

# **HURRICANES AND OTHER REASONS FOR A STRONG HOUSE**

**STEVE DOERR, P.E.**

September 2008

Looking back after Hurricane Ike brings back many memories and mixed emotions to mind. In the week before the hurricane we were watching the Weather Channel for general information purposes. Soon most of the forecasted tracks were headed right for Louisiana. In the days right before landfall the projected path was headed directly at my house. If you have never been in this situation, believe me a storm as big as the Gulf of Mexico headed right at you, gets all your attention. All the weather stations and meteorologist are scanned multiple times a day. Soon we knew who had the best forecasts, and what channel, and what times our favorite meteorologist updated their forecasts. Being a transplant from Dallas, when I first moved to the Gulf Coast Area, I was mildly mused by all the preoccupation the locals had when it came to hurricanes coming into the gulf. Today, after living thru hurricanes Rita, Katrina and now Ike, you might say, I'm now very attuned to hurricanes and the precursor "disturbances" as they come off the continent of Africa and begin their westerly trek.

In 1992, after a vacation in Europe, I made the decision that "my dream house" was going to be built with masonry products not wood, as is the practice here in the U.S. The two things that I came away with from my European vacation were: all the vast history, and the age of the houses. All the homes were one, two, three hundred years old; some even as much as six hundred years old. They all had one thing in common, they were all built with rock, stone, block, brick and masonry; none were made of wood.

Here in the U.S., I have worked on framing crews, and am very familiar with typical house construction techniques, shortcuts and customary workmanship. Just because you buy an expensive house, does not mean you have a well built house. In fact, wood vs. masonry construction is not a fair comparison. When you have a list of all the factors to judge or grade wood in comparison to masonry construction, there is only one factor of wood construction that surpasses masonry; which of course is the cost of initial construction. In other words, the best constructed wood house is weak and much more vulnerable to the issues of time, as compared to masonry construction.

My decision years ago to build with masonry turned out to be a good one. All my walls, including the interior wall are made with VOBB dry stacked block, with the one or two of each block's cells filled with concrete and a rebar center. Steel rebar comes out of the slab and runs vertically up thru the walls to the roof line. The top sill plate is secured to the top of the walls with J-bolts, just as the bottom sill plate is attached to the slab for wood construction. The ceiling joists, rafters and roof are tied to the block walls with hurricane clips. The result is a concrete block bomb shelter of a house.

I began this diatribe with discussions about hurricanes, but I'll end with something much smaller –termites. As we grow and mature, our concerns evolve. Years ago I thought building with No. 2 pine was normal, and the way houses are to be built. Today I use pine as a fire starter to start my oak logs for my fireplace. Someday building with pine wood will be against building code because of its flammability. The odds of your house

catching fire are relatively small, but the odds are 100% your wood house will be attacked by termites. With those odds, and the fact they are trying to eat your house 24/7, how can wood construction be justified. Over the years I've heard a lot of statistics on fires and termites. The only one that has stayed with me is: the total weight of all the termites in the world exceeds the total weight of all humans in world. This means there is a tremendous requirement of wood cellulose to feed all the termites in the world. Why would you build something that is the biggest investment of your life out of a food source for an almost unstoppable insect with huge underground nests?