

**STUDY MATERIAL FOR THE  
CONSOLIDATED EXAMINATION F-92 FOR:**

**F-31 Fire Guard for Boatyards and Marinas**

**F-41 To Supervise Boatyards and Marinas**

This study material will help you prepare for the examination for the Certificate of Fitness for Fire Guard for Boatyards and Marinas (F-31) and To Supervise Boatyards and Marinas (F-41). This study material, for the most part, includes information taken from the Fire Prevention Code and the Fire Prevention Directives of the Bureau of Fire Prevention, NYFD. The study material does not contain all the information you need to know in order to perform the job of a Fire Guard at your work location. It is your responsibility to learn whatever else you need to know to do your job. You must also become familiar with all applicable rules and regulations of the City of New York, even if they are not covered in this material.

All questions on the Certificate of Fitness examination are multiple choice, with four alternate answers to each question. There is only one correct answer for each question. If you do not answer a question or mark more than one alternative, your answer will be scored as incorrect. A score of 70% correct is required on the examination in order to qualify for the Certificate of Fitness. Read each question carefully before marking your answer. There is no penalty for guessing.

### **Sample questions**

1. Fire Guards are required at which of the following locations?
  - (A) Construction sites.
  - (B) Marinas.
  - (C) Places of assembly.
  - (D) All of the alternatives are correct.

The correct answer is "D". You would mark "D" on your answer sheet.

2. The purpose of conducting fire drills is to:
  - (A) give employees a break from work.
  - (B) practice emergency evacuation procedures.
  - (C) make sure the sprinkler system works.
  - (D) be sure the Fire Department knows where the building is.

The correct answer is "B". You would mark "B" on your answer sheet.

## FIRE GUARDS

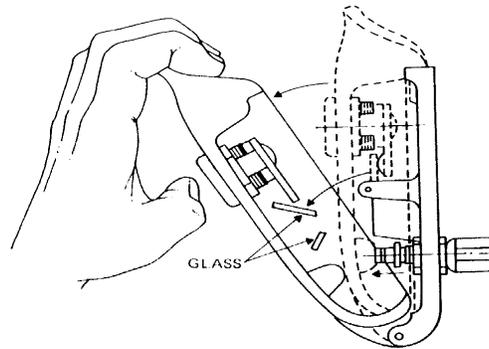
Fire Guards are required to reduce the threat of fires in a variety of locations. For example, they are required in places of public assembly, hotels, film studios, construction sites, homeless shelters and marinas. Fire Guards are used when a sprinkler system is not installed, e.g., at construction sites. Fire Guards are also used when an automatic fire protection system is shut down while being repaired. The Fire Guards are responsible for making sure that fire safety regulations are obeyed.

Fire Guards must have a good working knowledge of basic fire fighting and fire protection techniques. They must know the location of all fire protection devices in their areas of responsibility. They must make sure that these devices are in good working at all times. The Fire Guard's duties are outlined in greater detail in the following paragraphs.

### Requirements and Duties

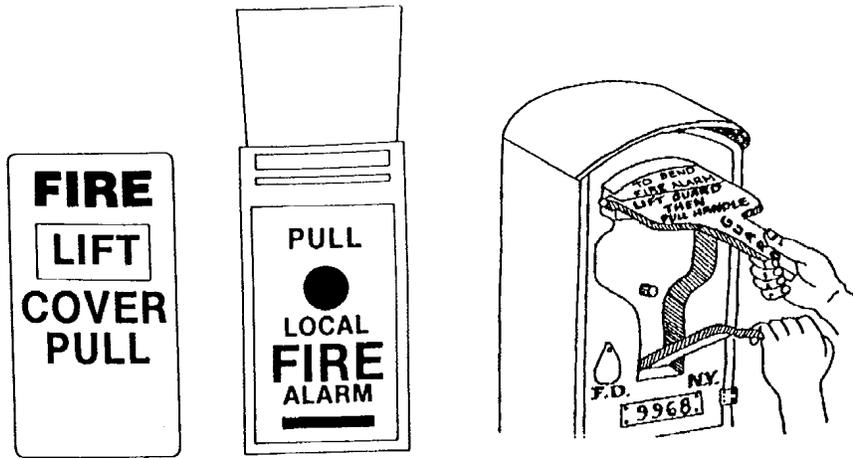
Fire Guards must know the location of all fire protection devices, as well as, interior and exterior fire alarm pull stations. At least one interior fire alarm pull station is required on each floor of the premises. The interior fire alarm pull stations are positioned at the natural exits on each floor of the building. In larger buildings the fire alarm pull stations must be spaced so that the distance between pull stations does not exceed 200 feet. They must be securely mounted to the wall between 3.5 and 5 feet above the floor level. All fire alarm pull stations must be painted red.

