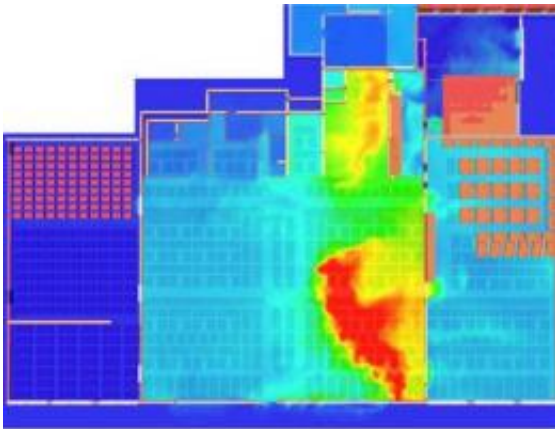


NIST releases draft report on South Carolina furniture fire study

November 12 2010



An image from a NIST computer model shows temperature levels during the 2007 Charleston Sofa Super Store fire. Dark blue is ambient temperature; bright red is about 800 degrees C (1500 degrees F). Credit: NIST

Major factors contributing to a rapid spread of fire at the Sofa Super Store in Charleston, S.C., on June 18, 2007, included large open spaces with furniture providing high fuel loads, the inward rush of air following the breaking of windows, and a lack of sprinklers, according to a draft report released October 28, 2010, for public comment by the National Institute of Standards and Technology (NIST). The fire trapped and killed nine firefighters, the most firefighter fatalities in a single event since 9/11.

On the basis of its findings, the NIST technical study team made 11 recommendations for enhancing building, occupant and firefighter safety nationwide. The team urged states and local communities to adopt current national model building and [fire](#) safety codes.* If today's model codes had been in place and rigorously followed in Charleston in 2007, the study authors said, the conditions that led to the rapid fire spread in the Sofa Super Store probably would have been prevented.

"Furniture stores typically have large amounts of combustible material and represent a significant fire hazard," said NIST study leader Nelson Bryner. "Model building codes should require both new and existing furniture stores to have automatic sprinklers, especially if those stores include large, open display areas."

Specifically, the NIST report calls for national model building and fire codes to require sprinklers for all new commercial retail furniture stores regardless of size, and for existing retail furniture stores with any single display area of greater than 190 square meters (2,000 square feet). Other recommendations include adopting model codes that cover high fuel load situations (such as a furniture store), ensuring proper fire inspections and building plan examinations, and encouraging research for a better understanding of fire situations such as venting of smoke from burning buildings and the spread of fire on furniture.

Once the final report is published, NIST will work with the appropriate committees of the International Code Council (ICC) on using the study's recommendations to improve provisions in model building and fire codes. NIST also will work with the major organizations representing state and local governments—including building and fire officials—and firefighters to encourage them to consider its recommendations.

More information: www.nist.gov/el/fire_research/...harleston_102810.cfm

Provided by National Institute of Standards and Technology

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