

Habitat for Humanity Goes Green

Copper Fire Sprinkler Systems Installed in Habitat for Humanity Homes

When Habitat for Humanity St. Louis (HFHSL) identified available property just north of downtown, the construction team wanted to build homes that were not only energy efficient but safe for its new home owners.

The nonprofit agency was able to accomplish both by using sustainable materials and installing ecofriendly products, such as tankless water heaters, geo exchange heating and cooling systems, structural insulated panels, white TPO roofs, low (volatile organic compounds) VOC paints and copper fire sprinkler systems.

With model building codes now requiring new single- and two-family dwellings to be outfitted with sprinkler systems, Habitat chose to go with copper systems for all of its new homes, including six that will be constructed in the Spring of 2011.

The 17 single-family homes already built, most already occupied by proud families, are 1,200 square foot homes with three or four bedrooms, and one and a half baths. They were designed to complement the current architecture in the neighborhood. All of the homes are pending LEED Platinum certification.

“We’re really proud of these homes,” said Kyle Hunsberger, the director of construction for Habitat for Humanity – St. Louis. “They’re really well built for the population we serve.”

A majority of the materials, services and labor were donated by local companies and contractors. The electrical union IBEW Local 1 installed the electrical service and the members of Sprinkler Fitters Local 268 in St. Louis donated and installed the copper material for the sprinkler systems.

“Of the two materials approved for this type of construction, one is copper the other is steel,” said Stan Shiner, president of Fire Protection Systems, the company that installed the sprinkler systems. “We elected to go with copper because it’s easier to work with. You can cut and fit copper on the job. You can do this with steel pipe too, but you’re threading it — and the accuracy of steel pipe is harder to achieve when hitting walls above.”

While some plastic materials are approved for use in residential fire sprinkler systems, they can’t be used in exposed locations such as in basements, crawlspaces, attics and garages without being protected behind a fire rated barrier, an additional construction cost. Since copper doesn’t burn, doesn’t support combustion, and doesn’t emit potentially toxic fumes when subjected to fire, it is the safe, smart choice. In addition to being lightweight, durable, easy to install and able to withstand extreme temperatures, it also offers a slimmer profile, which is easier to conceal within the building. And, discharge water from copper systems is typically free of rust or sediment.

Copper systems also offer economic advantages, including lower maintenance costs and long-term performance. Copper’s high recycled content and limitless recyclability support green construction practices as well.

“It’s a proven system,” said Hunsberger, referring to the copper. “When installed properly, it’s going to perform for the life of the project.”

Once this set of homes is complete, Habitat will continue to build in the JeffVanderLou neighborhood, along with two other neighborhoods, in 2011.