

Fire Safety

1. Fire Safety 1.2017 (1)

1.1 Untitled Slide



1.2 Target Audience

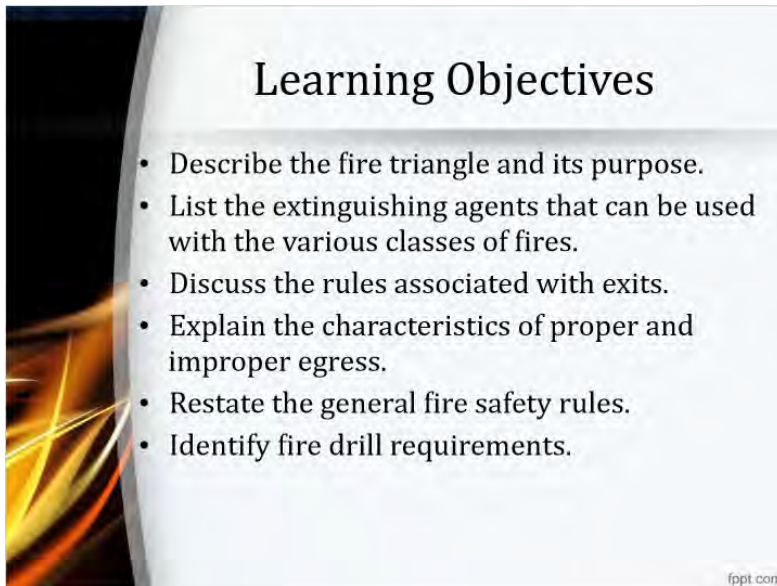


A presentation slide with a white background and a dark, abstract graphic on the left side. The title "Target Audience" is centered at the top in a black serif font. Below the title is a bulleted list:

- Primary
 - All FirstHealth Staff

At the bottom of the slide is a photograph of a large brick building on fire. Firefighters in yellow gear are visible in the foreground, spraying water on the burning structure. A small "fppt.com" watermark is visible in the bottom right corner of the photo.

1.3 Learning Objectives

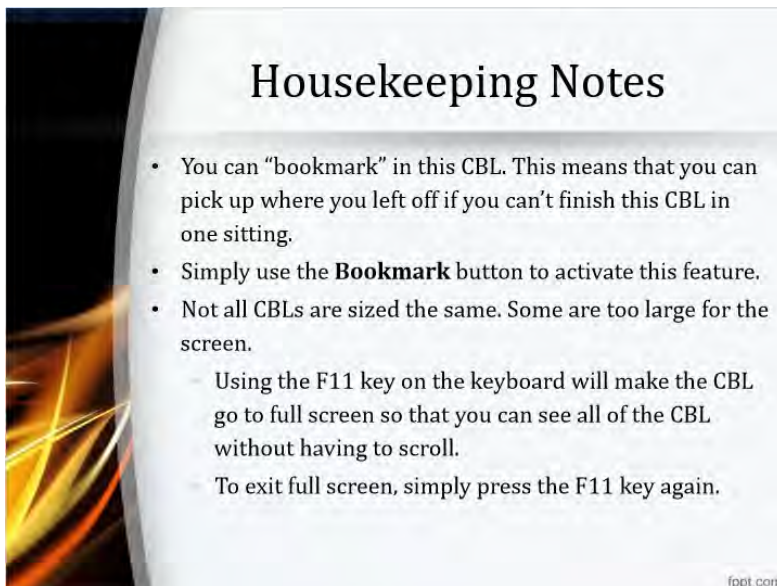


Learning Objectives

- Describe the fire triangle and its purpose.
- List the extinguishing agents that can be used with the various classes of fires.
- Discuss the rules associated with exits.
- Explain the characteristics of proper and improper egress.
- Restate the general fire safety rules.
- Identify fire drill requirements.

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1.4 Housekeeping Notes

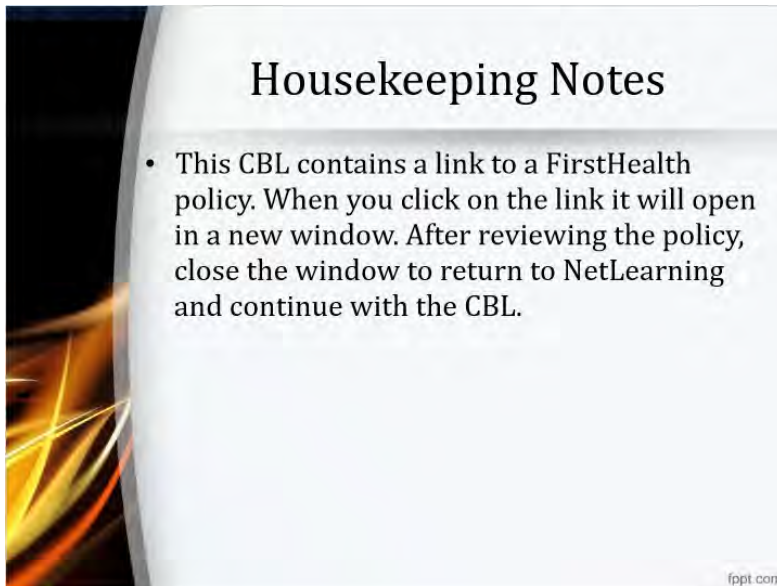


Housekeeping Notes

- You can “bookmark” in this CBL. This means that you can pick up where you left off if you can’t finish this CBL in one sitting.
- Simply use the **Bookmark** button to activate this feature.
- Not all CBLs are sized the same. Some are too large for the screen.
 - Using the F11 key on the keyboard will make the CBL go to full screen so that you can see all of the CBL without having to scroll.
 - To exit full screen, simply press the F11 key again.

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1.5 Housekeeping Notes

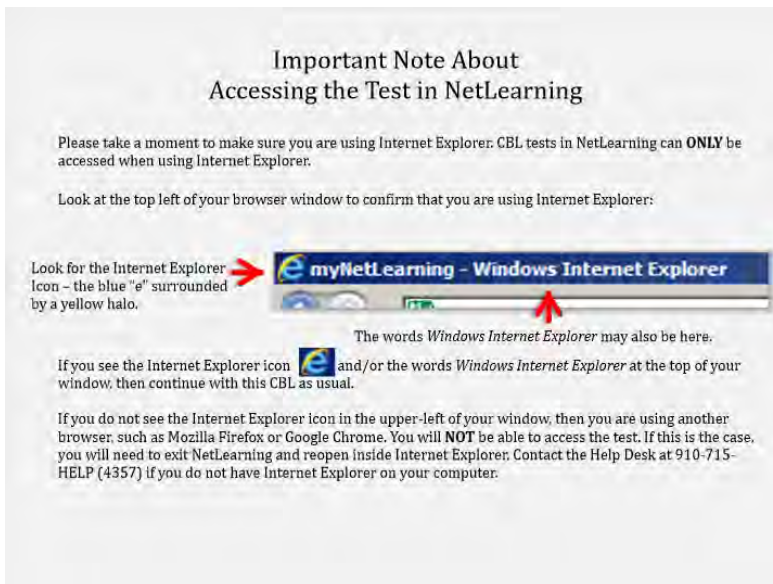


Housekeeping Notes

- This CBL contains a link to a FirstHealth policy. When you click on the link it will open in a new window. After reviewing the policy, close the window to return to NetLearning and continue with the CBL.

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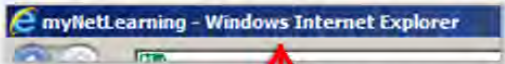
1.6 Important Note About




**Important Note About
Accessing the Test in NetLearning**

Please take a moment to make sure you are using Internet Explorer. CBL tests in NetLearning can **ONLY** be accessed when using Internet Explorer.

Look at the top left of your browser window to confirm that you are using Internet Explorer:

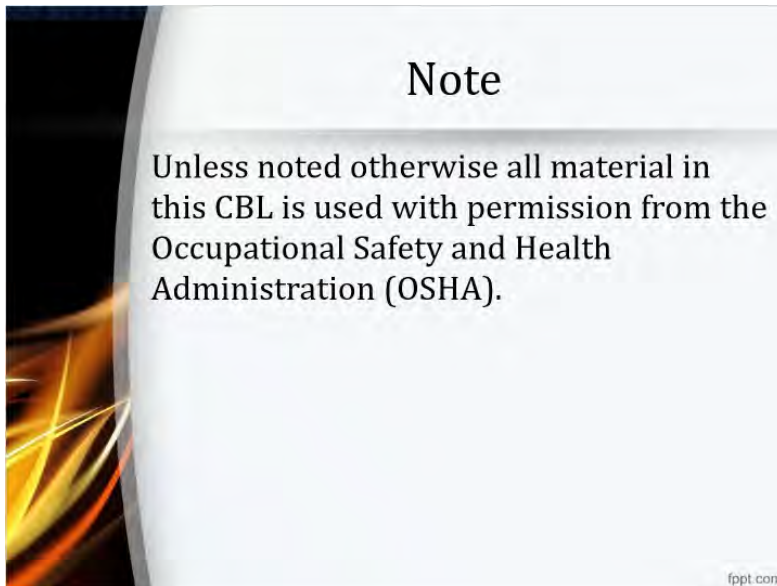
Look for the Internet Explorer icon - the blue "e" surrounded by a yellow halo. 

The words *Windows Internet Explorer* may also be here.

If you see the Internet Explorer icon  and/or the words *Windows Internet Explorer* at the top of your window, then continue with this CBL as usual.

If you do not see the Internet Explorer icon in the upper-left of your window, then you are using another browser, such as Mozilla Firefox or Google Chrome. You will **NOT** be able to access the test. If this is the case, you will need to exit NetLearning and reopen inside Internet Explorer. Contact the Help Desk at 910-715-HELP (4357) if you do not have Internet Explorer on your computer.

1.7 Note

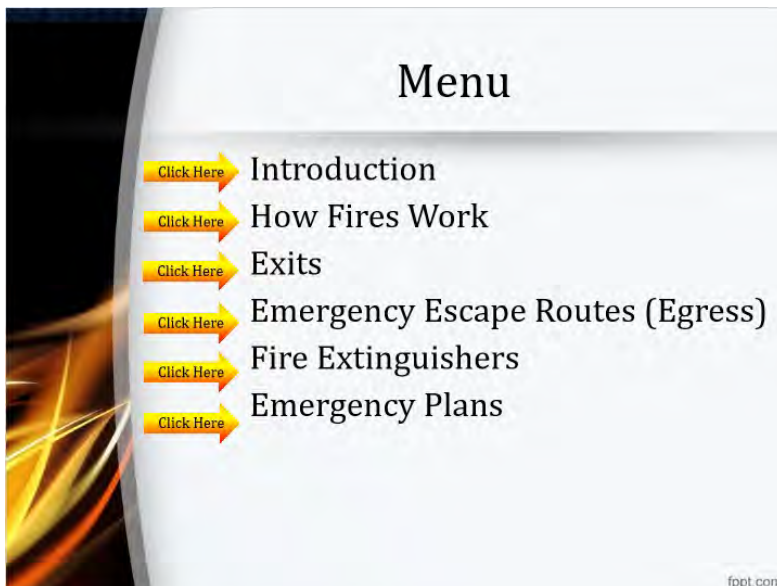
A slide titled "Note" with a decorative background of orange and yellow flames on the left side. The text is centered on a light gray background.

