framed jobsite is an electric shear. Designed for cutting sheet metal, it gets the job done on steel studs up to 68 mil (14 gauge) and leaves a smooth edge. Steel framers find the portability of the shear a plus for making cuts on both studs and joists even though cleaning the tight radii of the flanges may be a struggle.

To complete starter tool kit we need a 4-foot magnetic level and a chalk line. Both items are readily available at most, if not all, building material supply stores. American Tool Co. has designed black chalk specifically for use on steel-framing material.

Bottom line

So let’s look at the retail prices:

<table>
<thead>
<tr>
<th>Tool</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric adjustable screwgun</td>
<td>$180</td>
</tr>
<tr>
<td>Electric shears</td>
<td>$190</td>
</tr>
<tr>
<td>4-foot magnetic level, chalk line and chalk</td>
<td>$20</td>
</tr>
<tr>
<td>Total</td>
<td>$390</td>
</tr>
</tbody>
</table>

Add to the list a set of locking C-clamps to hold the layers of steel together as you fasten and your total cost is under the $400 mark. It’s an inexpensive start to your future in framing with steel.

For more information on these and other tools for the steel framing trade, visit www.steelframingalliance.com or contact me at mrsizuto@steelframingalliance.com.

Maribeth Rizzuto is director for training and education for Steel Framing Alliance.
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End the mystery of making the switch from wood to steel with the book Steel-Frame House Construction, written by the NAHB Research Center and former Alliance President Tim Waite.

To order, call (202) 785-2022 or visit www.steelframingalliance.com.

The new free TrusSteel Cold-Formed Steel Truss Design Guide contains guide specifications, CAD details, code reports and more.

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www.TrusSteel.com
The Steel Framing Alliance’s core value of “maintaining leadership in construction technology through innovation” is the primary driver behind these research initiatives.

Work was completed on three research projects that were sponsored by the Steel Framing Alliance.

The object of the Testing of Steel Single L-Headers project by the NAHB Research Center was to examine single L-headers for short window and door openings (4 feet—0 inches) for residential construction.

A series of 18 full-scale tests were carried out to evaluate the capacity of six different single L-header sizes. The derived test data provides a basis for expanding the current design options and should allow for more efficient design in cold-formed steel. Currently, only double L-headers are addressed in AISI standards. However, the results of this project will enable changes to the AISI Header Design and Prescriptive Method standards to include single L-headers.

Work Complete

Work was also completed on the Reducing the Cost of Combining ICFs and Steel Framing in Residential Construction project by Building Works Inc., of Cambridge, Mass. The objectives of this test program were to develop guidelines for combining insulating concrete form walls and cold-formed steel framing in residential construction, and to identify and test combinations of the two systems that reduce design cost, reduce construction cost, and improve building quality.

A final report, “Prescriptive Method for Connecting Cold-Formed Steel Framing to Insulating Concrete Form Walls in Residential Construction,” dated February 2003, has been issued. Steel-framed floors, interior walls and roofs would seem to be a perfect companion for ICF walls. This report should serve as a useful guide for builders and designers interested in combining ICF walls and cold-formed steel framing in residential construction and is available on the Alliance Web site, www.steelframingalliance.com.

Work was also completed on the Development of Cost-effective, Energy-efficient Steel Framing project by the NAHB Research Center. The objectives of this project were to compare the labor and material cost and energy performance of steel-framed homes to those of nearly identical wood-framed homes to determine if the costs of steel-framed homes were “in the same ballpark” as wood-framed homes. Costs of construction were monitored by collecting time and motion data on homes in Valparaiso, Ind.; Beaufort, S.C.; and Fargo, N.D. Follow-up with blower door (infiltration) and co-hea t tests compared the short-term energy usages of the houses. A report on the Valparaiso homes is available on the Alliance Web site, and a final report summarizing the results of all homes will be available in the near future.

New Projects

The Steel Framing Alliance and the American Iron and Steel Institute work on page 16

L-Headers, ICFs, Shear Walls and Stiffeners Subjects of Studies

by Jay Larson
**We’re building a framework for growth in the construction industry.**

If you’re in the steel or the building industry, here’s something vitally important for you. Steel framing is fast replacing conventional framing in both commercial and residential construction. The Steel Framing Alliance is a key industry body that’s aggressively driving the market towards this new building technology. Join the Alliance and capitalize on this immense opportunity. Benefit from networking, PR, resources, marketing, training and more. Together, we can make steel framing the future. Your future.

