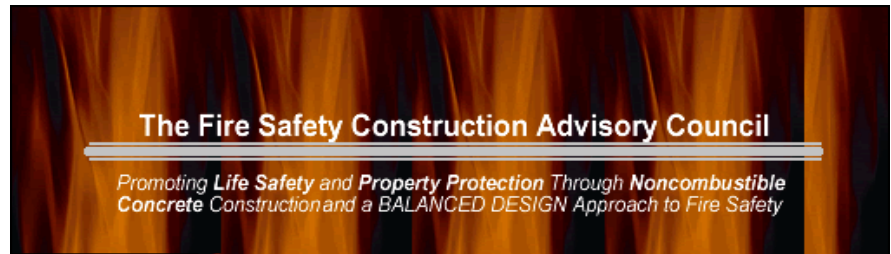


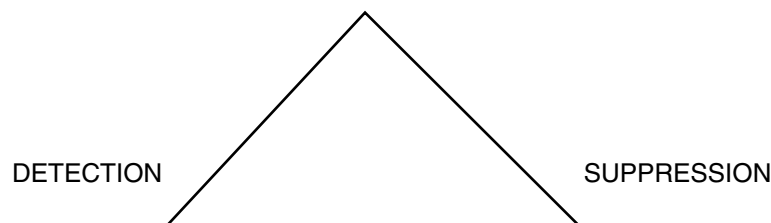
Focus of This Issue: Fire Safety — Don't Get Burned

The Fire Safety Construction Advisory Council (FSCAC) is an educational organization dedicated to increasing the knowledge and awareness of design professionals, code officials, and the general public to the added value and added inherent fire-safe nature of construction technologies which utilize non-combustible concrete components.



COMPARTMENTATION

BALANCED DESIGN:



HOW CAN WE BEST KEEP THE RESIDENTS IN OUR COMMUNITIES SAFE?

By constructing multi-residential structures using a concept called balanced design, a threefold approach to fire safe construction.

The first component is **compartmentation** with structural walls, floors and ceilings of concrete products that provide a true 2 to 4 hours of protection with non-combustible structural materials. The second is **detection** with smoke detectors to alert residents to evacuate. And the third component is **suppression** using sprinklers to control the fire until the emergency responders arrive on the scene. Each of the three is very important, working together in different ways to address the fire hazard. BALANCED DESIGN offers both an active and a passive method of protection to a structure. Using detection and suppression systems, which are both active systems, that require an input to operate properly. A water

source, in the case of a sprinkler system, and a mechanical and/or electrical system, in the case of detection are subject to failure in some circumstances.

Containment with non-combustible compartmentation is a passive system that does not require any other force or system to activate. **Compartmentation with concrete based products that will never burn and which will maintain its structural integrity is a vital part of the equation.** If a fire were to start within a given room or area of a building, the non-combustible walls, floors and ceilings would contain the fire with passive protection. This coupled with active systems such as detection and sprinklers will keep the fire spread small and allow fire fighters to arrive and extinguish the flames, minimizing damage to the building, loss of property, and possible loss of life.

Peabody, Mass. Apartment Fire

A four-story wood-framed apartment building (pictured at right) was recently destroyed by fire in Peabody, Massachusetts. The project was built to code, and included a sprinkler system, which was activated. But the structure, and of course furnishings and possessions, was a total loss. (Submitted by Bob Sweeney, RES Assoc., Warwick, RI.)



(See "after" picture on page 2)

Peabody, Mass. Apartment Fire (continued from page 1)



Central Pa. apartment fire kills at least One person

SHAMOKIN, Pa. - At least one person is reported dead in an apartment fire in central Pennsylvania. Volunteer fire companies were called to fight a two-alarm fire just before 5 a.m. Thursday at an apartment complex in Shamokin. Crews arriving on the scene were told that someone was trapped inside the building. Northumberland County dispatchers tell WGRC at least one fatality is reported, and the coroner has been called to the scene. (*The Associated Press*, August 27, 2008)