Note

Unless noted otherwise all material in this CBL is used with permission from the Occupational Safety and Health Administration (OSHA).

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1.8 Menu

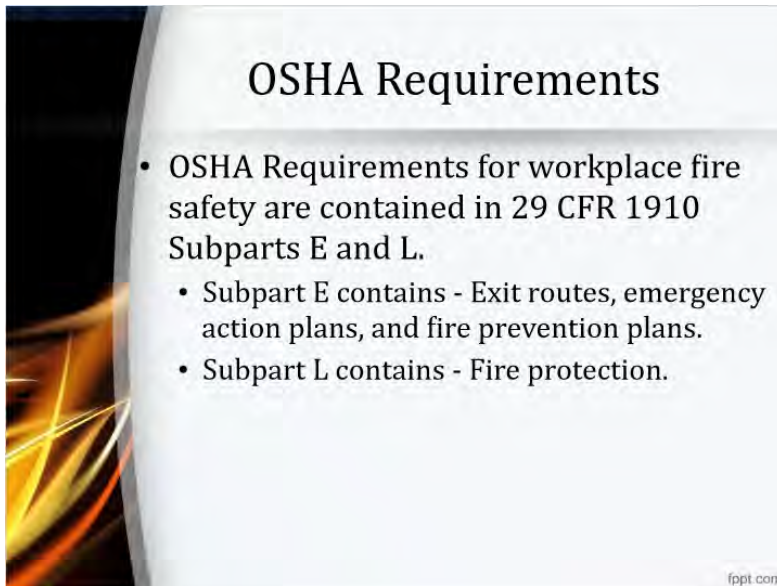
A slide titled "Menu" with a decorative background of orange and yellow flames on the left side. The menu items are listed on a light gray background, each preceded by a yellow arrow pointing right with the text "Click Here" inside it.

Menu

- Click Here Introduction
- Click Here How Fires Work
- Click Here Exits
- Click Here Emergency Escape Routes (Egress)
- Click Here Fire Extinguishers
- Click Here Emergency Plans

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1.9 OSHA Requirements

A presentation slide titled "OSHA Requirements" with a background of abstract orange and yellow flames. The slide contains a bulleted list of OSHA requirements for workplace fire safety. A small "fppt.com" watermark is visible in the bottom right corner.

OSHA Requirements

- OSHA Requirements for workplace fire safety are contained in 29 CFR 1910 Subparts E and L.
 - Subpart E contains - Exit routes, emergency action plans, and fire prevention plans.
 - Subpart L contains - Fire protection.

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1.10 Introduction

A presentation slide titled "Introduction" with a background of abstract orange and yellow flames. The title is centered in a white rectangular area. A small "fppt.com" watermark is visible in the bottom right corner.

Introduction

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1.11 2014

2014

- According to the Bureau of Labor and Statistics 137 people died in workplace fires last year.



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1.12 Triangle Shirtwaist Factory Fire

Triangle Shirtwaist Factory Fire

- The **Triangle Shirtwaist Factory** fire took place in Manhattan, New York City on March 25, 1911 and was the deadliest industrial disaster in the history of the city, and one of the deadliest in US history.
- The fire caused the deaths of 146 garment workers (123 women and 23 men) who died from the fire, smoke inhalation, or falling or jumping to their deaths.
- Most of the victims were recent Jewish and Italian immigrant women aged 16 to 23; of the victims, whose ages are known, the oldest victim was Providenza Panno at 43, and the youngest were 14-year-olds Kate Leone and "Sara" Rosaria Maltese.



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1.13 Triangle Shirtwaist Factory Fire

Triangle Shirtwaist Factory Fire

- The factory was located on the eighth, ninth and tenth floors of the Asch Building, in the Greenwich Village neighborhood of Manhattan, now known as the Brown Building and part of New York University.



The building's east side, with 40 bodies on the sidewalk. Two of the victims were found alive an hour after the photo was taken.

Wikipedia.com

1.14 Triangle Shirtwaist Factory Fire

Triangle Shirtwaist Factory Fire

- Because the owners had locked the doors to the stairwells and exits (a common practice at the time to prevent workers from taking unauthorized breaks and to reduce theft) many of the workers could not escape and jumped from the high windows.




Bodies of the victims being placed in coffins on the sidewalk

Wikipedia.com

1.15 Triangle Shirtwaist Factory Fire

Triangle Shirtwaist Factory Fire

- The fire led to legislation requiring improved factory safety standards and helped spur the growth of the International Ladies' Garment Workers' Union (ILGWU), which fought for better working conditions for sweatshop workers.
- This disaster (and several others) have led to the rules we follow today.



Wikipedia.com

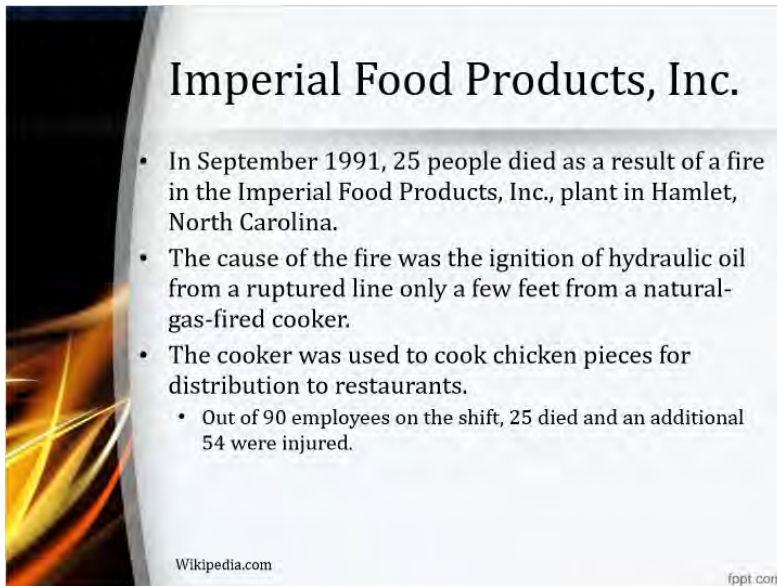
People and horses draped in black walk in procession in memory of the victims

1.16 Untitled Slide

You would have thought we would have learned...

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1.17 Imperial Food Products, Inc.



Imperial Food Products, Inc.

- In September 1991, 25 people died as a result of a fire in the Imperial Food Products, Inc., plant in Hamlet, North Carolina.
- The cause of the fire was the ignition of hydraulic oil from a ruptured line only a few feet from a natural-gas-fired cooker.
- The cooker was used to cook chicken pieces for distribution to restaurants.
 - Out of 90 employees on the shift, 25 died and an additional 54 were injured.

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1.18 Imperial Food Products, Inc.




Imperial Food Products, Inc.

- Many OSHA violations were uncovered after the fire.
- The basic OSHA exit and fire safety violations that contributed to the deaths and injuries were:
 - Locked doors
 - No marking of exits or non-exits
 - Excessive travel distances to exits
 - No fire alarms
 - Obstructed doors
 - No emergency action plan or fire prevention plan
 - No automatic fire suppression plan

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1.19 Imperial Food Products, Inc.




Imperial Food Products, Inc.

- The tragic Hamlet fire received a lot of publicity.
- In spite of this publicity, blocked exits continue to be found in poultry processing facilities.

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1.20 When will we learn?



When will we learn?

OSHA cited a plant in Hudson, Missouri, for blocking fire and emergency exits in July 1997.

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1.21 How Fires Work



1.22 Fire Triangle

Fire Triangle

- The **fire triangle** is a simple model for understanding the necessary ingredients for most fires.
- The triangle illustrates the three elements a fire needs to ignite:
 - heat
 - fuel
 - oxidizing agent (usually oxygen)




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1.23 Fire Triangle

Fire Triangle

- A fire naturally occurs when the elements are present and combined in the right mixture, meaning that fire is actually an event rather than a thing.
- A fire can be prevented or extinguished by removing any one of the elements in the fire triangle.
 - For example, covering a fire with a fire blanket removes the oxygen part of the triangle and can extinguish a fire.




The diagram shows a triangle with three sides. The left side is blue and labeled 'OXYGEN', the right side is red and labeled 'HEAT', and the bottom side is brown and labeled 'FUEL'. In the center of the triangle is a stylized flame.

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1.24 The Fire Tetrahedron

The Fire Tetrahedron

- The fire tetrahedron represents the addition of a component, the chemical chain reaction, to the three already present in the fire triangle.
- Once a fire has started, the resulting **exothermic** chain reaction sustains the fire and allows it to continue until or unless at least one of the elements of the fire is blocked.




The diagram shows a tetrahedron with four faces. The left face is blue and labeled 'OXYGEN', the right face is brown and labeled 'FUEL', the top face is red and labeled 'HEAT', and the bottom face is green and labeled 'CHAIN REACTION'. A stylized flame is shown above the tetrahedron.

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1.25 The Fire Tetrahedron

The Fire Tetrahedron

- Foam can be used to deny the fire the oxygen it needs.
- Water can be used to lower the temperature of the fuel below the ignition point or to remove or disperse the fuel.
- Halon can be used to remove free radicals and create a barrier of inert gas in a direct attack on the chemical reaction responsible for the fire.




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1.26 The Fire Tetrahedron

The Fire Tetrahedron

- Combustion is the chemical reaction that feeds a fire more heat and allows it to continue.
- When the fire involves burning metals like lithium, magnesium, titanium, etc. (known as a class-D fire), it becomes even more important to consider the energy release.
- The metals react faster with water than with oxygen and thereby more energy is released. Putting water on such a fire results in the fire getting hotter or even exploding.




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1.27 The Fire Tetrahedron

The Fire Tetrahedron

- [Carbon dioxide](#) (CO₂) extinguishers are ineffective against certain metals such as titanium.
- Therefore, inert agents (e.g. dry sand) must be used to break the chain reaction of metallic combustion.
- In the same way, as soon as one of the four elements of the tetrahedron is removed, combustion stops.



The diagram illustrates the Fire Tetrahedron, a four-sided pyramid representing the four elements of fire. The top face is a red triangle labeled 'HEAT'. The left face is a blue triangle labeled 'OXYGEN'. The right face is a brown triangle labeled 'FUEL'. The bottom face is a green triangle labeled 'CHAIN REACTION'. The pyramid is shown with a fire flame on top, and the entire diagram is set against a background of a fire.