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**Studies continued from page 15**

also authorized work on two new research projects.

The first project on Estimating the Response of Cold-Formed Steel Frame Shear Walls will be performed at the University of Santa Clara. The objective of this effort will be the analysis of existing shear wall data to obtain elastic stiffness parameters and to establish piece-linear performance curves (bilinear or trilinear) or general equations for predicting deflections. The results of this work will be incorporated in a new standard on Lateral Design being developed by the AISI Committee on Framing Standards.

The second project, Alignment of Steel Framing Bearing Stiffeners, will be performed at the University of Waterloo. The objective of this effort will be to gain a more thorough understanding of floor joint behavior when there is misalignment in the load path for the range of products and limitations of the AISI Prescriptive Method and to propose modifications to the AISI General Provisions and Prescriptive Methods standards, as necessary.

The Steel Framing Alliance’s core value of “maintaining leadership in construction technology through innovation” is the primary driver behind these research initiatives.

The ideas and involvement of builders, contractors, designers and suppliers in this process is essential to its success. Please go to www.steelframingalliance.com to learn how you can get involved.

Jay Larson is director, construction standards and development, for American Iron and Steel Institute.

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**What’s Holding You Back?**

Are you encountering a barrier to successful steel framing?

If so, start putting the Steel Framing Alliance Technology Team to work in identifying solutions. Simply fill out the Barrier Survey Form found on page 17 of the Spring issue of FRAMEWORK. Or download it off the Alliance Web site by clicking About the SFA then R&D. Fax the form back to the Alliance office at (202) 785-3856.

Let the Alliance Technology Team assemble the answers that will help you and the industry!

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**Zinc Coatings in Residential Construction**

by Roger Wildt

For more than a century, zinc has enhanced the longevity and performance of steel. Zinc coatings provide an effective and economical way of protecting steel used in residential construction against corrosion.

Zinc-coated (galvanized) steel offers a unique combination of positive features, including:

- High strength, determined by the steel substrate.
- Formability, a key factor for roll forming coated steel sheet.
- Light weight of steel framing and roofing, as compared to competitive materials.
- Corrosion resistance, for both long life and the maintenance of esthetic appearance.
- Recyclability, both for the scrap materials of construction and end-of-life demolition.
- Low cost, competitive with all construction materials of matching quality.

For these reasons, galvanized steel is an ideal material for a multitude of applications. For the industrialized nations, at least 4 percent of GDP is lost to corrosion each year. The trend of at least the past 15 years has been toward customer and manufacturer demands for increased protection through both higher contents of zinc and additional applications of zinc-coated steel.

How zinc protects

When left unprotected, steel will corrode in almost any environment. Zinc coatings stop corrosion by providing two protections—a physical barrier and cathodic action.

Steel-framed floors, interior walls and roofs would seem to be a perfect companion for ICF walls.

Barrier protection

Zinc coatings provide a continuous, impervious metallic barrier that does not allow moisture to contact steel. Without direct moisture contact, there is no corrosion.

However, since zinc gradually erodes due to its much slower degradation in the presence of water and atmospheric pollutants in open-air applications, barrier life is proportional to coating thickness. This subject has been researched for many years and the literature is well supplied with reports on zinc’s performance in different climates, with different alloy additions to the coating and at different coating thicknesses.

Barrier coating longevity can be improved a number of ways other than by just increasing coating thickness.

The addition of aluminum for alloy coatings called Galfan and Galvalume, or the application of paint, individually or in combination, will significantly and economically extend the life of coated steel sheet.

Cathodic protection

Another outstanding protection mechanism is zinc’s remarkable ability to galvanically protect steel. When bare steel is exposed to moisture, for instance at a cut edge or a surface scratch, steel is protected by the sacrificial loss of zinc in the vicinity of the exposed steel.

In the immediate presence of zinc, steel will not corrode until all the zinc has been sacrificed. This is particularly important for coated steel sheet since corrosion will continually undercut both aluminum or paint barrier coatings.

