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Passive fire systems should be used to complement active fire systems in current building projects

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Before engineered sprinkler systems became part of the building code years of passive fire protection designs and assemblies evolved to create a standard for life safety in construction. The earliest mill buildings were constructed with their massive "slow burn" timber construction, typically a 2 hour structural member system. Since then a myriad of gypsum wall and ceiling assemblies have compartmentalized and created safe egress for 1-3 hours. Today's code now embraces both a passive and active component for protecting the building and its occupants.

As we have seen after various tragedies it is imperative that we be vigilant about developing new more effective, less costly means of protecting against loss. We should also be looking to achieve a better cost benefit to the compliant systems installed. Our company has redone many parking garages due to poor fire proofing adhesion or fire rate occupied nursing home facilities because inspectors found either no fire proofing or portions damaged by contractor upgrades to the mechanical systems. The systems we installed created no mess, are visually certified and are installed as a UL approved design. Egress corridors can have the equivalent of another layer of gypsum simply by spraying an ASTM E-119 low VOC (water based) product to the walls and ceilings. These applications can be measured and certified to ensure compliance. As discussed in my previous articles there are numerous ways to assess and engineer cost effective fire protection that allow for new construction, building renovations, retrofits or change of use.

If for a moment we think about all of our student dormitories that could be made far safer by simply instituting as part of the colleges paint maintenance program the use of an ASTM E-119 water based product. Not only does the first coat create a zero flame, zero smoke rating but each successive layer builds toward an extra hours rating on the existing gypsum. This simple step alone would prevent basket, or candle fires from racing across the walls. Painting doors and jambs could also help in creating that rated egress needed to save lives. These ideas are not new and have been discussed for a few years, if only...

Passive systems are our first line of defense and if infrastructure failures prevail they may be our only defense. It is imperative that we do not rely solely on any active system but have that seat belt, air bag tandem system contain and knock down any initiating fire. In my opinion combustible load assessments, emergency lighting, egress ratings, sprinklers, PA systems, etc. should also be part of an overall scoring system that building inspectors, fire departments and insurance companies establish as a standard. With new post recession concerns about project viability, building insurance rates and loss claims it may be worth the time to put some of these ideas on the table to be implemented to maximize the dollars spent for the desired result.

Britt Whitney is president of Spray Tech Systems, Inc., Duxbury, Mass.

New England Real Estate Journal - 17 Accord Park Drive #207, Norwell MA 02061 - (781) 878-4540