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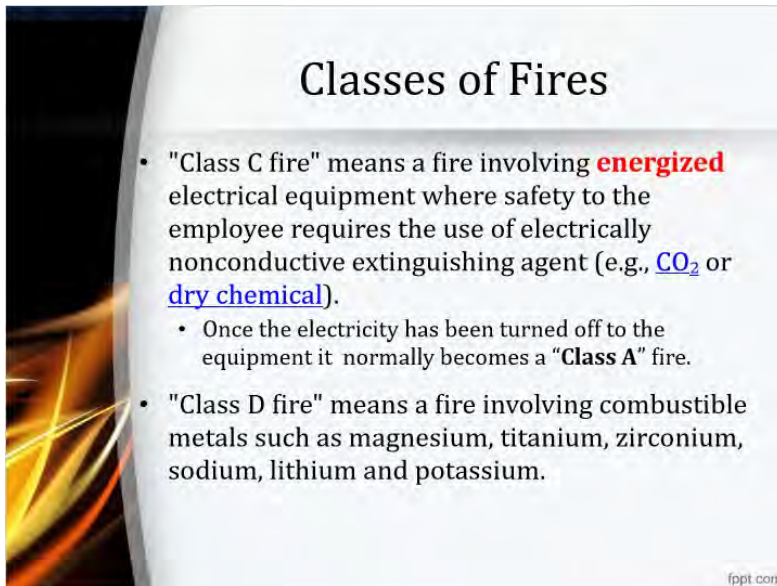
1.28 Classes of Fires

Classes of Fires

- "Class A fire" means a fire involving ordinary combustible materials such as paper, wood, cloth, and some rubber and plastic materials.
- "Class B fire" means a fire involving flammable or combustible liquids, flammable gases, greases and similar materials, and some rubber and plastic materials.

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1.29 Classes of Fires

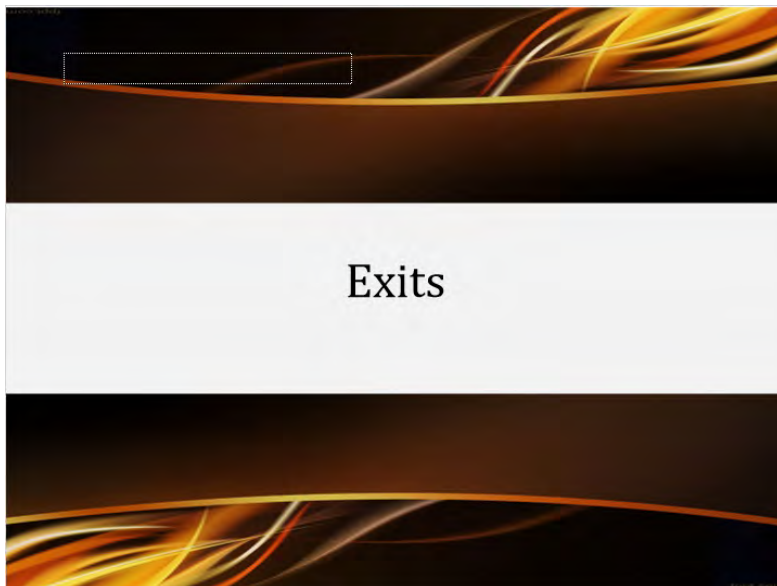


Classes of Fires

- "Class C fire" means a fire involving **energized** electrical equipment where safety to the employee requires the use of electrically nonconductive extinguishing agent (e.g., [CO₂](#) or [dry chemical](#)).
 - Once the electricity has been turned off to the equipment it normally becomes a "Class A" fire.
- "Class D fire" means a fire involving combustible metals such as magnesium, titanium, zirconium, sodium, lithium and potassium.

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1.30 Exits



Exits

1.31 Basic Requirements

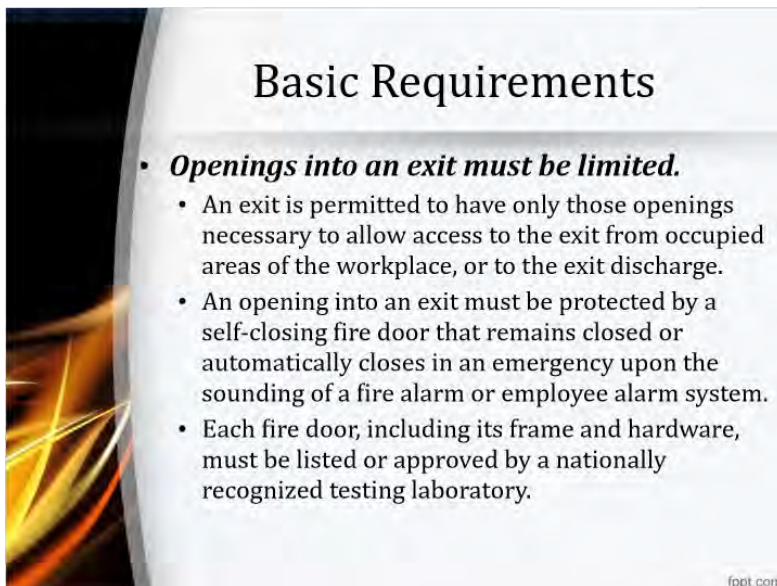


Basic Requirements

- **Exit routes** must meet the following design and construction requirements:
 - ***An exit route must be permanent.***
 - Each exit route must be a permanent part of the workplace.
 - ***An exit must be separated by fire resistant materials.***
 - Construction materials used to separate an exit from other parts of the workplace must have a one-hour **fire resistance** rating if the exit connects three or fewer stories and a two-hour fire resistance rating if the exit connects four or more stories.

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1.32 Basic Requirements

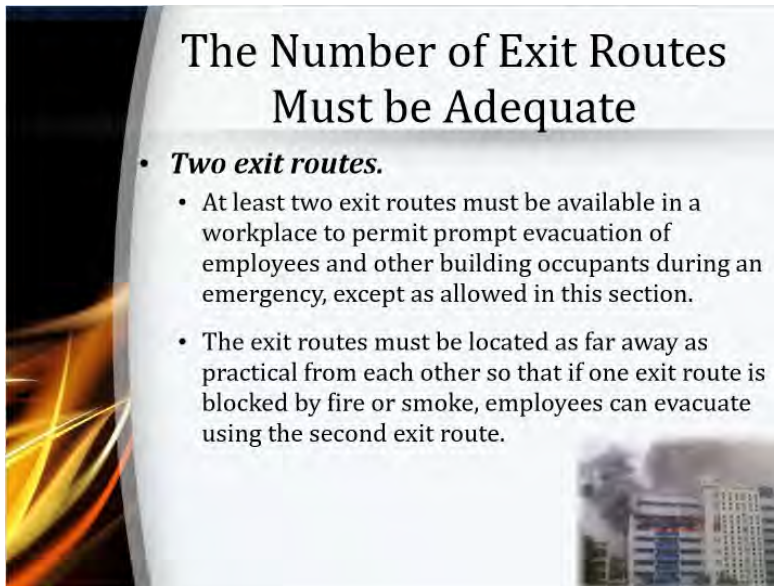


Basic Requirements

- ***Openings into an exit must be limited.***
 - An exit is permitted to have only those openings necessary to allow access to the exit from occupied areas of the workplace, or to the exit discharge.
 - An opening into an exit must be protected by a self-closing fire door that remains closed or automatically closes in an emergency upon the sounding of a fire alarm or employee alarm system.
 - Each fire door, including its frame and hardware, must be listed or approved by a nationally recognized testing laboratory.


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1.33 The Number of Exit Routes Must be Adequate

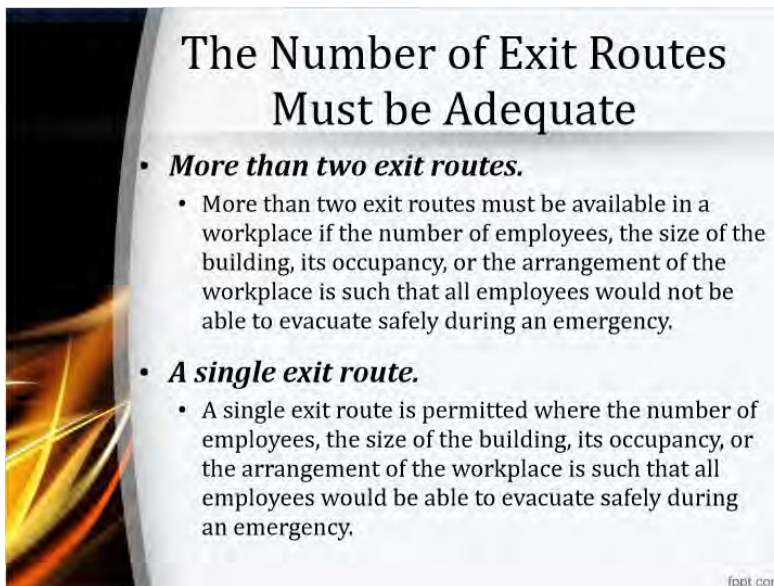


The Number of Exit Routes Must be Adequate

- **Two exit routes.**
 - At least two exit routes must be available in a workplace to permit prompt evacuation of employees and other building occupants during an emergency, except as allowed in this section.
 - The exit routes must be located as far away as practical from each other so that if one exit route is blocked by fire or smoke, employees can evacuate using the second exit route.



1.34 The Number of Exit Routes Must be Adequate

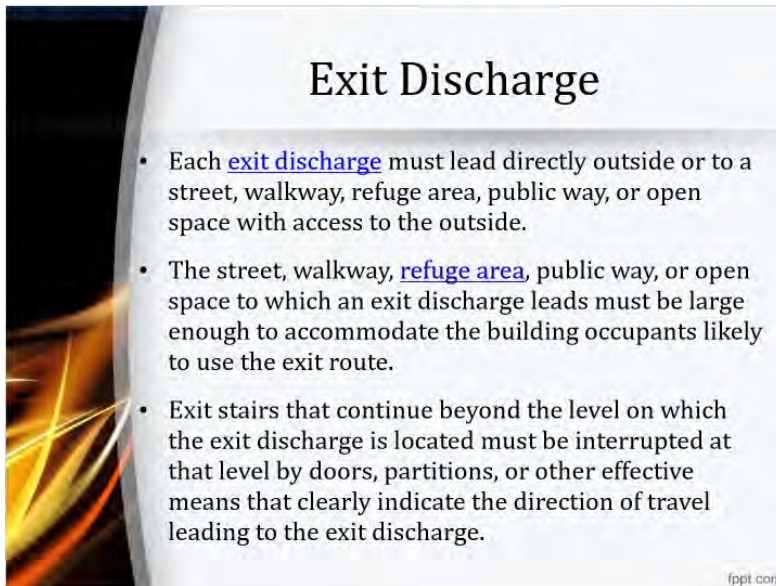


The Number of Exit Routes Must be Adequate

- **More than two exit routes.**
 - More than two exit routes must be available in a workplace if the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would not be able to evacuate safely during an emergency.
- **A single exit route.**
 - A single exit route is permitted where the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would be able to evacuate safely during an emergency.

