

CONCRETE HOMES

February 2002

New Orleans Plays Host to 2002 World of Concrete



ICFs have pavilion status and CHC gets exposure through WOC's Show Daily

The World of Concrete (WOC) made a one year stop in New Orleans, Louisiana. While attendance was off from last year's record numbers, that didn't diminish the enthusiasm of the 40,000 showgoers who made the trip. In fact, they were treated to groundbreaking events.

Even though the Concrete Homes Council (CHC) was formed in April 2001, they didn't have an opportunity to exhibit at a major trade show until New Orleans. CHC made a big splash with articles appearing every day on the front page of *Show Daily*. A special presentation on the first day of the show informed contractors about the profitable benefits of above-grade removable form construction. "We anticipated about 35 participants, but 135 attended," CHC Executive Director, Ed Sauter, commented. "I think people felt, as does the CHC, that the time for concrete homebuilding is now."

This was the year ICFs obtained "pavilion status." Anchored by the Insulating Concrete Forms Association (ICFA), the pavilion had a prime location for all 22 exhibitors.

"Attendance for Wednesday and Thursday was very strong in the pavilion," said Lisa Doecker of Quad Lock.

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The distinction of having pavilion status at the 2002 WOC provided ICFs the stature of being a material of choice among many concrete construction professionals.



In addition to supporting the CHC booth, Durand Forms, Precise Forms, Wall Ties & Forms, and Western Forms had full-scale displays on the show floor demonstrating how removable forms can be used for building insulated, above-grade concrete homes.

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PCA, FEMA, and American Polysteel, built another safe room outside the Morial Convention Center. They were assigned booth space next to a company that frequently demonstrated a plate vibrating compactor. However, this unfortunate placement turned out to be a blessing in disguise. Conversations took place inside the safe room, thus displaying concrete's extraordinary soundproofing qualities.

PCA, ICFA, CHC, CAAL, and the South Central Cement Promotion Association sponsored two luncheons and a dinner at a local restaurant to increase awareness of recent developments in concrete homebuilding. Current and potential concrete homebuilders were invited to hear a brief status report from each association while enjoying a free meal. Debbie Reynolds of CAAL said, "We had approximately 140 guests over the three events. It was a good turnout and a great opportunity for our allies to discuss the future of concrete home promotion."

Spring Promotion Plus Forums offered by Concrete Alliance

The Promotion Plus Forums are supported and administered by the Concrete Alliance. Members of this alliance consist of the American Concrete Pavement Association, National Ready Mixed Concrete Association, Portland Cement Association, and American Society of Concrete Contractors. Promotion Plus Forums provide promotion training for professionals throughout the concrete industry. Ready-mix producers, contractors, suppliers, and other industry professionals are encouraged to attend these educational programs. The spring 2002 dates are:

Eastern (South)	February 11–13	Atlantic City, New Jersey
Great Lakes	March 5–6	Milwaukee, Wisconsin
North Central	April 1–2	Minneapolis, Minnesota
Southeast	April 9–10	Charlotte, North Carolina
Rocky Mountain	April 10–11	Denver, Colorado
Eastern (North)	April 17–18	Manchester, New Hampshire
South Central	April 22–23	Little Rock, Arkansas
Pacific Southwest	April 24–25	Ontario, California
Pacific Northwest	May 1–2	Vancouver, British Columbia



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Concrete: The natural choice for environmentally friendly homebuilding

It has long been known that our supply of trees is not limitless. Cutting trees to build homes has an enormous impact on the Earth's delicate ecosystem. More than 41 trees are used every time a wood frame house is built, and up to one acre of natural habitat is disrupted.

Over the last several years, numerous research programs have been undertaken to better quantify the environmental impact of building materials and construction. Many of these studies conclude that concrete may be the least damaging. Here are just some of the research findings that identify concrete as the natural choice for environmentally friendly homebuilding:

Concrete Is Safe. Concrete is inert and non-toxic. It's naturally waterproof and fire resistant, so it doesn't need volatile organic-based treatments. A 1996 study conducted by David Budac at the University of Western Ontario concludes that off-gassing from concrete is lower than most building materials and does not present health risks. Concrete will not burn and provides the best resistance to hurricanes and tornadoes. Concrete homes are easier and less costly to insure, especially in coastal areas.

Concrete Uses Fewer Natural Resources. The environmental impact of concrete is less than that of wood or steel according to a comprehensive 1994 study conducted by the Canadian wood industry's research arm, Forintek. The study found that limestone, sand, and gravel quarries used for making concrete consume significantly less land and are more easily reclaimed. The Forintek study concludes that resource depletion is not an issue for concrete: "...the supply of most ingredients is, for all intents and purposes, inexhaustible."

