



Safety Scene

Fire Safety in a Component Manufacturing Facility: Part 2

by Molly E. Butz

Follow these preventative measures to reduce your chances of falling victim to a fire.

In Part I of this series, we discovered the causes of fire in a component manufacturing facility and covered the basics of fire prevention, from good housekeeping to well-maintained electrical systems. Now it's time to examine a few other preventative measures you can take to safeguard your employees and protect your property from the siege of fire.

Resisting

Fire-resistant materials encompass a wide range of products that can help you reduce damage to your facility should a fire break out. Specifically consider fire-resistant doors designed to contain the spread of fire when closed. And, if you're starting from scratch on a new building, consider developing a comprehensive fire-resistance plan that takes into account all of the new products that have become available in the last few years.



Warning

One critical key to safety in your facility is to provide a good fire alarm system. This will help you with two safety issues: evacuation of the building and firefighter response time. The alarm system should be both audio (e.g., bells, horns or sirens) and visual (e.g., flashing/steady lights or strobes). Make sure the sound of the alarm is different from the typical background noise and emergency alarms in your plant, and ensure that the lights used make your alarm as easy to see as it is to hear. In addition, be sure to test your system often and perform maintenance on it when necessary.

Evacuating

In case of a fire, immediate evacuation is critical to avoid injury and illness. Begin by keeping your shop tidy and organized which will help define and maintain unobstructed walkways. Furthermore, clearly-marked, well-lit and easily accessible exits are a vital (and simple) component of preparing your plant for evacuation if needed. OSHA defines clearly-marked as "not less than six inches high, with the principal strokes of the letters in the word 'Exit' not less than three-fourths of an inch wide." It's also important to provide thorough training and perform periodic fire drills. Remember how fun that was in grade school?

Fighting

Fire can catastrophically damage a facility in a very short amount of time. There are, however, a couple of preventative measures you can take to minimize the damage if a fire starts unexpectedly. You need to have portable fire extinguishers that your employees can use to fight a small fire. Be sure to re-



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at a glance

- ❑ Take preventative measures to safeguard your employees and protect your property from fire, like installing fire-resistant materials.
- ❑ A good fire alarm system is crucial for timely evacuation and accelerating firefighter response time.
- ❑ Good housekeeping practices, clearly marked exits and periodic fire drills will ensure an orderly evacuation.



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member that "it is the employer's responsibility to educate employees on the principles and practices of using a fire extinguisher and the hazards associated with fighting small or developing fires." (See OSHA Evacuation Plans and Procedures eTools: www.osha.gov/SLTC/etools/evacuation/index.html for more information.) This means you'll need to provide training for your employees. In addition, an automatic sprinkler system can save you from a worst-case scenario. Under nearly all normal circumstances, properly installed systems will extinguish a fire before the fire department's arrival.

It's probably safe to say that no fire is good fire...*unless you're putting on a barbeque bash in your parking lot for your employees.* But as is the case with so many safety issues, just a handful of simple and generally economical practices can help to keep your facility running (and flame free) year-round. And if something unfortunate like a fire does occur, the most important thing is to be prepared. Take the time, work with your insurance company, assess your risks, spend money and make the decisions *before* it's an emergency. Safety first! **SBC**

Rebuilding After a Devastating Fire

By Scott Arquilla, Best Homes Inc.

The fire that destroyed our plant in March 2003 was an unusual event for sure. Our building was of masonry construction and had a wood truss roof. We had a no smoking policy in place, we had fire extinguishers, and like most truss plants, we did not have a lot of lumber inventory inside the building. Basically, the only combustibles were our work in progress.



But our building was built within eight feet of our next door neighbor's building, which was within a few feet of our property line. When the fire broke out in their building causing explosions of propane tanks, lubricating oils and solvents, the back windows of their one story building blew out and the flames quickly reached the overhang of our roof. When the fire service arrived (10-15 minutes after the call), they mistakenly connected to the wrong, very low-pressure fire hydrants. By the time they changed to the high-pressure hydrants, most of our plant was gone and the fire was too intense to douse. From start to finish, our plant was gone in 70 minutes.

In industrial buildings, fire code ratings are dictated by building codes, most of which have all become stricter over the years. In reality, our only real options for reconstruction were either steel or concrete/masonry. To expedite construction time, we used pre-cast concrete walls and a steel roof. Another decision we had to make was where do we locate the new building; on the existing pad or away from the property line to prevent a possible recurrence? We chose to build somewhat on the existing pad, but since the building was 13 feet less wide it was further away from our property line. Fortunately,

our next door neighbor's new building is no longer adjacent to ours.

As for preventative measures we took to warn and protect ourselves from future fires, the local fire department and current building codes required some very sophisticated alarm and sprinkler systems. Our old building was built in 1962, with an addition in 1967, when sprinklers were not required. Our new fire alarm system (door panic pulls, flashing lights, and noise alerts) has both phone and (an extra cost) wireless alerting systems should the alarm trigger. Of course, we also have a multitude of fire extinguishers on every wall. Water is now supplied via an eight-inch water line off of a 24-inch water main. But the pressure in that main is adequate at best; to have required a pump sprinkler would not have done much (except to burn up the pump), due to the inadequate water pressure. Fortunately, we were not required to add that \$125,000 additional option.

When evaluating your facility for the amount of fire protection you should have, keep in mind that in reality, it is a question of plant location (rural or city/suburban), current building codes, the requirements of the local fire service, proximity to the fire station, type of operation (inside vs. outside lumber storage), and control/storage of flammable products, including cigarettes, propane and maintenance torches, etc. in your plant. I hope you've learned from my experience and will be able to prevent the devastating effects of a fire. If you have additional questions, feel free to email me at s.arquilla@besthomesinc.com. **SBC**

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6300 Enterprise Lane • Suite 200 • Madison, WI 53719
608/310-6706 phone • 608/271-7006 fax
www.sbcmag.info • admgr@sbcmag.info