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1.35 Exit Discharge

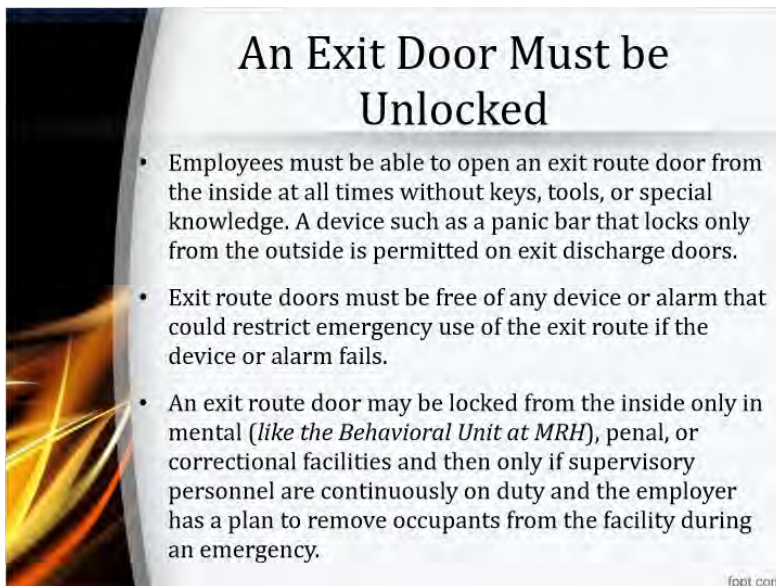
A presentation slide titled "Exit Discharge" with a decorative background of orange and yellow flames on the left side. The slide contains three bullet points.

Exit Discharge

- Each **exit discharge** must lead directly outside or to a street, walkway, refuge area, public way, or open space with access to the outside.
- The street, walkway, **refuge area**, public way, or open space to which an exit discharge leads must be large enough to accommodate the building occupants likely to use the exit route.
- Exit stairs that continue beyond the level on which the exit discharge is located must be interrupted at that level by doors, partitions, or other effective means that clearly indicate the direction of travel leading to the exit discharge.

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1.36 An Exit Door Must be Unlocked

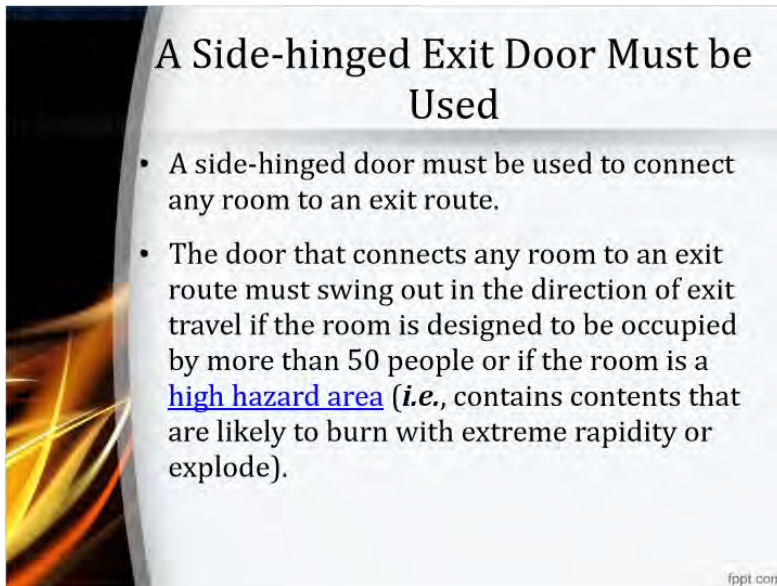
A presentation slide titled "An Exit Door Must be Unlocked" with a decorative background of orange and yellow flames on the left side. The slide contains three bullet points.

An Exit Door Must be Unlocked

- Employees must be able to open an exit route door from the inside at all times without keys, tools, or special knowledge. A device such as a panic bar that locks only from the outside is permitted on exit discharge doors.
- Exit route doors must be free of any device or alarm that could restrict emergency use of the exit route if the device or alarm fails.
- An exit route door may be locked from the inside only in mental (*like the Behavioral Unit at MRH*), penal, or correctional facilities and then only if supervisory personnel are continuously on duty and the employer has a plan to remove occupants from the facility during an emergency.

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1.37 A Side-hinged Exit Door Must be Used

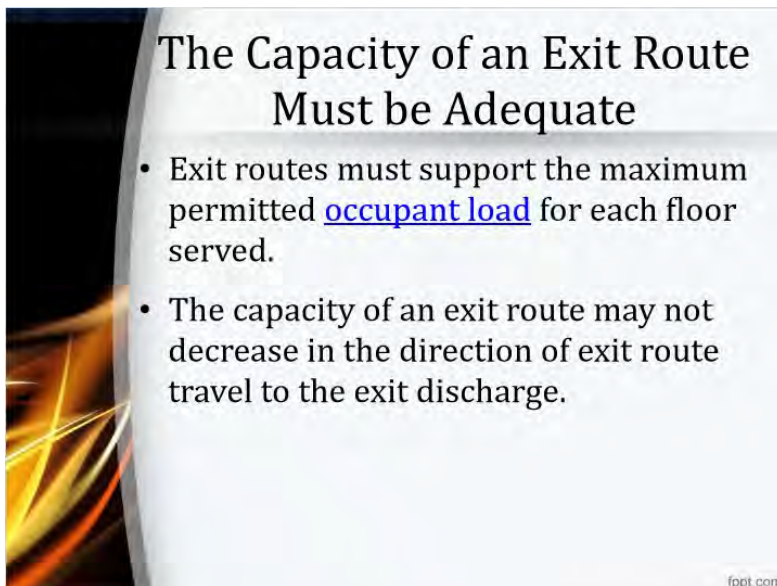


A Side-hinged Exit Door Must be Used

- A side-hinged door must be used to connect any room to an exit route.
- The door that connects any room to an exit route must swing out in the direction of exit travel if the room is designed to be occupied by more than 50 people or if the room is a [high hazard area](#) (*i.e.*, contains contents that are likely to burn with extreme rapidity or explode).

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1.38 The Capacity of an Exit Route Must be Adequate



The Capacity of an Exit Route Must be Adequate

- Exit routes must support the maximum permitted [occupant load](#) for each floor served.
- The capacity of an exit route may not decrease in the direction of exit route travel to the exit discharge.

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1.39 An Exit Route Must Meet Minimum Height and Width Requirements

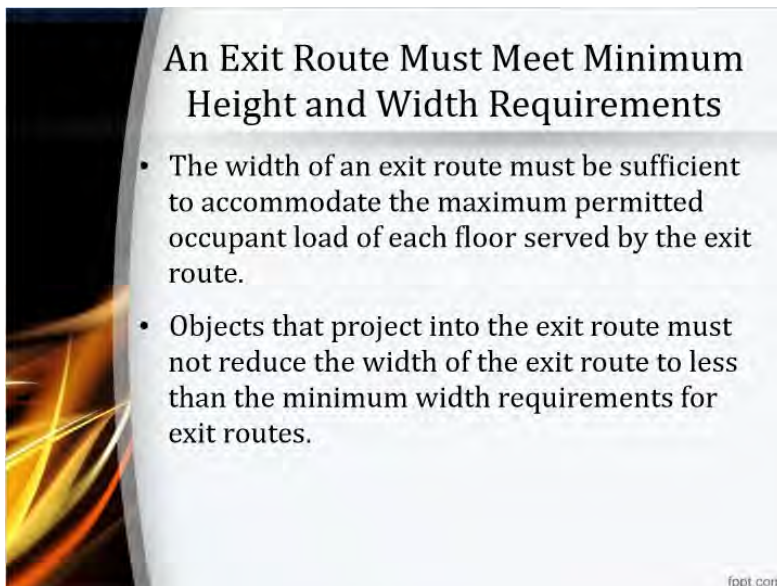


An Exit Route Must Meet Minimum Height and Width Requirements

- The ceiling of an exit route must be at least seven feet six inches high. Any projection from the ceiling must not reach a point less than six feet eight inches from the floor.
- An exit access must be at least 28 inches wide at all points.
 - Where there is only one exit access leading to an exit or exit discharge, the width of the exit and exit discharge must be at least equal to the width of the exit access.

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1.40 An Exit Route Must Meet Minimum Height and Width Requirements

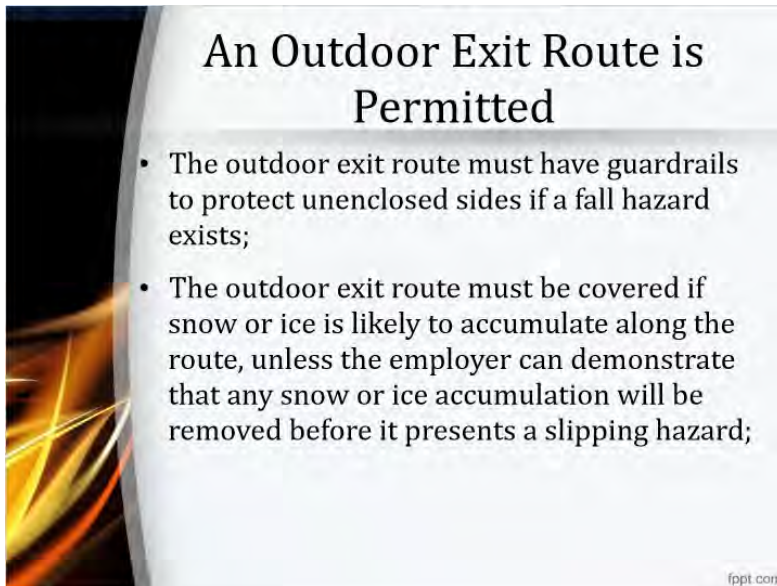


An Exit Route Must Meet Minimum Height and Width Requirements

- The width of an exit route must be sufficient to accommodate the maximum permitted occupant load of each floor served by the exit route.
- Objects that project into the exit route must not reduce the width of the exit route to less than the minimum width requirements for exit routes.

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1.41 An Outdoor Exit Route is Permitted

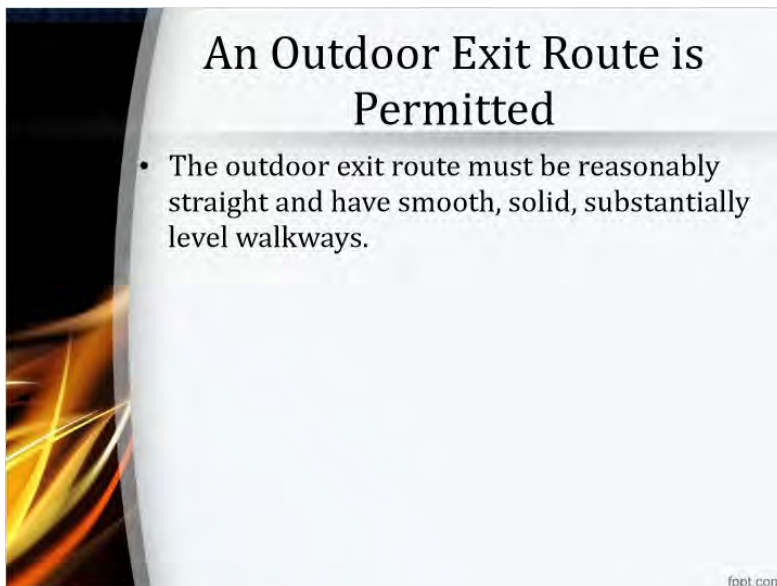


An Outdoor Exit Route is Permitted

- The outdoor exit route must have guardrails to protect unenclosed sides if a fall hazard exists;
- The outdoor exit route must be covered if snow or ice is likely to accumulate along the route, unless the employer can demonstrate that any snow or ice accumulation will be removed before it presents a slipping hazard;

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1.42 An Outdoor Exit Route is Permitted



An Outdoor Exit Route is Permitted

- The outdoor exit route must be reasonably straight and have smooth, solid, substantially level walkways.