Concrete Uses Recycled Materials. Many of the materials used to make concrete are recycled. Scrap tires, spent motor oil, and industrial solvents are used as fuel for making cement, significantly reducing fossil fuel consumption. Waste products such as fly-ash from electric power plants and blast furnace slag from steel mills are used in concrete to partially replace cement and sand. Crushed concrete from demolition often serves as a base material in roads and new construction. Even water used to wash concrete trucks is often reused to make new concrete.

Concrete Is Durable. Concrete is resistant to the ravages of fire and wind, and forever free from rot, rust, and termites. A 1997 test program conducted by Ernst Kiesling at Texas Tech University Wind Engineering Research Center concludes that concrete walls resist the damaging effects of wind-borne projectiles during hurricanes and tornadoes. Concrete walls were not damaged when 2x4 projectiles were fired at them at 100 miles per hour. The same projectiles simply penetrated wood and steel stud walls. In addition, concrete weathers naturally and never needs painting, therefore costing less to maintain over a far longer life.

Concrete Saves Energy. Concrete walls have fewer air leaks and have the benefit of thermal mass, resulting in significant energy savings. In a 1997 study conducted by Pieter VanderWerf at Boston University, concrete homes built using ICFs were found to save between 32% and 44% on cooling and heating energy. According to the EPA, the energy required to heat and cool typical American houses is between 48 and 90 million Btus (51 and 95 GJ) per year. Therefore, an average concrete home could save as much as 26 million Btus

(27 GJ) each year. Even when you consider the additional energy it may take to manufacture an average concrete home—about 9 million Btus (9 GJ), according to the 1994 Forintek data—a concrete home would save more than 2.5 billion Btus (2,600 GJ) over a 100-year life cycle.

Concrete Reduces Greenhouse Gases. The reduced energy requirements of a concrete home significantly reduce carbon dioxide emissions. In a 100-year life cycle, an average concrete home could reduce carbon dioxide emissions by over 100,000 kg, assuming 40 kg/GJ for power generation. This reduction in emissions far outweighs those from manufacturing concrete, which are about 2000 kg, according to the Forintek data. These estimates have been borne out by DOE 2.1E energy modeling in 2001 by Construction Technology Laboratories, Skokie, Illinois.

These are some of the reasons homebuilders and owners are turning to concrete for more environmentally sound construction. Concrete walls, floors, roofing, siding, patios, driveways, fireplaces, and countertops are some of the innovative ways to use concrete. Technological breakthroughs in concrete manufacturing and construction methods have made concrete the natural alternative for homebuilding.

Article based on "Concrete: The Natural Choice for Environmentally Friendly Homebuilding," *Concrete Homes News*, November 1997.



Tools of our trade



This series is designed to highlight important findings of recent research on concrete homebuilding systems. In a single-page format and written in a non-technical style, they are intended to inform the building industry and consumers of the latest breakthroughs in concrete residential construction. They are 8 1/2" x 11", printed on both sides. The *Technology Briefs* are sold in packs of 50 and cost \$10.00 ND.

- IS300** *Concrete Homes Save Energy*
- IS301** *Building a Better House*
- IS302** *Fire Resistance of Concrete Homes*
- IS303** *Plastic Foams for Concrete Homes*
- IS304** *The Quality of Concrete Costs Little More*
- IS305** *Comfort/Quiet Concrete Homes*
- IS306** *Built-In Safety with Concrete Homes*
- IS308** *Cost Comparison: Concrete vs. Wood*
- IS309** *Concrete Stands Up to Earthquakes*

To place your order, call Mike Collignon at 847.966.6200, ext. 345, or e-mail: mcollignon@portcement.org.

Concrete homes featured in presentations

Two presentations about building concrete homes will be conducted at CONEXPO-CON/AGG 2002, sponsored by the National Ready Mixed Concrete Association, Associated General Contractors, Construction Industry Manufacturers Association, and National Stone, Sand & Gravel Association.

"Building Above-Grade Concrete Homes" (TH-24) will be a panel discussion on ICFs, aerated autoclaved concrete, cast-in-place concrete with removable forms, and masonry systems. It will be technically oriented with industry experts from each building system presenting material. The second offering is part of the Industry Summit titled "The Above-Grade Concrete Homes Market." This is a promotion-oriented session with a current view of the industry (market share, consumer attitudes, etc.) and forecasted potential. Marketing techniques and business opportunities will be discussed.

CONEXPO-CON/AGG 2002 will be held in Las Vegas, Nevada, March 19-23, 2002. For registration materials call 800.867.6060, or visit their Web site at www.conexpoconagg.com.

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The Portland Cement Association is an organization of cement companies to improve and extend the uses of portland cement and concrete through market development, engineering, research, education, and public affairs work.



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