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Onset temperature loggers track energy efficiency in construction study

March 05, 2015 - Owners Developers & Managers

Onset, a world leader in data loggers, said that Georgia Northwestern Technical College (GNTC) is using Onset HOBO UX100 temperature/relative humidity data loggers in a green construction project designed to train students in energy auditing, combustion testing, and retrofitting existing homes to make them more energy efficient.

The project, which is part of GNTC's Residential Energy Efficiency Technology program, involved the construction of two test houses - one built using typical construction techniques used over the past few decades, and the other built under new green and energy-efficient specifications using new materials and techniques with EarthCraft House ratings.

The compact, affordable HOBO UX100 data loggers, which feature an easy-to-view LCD display and large memory capacity, were deployed in crawl spaces and attics of both houses to measure and record temperature and relative humidity around the clock over the next year. Data from the loggers will be analyzed and used to prove energy-efficiency gains realized with new green building and energy-efficient construction techniques.

Donny Holmes, program director & instructor of construction management, said, "The data loggers are collecting data every six hours in the two test houses. One of the houses is built similar to the majority of houses in the US. The other house is an EarthCraft House and was built under new green building and energy efficiency standards. The data loggers will be able to visually provide proof to many contractors, building inspectors, homeowners, etc. that building with energy efficiency in mind is really the most beneficial way to build."

According to Holmes, the crawl space in the EarthCraft house is totally sealed with a 26-mil vapor barrier, and the walls are insulated, with no ventilation except for a dehumidifier. The other is a vented crawl with minimal vapor barrier, where humidity levels will likely be very high compared to levels in the EarthCraft House. The data loggers will prove this out and provide logic and reason for building green, energy-efficient houses.

"These data loggers will be a huge part of this ongoing project. They will provide the needed data that we can share with many others to prove energy efficiency and that building this way is just smart," said Holmes.

New England Real Estate Journal - 17 Accord Park Drive #207, Norwell MA 02061 - (781) 878-4540