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1.43 Egress



1.44 The Danger to Employees Must be Reduced

A presentation slide with a white central panel. The top and bottom panels feature abstract, flowing light trails in shades of orange, yellow, and red against a dark background. The title "The Danger to Employees Must be Reduced" is centered at the top in a black serif font. Below the title are two bullet points. At the bottom center is a small, square, slightly blurred photograph of a person in a dark, industrial-looking environment. A small "fppt.com" watermark is visible in the bottom right corner of the slide.

The Danger to Employees Must be Reduced

- Exit routes must be kept free of explosive or highly flammable furnishings or other decorations.
- Exit routes must be arranged so that employees will not have to travel toward a high hazard area, unless the path of travel is effectively shielded from the high hazard area by suitable partitions or other physical barriers.




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1.45 The Danger to Employees Must be Reduced

The Danger to Employees Must be Reduced

Does this picture meet the requirements of the first bullet?



- Exit routes must be free and **unobstructed**.
- No materials or equipment may be placed, either permanently or temporarily, within the exit route.
- The **exit access** must not go through a room that can be locked, such as a bathroom, to reach an exit or exit discharge, nor may it lead into a dead-end corridor.
- Stairs or a ramp must be provided where the exit route is not substantially level.

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1.46 Definitions

Definitions

- **Flame resistance** is the property of materials, or combinations of component materials, to retard ignition and restrict the spread of flame.
- **Sprinkler system** means a system of piping designed in accordance with fire protection engineering standards and installed to control or extinguish fires. The system includes an adequate and reliable water supply, and a network of specially sized piping and sprinklers which are interconnected. The system also includes a control valve and a device for actuating an alarm when the system is in operation.

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1.47 Extinguisher Classes

Fire Class	Geometric Symbol	Pictogram	Intended Use
A			Ordinary solid combustibles
B			Flammable liquids and gases
C			Energized electrical equipment
D		None	Combustible metals
K			Oils and fats

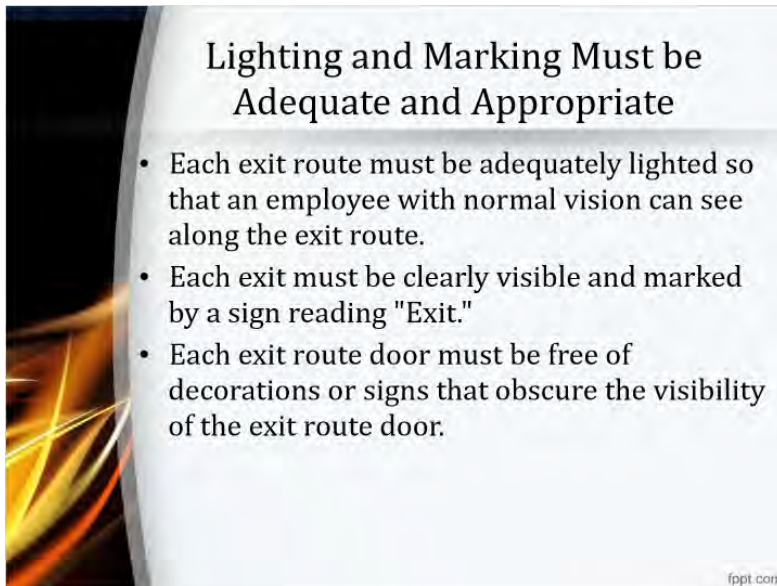
1.48 The Danger to Employees Must be Reduced

The Danger to Employees Must be Reduced

- Safeguards designed to protect employees during an emergency (*e.g.*, [sprinkler systems](#), alarm systems, fire doors, exit lighting) must be in proper working order at all times.



1.49 Lighting and Marking Must be Adequate and Appropriate

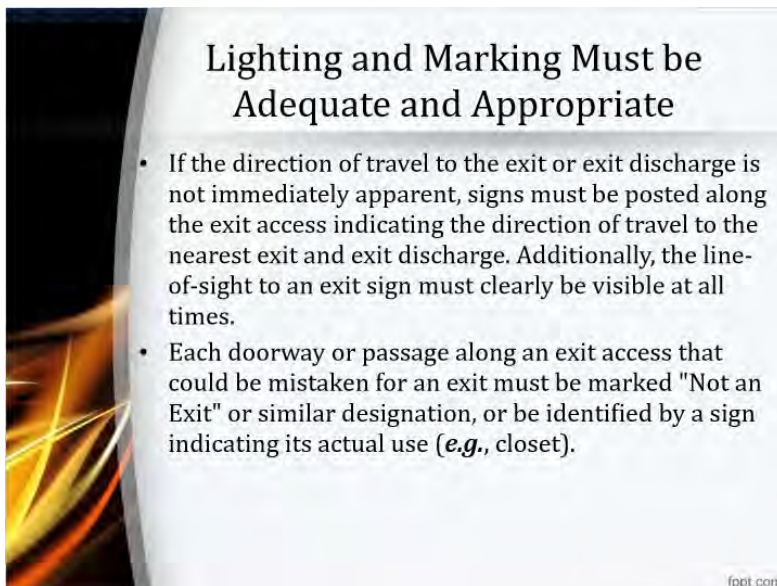


Lighting and Marking Must be Adequate and Appropriate

- Each exit route must be adequately lighted so that an employee with normal vision can see along the exit route.
- Each exit must be clearly visible and marked by a sign reading "Exit."
- Each exit route door must be free of decorations or signs that obscure the visibility of the exit route door.

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1.50 Lighting and Marking Must be Adequate and Appropriate

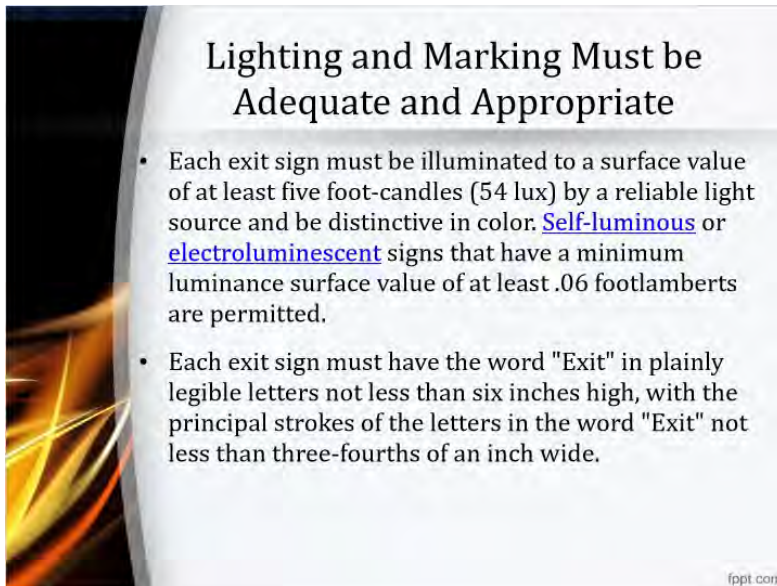


Lighting and Marking Must be Adequate and Appropriate

- If the direction of travel to the exit or exit discharge is not immediately apparent, signs must be posted along the exit access indicating the direction of travel to the nearest exit and exit discharge. Additionally, the line-of-sight to an exit sign must clearly be visible at all times.
- Each doorway or passage along an exit access that could be mistaken for an exit must be marked "Not an Exit" or similar designation, or be identified by a sign indicating its actual use (*e.g.*, closet).

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1.51 Lighting and Marking Must be Adequate and Appropriate

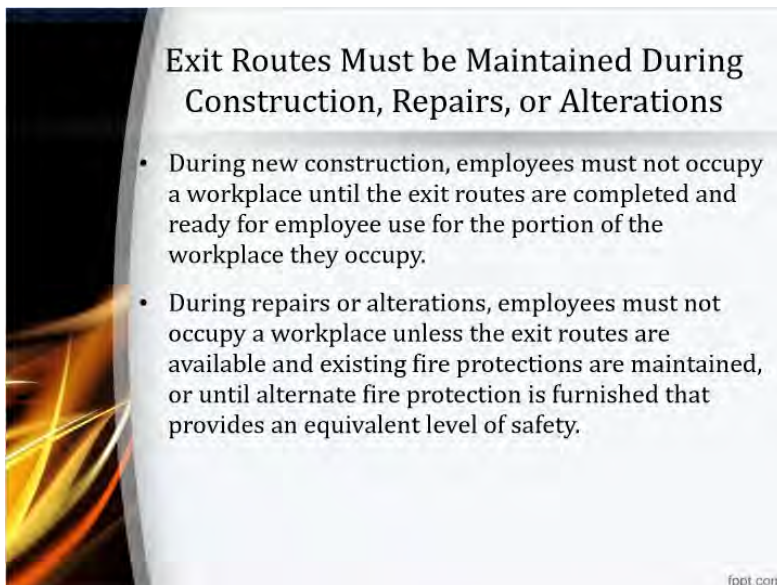


Lighting and Marking Must be Adequate and Appropriate

- Each exit sign must be illuminated to a surface value of at least five foot-candles (54 lux) by a reliable light source and be distinctive in color. [Self-luminous](#) or [electroluminescent](#) signs that have a minimum luminance surface value of at least .06 footlamberts are permitted.
- Each exit sign must have the word "Exit" in plainly legible letters 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.

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1.52 Exit Routes Must be Maintained During Construction, Repairs, or Alterations



Exit Routes Must be Maintained During Construction, Repairs, or Alterations

- During new construction, employees must not occupy a workplace until the exit routes are completed and ready for employee use for the portion of the workplace they occupy.
- During repairs or alterations, employees must not occupy a workplace unless the exit routes are available and existing fire protections are maintained, or until alternate fire protection is furnished that provides an equivalent level of safety.

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1.53 Exit Routes Must be Maintained During Construction, Repairs, or Alterations

Exit Routes Must be Maintained During Construction, Repairs, or Alterations

- Employees must not be exposed to hazards of flammable or explosive substances or equipment used during construction, repairs, or alterations, that are beyond the normal permissible conditions in the workplace, or that would impede exiting the workplace.



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1.54 An Employee Alarm System Must be Operable

An Employee Alarm System Must be Operable

- Employers must install and maintain an operable employee alarm system that has a distinctive signal to warn employees of fire or other emergencies.



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1.55 Examples of Obstructions Blocking Proper Egress






1.56 Fire Extinguishers



1.57 Selection and Distribution

Selection and Distribution

- Portable fire extinguishers shall be provided for employee use and selected and distributed based on the [classes](#) of anticipated workplace fires and on the size and degree of hazard which would affect their use.



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1.58 What extinguisher do I use?

What extinguisher do I use?