The presence of zinc is the key to cathodic protection. All zinc-containing metallic coatings, including Galfan and Galvalume, share this beneficial characteristic.

The process

Globally, some 550 continuous galvanizing lines produce about 70 million metric tons of zinc-coated steel
In the continuous hot-dip galvanizing process, coils of rolled steel are continuously unwound and fed through cleaning and annealing sections before entering a molten zinc bath at speeds of up to 650 feet a minute. As the steel exits the molten steel bath, coating thickness is controlled by gas “knives” that wipe excess zinc from the steel sheet. The steel sheet then undergoes a number of mechanical and chemical treatments specified by the customer.

This process is a very capital-intensive, high-speed, precise, factory-controlled operation that controls not only the coating, but also the strength and formability of the steel substrate. The bond between the zinc and steel is metallurgical so that a coil of zinc-coated steel can be cut, punched and formed without damaging the zinc coating.

**Performance in residential construction**

As we know, steel is finding increased worldwide use as a framing element in new residential construction.

In North America, light-gauge, cold-formed steel was first used in the 1930s, and there is no documentation of failure due to corrosion when the building envelope has been maintained in a sound condition. To go beyond this anecdotal history, it has been necessary to conduct tests in actual homes with diverse climates and a range of construction practices.

To date all test results, worldwide, indicate that there is little corrosion in residential construction under normal conditions. Minor corrosion, if present, will not adversely affect the anticipated life of a structure. Some conditions of exposure to salt water ions can be more severe than average, but have been noted with recommendations for their mitigation.

**Environment of wall interiors**

Like other construction materials, the durability of galvanized steel framing will depend on its immediate environment. Factors including water leakage, excessive humidity or condensation will damage any construction material over time and will accelerate the corrosion of zinc coatings that protect steel framing.

However, if a building is constructed to the requirements of a modern building code, properly ventilated and maintained, moisture will not be a concern for galvanized steel framing. The techniques described in various codes include use of vapor barriers and insulation materials that prevent the wall cavity environment from dropping below the local dewpoint for extended periods of time because, under this condition, condensation will occur. The greatest sources of moisture for most residences are bathrooms and kitchens. As for traditional construction practices, moisture from these rooms should be vented directly to the outside rather than allowed to migrate into wall and ceiling cavities.

The greatest opportunity for the collection (and retention) of condensate moisture is along the bottom track of exterior walls. Moisture collection below the track (inside the trough) can be prevented by eliminating condensation and maintaining the integrity of the exterior membrane. Moisture collection below the track can be prevented by placing either a vapor barrier or sill gasket between the track and the foundation wall.

**Other factors**

Time of wetness is the most important factor affecting the durability of galvanized steel framing and, therefore, most attention should be directed toward minimizing wall cavity moisture. The only other residential framing cause of corrosion to zinc is chloride from marine or other salt environments. This situation also has been researched and some conditions noted with recommendations for their mitigation.

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See “Zinc” on page 20.
Steel-framed floors, interior walls and roofs would seem to be a perfect companion for ICF walls.

Coating Products and Their Definitions

**Galvanized:** A zinc coating, usually hot-dipped, in which the zinc and steel form a metallurgical bond. The thickness of a hot-dipped coating can be varied from a thin zinc/iron alloy layer to heavy applications suitable for extended outdoor exposure.

**Electrogalvanize:** Also a zinc coating, but applied in a cold, electrolytic bath rather than a molten zinc bath. Traditionally the coatings are thinner than hot-dipped and not suitable for extended outdoor exposure.

**Galvanneal:** A zinc-iron coating produced by post-heating a hot-dipped coating. It is often used where paint is to be applied to the coated sheet.

**Galfan:** A proprietary zinc alloy coating (5 percent aluminum) with improved corrosion resistance and formability compared to zinc alone.

**Galvalume:** A proprietary zinc alloy coating (55 percent aluminum) with superior corrosion resistance.

For More Information

The Information contained in this article has been drawn from International Zinc Association publications titled, “Zinc Coatings—Protecting Steel” and “Zinc Protects: Housing for Generations. Corrosion Performance of Galvanized Steel Framing in Residential Construction.” Information for the latter was collected and developed by the International Lead and Zinc Research Organization. These documents can be downloaded and ordered at www.zincworld.org/publications.