There are two kinds of fire alarm pull stations. They are called single action and double action stations. Single action stations require only one step to activate the alarm. For example, a single action station could be activated by simply pulling down on a lever or breaking some glass. An examples of a single action station is shown below. This kind of alarm station is often found indoors, e.g., in office buildings. The cover on this alarm stations serves as a lever. When the cover is pulled down, it allows a switch inside to close. This sends the alarm signal. The double action stations require the Fire Guard to take two steps in order to activate the alarm. The Fire Guard might have to remove a cover or break some glass before he can pull down the lever. Two



Single Alarm Station

kinds of the double action alarm stations are shown on the following page. The fire alarm station on the left is activated by lifting the cover and then pulling the lever. This kind of double action station is often found indoors. The double action station shown on the right is often found out doors. The station is specially enclosed to protect the alarm from bad weather. A guard must lifted before the handle is pulled to sound the alarm.



### DOUBLE ACTION PULL STATIONS

The Certificate of Fitness holder must know how to manually operate each alarm station on the premises. Once activated, the fire alarm system cannot be shut off at the alarm pull station. The alarm must be shut off at the main control panel using a special key. The key must be kept near the control panel at all times. The alarm may be turned off only by a Certificate of Fitness holder or by a Fire Department representative.

In some locations the Fire Guard is equipped with a walkie-talkie and/or bull horn. The walkie-talkie is used to communicate with a fire safety director, a supervisor or Fire Department during a fire emergency. The bull horn is used to notify the occupants when evacuating the building. The bull horn allows the Fire Guard's instruction to be heard clearly. The bull horn and walkie-talkie should be inspected before making each patrol. Defective units should be repaired or replaced.

In case of a fire emergency, building occupants must be evacuated. Occupants on the fire floor and the floor above are most seriously threatened by the spread of the fire and must be evacuated first. The Fire Guard must remain composed and in control of the situation during a fire emergency. He/she must speak in a clear and concise manner when assisting with the evacuation. The Fire Guard's instructions and his/her actions play an important role in reducing panic during an emergency. The Fire Guard should speak in a clear and firm voice with no evidence of alarm. Occupants should be instructed to be calm and move to safety through the nearest exit in an orderly manner.

In case of a fire emergency, the Fire Guard must activate the fire alarm pull station and notify the Fire Department. This will send an alarm throughout the area controlled by the interior fire alarm. It will also send a signal to a central station company. The Fire Department may be contacted directly by phone. The Fire Department may also be contacted using an exterior fire alarm pull station. When an exterior fire alarm pull station is used, the Fire Guard must wait at the alarm box until the fire fighting units arrive. Then the Fire Guard must direct the fire fighters to the scene of the fire.

**Safety Requirements**

The Fire Guard must know the telephone numbers of the local Fire Department Company and the Fire Department Borough Communication Office. The borough phone numbers are listed below.