Class A: Wood, paper, textiles (trash, linens)
Use water Class A Extinguisher – ABC Extinguisher


Class B: Flammable liquids (grease, paint, alcohol)
Use BC (CO₂) Extinguisher, ABC Extinguisher

Class C: Electrical
Use BC (CO₂) Extinguisher, ABC Extinguisher

Class D: (not on campus) Flammable metals, magnesium, potassium
Use D Fire Extinguisher – located at Heliport

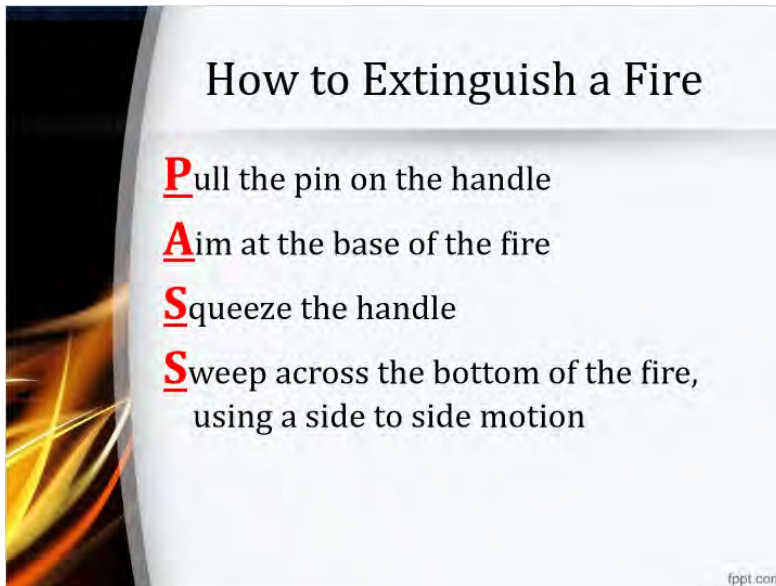
Class E: Sophisticated electronic equipment
Use BC/ABC Extinguisher

Class K: Cooking oil
Use Type ABC, BC or K Extinguisher



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1.59 How to Extinguish a Fire

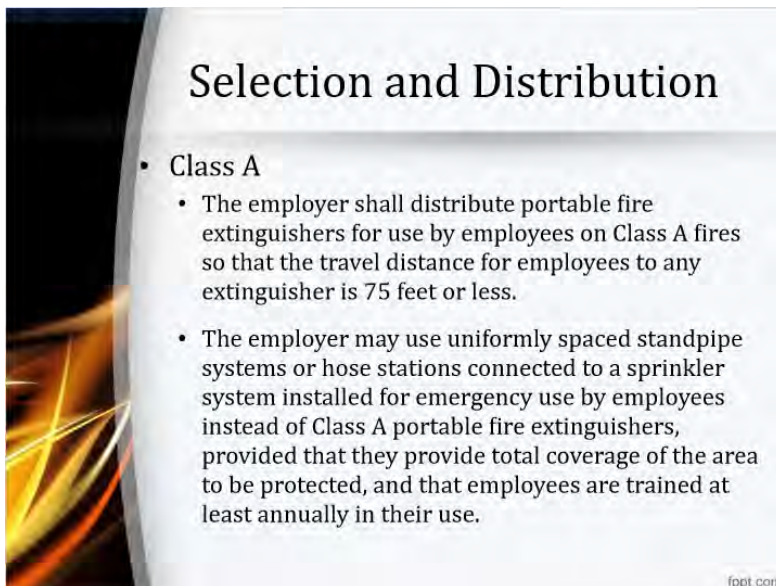


How to Extinguish a Fire

- P**ull the pin on the handle
- A**im at the base of the fire
- S**queeze the handle
- S**weep across the bottom of the fire, using a side to side motion

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1.60 Selection and Distribution

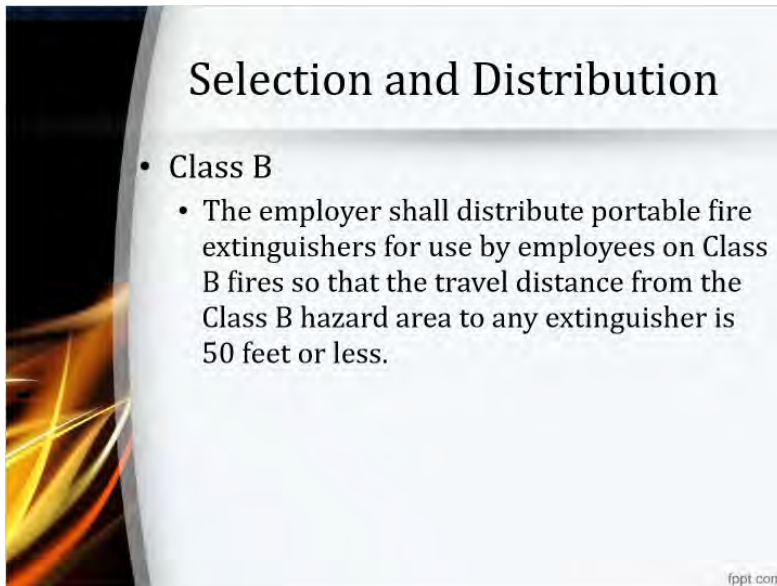


Selection and Distribution

- Class A
 - The employer shall distribute portable fire extinguishers for use by employees on Class A fires so that the travel distance for employees to any extinguisher is 75 feet or less.
 - The employer may use uniformly spaced standpipe systems or hose stations connected to a sprinkler system installed for emergency use by employees instead of Class A portable fire extinguishers, provided that they provide total coverage of the area to be protected, and that employees are trained at least annually in their use.

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1.61 Selection and Distribution

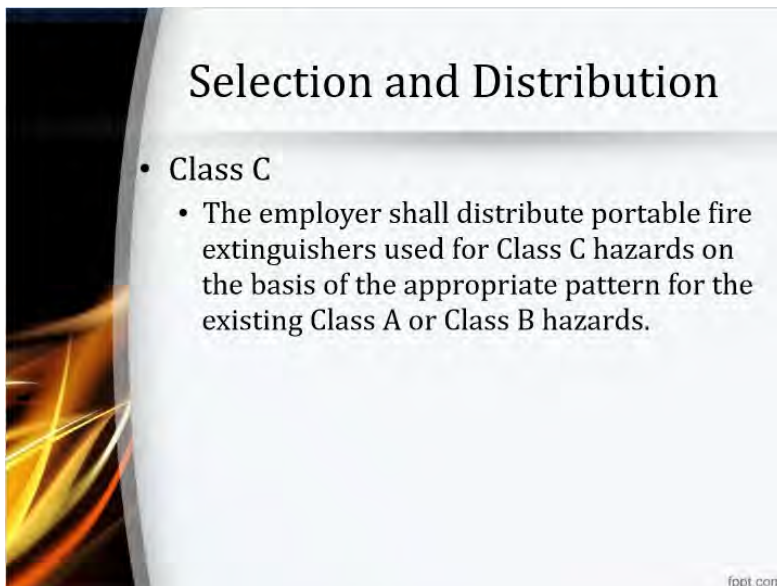


Selection and Distribution

- Class B
 - The employer shall distribute portable fire extinguishers for use by employees on Class B fires so that the travel distance from the Class B hazard area to any extinguisher is 50 feet or less.

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1.62 Selection and Distribution



Selection and Distribution

- Class C
 - The employer shall distribute portable fire extinguishers used for Class C hazards on the basis of the appropriate pattern for the existing Class A or Class B hazards.

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1.63 Selection and Distribution

Selection and Distribution

- Class D
 - The employer shall distribute portable fire extinguishers or other containers of Class D extinguishing agent for use by employees so that the travel distance from the combustible metal working area to any extinguishing agent is 75 feet or less.
 - Portable fire extinguishers for Class D hazards are required in those combustible metal working areas where combustible metal powders, flakes, shavings, or similarly sized products are generated at least once every two weeks.

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1.64 Inspection, Maintenance and Testing

Inspection, Maintenance and Testing

- Fire extinguishers are:
 - Inspected - monthly
 - Maintanaced - annually
 - Hydrostatically tested - periodically

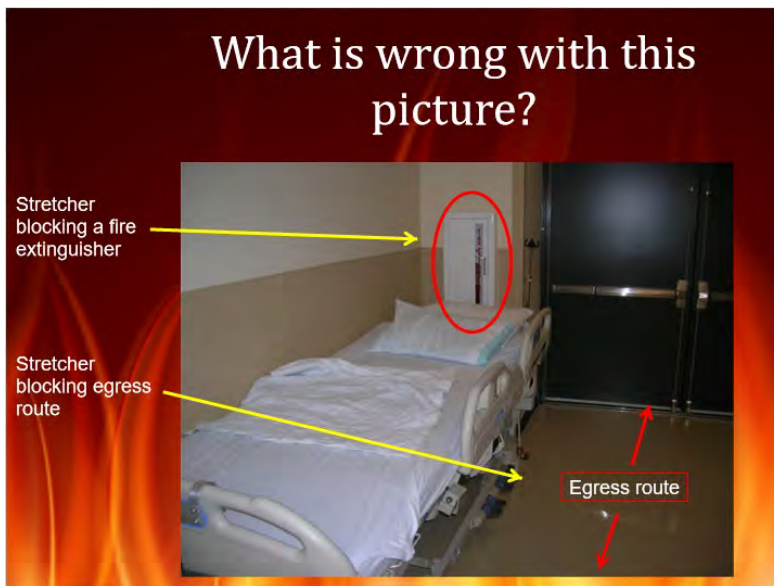


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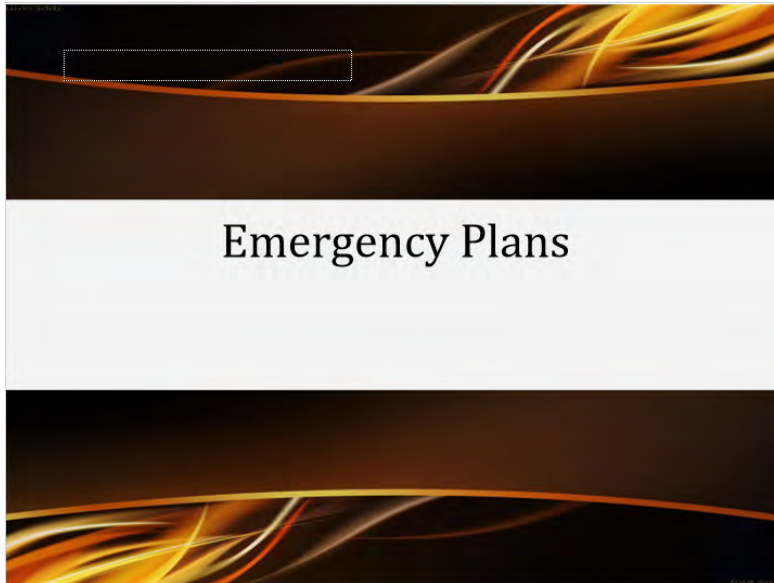
1.65 What is wrong with this picture?



