

FIRE PROTECTION

ing agents and extinguishing equipment have been developed to control and extinguish fires of this type. Normal extinguishing agents generally should not be used on metal fires as there is a danger in most cases of increasing the intensity of the fire because of a chemical reaction between some extinguishing agents and the burning metal

Other fires

Fires that involve certain combustible metals or reactive chemicals require—in some cases—special extinguishing agents or techniques. See NFPA Standards Nos 49 and 325

Identification of Hazardous Materials

Fires and other emergency situations often involve chemicals that have varying degrees of flammability, toxicity, and reactivity (or stability). Information on these relative hazards must be readily available to those confronted with such emergencies if life safety, fire prevention, and effective fire control are to be achieved

A system for the quick identification of hazardous properties of chemicals was adopted in 1961 by the National Fire Protection Association*. For uniformity, this system recommends the use of a diamond-shaped symbol and numerals indicating the degree of hazard (see Figs 33-11 and -12)

The three categories of hazards are identified for each material: health, flammability, and reactivity (stability). The order of severity in each category is indicated numerically by five divisions ranging from 4, which indicates a severe hazard, to 0, which indicates that no special hazard is involved. Colors are used to better identify each category: blue is for health, red for flammability, and yellow for reactivity

At the bottom of the three-part diagram is an open space. This may be used to indicate additional information such as radioactivity hazards, proper fire extinguishing agent, skin hazard, unusual reactivity with water, pressurized containers, or protective equipment required

Fire Prevention Activities

Inspections

The best time to stop a fire is before it starts. Even though buildings are properly

designed and provided with protective devices and construction elements intended to render fire-safety features, only *regular periodic inspections* can assure their full value. In addition to inspections made by insurance companies and by fire protection bureaus of fire departments, every industrial plant should include periodic self-inspections in its fire-safety program

In many plants the responsibility for locating and reporting fire hazards is entrusted to the safety committee or to one of its special subcommittees. The function of these committees is to inspect for common fire causes, such as poor housekeeping, improper storage of flammable materials, smoking violations, and excessive accumulations of dust or flammable material.

Regardless of the size of the plant, fire hazards should be detected and eliminated through frequent inspection, and fire fighting equipment should be checked regularly to be sure that it is ready for any emergency

The inspector, fire chief, or other individual in charge of fire prevention and protection should have a complete list of all the items that should be inspected at regular intervals. If fire brigade members (see section "Fire Prevention and Protection" in Chapter 35, "Emergency Action Plans") are assigned to this duty, they should receive special instructions. It is best to have men alternate on inspections. Fire equipment inspection should cover the following items:

- 1 Control valves on fire protection system
- 2 Hydrants
- 3 Fire pump
- 4 Hose house equipment
- 5 Sprinkler tank
- 6 Special types of protection (carbon dioxide, foam, or other automatic systems)
- 7 Portable fire appliances
- 8 Small hose
- 9 Fire doors
- 10 Special hazards

(Text continues on page 33-20)

*National Fire Protection Association, 60 Batterymarch St., Boston. *Identification of Fire Hazards of Materials* Standard No 704M