



SOCIETY OF FIRE PROTECTION ENGINEERS POSITION STATEMENT P-06-12

Supporting the Use of Engineering to Improve Residential Fire Safety May 31, 2012

Fires in dwellings account for the majority of life loss due to fire. Data suggest that approximately 80 % of all fire fatalities worldwide are the result of fires that originate in a residential occupancy. Dwelling fires represent approximately 30% of all fires.[1] Research by NIST[2], NRCC [3,4] and UL[5] has demonstrated, that at least in North America, changes in materials used for furnishings, building materials and components, and construction methods have resulted in the potential for an increased level of hazard from an accidental dwelling fire.

In order to reduce the loss of life from residential fires the Society of Fire Protection Engineers supports the use of engineered components, systems and technologies such as smoke alarms, fire sprinklers, improved safety controls on cooking and heating appliances, and improved fire safe material technologies to reduce the fire hazard within residential structures and thereby reduce the loss of life from residential fires.

References:

- 1) "World Fire Statistics Report № 10 of Centre of Fire Statistics of CTIF", Prof. Dr. N.N. Brushlinsky, Prof. Dr. S.V. Sokolov, (Moscow Academy of State Fire Service, Russia), Dr. Ing. P. Wagner (Berlin Fire Department, Germany), Dr. J.R. Hall (National Fire Protection Association, USA), International Association of Fire and Rescue Services - http://ec.europa.eu/consumers/cons_safe/presentations/21-02/ctif.pdf , accessed May 5, 2012.
- 2) "Performance of Home Smoke Alarms, Analysis of the Response of Several Available Technologies in Residential Fire Settings", Bukowski, R. W.; Peacock, R. D.; Averill, J. D.; Cleary, T. G.; Bryner, N. P.; Walton, W. D.; Reneke, P. A.; Kuligowski, E. D., NIST Technical Note 1455-1, National Institute of Standards and Technology, Gaithersburg, MD, December 2007.
- 3) "Unprotected Floor Assemblies and Tenability Conditions in A Test House under Two Basement Fire Scenarios", Su, J.Z., Bénichou, N., Bwalya, A., Lougheed, G., Taber, B., and Leroux, P., NRCC 52719, National Research Council of Canada, Ottawa, ON., March 2011.
- 4) "Survey Results of Combustible Contents and Floor Areas in Canadian Multi-Family Dwellings", Bwalya, A., Lougheed, G., Kashef, and Saber, H., NRCC 50593, National Research Council of Canada, Ottawa, ON., January 2010.
- 5) "Analysis of Changing Residential Fire Dynamics and Its Implications on Firefighter Operational Timeframes", Kerber, S., Fire Technology DOI: 10, 1007/s10694-011-0249-2, 2011.