In the United States and Canada, single copies can also be obtained from the American Zinc Association at www.zinc.org/Contact us.

**Architects’ Turn to Feel Confident with Steel**

by Matt Macarewich

Most architects and designers, by nature, are forward thinkers. The shape of the building, its physical presence on the site and the emotional impact it makes are all part of their vision. Concrete, glass, steel and wood have more commonly been the key components of their visions. Composites, plastics and foam tend to be economical compromises, or substitutes, for what they had originally envisioned.

Cost is what drives almost all projects. It dictates the design, the method, and the schedule. So new methods are sometimes not even considered for fear of not knowing how they will affect cost. Yet human nature pushes us to take little chances: To compete, dare to be different, and along the way discover a new method of reducing cost.

This was all done in the search of a more cost-effective means of building homes. Tested, code approved, economical, durable, with a long list of ICBO reports...residential Cold-Formed Steel Framing, which encompasses a standardized method, standardized material, standard span charts and code adoption. Who paid for this? The steel manufacturers, national housing associations and the government footed the bill.

Steel-framed floors, interior walls and roofs would seem to be a perfect companion for ICF walls.

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Without question, light-gauge steel is making significant inroads into the residential market, but in an industry that welcomes change as graciously as a bull walks a china shop, there’s still a long way to go. For those in the steel industry the overwhelming benefits that light-gauge steel offers over wood make it the obvious choice for residential construction, but conveying these benefits to builders and contractors along with systems for seamless integration will remain the challenge. This is the “top-down” or manufacturers’ challenge to market.

Another factor in this mix that deserves equal attention is that of consumer attitude and education regarding steel framing, the consumer is the “bottom-up” factor. The reality is that today’s consumer is more informed and wants a better product, whether it is his or her car, computer or house. As it applies to residential construction, new homeowners want more space with greater spans and straighter walls—especially without nail pops. It doesn’t seem like a huge request, but, for the most part, these attributes are not possible with traditional wood.

From a builder standpoint, callbacks due to poor wood performance can be a nightmare. Callbacks from leaking basements can be just as much of a headache to builders as nail pops. From a builder standpoint, callbacks due to poor wood performance can be a nightmare. Another factor in this mix that deserves equal attention is that of consumer attitude and education regarding steel framing, the consumer is the “bottom-up” factor. The reality is that today’s consumer is more informed and wants a better product, whether it is his or her car, computer or house. As it applies to residential construction, new homeowners want more space with greater spans and straighter walls—especially without nail pops. It doesn’t seem like a huge request, but, for the most part, these attributes are not possible with traditional wood.

Confident with Steel
continued from page 21

Ease with panels
One of the biggest cost-saving components in the steel-framing business is the panel fabricators or “panelizer.” With panels, the walls and floors are framed in a warehouse on an assembly line, almost like cars. Due to its weight, light-gauge steel lends itself to being the best material with which to perform this function. A large reduction in onsite injury and a jump forward in production are the main eye-openers. Over the years, panelizing has hit its ups and downs, but the industry needs to get use to the idea and understand the real benefit.

I never thought I would be assembling homes like this. Still think you wouldn’t, either? Remember when you thought you would never own a computer?

Panel plans can be derived from just about any set of plans. Some panelizers use CAD-based proprietary programs design specifically for light-gauge steel. Others prefer to manually design the panels. Some panel manufacturers offer engineering, but most work from any pre-engineered (for light-gauge steel) set of plans. This all has to happen before you start work on the project. The same as having the post tension, or truss, plans in place prior to commencement, the panel plans need to be completed. This is very important because the foundation contractor works from the dimension plans provided by the panelizer. When he or she doesn’t, the panels won’t work. This is probably the biggest problem panel installers face.

Installing panels is one of the newest trades in the business. The job of a panel installer is to receive the panels at the jobsite, follow the panel plans and connect the panels together. Use of a lift or small crane is common during these installations. Additionally, the installer will provide labor and materials for floor, roof and wall sheathing, soffits, tub decks, siding and other decorative plant-on features.

Human nature pushes us to take little chances: To compete, dare to be different, and along the way discover a new method of reducing cost.

