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How to minimize the disruption of occupied buildings when applying fire proofing materials

March 17, 2010 - Construction Design & Engineering

Dry fire proofing method

Fireproofing occupied institutional buildings has its multiplicity of nuances. Finding an approach that will minimize the impact on the occupants and make the structure fire code compliant can be a logistical nightmare. If traditional fire proofing methods are employed a whole myriad of issues will cause the project to be reconsidered or abandoned. If we were to try and spray cementitious fire proofing on steel trusses and beams at a nursing home for instance, not only would the introduction of water and a huge over spray mess be unacceptable but the men and hose equipment would shut the facility down during any part of the application.

Albi DriClad board has been an alternative to a spray application in numerous Nursing Homes, Schools, Labs, and other occupied buildings. The installation of the board removes one of the major objections to retrofit fire proofing ...Water. When the institution only needs to consider having small areas unoccupied (2-3 rooms) and the workmen need to only have access pushing a hand cart to those rooms, then this minimum impact installation can be a great alternative. This construction process is not without issues but a scope that is sensitive to the surroundings makes it very plausible. After the ceiling panels are removed, prefabricated pieces of DriClad that are cut off site are delivered on a cart, placed on the trusses and battery power is used to run in a UL approved screw system. Each truss is protected in accordance with a UL design and in some instances if required the ceiling deck can be fire rated as well.

As each area is completed compliance can be confirmed visually, without pull testing, thickness metering, batch testing, etc. Material thickness, screw count, spacing and joint work are all quite obvious even to a lay person. Once accepted, usually within the same shift, the ceiling panels are replaced, the room cleaned and the light plastic is removed from the walls. The room now returned to the institution to have the floors moped, the furniture returned and patients to be admitted to reoccupy those rooms, There is no drying time, no odor, nothing further to be concerned with.

I have personally executed projects like this. One project at one of the major grocery stores required the removal 40,000 s/f of the existing cementitious spray due to adhesion problems. This small portion of the store had sections falling through the ceiling panels on to the food display shelves. We developed a scope that included shelf protection, plastic tenting, Hepa filters, a staging system that remained above the ceiling grid, out side fabrication, night shift installation and wet moping as we left each morning. This project was a complete success with no impact to the store or the public.

Another project required that a nursing home fire rate steel beams left unprotected and discovered 20 years later. This structural steel retro-fit project was executed during working hours and completed in 3 days. The maintenance crew needed only to set up caution cones and receive the product delivery. Photographs were taken before closing the ceiling to document compliance. Too

easy....

Painted fire proofing method

Fire proofing an exposed column or beam with an architectural finish in an institutional building can be a challenge, but again with the right product and scope of work this need not be a problem. The application of a water based intumescent with no more smell than your typical house paint can make compliant and aesthetic those structural columns that need to be fire rated. We have found that a scope of work that allows for off shift hours, a protective plastic expand-a- wall surround and a small electric HVLP pump to be used minimized the impact on site. Each set up and take down takes only minutes, the evenings application is dry by morning, and the very low VOC content allows the owners to justify the disruption. Compliance thickness can be measured at any time and if desired a top coat or other protective measures can be applied by in house maintenance.

Existing buildings everywhere have code compliance issues that will need to be addressed. The impact on the building's occupants to address these issues does not need to be overwhelming. Understanding that there are alternatives that are less disruptive, with no odor, no heavy equipment and no chaos can be successfully executed by merely deciding to pursue a non traditional fire proofing material and a scope of work that is thoughtful.

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