<b>Manhattan</b>	<b>(212) 999-2222</b>
<b>Bronx</b>	<b>(718) 999-3333</b>
<b>Brooklyn</b>	<b>(718) 999-4444</b>
<b>Queens</b>	<b>(718) 999-5555</b>
<b>Staten Island</b>	<b>(718) 999-6666</b>

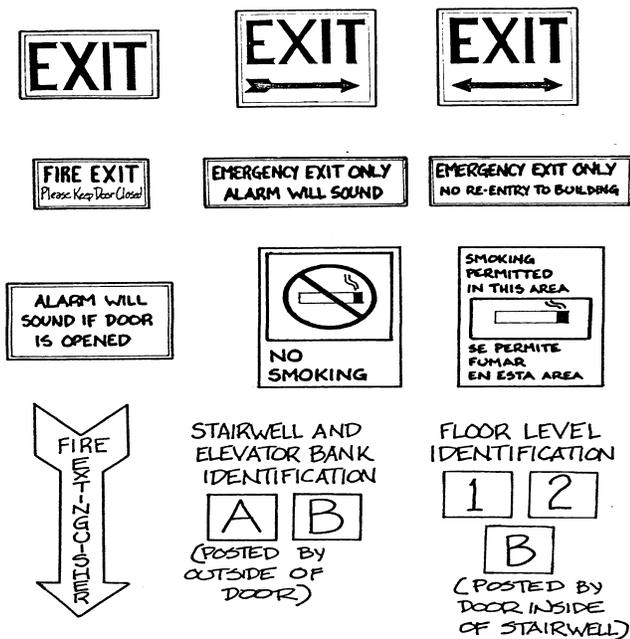
**These phone numbers must be posted near the phones most likely to be used in case of an emergency.**

The Fire Guard must make sure that all exits, hallways, and staircases are kept free of obstruction at all times. An exit aisle at least three feet wide is required all locations. This aisle space is necessary to permit occupants to quickly exit the premises in case of an emergency.

Several types of safety signs may be posted at various locations inside the building. The signs are designed to ensure the safety of occupants. For example these signs may indicate:

- (a) The general fire safety procedures to be followed during a fire emergency.
- (b) The location of fire extinguishers and emergency exits.
- (c) How to use the fire extinguishers and related fire fighting equipment.
- (d) How to sound the fire alarm in case of an emergency.
- (e) That the elevators must not be used in case of a fire unless otherwise instructed by the Fire Department.
- (f) The floor numbers.

The Fire Guard must make sure that all posted fire safety signs are clearly visible. He must also make sure that exit signs posted above doors are always illuminated. Examples of some of these signs are shown below.



## General Inspection Checklist

The Fire Guards are required to make regular inspections and patrols of the assigned area of responsibility. These inspections may vary depending on the location. However, the following general guidelines apply for all locations. The Fire Guard must make sure that the following guidelines are followed.

- (a) All exits, stairways, hallways must be kept free of obstructions. Obstructions may prevent occupants from exiting the building in case of an emergency. An exit aisle at least 3 feet wide must be maintained. This aisle is also used by fire fighters during an emergency.
- (b) Self closing doors must not be propped open. These doors are designed to close automatically when an alarm sounds. When the doors close it helps prevent the spread of fire and smoke.
- (c) Locks, bolts, chains must not installed on exits while there are people in the building. If locks are discovered they must be removed immediately. The Fire Guard must then report the fire safety violation to his supervisor. The supervisor must make sure that the chains or locks are removed. If the supervisor does have the locks and chains removed from exit doors the Fire Guard must notify the Fire Department.
- (d) The entire premises must be checked daily for potential ignition sources. Any potential ignition sources that are discovered must be corrected or removed immediately. For example, frayed electrical wires and defective electronic components must be either repaired or removed.
- (e) Trash and garbage must not to be allowed to accumulate anywhere inside the building. Accumulated trash is a fire hazard. It may be easily ignited by a stray spark. All trash and garbage must be removed from the premises.
- (f) The fire alarm components must be examined daily by the Fire Guard. It is not necessary to test all fire alarm pull stations. All components of the fire alarm system **must be tested** semi-annually, while the central station connection must be tested monthly.
- (g) All required Fire Department permits and certificates must be current. The results of all tests and inspections must be recorded in the inspection log. The log, permits and certificates must be made available to Fire Department representatives upon request.
- (h) If a sprinkler system is installed it must be visually inspected by the Fire Guard. The Fire Guard must report all defects to the supervisor. All leaks or breaks in the piping, tanks, valves, etc. - no matter how small- must be reported to the owner of the building immediately.
- (i) All fire extinguishers must be clearly visible. Signs must be posted indicating the location of the extinguishers. Signs indicating how to use the fire extinguishing devices must posted also. The Fire Guard must make sure that the extinguishers are inspected every six months. The fire extinguishers must be recharged after each time they are used or when required according to the type of extinguisher.