More residents sue over Riverwalk blaze



Conshohocken, PA – 8 Alarm Blaze Destroys 185 Apartments

A multi-alarm fire raged for over five and a half hours, starting at 4:53 p.m. on August 14, 2008, and 11 firefighters were injured battling the blazing buildings. 80 fire companies from 5 counties helped extinguish the fire. The fire started in an unoccupied building at the Riverwalk at Millennium apartments, an upscale apartment complex. The fire destroyed the building, and spread

rapidly to two occupied buildings; in all, five apartment buildings were damaged – three were destroyed. It was estimated that all five would be a total loss, in excess of \$100 million. The Red Cross stated that 375 people have been displaced. Officials say the buildings did have firewalls and fire caulking, and wondered why the buildings went up so quickly. (The above reported by

WPVI-TV/DT). We would have referred to the buildings in the above two stories as vertical lumber yards, rather than residential buildings ... go back to page 1, and re-read the reasons for and advantages of balanced design: compartmentation with non-combustible cementitious materials, detection and suppression systems.

Another group of residents from the Riverwalk at Millennium apartment complex in Conshohocken has filed an intended class-action suit as a result of the fire that destroyed 185 units two weeks ago. Investigators have said molten metal and sparks from a welding torch used at one of the buildings started the eight-alarm fire, which initially displaced almost 400 residents. The suit filed on behalf of 17 residents is the second class action to be filed. The suit alleges, among other things, that the defendants failed to design proper fire-prevention systems and failed to adhere to building codes and safety standards. The earlier suit, on behalf of five residents, was filed Aug. 18, the Monday after the fire.

Fire Safe Construction Cost Comparison Study



This 24-page summary report, prepared by Haas Architects Engineers, State College, PA, a Code Official, and a Cost Estimator, was undertaken due to the opinion of legislators, code-officials, and de-

sign professionals that non-combustible concrete construction solutions are more costly than other alternatives such as gypsum fire walls with sprinklers. The objective of this study was to develop a construction cost model to accurately evaluate the relative construction cost of a multi-family building constructed using five different construction materials. The concept of multi-family would include traditional apartment type buildings, condominium style buildings, student housing, elderly housing and others.

Based on the construction cost estimates, the cost associated with a compartmentalized construction method utilizing a concrete-based material was generally less than 5 percent of the overall construction cost. Comparatively speaking this amount is less than the contingency budget typically recommended for

the owner to carry for unanticipated expenditures during the project.



The minimal increase in construction cost can be paid for over the life of the structure. Materials like concrete masonry, precast concrete, and cast-in-place concrete have many other advantages beyond their inherent fire performance including resistance to mold growth, resistance to damage from vandalism, and minimal damage caused by water and fire in the event of a fire in the building. In many cases, with this type of construction the damage outside of the fire compartment is minimal. This provides for reduced cleanup costs and quicker reoccupation of the structure. (Copies of this report are available from any member of FSCAC or from PCANY.)

Walter Schneider, PhD, PE, the lead engineer on the cost study, states that, "Based on the cities where the study has been completed to date, the average cost increase associated with a move to a more robust concrete-based compartmentation system is as small as 5.5% over conventional wood framing for the single bedroom layout and, is an overall savings of 0.8% compared with the conventional wood framing option when looking at the mixed bedroom layout."



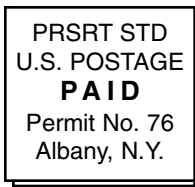
Congratulations!

Welcome to Dave Glattly, East Jordan Iron Works, Newark, NJ, our newest Associate Member. For all member listings and the products/services they provide, go to our website: www.pcanyc.org.

PCANY Producer Member Roman Stone Construction Company, Bay Shore, NY, is celebrating their 105th Anniversary on October 14th, 2008. Engineers and other interested parties in the region are invited to attend.

PCANY Meetings

September 30, morning Association Meeting at AGC Conference Room, Latham, and afternoon Joint Meeting with NYS-DOT, 50 Wolf Road, Albany.



RETURN SERVICE REQUESTED

Correction

In last month's Newsletter, we failed to mention Collins Engineers as part of the recent ENR Top 500 Design Firms. Bill Shusda reported that they are very proud of reaching that size, going from under 70 employees to over 170 in the last four years. Well done – we apologize for the omission.

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