

Loss Control

# INSIGHTS FOR CONTRACTORS



**ONLY  
YOU**

When EMC risk improvement manager Mike Duffield inspects a construction site, fire prevention is always on his mind. "Workplace fires kill more than 300 and injure more than 5,000 workers every year," comments Duffield. "Fires destroy businesses and put people out of work," he adds. Trained to identify fire risks and armed with information on ways to prevent fires, Duffield and other risk improvement specialists can advise you if your workplace is in compliance with standards for fire safety.

*...continued inside*

**CAN PREVENT  
WORKPLACE FIRES**



# A Little Fire Prevention Planning Can Save You From A Big Problem

## Fire Tops The List Of Construction Job Site Hazards

Whether you're responsible for a small construction site or a massive one, the potential for a fire should be a continuous concern. Fire is a very real threat, and ignition is usually from a simple cause such as careless smoking, poor housekeeping, lack of maintenance of electrical tools, portable heating, lack of adequate fire watch, cutting and welding operations or faulty wiring. Constant effort must be made in order to protect employees, visitors such as inspectors and vendors, as well as the site itself. Here are some fire prevention tips to assist you in your efforts.

### Construction Site Housekeeping Tips

- Remove waste, excess debris, and scrap from the premises on a daily basis.
- Keep areas in and around the site free from accumulated packing materials such as wooden crates, straw, plastic products, etc.
- Provide metal bins with lids for combustible waste materials.

- Keep storage locations accessible to firefighters.
- Stored materials should be clear of the aisles and in an approved location.
- Drains should be kept free of obstructions.

### Electrical Tips

- Keep temporary extension wiring to a minimum, taking care not to overload existing circuits.
- Keep the use of portable lamps to a minimum. Those that are used should be equipped with appropriate guards.
- The main switches of all electrical circuits should be in the off position when not in use.
- Defects in electrical equipment should be repaired immediately.
- Lockout/tagout practices should be utilized when applicable.

## Quick Facts: CONSTRUCTION FIRES

- Each year, an estimated 4,800 construction site fires cause \$35 million in property damage.
- Fire incidents at construction sites/complexes increase as the workday progresses.
- Arson and open flame are the cause of 71% of construction site fires.
- The materials most commonly ignited in construction site fires are rubbish/trash; growing/living forms, including grass, trees, and brush; and structural members/framing materials.
- The most common sources of ignition in construction site fires are matches, cutting torches, open fire, and cigarettes.

## » EMERGENCY SAFETY FOR WORKERS WITH DISABILITIES

A comprehensive guide and related website is now available to ensure federal workplace emergency plans address the needs of individuals with disabilities. For details, visit [www.LNI.wa.gov/Safety](http://www.LNI.wa.gov/Safety).

## » NEW AUTO PRE-START SAFETY GUIDELINES AVAILABLE

According to a study sponsored by the National Safety Council (NSC) and Castrol, 93 percent of Americans are hitting the roads ill prepared — therefore increasing their chances of an accident. NSC and Castrol

recommend the following Start Up Checklist: secure loose objects, turn off cell phone, allow enough time to avoid speeding, read fuel/fluid levels, check tire pressure, use safety belts, and adjust mirrors. To order a copy of the Start Up for Safety brochure, call 1-888-CASTROL.

### Management Tips

- The telephone number of the local fire department or emergency response group should be prominently displayed at your construction site.
- After work has stopped for the day, routine inspections of the premises should be made to check for slow burning or smoldering fires and to make certain any portable heating units are turned off.
- Make all employees aware of the means of egress from the premises.
- Train all employees in the use of fire extinguishers.
- There should be appropriate and sufficient receptacles for cigarette butts, and they are emptied as needed.

### Flammable And Combustible Materials

Please refer to the checklist on the following page.

### Evacuation And Escape Tips

- Emergency alarms should be audible to all employees, including those in isolated areas.
- Escape routes and emergency exits should be clearly marked.
- Designate an assembly point where employees can gather and be accounted for.

### Make Fire Prevention Part Of Your Comprehensive Safety Program

The impact of a construction site fire can be devastating. On average, these fires are responsible for 30 injuries, 10 fatalities, and \$35.2 million in property loss each year. By taking the steps outlined in this article, you are taking the necessary precautions to create a safe job site for your workers. Like every other element of your safety program, success in preventing fires takes constant vigilance, effort and a good working relationship with everyone on the site. The effort, however, is well worth the results — a safer and more productive work environment.