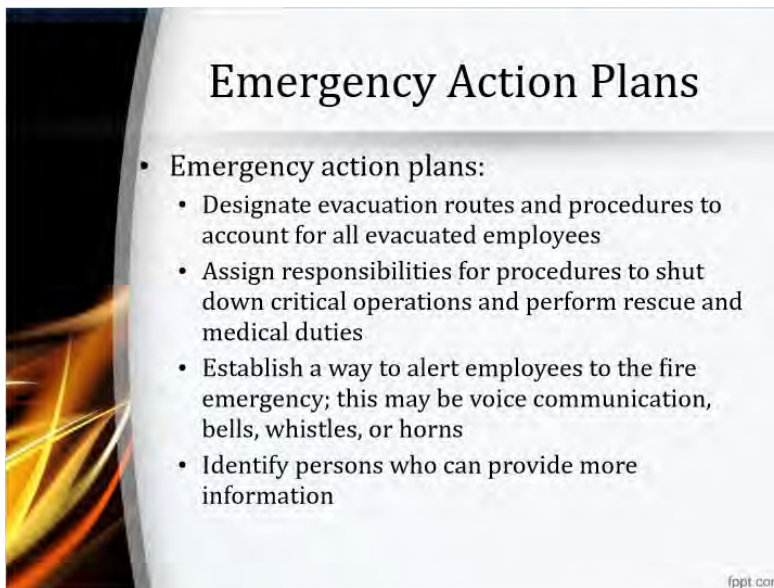
1.66 What is wrong with this picture?



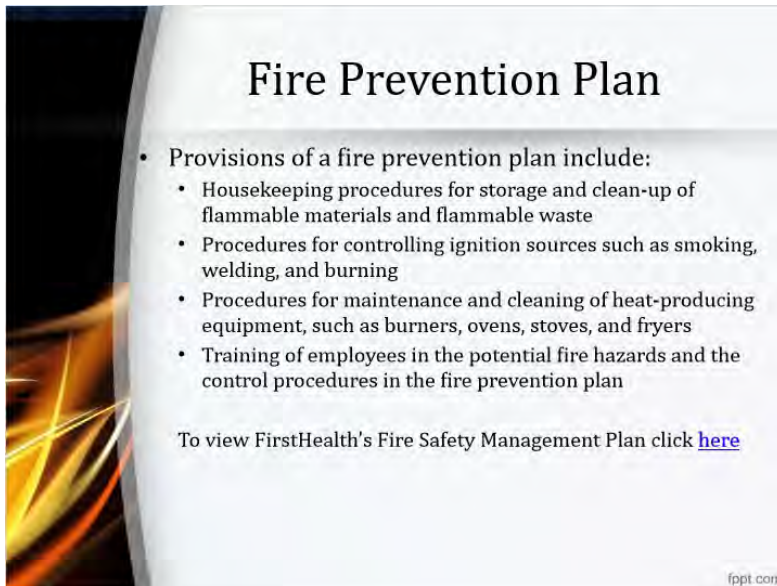
1.67 Emergency Plans



1.68 Emergency Action Plans



1.69 Fire Prevention Plan

A slide titled "Fire Prevention Plan" with a decorative background of orange and yellow flames on the left side. The slide contains a bulleted list of provisions for a fire prevention plan and a link to FirstHealth's Fire Safety Management Plan.

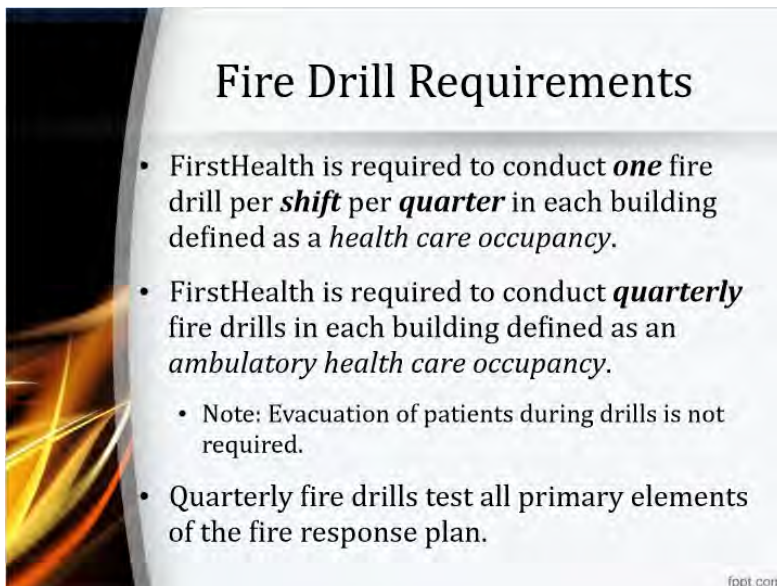
Fire Prevention Plan

- Provisions of a fire prevention plan include:
 - Housekeeping procedures for storage and clean-up of flammable materials and flammable waste
 - Procedures for controlling ignition sources such as smoking, welding, and burning
 - Procedures for maintenance and cleaning of heat-producing equipment, such as burners, ovens, stoves, and fryers
 - Training of employees in the potential fire hazards and the control procedures in the fire prevention plan

To view FirstHealth's Fire Safety Management Plan click [here](#)

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1.70 Fire Drill Requirements

A slide titled "Fire Drill Requirements" with a decorative background of orange and yellow flames on the left side. The slide contains a bulleted list of requirements for fire drills.

Fire Drill Requirements

- FirstHealth is required to conduct **one** fire drill per **shift** per **quarter** in each building defined as a *health care occupancy*.
- FirstHealth is required to conduct **quarterly** fire drills in each building defined as an *ambulatory health care occupancy*.
 - Note: Evacuation of patients during drills is not required.
- Quarterly fire drills test all primary elements of the fire response plan.

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1.71 Fire Drill Requirements

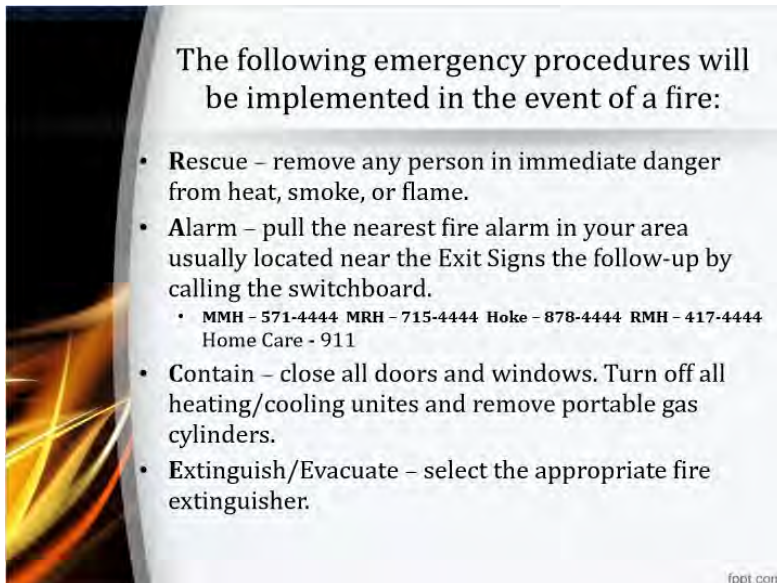


Fire Drill Requirements

- FirstHealth is required to conduct fire drills every **12 months** from the date of the last drill in all freestanding buildings classified as *business occupancies* and in which patients are seen or treated.
- **At least 50% of the required drills are unannounced.**

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1.72 The following emergency procedures will be implemented in the event of a fire:



The following emergency procedures will be implemented in the event of a fire:

- **Rescue** – remove any person in immediate danger from heat, smoke, or flame.
- **Alarm** – pull the nearest fire alarm in your area usually located near the Exit Signs the follow-up by calling the switchboard.
 - MMH - 571-4444 MRH - 715-4444 Hoke - 878-4444 RMH - 417-4444 Home Care - 911
- **Contain** – close all doors and windows. Turn off all heating/cooling unites and remove portable gas cylinders.
- **Extinguish/Evacuate** – select the appropriate fire extinguisher.

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1.73 Planning Ahead

Planning Ahead

- Fire Emergency Pre-Plan:
 - Know the location of the nearest fire alarm
 - Know the emergency number to dial at each facility
 - Know the location of fire extinguishers and how to use them
 - Know the location of all exits
 - Know proper evacuation procedures and routes

For detailed information, Code Red Plans are located on the next slide

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1.74 Code Red Plans

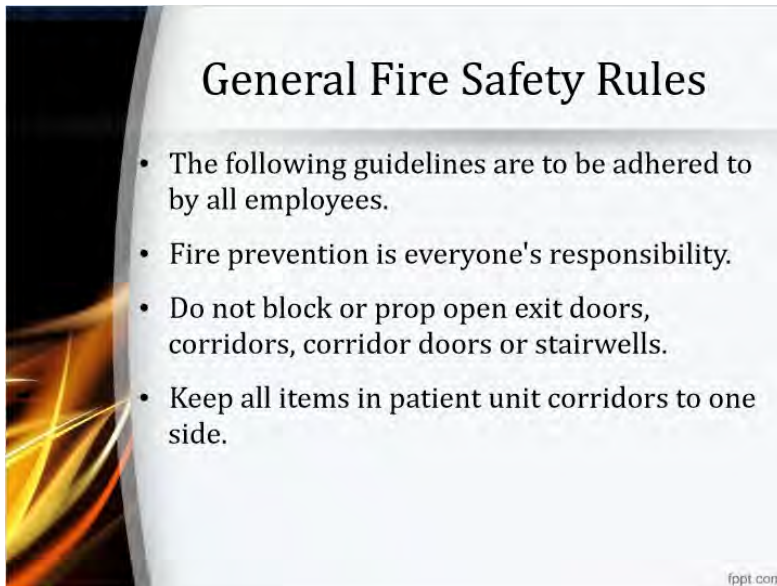
Code Red Plans

- MRH/Hoke – click [here](#)
- RMH – click [here](#)
- MMH – click [here](#)



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1.75 General Fire Safety Rules

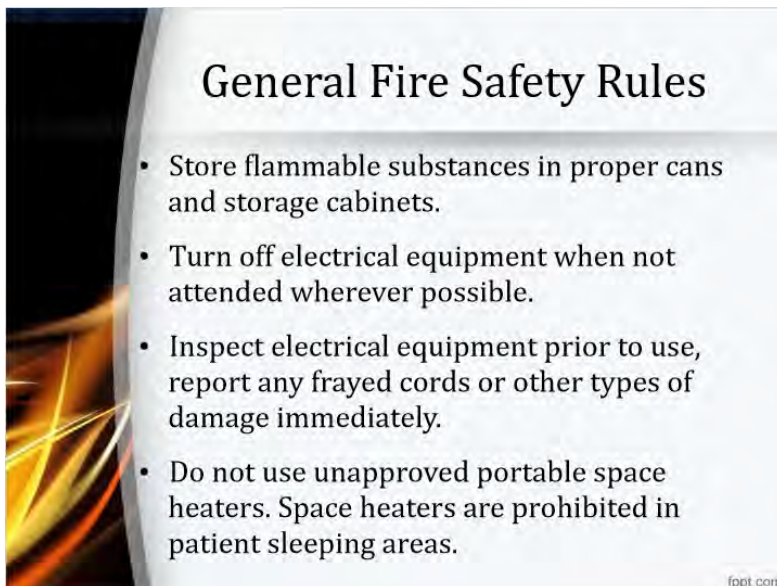


General Fire Safety Rules

- The following guidelines are to be adhered to by all employees.
- Fire prevention is everyone's responsibility.
- Do not block or prop open exit doors, corridors, corridor doors or stairwells.
- Keep all items in patient unit corridors to one side.