## FIRE EXTINGUISHING SYSTEMS

### Fire Extinguishers

The Fire Guard must be familiar with the different types of fire extinguishers that are present on the premises. He/she must know how to operate the extinguishers in a safe and efficient manner. He/she must know the difference between the various types of extinguishers and when they should be used. A description of the four classes of fires, and the appropriate extinguishers, is listed below.

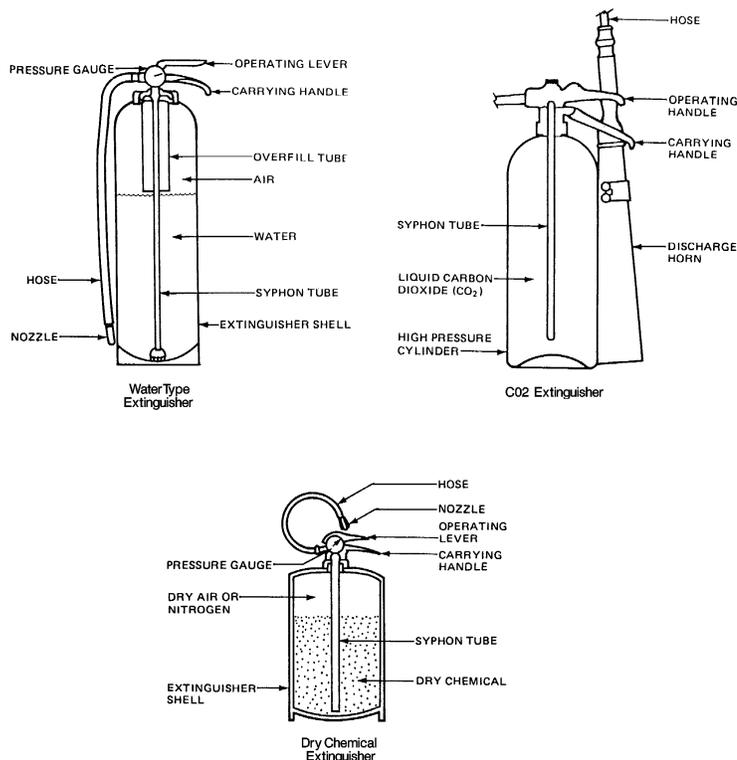
**Class A** fires are caused by ordinary combustible materials (such as wood, paper, and cloth), for which the quenching-cooling effect of quantities of water or solutions containing large percentages of water is most effective in reducing the temperature of the burning material below its ignition temperature..

**Class B** fires are caused by flammable petroleum products or other flammable liquids, greases, etc., for which the blanketing-smothering effect of oxygen-excluding media such as CO<sub>2</sub>, dry chemical or foam is most effective.