The above information is courtesy of the Electronic Library of Construction Occupational Safety and Health

### COULD IT HAPPEN ON YOUR SITE?

Careless or disgruntled workers, or that ever-present employee taking shortcuts, can create fire hazards during the course of a work shift. That's exactly what led to some of the following construction site fires noted in a report from the U.S. Fire Administration:

- A suspicious four-alarm fire destroyed a live-work loft project in California.
- A six-alarm fire destroyed a luxury apartment complex under construction in Florida. The fire ignited when a forklift hit a utility pole and knocked down a transformer.
- Workers using a cutting torch ignited a fire that affected 32,000 phone lines in California.

# Flammable & Combustible Materials Checklist



Count  
on EMC

## Building Valuations

To help business owners insure to value, EMC risk improvement specialists use *BVS-Commercial*, a software program developed by Marshall & Swift/Boeckh that provides accurate reconstruction costs.

Unlike traditional replacement cost values, reconstruction costs represent the cost at current prices to rebuild a damaged or destroyed building using like kind and quality of materials, construction standards, design and workmanship. Although reconstruction costs tend to be greater than new construction, they are a much better representation of insurance value.

According to Bryon Snethen, EMC engineering services manager, *BVS-Commercial* offers several advantages:

- More accurate reconstruction costs incorporating all local wage and material costs and hundreds of building types and occupancies
- The credibility of Marshall & Swift/Boeckh, the country's premier provider of insurance building cost information and estimating systems
- *BVS-Commercial* reports not only have more details, but they are easy to read and understand

Count on EMC to help your insurance keep pace with rising construction costs.

What do EMC risk improvement specialists look at when Preventing workplace fires involves the safe use and storage of flammable and combustible materials. We encourage you to use the following checklist to evaluate the effectiveness of your fire prevention plan.

- |   |                              |                             |
|---|------------------------------|-----------------------------|
| 1. Are combustible scrap, debris and waste materials stored in covered metal receptacles or removed from the worksite promptly?                               | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 2. Are approved containers and tanks used for the storage and handling of flammable and combustible liquids?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Are all flammable liquids kept in closed containers when not in use?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 4. Are bulk drums of flammable liquids grounded and bonded to containers during dispensing?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 5. Do storage rooms for flammable and combustible liquids have vapor ignition proof electrical elements?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 6. Do storage rooms for flammable and combustible liquids have mechanical or gravity ventilation?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 7. Are liquefied petroleum storage tanks guarded to prevent damage from vehicles?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 8. Are all solvent wastes and flammable liquids kept in fire-resistant, covered containers until they are removed from the worksite?                          | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 9. Is vacuuming used whenever possible, rather than blowing or sweeping combustible dust?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 10. Are fire separators placed between stacked containers of combustibles or flammables to ensure their support and stability?                                | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 11. Are fuel-gas cylinders and oxygen cylinders separated by distance, fire-resistant barriers, or other means while in storage?                              | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 12. Are all extinguishers serviced, maintained, and tagged at intervals not to exceed one year? Is a record kept of required monthly checks of extinguishers? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 13. Are all extinguishers fully charged and in their designated places? Are extinguishers free from obstruction or blockage?                                  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 14. Are automatic fire sprinkler systems tested quarterly?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 15. Are "NO SMOKING" signs posted in areas where flammable or combustible materials are used or stored?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 16. Are "NO SMOKING" signs posted near liquefied petroleum gas tanks?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

# Rebuilding After A Fire: The Rising Cost Of Construction



After his manufacturing plant suffered a devastating fire, business owner Andy Bergonzi faced an even greater challenge — rebuilding in the face of increasing construction material costs. Although he had completed a building appraisal two years ago, the cost to rebuild the structure had risen 30% since that time. Like a majority of business owners, Bergonzi did not have adequate insurance protection to cover the rising cost of reconstruction. According to a recent study, 73% of commercial insureds are under-insured by an average of 40%.

## It Costs More To Build Today Than It Did A Year Ago

According to a recent survey published in *Engineering Record News*, the selling price of new construction projects increased 2.3% during the second quarter of 2006 after climbing 2.5% during the first quarter. The results of this survey were based on three indexes that include productivity, overhead and margins, along with labor and material costs. Indexes that measure only labor and material costs rose 1.2% this quarter and are up 6% for the year.

Industry experts attribute the continuing rise in construction costs to several factors — the ongoing effects of Gulf Coast hurricanes, rising energy costs, the general state of the economy, and higher labor costs. As a result, experts agree that we will continue to see another year of elevated construction material prices. Consider the impact of the cost of copper, which has increased 87% during the past year. An electrical transformer, which is copper intensive, that cost \$65,000 a year ago goes for \$100,000 today.

