ICrete mix design gives infrastructure 100-year life

ICrete (ICrete.com), a concrete technology company, has launched a new high-performance concrete mix designed for worldwide "infrastructure use," in North America and the Middle East.

Chief Executive Officer Juan Carlos Terroba said iCrete Global 100 concrete mixes will increase to a century or more the lifespan and durability of major public and private infrastructure projects — from road systems to bridges, ports, dams and other vital high-use high-traffic public facilities and venues.

The new concrete mixes will feature a minimum 100-year design life that can also substantially reduce the price, greenhouse gases and the carbon footprint of concrete by as much as 40 percent. Terroba said iCrete Global 100 is the first mix design that can meet all industry and governmental standards worldwide, while saving nations around the world billions in construction spending.

ICrete licenses its technology to local ready mix producers worldwide. Its new iCrete Global 100 mixes, developed in North America, are immediately available in the United States and Canada and in the Middle East. They will be available in Latin America, Central Asia, and Europe in the second quarter of 2009.

ICrete officials say this is the first truly global concrete and "an infrastructure solution that dramatically reduces costs and can meet all building code standards anywhere in the world" featuring the highest strengths achievable.

"We are particularly pleased to offer this immediately in the Gulf region where work is already underway on the world's tallest supertall buildings and green megacities in Abu Dhabi, Saudi Arabia, Qatar and elsewhere"

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PCA: Funding infrastructure jobs will boost U.S. economy

As the president, the congress and the president-elect focus their attention on how much of the bailout pie the auto industry should get on its plate, the Portland Cement Association (PCA) is focusing its attention on an economic stimulus bill that many believe should contain significant dollars for infrastructure improvements that will create jobs at both the local and state levels.

In 2009, "Times are tough," Sullivan said. "We need a government stimulus package that creates jobs throughout the nation.

"Infrastructure funding could create jobs on both an immediate and long-term basis. For every construction jobs created by a project, the community gains 17 additional jobs that stay in the region even after a project’s funding has ended."

Hollywood & Vine

The Hollywood & Vine - W Hotel & Residences development project at the famed intersection of Hollywood Boulevard and Vine Street by JLS Concrete Pumping is bringing back some of the Hollywood glamour in Los Angeles' first ground-up, lifestyle hotel, retail, and condominium development. An artist rendering of the development is featured alongside another rendering of the development coming out of the ground. JLS Concrete Pumping is providing concrete pumping services for the project.

The development is a 31-story luxury hotel and 20-story residential condominium. The hotel includes 335 guest rooms and 13,000 square feet of meeting space. The residential condominium includes 102 units ranging from 325 square feet to 1,465 square feet.

Hollywood & Vine is located at 6580 Hollywood Blvd and 7700 Hollywood Blvd in Los Angeles, California. The development will open in 2010.
insulation, expansion joints, wood preservatives as well as specialist repair mortars, tile adhesives and waterproofing membranes. The division operates production sites and sales centers in more than 50 countries with approximately 7,500 employees in 2006.

CTS Cement develops research alliance with colleges
CTS Cement Manufacturing Corp. has announced the formation of the CTS Research Alliance to bring together educational leaders to research and develop knowledge related to the use of calcium sulfoaluminate (CSA) rapid-hardening and expansive cements. The initiative addresses the reality that current cement chemistry curriculum in universities is focused almost exclusively on traditional Portland cement technology and does not incorporate rapid-hardening cement.

The first goal of the alliance is to develop curriculum in universities that addresses these cements. Eric Bescher, adjunct professor, Department of Materials Science and Engineering at the University of California, Los Angeles (UCLA) and Chris Ramseyer, assistant professor, School of Civil Engineering and Environmental Science at the University of Oklahoma, developed a tutorial about rapid-hardening calcium sulfoaluminate-based cements that professors can use to

EPS, XPS 15-year test detailed
ACH Foam Technologies announced the completion of a 15-year test to determine water absorption characteristics of EPS (Expanded Polystyrene) and XPS (Expanded Polystyrene). The test showed a dramatic variance between the two materials in their resistance to water absorption.

The test of below-grade insulation, conducted by AFM Corp. (ACH Foam Technologies marketing and technical support company) in cooperation with the Expanded Polystyrene Molders Association, has determined the water absorption of Foam-Control EPS and an extruded polystyrene (XPS) product. Samples of EPS and XPS were excavated from the exterior foundation of a building in St. Paul, Minn. The insulation was placed into service in 1993 and had 15 years of use as vertical wall insulation separating the heated building foundation from soil.

Samples were removed in the summer of 2008 and tested upon excavation for R-value. The XPS samples were immediately adjacent to the Foam-Control EPS and were also on the foundation for 15 years. Both sets of samples were subsequently conditioned in a laboratory (72° F, 50 percent RH) for four weeks to determine a conditioned R-value. In addition, the moisture content of the samples was also measured.

Todd Bergstrom, vice president of technology for AFM Corp., said the EPS insulation maintained 94 percent of its stated R-value of 3.6 after the 15-year time period and had a moisture content of only 4.8 percent. However, the XPS retained only 52 percent of its stated R-value of 5.0. The loss in R-value for the XPS is quite dramatic and can be explained very simply by the 18.9 percent of moisture absorption over the 15 years of use. These results suggest very clearly that short-term laboratory tests of water absorption for XPS do not necessarily reflect the long-term below-grade performance of these materials.

Even though the ASTM C578 water absorption requirement for XPS is less than 0.5 percent, the XPS absorbed 18.9 percent of moisture during the 15-year period. According to Bergstrom, it is apparent that moisture that migrates through the soil, insulation, and foundation system is trapped in the cell structure of XPS.

In contrast to the XPS, EPS is maintaining an equilibrium condition with the adjacent soil and is not accumulating water over the life of the building.

The loss of blowing agents in the XPS also contributes to poor R-value performance. The blowing agents in XPS slowly diffuse out of the foam over time. It is much like losing the refrigerant in an air conditioner — it just does not perform as well as when originally manufactured.

For more information on ACH Foam Technologies and Foam-Control EPS below grade insulation, see achfoam.com. CM