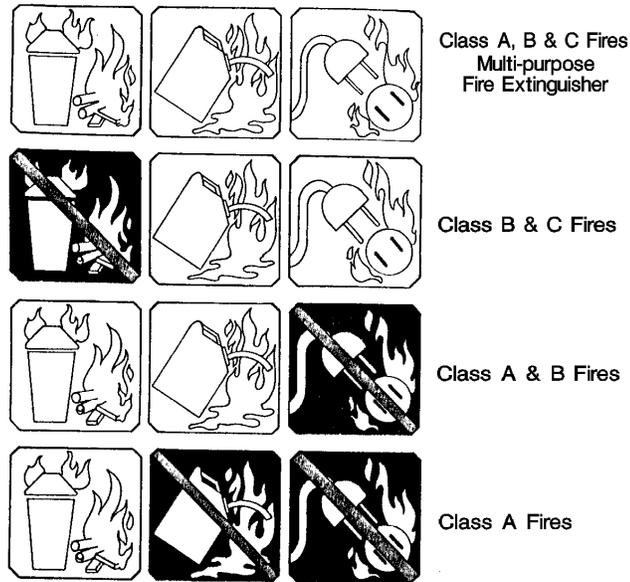
**Class C** fires involve electrical equipment. The electrical non-conductivity of the extinguishing media is of first importance. These fires must be extinguished with non-conductive media such as CO<sub>2</sub> or dry chemical.

**Class D** fires are caused by ignitable metals, such as magnesium, titanium, and metallic sodium, or metals that are combustible under certain conditions, such as calcium, zinc, and aluminum. Generally, water should not be used to extinguish these fires.

A multi-purpose dry chemical fire extinguisher may be used to extinguish Class A, B, or C fires. Examples of Water type, CO<sub>2</sub> and Dry Chemical extinguishers are shown below.



Symbols may also be painted on the extinguisher. They indicate what kind of fires the extinguishers may be used on. Examples of these symbols are shown below.



### Typical Symbols Painted on Fire Extinguishers

The symbol with the shaded background and the slash indicate when the extinguisher must not be used. The Fire Guard must understand these symbols. The Fire Guard must make sure that the fire extinguishers are kept in good working order at all times.

Generally, operation instructions are clearly painted on the side of the fire extinguisher. They clearly describe how to use the extinguisher in case of an emergency. An example of these instructions is shown below.



## **Fire Extinguisher Inspections**

The extinguishers must be inspected and maintained at least once every 6 months. The inspection should evaluate possible damage to the extinguisher, hoses, nozzle and gauge. Inspections may be conducted by a representative of the company that holds the maintenance contract for the fire extinguishers or by any individual who has the appropriate equipment and knowledge. The Fire Guard must record the testing date and the name of the person who did the inspection in the inspection log. All inspections must also be recorded on a tag attached to the extinguisher.

In addition a Fire Guard must visually examine the fire extinguishers daily. The Fire Guard must make sure that they are positioned in the correct locations and clearly visible. When a damaged extinguisher is discovered it must be repaired or replaced immediately. The Fire Guard must make sure that the fire extinguishers are fully charged. This is checked by looking at the gauge connected to the top of the extinguisher. A needle indicating the condition of the extinguisher is positioned inside the gauge. When the needle points to the green area the extinguisher is fully charged. When the needle points to the red area the extinguisher must be recharged. The Fire Guard must make arrangements to recharge the extinguisher when necessary. All extinguishers must be recharged every six months or after each use. The testing date and the technician's name must be recorded on a tag attached to the extinguisher. All inspections must be recorded in the Fire Guard's log book.

## **SPRINKLER SYSTEMS**

Sprinkler systems are commonly installed in buildings. They are designed to discharge water on a fire. Even though some sprinkler systems may be manually activated, most sprinkler systems are activated automatically. Sprinkler systems consist of a series of sprinkler heads and pipes connected to a water supply source. When a fire occurs, the water travels through the pipes out of the sprinkler heads.

The automatic sprinkler system is most commonly used. The sprinkler heads in the automatic system are temperature sensitive. They are designed to open when the temperature in the room reaches dangerous levels. This system allows the water to be discharged in the areas close to the fire.

A replacement supply of at least 6 extra sprinkler heads with the appropriate wrench must be kept on the premises at all times. They must be used to replace defective or damaged sprinkler heads.

