

PCA SITES PCA RESOURCES

powered by Google

Type Keywords Here FIND

CART

PCA Portland Cement Association

PCA Home | Bookstore | Cement & Concrete Basics | Newsroom | Government Affairs | Member Sign In | About PCA

Concrete Homes

Count on Concrete

Concrete Home
Building
Systems

Solid Benefits

Technology
Briefs

Concrete Homes
Newsletter

Home Plans

Show Homes

Technical
Support

Stay Informed

Local Resources

DIY Promotion

Concrete Homes Newsletter

Concrete Home > Concrete Homes Newsletter > 2008 > May/June

May/June 2008

- The Weather Channel Takes Aim at Concrete Walls
- NextGen a Fortified First in Northwest
- CFA Announces "Basement of the Year" Award Winners
- 2007 NCMA Design Awards of Excellence
- CHBC Tour Starts Its Engines June 1-3 in Charlotte
- Upcoming Events
- Tools of Our Trade
-LT316

Select Year:

2009
2008
2007
2006
2005
2004
2003
2002
2001

Download:

Adobe Acrobat Reader

The Weather Channel Takes Aim at Concrete Walls

On March 17 and 18, The Weather Channel promoted residential concrete walls with a live wind cannon demonstration at the Dukane Precast plant in Naperville, Illinois, as part of Tornado Awareness Week.

Portland Cement
Association
5420 Old Orchard Rd.
Skokie, IL 60077
847.966.6200 PH
847.966.8389 FX
info@cement.org



The segment illustrated the strength and safety of concrete walls by using a wind cannon to shoot debris at wood frame, brick and concrete walls. Additionally, the programs discussed the **Fortified . . . For Safer Living®** program, which specifies construction guidelines to increase a home's resistance to natural disasters. Dukane Precast has built **Fortified** homes in Aurora and Bolingbrook, Illinois.



Viewers were shocked to watch the cannon shoot 2" x 4" wood planks at EF5 tornado speeds. The planks went completely through the wood and brick wall segments. Jim Cantore, a Weather Channel reporter famous for shooting in extreme conditions, pointed out that a family would not be safe from debris in a wood frame or brick house in the event of a tornado. When the plank was fired at the concrete wall (which was molded and painted to look just like brick), it bounced off. No damage was done to a concrete wall, even at EF5 speeds. Brian Bock of Dukane Precast demonstrated how easy it is to "fix" a concrete wall after a natural disaster by scraping off the wood fibers and adding a new coat of paint. Furthermore, the program mentioned other benefits of concrete use in residential building, including energy efficiency and resistance to mold.



Donn Thompson, PCA's Residential Technology Manager, was interviewed for the March 18 broadcast. The second night's feature took the viewer through a completed concrete home, which didn't look any different from a regular home. The only difference, as Jim Cantore pointed out, was in the performance of the wall systems. Families not only feel safer in **Fortified** concrete homes, but will also reap the added benefit of lower monthly heating and cooling bills.

NextGen a Fortified First in Northwest

The newly completed NextGen "First to the Future" Home in West Seattle, Washington, is the first home built in the Northwest to receive the **Fortified . . . For Safer Living®** designation from the Institute for Business & Home Safety (IBHS). IBHS is an independent research organization supported by more than 200 insurance companies.



"The program is focused on building homes with added protection to better withstand nature's wrath, and in the Northwest that often means high winds and seismic events," explains Chuck Vance, **Fortified** Program Manager at IBHS. "This designation lets people know that a home has been built beyond local building codes, so they can have peace of mind that their property is protected to an even higher level."

Overlooking Puget Sound, the NextGen home boasts three bedrooms, four bathrooms and 4,100 square feet. The NextGen home is built with Amvic insulating concrete forms. Besides being spacious and fortified, the house is also "green." The LEED for Homes program outlines ways builders can make homes more energy-efficient and sustainable. This home not only meets the new LEED for Homes program guidelines created by the U.S. Green Building Council, it exceeds them.

The home was also named Washington's 2008 "Residential Concrete ICF Home of the Year" by Washington Aggregates and Concrete Association (WACA).

CFA Announces "Basement of the Year" Award Winners

Every year, the Concrete Foundations Association (CFA) acknowledges the best basements of the year. Winners are published in *Concrete Facts Magazine* and displayed at World of Concrete. Votes come from everyone in the concrete industry, and the basements that overcame the most difficult issues and challenges are announced as winners.