From copper to bricks, the cost of just about every component used in the construction process has risen dramatically over the past year. The following chart shows how the increased cost has fluctuated during the past several months for many common construction materials.

	NOV	JAN	MARCH	MAY
Wire & cable	+16.6	+21.2	+18.3	<b>+46.6</b>
Gypsum products	+14.6	+18.5	+21.2	<b>+25.9</b>
PVC products	+20.8	+22.1	+20.5	<b>+18.0</b>
Cement	+11.9	+14.5	+14.8	<b>+14.9</b>
Paint	+7.5	+7.3	+8.7	<b>+7.7</b>
Bricks	+7.9	+7.4	+7.0	<b>+6.9</b>
Fabricated steel	+3.1	+3.6	+4.1	<b>+4.3</b>
Lumber, softwood	-0.7	+2.1	-3.9	<b>+2.7</b>
Sheet metal	+0.2	+0.2	+1.1	<b>+1.8</b>
Plywood	+3.9	-2.7	-3.9	<b>+1.5</b>
Glass, flat	+3.1	+1.5	-0.2	<b>+0.5</b>

All numbers represent percentages of change between November 2005 and May 2006.

## Keeping Up With Rising Construction Costs

As construction costs continue to rise, it will be more important than ever to make certain your insurance is keeping pace. We encourage you to talk to your EMC agent about your building values. Don't wait for your renewal, or worse yet, a fire or other disaster, to make certain you have adequate coverage to replace what you have worked so hard to achieve.

## WHERE DO FIRES BEGIN?

The more you know about where fires begin, the better prepared you will be to prevent them. Here is some information from the National Fire Protection Association that may help in your fire prevention efforts.

- **Schools:** The highest percentage of school fires

originate in laboratories or locker rooms (23%), followed by the kitchen (13%), classrooms or assembly areas (7%) and corridors or hallways (7%). Forty-six percent of these fires are intentionally set.

- **Churches:** The largest percentage (18%) of church fires originate in structural areas

(exterior walls and ceiling/roof assemblies). One-quarter of these fires result from electrical distribution. Seventeen percent begin in worship, meeting or classroom areas, one-third of which are arson related.

- **Restaurants:** Not surprisingly, cooking is the primary cause of fires (64%). Cooking materials

are the most frequent item first ignited (33%), followed by electrical wiring (8%).

- **Construction Sites:** The two leading causes of fire are incendiary/suspicious (41%) and open flame (30%). Arson is one and one-half times more frequent in construction settings than any other category.



# Are Your Fire Sprinklers And Extinguishers Ready For Action?

While testing their automatic fire sprinkler system, an EMC policyholder noticed a drastic loss in water pressure that would have prevented the system from functioning properly in the event of a fire. A failed city valve, which was quickly repaired, was the cause of the problem.

This true story illustrates a major point about fire prevention — automatic sprinkler systems and fire extinguishers reduce the severity of workplace fires only when they are properly installed, inspected and maintained. Here are some tips to make certain your fire prevention equipment will be ready for action when needed.

## **Maintaining Automatic Fire Sprinkler Systems**

In addition to regular inspections (at least quarterly):

- Never paint sprinklers.
- Never hang anything from any part of a fire sprinkler system.
- Never stack items close to fire sprinklers (maintain at least 18 inches clearance).
- Always report damage to any part of a sprinkler system immediately.
- Always make sure control valves are in the open position.

## **Fire Extinguisher Inspection Checklist**

Portable fire extinguishers must be visually inspected monthly. The inspection should ensure that:

- Extinguishers are in their assigned position
- Extinguishers are not blocked or hidden
- Extinguishers are properly mounted
- Pressure gauges show adequate pressure
- Pin and seals are in place
- Extinguishers show no visual sign of damage
- Nozzles are free of blockage



Loss Control  
**INSIGHTS**  
Fall 2006 • Vol. 33

*Loss Control Insights* is a free publication provided by EMC Insurance Companies' Risk Improvement Department.

Address your comments or requests for additional copies to: Jerry Loghry, EMC Insurance Companies, 717 Mulberry, Des Moines, Iowa 50309 (email: [LossControl@EMCIns.com](mailto:LossControl@EMCIns.com))

*Loss Control Insights* is also available online at [www.emcinsurance.com](http://www.emcinsurance.com).