## **STANDPIPE SYSTEMS**

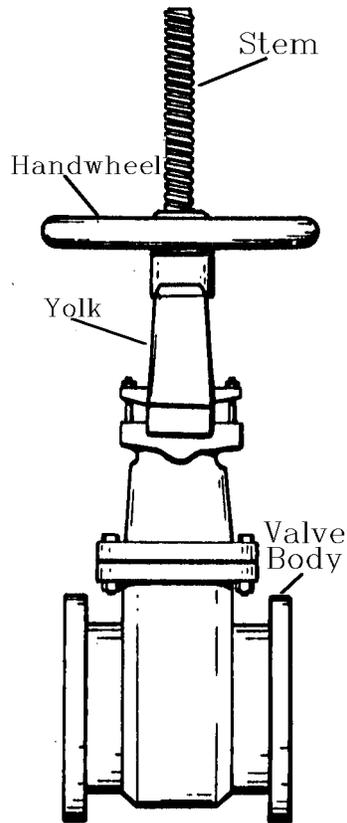
Standpipe systems are commonly installed in many locations. They consist of a series of pipes and hoses connected to a water supply source. The hoses may be used to spray water on the fire. The water is controlled by using a special nozzle connected to the end of the hose. Water is discharged from the hose when the nozzle is rotated into the open position.

## **INSPECTIONS**

The Fire Guard must make sure that all fire protection devices are kept in good working order. When a problem is suspected with any of the fire extinguishing devices or systems, the Fire Guard must report it immediately to his supervisor. Arrangements must be made to have the problem corrected immediately.

## Sprinkler/Standpipe System Inspections

When sprinkler and/or standpipe systems are installed the Fire Guard must make sure that the **OS & Y valve** is sealed in the **open** position. The OS & Y valve controls the main supply of water into the sprinklers and/or standpipes. The position of the valve is easily determined. When the stem of the OS & Y valve stem is raised the valve is open. When the stem is not raised the valve is closed. These valves are commonly sealed in the open position using a padlock and chain. A typical OS&Y valve is shown below:



A Typical OS&Y Valve

The Fire Guard must visually inspect the condition of the sprinkler and standpipe systems. If any defects are discovered, the Fire Guard must report them to his/her immediate supervisor and the Fire Department. Both sprinkler and standpipe systems must be inspected **monthly** by the appropriate certificate of fitness holder. Some locations (e.g., cabarets) must be inspected more often. It is recommended that the fire guard visually examine the control valves on these systems to ensure that they are in the open position.

The Fire Guard must notify the Fire Department when part of the sprinkler or standpipe system is shut down for repairs. This allows the Fire Department to adjust their fire fighting strategies.

## **GENERAL SAFEGUARDS**

Flammable and combustible materials must be stored in a safe location. This location must be free of sources of heat and ignition. It is recommended that these materials be stored in an outdoor enclosure.

Trash and garbage must not be allowed to accumulate on the premises. Trash is a fire hazard as it is easily ignited. The Fire Guard must make sure that trash and garbage is promptly removed from the premises.

The Fire Guard must make sure that no smoking is permitted in designated **NO SMOKING** areas. This is especially important in areas where flammable or combustible materials are stored.

The Fire Guard must make sure that only approved electrical devices are used. Frayed wires, defective appliances and other potential sources of electrical fire must be repaired or replaced. Fire Guards must report any life threatening fire hazards to the Fire Department immediately.

### **Fire Guard for Marinas**

When a marina is used for overnight occupancy at least one Fire Guard is required 24 hours a day. Additional Fire Guards may be required depending on the size of the marina. The Fire Guard is responsible for making sure that all fire safety regulations are obeyed in the marina.

The Fire Guard must know the location of all fire protection devices in the marina. The Fire Guard must know how to use these devices. For example, the Fire Guard must know how to operate the fire alarm pull stations and the fire extinguishers. When a city fire alarm pull station is more than 250 feet from the main office a signaling system must be installed. The signaling system must be used to contact the Fire Department in case of an emergency. For example, the main office may be equipped with a non-coin operated telephone. A direct connection to an approved central station company may also be installed.

### **Fire Extinguishing Devices**

Several portable fire extinguishers are required in the marina. When a yard hydrant system is installed one 2 1/2 gallon non-freezing water-type fire extinguisher is required for every 2,500 square feet.