The single-family home winners are featured below:



Single-Family Home: 2,000 to 5,000 sq ft

Kaser & Maeyens, South Bend, Indiana

- 4,303 sq ft
- Footings: 44.75 yds of concrete, 4,117 lbs of steel
- Walls: 107 yds of concrete, 2,909 lbs of steel, thickness of 8 to 10 in.
- Radius wall: 26 ft 4 in. x 8 ft 10 in., eight different wall heights
- Three bay windows angled in different directions
- Architect new to residential construction

***Single-Family Home: Over 5,000 sq ft
FormCo, Salt Lake City, Utah***

- 25,000 sq ft
- Footings: 301 yds of concrete, 8,809 lbs of steel
- Walls: 953 yds of concrete, 113,452 lbs of steel
- 27-ft wall done in a single pour using three stacked 9-ft aluminum forms
- Multiple radii, more than 140 corners, two major elevation changes of 15 and 16 vertical ft
- Area containing stairway to angle wall connection requiring two inside adjacent corners
- Took nearly 25 trips to lay out over 370 points for the footings and foundation
- Needed three major mobilizations for high walls of trophy room and butcher shop, high walls of racquetball court at a different elevation, and cabana and pool house walls at a third elevation

***Single-Family Home: Over 5,000 sq ft
Ekedal Masonry and Concrete, Inc., Newport Beach, California (Loder Project)***

- 14,000 sq ft
- Footings: 150 yds of concrete, 20,210 lbs of steel, minimal width due to the spancrete deck
- Walls: 450 yds of concrete, 30,000 lbs of steel, 8- to 32-in. thickness
- Suspended elliptical concrete staircase with overall rise of 30 ft and covering three floors
- Multiple window and door openings with corresponding lintel beams
- Spread footing and suspended decks
- Most forming systems designed on site
- Utilized CAD system layout for walls and elliptical stairs

Thanks to the CFA for this article.

2007 NCMA Design Awards of Excellence

Every year, the National Concrete Masonry Association (NCMA) releases its Design Awards of Excellence. These awards honor concrete masonry commercial, residential, segmental retaining wall and paver projects. The winners were recognized at a special reception during NCMA's Annual Convention in February. The following endeavors were deemed the most outstanding concrete masonry jobs of 2007:



Residential Award of Excellence

Project: Welton residence; Palo Alto, California

Owner and general contractor: Kirk Welton (and family) of K. Welton Construction, Palo Alto

Architect: Rinehart Herbst, San Diego, California

Concrete masonry producer/supplier: Calstone Company, Inc., Sunnyvale, California

Masonry contractor: Walton & Sons Masonry, Inc., Mountain View, California

Structural engineer: Endres Ware Architects Engineers, Berkeley, California

When Kirk Welton, owner of K. Welton Construction, decided to build a new home for his family, he chose concrete for a "California Modern" home inspired by those built in the 1950s and '60s by Joseph Eichler. Concrete masonry units, used with steel and yellow cedar, give the 2,800-sq-ft home a natural feeling that brings the outside in. Large windows, set in the concrete masonry units using a silicon caulk, offer views of two interior courtyards. The home also features concrete floors with integral radiant heating.



The concrete masonry entry wall with deeply raked horizontal and vertical joints is a key design feature. Welton sandblasted the masonry to remove discoloration and make it feel softer to the touch. Welton says concrete masonry units were the perfect fit for his family's home, "With three boys, we wanted durable, not fussy, floors and walls."

"The mortar between the concrete masonry units is normal color type S or M," explains Armando Gonzalez, of masonry contractor Walton & Sons Masonry, Inc. Design strength is 2,500 psi. To meet special aesthetic requirements, Walton & Sons used ground-finish concrete masonry with only the darker aggregate exposed and made sure that there were no chips on the blocks.



Designer Rudabeth Pakravan of Endres Ware Architects Engineers described two challenges she faced. One was “creating volumes or ‘mini-buildings’ with masonry blocks and interlocking these cells to increase strength ... [The other was] keeping the dimensional requirements of the architecture while working with a masonry unit that has a fixed dimension.”

In addition to the NCMA award, this Eichler-inspired home won a local-level award from the Concrete Masonry Association of California and Nevada. It also received one of five honor awards from AIA’s East Bay region in 2006.



Residential Award of Honor

Project: Chadwick Studio; Los Angeles, California

Owner: Don Chadwick, Los Angeles, California

Architect: Frederick Fisher and Partners Architects, Los Angeles, California

Concrete masonry producer/supplier: Orco Block Company, Stanton, California

General contractor: McCord Construction, Pacific Palisades, California

Masonry contractor: A & J Concrete Construction, Simi Valley, California

Structural engineer: Gordon Polon Consulting Engineers, Santa Monica, California

The 1,800-sq-ft Chadwick Studio was built to solve Don Chadwick’s traffic problem. After decades of driving into Los Angeles, he decided to consult his architect friend and neighbor, Fred Fisher, about building the work space on 2,500 sq ft adjacent to the driveway of Chadwick’s existing home.

Concrete masonry units used on the building’s exterior reference the clean, simple lines of the neighboring architecture. Combining concrete masonry units with glass and jarrah siding (wood that develops a silver patina with age) allows the work space to utilize the natural light and follow the natural contours of the canyon.



“The project called for 3,875 concrete masonry units in the blackest color we make, Black 500, and the mortar was darkened to match,” offers Erick Young, architectural representative at Orco Block Company. “We used lightweight concrete masonry with shale aggregate. The shale makes it more expensive, very custom, but it is lighter and stronger than medium [weight].”

