



THE FIRE PROTECTION RESEARCH FOUNDATION

Fire Hazards of Exterior Wall Assemblies Containing Combustible Components Project Summary

Background

Many combustible materials are used today in commercial wall assemblies to improve energy performance, reduce water and air infiltration, and allow for aesthetic design flexibility. These assemblies include Exterior Insulation Finish Systems (EIFS), metal composite claddings, high-pressure laminates, and weather-resistive barriers (WRB). The combustibility of the assembly components directly impacts the fire hazard. For example, the insulation component of EIFS, and other emerging related systems (for example Structural Insulation Finish Systems (SIFS)) is combustible foam which exhibits rapid flame spread upon fire exposure. There have been a number of documented fire incidents involving combustible exterior walls but a better understanding is needed of the specific scenarios leading to these incidents to inform current test methods and potential mitigating strategies.

Overall Objective: to develop the technical basis for fire mitigation strategies for exterior fires exposing exterior wall systems with combustible components.

Tasks: This is a two phase project. The Phase I tasks are:

- a) With the assistance of NFPA's Fire Analysis Division, conduct a review of the national fire incident reporting system database as well as other databases and compile information on typical exterior fire scenarios which involve the exterior wall.
- b) Conduct an informal survey of fire departments and the fire service literature to identify fire incidents involving exterior wall systems with combustible materials to gather further case study information.
- c) Compile relevant test methods and listing criteria and other approval/regulatory requirements for these systems.
- d) Compile the information from Tasks a)-c) into an information bulletin on combustible exterior wall fire safety.

e) Using the results from a)-c), identify selected fire scenarios and testing approach for Phase II evaluation of the fire performance of exterior walls with combustible materials. These scenarios should reflect real world conditions and include the potential for evaluation of the effectiveness of external fire protection features.

Reporting and Deliverables:

This research program will be conducted under the auspices of the Fire Protection Research Foundation under the direction and guidance of a Project Technical Panel. The final report will be issued in October 2013.