

## Ledger Failure Causes Deck Collapse

On September 13, more than 20 people were injured in Narragansett, R.I., when a deck separated from a house during a party. Anthony Santilli, a Narragansett building official, says rot due to water intrusion behind the ledger and overloading of the deck were the main reasons for the collapse.

The 480-square-foot pressure-treated deck was built about 20 years ago, according to Santilli, and had wrapped around two sides of a 1970s raised ranch located some 400 feet from a Rhode Island Sound beach. "It had great footings," Santilli says. "It was well built, even overbuilt. The span was 11 feet 8 inches with 2x10 joists 13 inches to 14 inches on center. The deck stayed together when it came down, like it was on a hinge."

Santilli says the ledger was attached with 16d common nails, as was common in the 1980s, though there were also some lag bolts. The ledger was flashed, but still, over the years, water — especially salt water — got behind the ledger, leading to the rot that caused the ledger to give way.

Overloading — 60 to 70 people were possibly on the deck — was also to blame for the failure, according to Santilli.

But was the deck overloaded? Because the ledger was compromised, the answer would have to be yes; however, it's not easy to overload a structurally sound, code-compliant deck.

To meet code, a deck must be able to withstand a 40-pound design live load per square foot. A code-compliant 480-square-foot deck, for example, should therefore be able to handle a total live load capacity of 19,200 pounds (480 sq. ft. x 40 lb./sq. ft.).

Frank Woeste, a professor emeritus at Virginia Polytechnic Institute and State University and a wood construction and engineering consultant, points out that if you assume 60 people weighing an average of 160 pounds each were on the Narragansett deck, the total weight on that deck would have been 9,600 pounds. That's a live load of 20 pounds per square foot — only half the load the deck should have been able to withstand. — *Laurie Elden*

## Deck Design Contest Ushers in Partnership Between Remodeling Show and Deck Expo

Five crews built five outstanding decks for the Deck Design Contest at Hanley Wood's Remodeling Show in Baltimore in September. Azek, A.E.R.T. (MoistureShield), DryJoist, Tamko, Tiger Claw, and Viance sponsored the competition, and the decks were built by Maryland Deck & Hot Tubs, Westminster, Md.; the Holloway Company, Sterling, Va.; T.W. Ellis, Baldwin, Md.; T&A Contractors, Burtonsville, Md.; and Exteriors Plus, Terryville, Conn.

A panel of judges reviewed the decks, and based on overall design, chose as Best in Show the deck sponsored by Tiger Claw and Viance and built by Exteriors Plus.

The contest signaled the upcoming co-location of Deck



Expo and the Remodeling Show. The first combined Deck Expo and Remodeling Show will be held in Indianapolis in November 2009. — *Andy Engel*