“The concrete masonry walls—load-bearing for floors and columns—are all grouted solid,” remarks Al Salto of Gordon Polon Consulting Engineers. The bond beam is in the top course of the concrete masonry with the steel beam anchored to it, picking up the vertical load from the flooring and acting as a drag strut. This takes the seismic loads to all the shear-resisting elements, because the masonry walls are cantilevered off the foundation, exposing the roof framing to the interior without requiring unsightly tension ties.

“The [studio] was built beside a wash, but not directly in it,” explains Hunter Fleetwood, project manager at Frederick Fisher and Partners Architects. The primary spaces are held away from the flow line, and a substantial concrete culvert and drainage system was incorporated to redirect potential flood water. “With the structure set quietly into the hillside, the concrete masonry units create a low-profile appearance from the exterior without compromising available space,” Fleetwood says. The window and window-wall systems are bolted to the concrete masonry walls and sealed with a clear penetrating sealer.



Segmental Retaining Wall Award of Excellence

Owner or Developer: Central Platte Holdings L.C; Platte City, Missouri

Architect/Engineer: Shafer, Kline, & Warren, Overland Park, Kansas

General Contractor and Masonry Contractor: Barth Development, Parkville, Missouri

Block Producer: VERSA-LOK, Oakdale, Minnesota

Seven Bridges in Platte City, Missouri, is a residential community with plans for 211 homes. One quarter of its 1,600 acres are wooded greenways, and the

development features three swimming pools, a three-story clubhouse, tennis facilities, an outdoor basketball court, a football/soccer field, an indoor gymnasium, an exercise room, four man-made lakes stocked with fish, six miles of walking trails, and seven beautiful bridges.

One arched vehicular and pedestrian bridge serves as the gateway to the community, and is built with a concrete masonry segmental retaining wall topped with precast concrete caps. Concrete masonry pilasters, topped with precise caps, were added as a classic architectural element. A corrugated steel pipe creates the inside rim of the 1/2-mile-long bridge.



Shafer, Kline, & Warren (SKW) used concrete masonry to create the look of a weathered, random-patterned mosaic that mimics natural limestone. "This concrete masonry material intelligently relates to the landscape treatment of the surrounding greenway," explains Gary Strack, PE, S.E.C.B., director of structural engineering at SKW. This type of CMU product comes in 24 x 10-in.-tall panels. Each panel is made of CMUs in three different sizes: two are 12x4x6-in., one is 8x6x12-in., and one is 16x6x12-in.

CMUs were chosen over natural stone because of its availability, ease of construction, durability, and cost. "We want this bridge to be around for 100 years or more," explains David Barth, project developer and general contractor. "Concrete masonry was economical and gave us more flexibility with design than stone or other products. We felt more comfortable buying a concrete masonry product where we knew we could guarantee that the color would be consistent.

"This area has gorgeous rolling hills. We wanted to leave the hills the way they were, so we built bridges that fit into the existing country site. As you drive through this development, you get the feeling that this area is natural and untouched."

Thanks to the NCMA for this article.

CHBC Tour Starts Its Engines June 1-3 in Charlotte

The 2008 Concrete Technologies Tour is where you'll learn the many ways concrete can give your homes an edge in today's down market. Get an insider's look at what's available and how to incorporate the multitude of concrete building options into your projects. This one-of-a-kind tour helps attendees understand the differences in concrete production and building trends, while developing a working

knowledge of various types of cement-based materials, and implementing these current trends into their own businesses. Concrete housing starts are expected to grow by a significant percentage in 2010, according to the Portland Cement Association. In addition, the increasing popularity of green building products helps to increase cement demand because of the superior energy performance of concrete wall systems.

This behind-the-scenes event features tours of cement-based facilities such as:

- CEMEX - New block plant facility and ready-mix facility
- Superior Walls - Precast foundations
- Polysteel – Insulating concrete form project
- James Hardie - Fiber cement siding project
- Carolina Bomanite Corporation - Decorative concrete pavers and flooring

Attendees also participate in the numerous networking opportunities at the welcome reception, golf tournament, and banquet dinner.

As an added perk of the 2008 tour, attendees are invited to participate **for free** in the Green Building Verifiers training Sunday, June 1, from 2:00-6:00 p.m. at the Hilton Charlotte University Place. The NAHB Research Center—the sole NAHB green building certifying body—is seeking interested, qualified individuals to become field verifiers for its newly launched National Green Building Certification Program. Although training sessions will be offered at various locations around the country at a cost to participants, the CHBC is pleased to offer this training **free** to registered attendees of the tour.

Representatives from all walks of the building industry have attended past tours: builders, realtors and new home sales and marketing professionals, architects and designers, multifamily builders and developers, associates to the homebuilding industry including banks and mortgage brokers, and building materials suppliers and consultants.

If you're in the residential industry, the 2008 Concrete Technology Tour is the place to be. Join us!

For more information, [please click here](#).

Upcoming Events

- NCMA's 90th Anniversary Open House, Herndon, Virginia, May 15, 2008 [More](#)
- Fox Blocks Installation Training Course, Carter Lake, Iowa, June 5-6, 2008 [More](#)
- BuildBlock Certified Builder Training/Distributor & Dealer Orientation, Oklahoma City, Oklahoma, June 12-13, 2008 [More](#)

[> Return to top](#)