When a yard hydrant system is not installed, one 150 Lb. wheeled multipurpose dry chemical extinguisher must be provided for every 5,000 square feet or less. Additionally, one 2 1/2 gallon non-freezing water-type fire extinguisher is required for every 2,500 square feet.

Appropriate fire extinguishers must also be provided where painting, fuel dispensing or other activities with potential fire hazard are carried out.

### **Patrols**

The Fire Guard must patrol the marina at least once every hour to check for safety violations. When safety violations are discovered they must be corrected. If a serious violation is discovered the Fire Guard must contact the Fire Department immediately. For example, the Fire Guard must notify the Fire Department immediately when a large amount of fuel oil has been spilled at the

fueling area. This notification will allow the Fire Department to adapt its fire fighting strategies in case of an emergency. The Fire Department may also send out a unit to supervise the correction of the safety violation.

The Fire Guard must make sure that no smoking is permitted in the no-smoking areas. Several no-smoking signs must be posted. These signs must be kept clearly visible at all times. Absolutely no smoking is permitted at the fueling areas.

### **Fire Guard Duties**

The Fire Guard must patrol the entire marina at least once every hour. During this inspection the Fire Guard must visually inspect all fire protection devices. He must make sure that all fire protection devices are installed in the correct locations. He must also make sure that they are in good working order.

The Fire Guard must make sure that garbage is not permitted to accumulate in the marina. All garbage must be removed daily. Special attention must be paid to the removal of garbage from fueling areas. The Fire Guard must also make sure that all flammable cleaning agents, paints etc. are stored in a safe location. Flammable liquids and paints in excess of 200 gallons must be stored in metal cabinets or fire resistant rooms. Care must be taken to make sure that these materials are not exposed to sources of ignition. Smaller quantities of these materials may be stored in other locations. For example, paints for sale may be kept in the marina store. However, the Fire Guard must make sure that they are also protected from sources of ignition.

The Fire Guard must make sure that the boat covers are made of non-combustible or flame-proofed material. When a combustible boat cover is discovered the Fire Guard must contact the marina supervisor. Then the marina supervisor must make arrangements to have the cover replaced.

A aisle at least 3 feet wide must be kept on all walkways in the marina. These aisles will allow the public to exit the area quickly in case of an emergency. When the aisle is blocked the Fire Guard must make sure that the obstacle is removed.

Access lanes of at least 20 feet wide must also be kept clear in the marina. These access lanes are required to allow fire fighting vehicles to enter and exit the marina. The Fire Guard must make sure that these lanes are kept clear at all times. For example, the Fire Guard must make sure that parked motor vehicles do not prevent access to these lanes.

### **Fire Safety Precautions**

The Fire Guard must make sure that safety regulations are obeyed when work is performed on the boats. The battery must be disconnected to protect against accidental sparks. All containers holding fuel must be removed from the boats before work begins. The fuel tank for the boat need not be removed. However, when working on the fuel tank it must be purged. Special cleaning materials must be used to purge the fuel tank. The entire boat must be purged of all flammable vapors before any work using an open flame is conducted.

The Fire Guard must make sure that torches are used in safe locations only. Generally, a torch must be used in a designated workstation. This workstation must be designed to prevent the sparks generated by the torch from starting a fire. Torch operations may also be performed in a clear open area. Combustible materials must be located at least 25 feet away from the torch

operations. This will prevent sparks from starting a fire. When the combustible materials can not be removed they must be shielded with a protective cover. For example, a flameproof tarpaulin may be used to cover the combustible materials.

Open flames or torches must not be used to remove paint or varnish from the boats. Gasoline or flammable liquids may not be used for cleaning purposes. Only soap detergents may be used for such purposes.

Batteries must be stored and charged in a designated room. This room may not be used for any other purpose. The room must be ventilated to allow flammable vapors to escape into the atmosphere. Flammable vapors are sometimes leaked from batteries when they are being charged. The Fire Guard must make sure that no smoking is permitted in the battery storage room.