Steel Goes Underground with New Basement Solution
by Bill Bliss

Without question, light-gauge steel is making significant inroads into the residential market, but in an industry that welcomes change as graciously as a bull walks a china shop, there’s still a long way to go. For those in the steel industry the overwhelming benefits that light-gauge steel offers over wood make it the obvious choice for residential construction, but conveying these benefits to builders and contractors along with systems for seamless integration will remain the challenge. This is the “top-down” or manufacturers’ challenge to market.

Another factor in this mix that deserves equal attention is that of consumer attitude and education regarding steel framing, the consumer is the “bottom-up” factor. The reality is that today’s consumer is more informed and wants a better product, whether it is his or her car, computer or house. As it applies to residential construction, new homeowners want more space with greater spans and straighter walls—especially without nail pops. It doesn’t seem like a huge request, but, for the most part, these attributes are not possible with traditional wood.

From a builder standpoint, callbacks due to poor wood performance can be a nightmare.

Callbacks from leaking basements can be just as much of a headache to builders as nail pops.


Matt Macarewich is CEO of Steel Professionals. He can be reached at matt@steelpro.com
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Basement Options continued from page 25

of wood? Good question. Although intangible and hard to quantify, the consumer factor could be the wild card that brings light-gauge steel to the residential arena.

Warm and Dry

We can draw a similar analogy with the concrete basement, the current industry standard. Although strong and relatively cheap, concrete is a poor insulator and has a tendency to crack. Because it’s porous, concrete is a source of cold, and damp and leaking basements can actually harvest mold growth. Callbacks from leaking basements can be just as much of a headache to builders as nail pops.

Just as steel framing represents the solution to builders and homeowners alike above the ground, it also provides an answer to these common problems with basements. New to this part of the house is a patented, panelized steel-frame system designed to replace concrete in foundation walls. Instead of concrete, structural support comes from 2-inch-by-6-inch 16-gauge G-90 galvanized steel studs on 16-inch centers. These 9-foot tall walls are insulated (R-10 below grade) with Dow Perimate on the outside, and the steel studs on the inside are ready to finish.

In cold weather is no longer an issue. If the steel/basement crew is on the site in the morning, a builder can continue the process that same afternoon.

New Heights

The typical 7-foot-10-inch concrete wall height doesn’t offer much design flexibility. But 9-foot walls of a steel basement can offer an “open” feeling. Windows and walkouts can be designed into the plan, allowing natural daylight into the room.

New and unique systems including steel basements need to be embraced by the industry and successfully marketed to the builder and to the consumer alike. The day when “top-down” meets “bottom-up” will be the day light-gauge steel becomes commonplace in residential construction.

Bill Bliss is director of marketing for The Hughes Group Inc., of Farmington, Mich., which holds patents on and markets the S.A.F.E. (Steel and Foam Engineered) BASEMENT. For more information, visit www.safebldg.com.

A steel basement can be assembled in a matter of hours, so the builder no longer is held hostage waiting the typical week for concrete to cure and forms to be removed. Another plus to the builder is that the system can be installed year-round; concerns over concrete curing in cold weather is no longer an issue. If the steel/basement crew is on the site in the morning, a builder can continue the process that same afternoon.

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Steel Framing Options

All-Span Inc.
SENCO Products Inc.
Palo Verde Drywall
Gemini Structural Systems
Steel Frames of Memphis
Mercury Business Development Services
Unlimited Construction Services Inc.
Joseph Videll
PMS

DeWalt Industrial Tools
V&C Drywall Contractors Inc.
Steeiframe Home Builders
Kealoha Construction
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Matson Navigation Co.
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American Tool Cos.
Sutton Construction Inc.

The Alliance Welcomes New Members …

membership milestones

… And Marks Members’ Five-year Anniversary this Quarter

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Sutton Construction Inc.

2003 SEPTEMBER 17-21 NAHB Fall Board Meetings, Boston.

OCTOBER 25-27 Stud University at METALCON 2003, Tampa, Fla.; (617) 965-0055.

28-30 METALCON & SFA Fall Forum, Tampa, Fla.

2004 JANUARY 19-22 NAHB International Builders’ Show, Las Vegas

APRIL 15-17 AWCI Construction Directions, Las Vegas

21-23 Construction Specifiers Institute, Chicago

Calendar Industry Events