



The HVAC&R Industry

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Advancing HVAC&R to Serve Humanity
And Promote a Sustainable World

The HVAC&R Industry, ASHRAE's free weekly eNewsletter for HVAC&R professionals, provides relevant, timely information about industry and technology for people who create healthy, comfortable indoor environments.

Industry News

Code Officials Approve 30% Efficiency Improvements to 2012 IECC

CHARLOTTE, N.C.—Revisions to the commercial section of the 2012 International Energy Conservation Code (IECC) will lead to buildings that use 30% less energy than those built to current standards. The revisions were approved almost unanimously Sunday by city and state building officials. The energy savings are derived from a series of proposals that address measures such as cooling, lighting, quality assurance and renewable energy standards. Specific technologies targeted include daylighting controls, continuous air barriers and economizers. ASHRAE Standard 90.1-2007 is referenced by the current version of the IECC. The 2012 IECC will reference 90.1-2010.

Walmart to Use Thin Film Solar Technology to Power Stores

BENTONVILLE, Ark.—Walmart will use light, low-cost thin film solar technology to help meet the energy needs of new stores. The company plans to add solar generating systems to 20 to 30 sites in California and Arizona, and the majority of these locations will feature the new technology. The thin solar cells are expected to supply up to 20% to 30% of the total energy needs for each location, producing up to 22.5 million kWh per year. Thin film solar panels look similar to the traditional crystalline panels, but require fewer raw materials to manufacture, resulting in a smaller environmental impact over their life cycles.

\$1 Billion Home Built in India

MUMBAI, India—An Indian businessman has built the world's most expensive home. The residence, valued at \$1 billion, has three helipads, its own air-traffic control system, a six-floor car park, a four-story hanging garden and a 50-seat movie theater. The 173-meter (568 ft) tall mansion took seven years to build, at a cost of \$77 million. Increasing property values raised the building's worth. Two U.S. architecture firms assisted on the project.

Simple Technique Discovered To Produce Conducting Polymer Thin Films

LOS ANGELES—A team of chemists and engineers at UCLA has developed a method for coating large surfaces with nanofiber thin films that are both transparent and electrically conductive. The thin film is a result of an agitation of water, dense oil, and polymer nanofibers that spread over virtually any surface in seconds, creating a film. "Because this technique works with so many substrates, it can be used in a broad spectrum of applications, including organic solar cells, light-emitting diodes, smart glass and sensors," said Yang Yang, a professor of materials science and engineering who was part of the research team. A report on the technique is published in Proceedings of the National Academy of Sciences.

CRRC Adds Solar Reflectance Index Values to Rated Product Directory

OAKLAND, Calif.—The Cool Roof Rating Council (CRRC) has added the Solar Reflectance Index (SRI) to its Rated Product Directory. This enables users to reference the metric to

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gauge the energy performance of roofing products. SRI measures a roof's ability to reject solar heat, and reduce the "urban heat island effect." CRRC has maintained an independent rating system for the radiative values of roofing products for more than 10 years.

ASHRAE News

2010 Version of Standard 90.1 Provides 20% Energy Savings

The newly published 2010 version of ASHRAE Standard 90.1 provides 20% or more energy savings than the 2004 version. "The standard is written in mandatory code language and offers code bodies the opportunity to make a significant improvement in the energy efficiency of new buildings, additions and major renovations," said ASHRAE President Lynn G. Bellenger, P.E. The Illuminating Engineering Society of North America (IES) partnered with ASHRAE on the development of the standard. It contains 109 addenda approved since the 2007 standard was published. This is the 35th anniversary of the publication of the standard that eventually became 90.1.

ASHRAE, IES Working Together To Strengthen Standard 90.2

ASHRAE and the Illuminating Engineering Society of North America (IES) are working together to strengthen requirements in ANSI/ASHRAE Standard 90.2, *Energy Efficient Design of Low-Rise Residential Buildings*. In 2009, ASHRAE's Board of Directors recommended to the Standard 90.2 committee that it consider a goal of making the standard 30% more efficient than the 2004 version, including both a prescriptive and a performance path. The committee plans to have an advisory public review of the standard later this year to determine whether proposed changes are meeting the needs of the audience.

Feature of the Week

Low Temperature Refrigeration

By Rudy Stegmann, P.E., Member ASHRAE

This article discusses the design considerations for several types of systems used to achieve low temperatures, including single-stage economized screw compressors, two-stage single refrigerant systems, and two- and three-circuit cascade systems. This article was the winner of the 2001 ASHRAE Journal Paper Award.

Product News

Heat Recovery System From Cannon Boiler Works

PITTSBURGH—The Ultramizer heat recovery system from Cannon Boiler Works features the company's Transport Membrane Condenser (TMC) technology, which raises the system's efficiency to near 95% and also allows the return of clean water to the system. The system features nanoporous ceramic membrane tubes designed to condense water vapor from exhaust/flue gas via capillary condensation. It recovers both sensible and latent heat, as well as water from the exhaust stream, to maintain proper boiler efficiency and/or to preheat boiler feed water for reallocation to other facility process applications.

BACnet® Controller From Mitsubishi Electronics

SUWANEE, Ga.—Mitsubishi Electronics introduces the BAC-HD150 controller for large commercial applications requiring a central point for building monitoring and control. It features a BACnet-certified interface that provides up to 50 groups per adapter and supports BACnet/IP Broadcast Management Device Protocol. The controller also can integrate a variety of VRF zoning systems.

VAV Systems From McQuay

MINNEAPOLIS—McQuay introduces the Delivered VAV Systems, designed to make the

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benefits of VAV simple and affordable for small and medium-sized buildings. The systems use VAV terminal unit boxes to provide consistently accurate airflow to occupied spaces. Field start-up for an entire building network consisting of two 50-ton (176 kW) rooftops and 20 to 40 VAV boxes can typically be completed in hours and does not require additional software licensing. The system is controlled by a central Web-enabled interface.

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