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1.76 General Fire Safety Rules

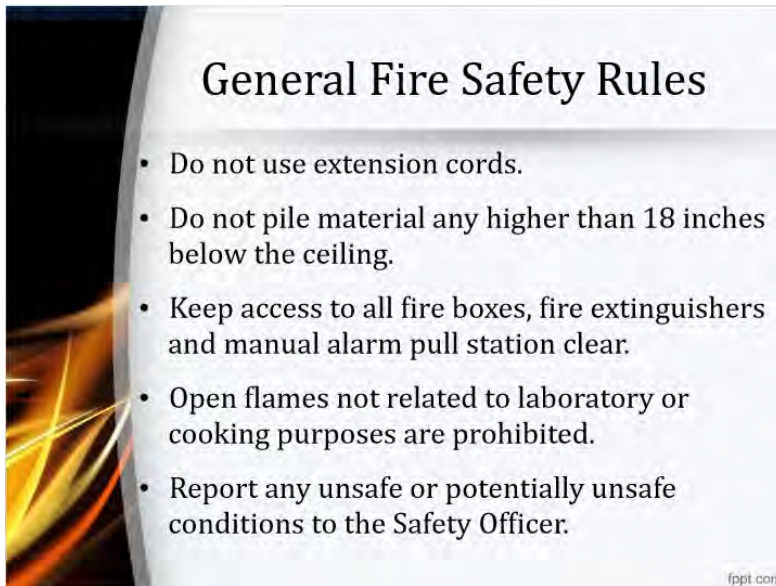


General Fire Safety Rules

- Store flammable substances in proper cans and storage cabinets.
- Turn off electrical equipment when not attended wherever possible.
- Inspect electrical equipment prior to use, report any frayed cords or other types of damage immediately.
- Do not use unapproved portable space heaters. Space heaters are prohibited in patient sleeping areas.

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1.77 General Fire Safety Rules

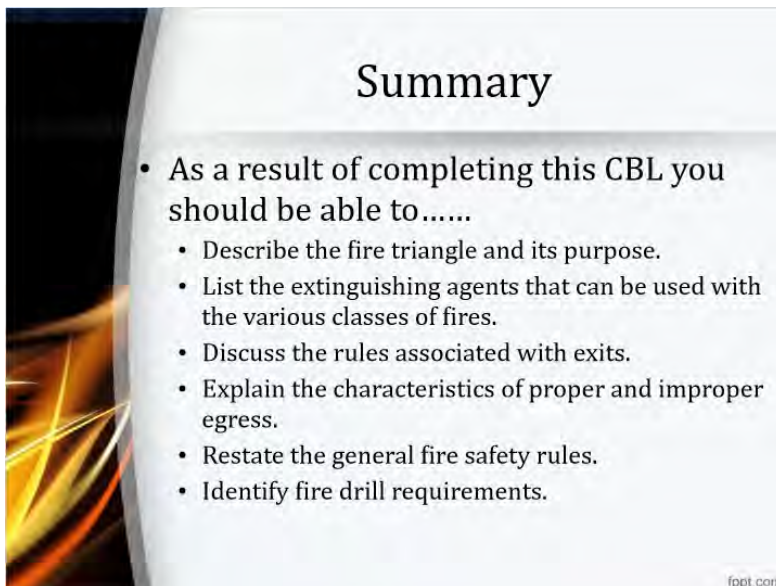


General Fire Safety Rules

- Do not use extension cords.
- Do not pile material any higher than 18 inches below the ceiling.
- Keep access to all fire boxes, fire extinguishers and manual alarm pull station clear.
- Open flames not related to laboratory or cooking purposes are prohibited.
- Report any unsafe or potentially unsafe conditions to the Safety Officer.

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1.78 Summary

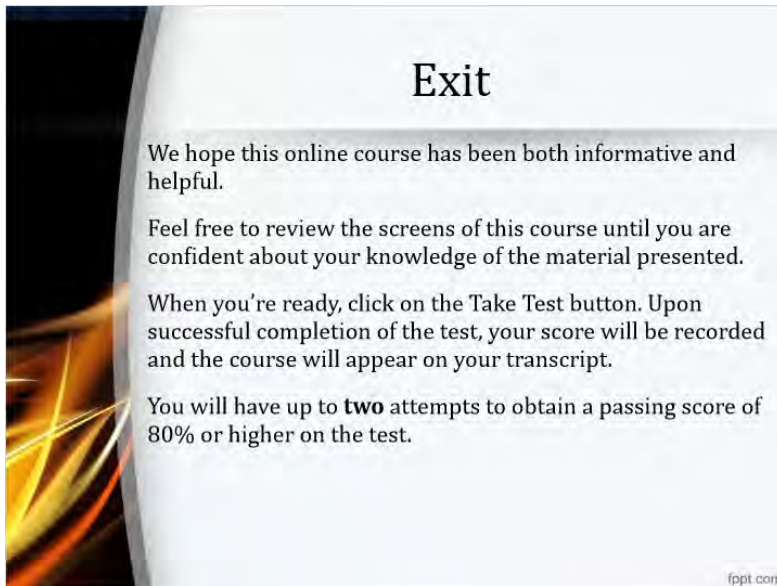


Summary

- As a result of completing this CBL you should be able to.....
 - Describe the fire triangle and its purpose.
 - List the extinguishing agents that can be used with the various classes of fires.
 - Discuss the rules associated with exits.
 - Explain the characteristics of proper and improper egress.
 - Restate the general fire safety rules.
 - Identify fire drill requirements.

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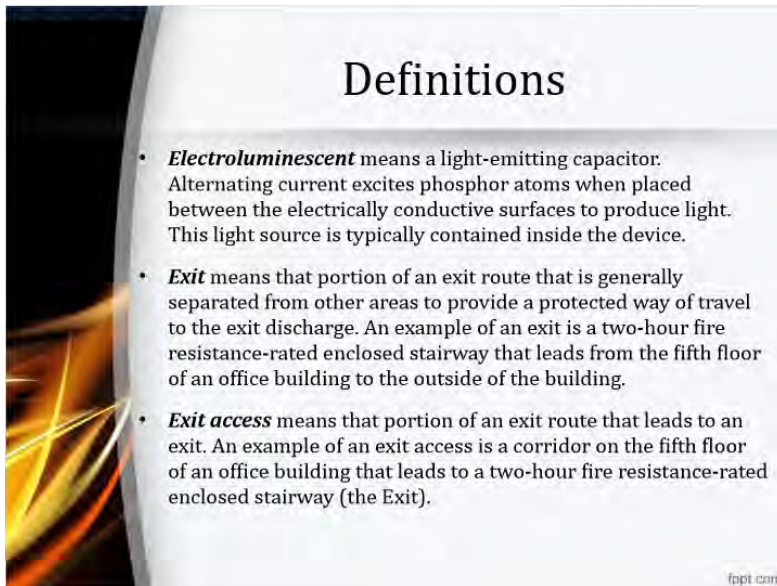
1.79 Exit



1.80 Untitled Slide



1.81 Definitions

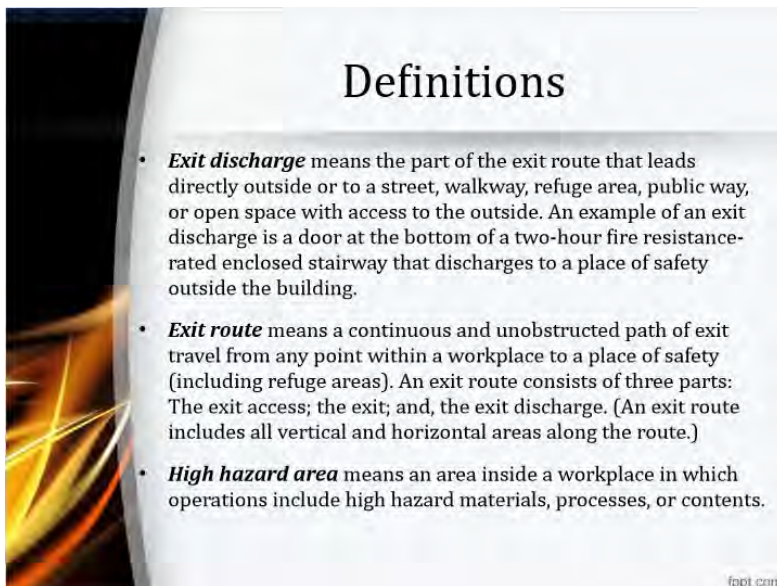


Definitions

- **Electroluminescent** means a light-emitting capacitor. Alternating current excites phosphor atoms when placed between the electrically conductive surfaces to produce light. This light source is typically contained inside the device.
- **Exit** means that portion of an exit route that is generally separated from other areas to provide a protected way of travel to the exit discharge. An example of an exit is a two-hour fire resistance-rated enclosed stairway that leads from the fifth floor of an office building to the outside of the building.
- **Exit access** means that portion of an exit route that leads to an exit. An example of an exit access is a corridor on the fifth floor of an office building that leads to a two-hour fire resistance-rated enclosed stairway (the Exit).

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1.82 Definitions

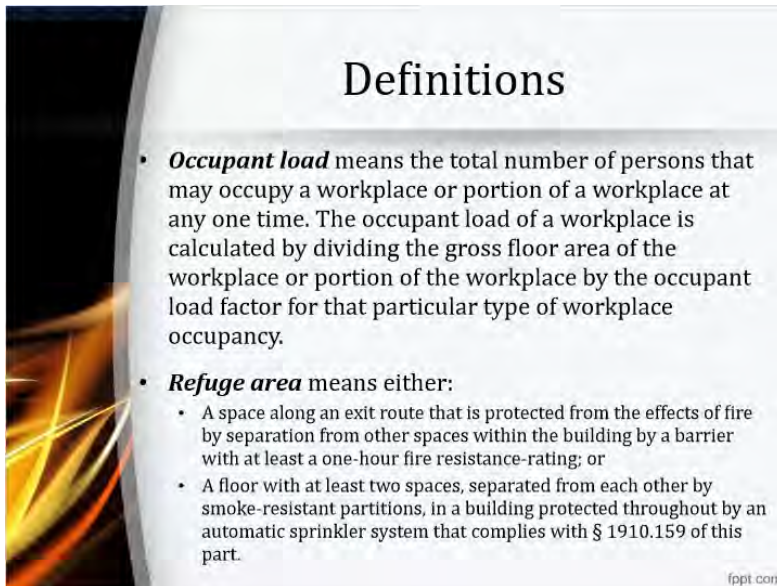


Definitions

- **Exit discharge** means the part of the exit route that leads directly outside or to a street, walkway, refuge area, public way, or open space with access to the outside. An example of an exit discharge is a door at the bottom of a two-hour fire resistance-rated enclosed stairway that discharges to a place of safety outside the building.
- **Exit route** means a continuous and unobstructed path of exit travel from any point within a workplace to a place of safety (including refuge areas). An exit route consists of three parts: The exit access; the exit; and, the exit discharge. (An exit route includes all vertical and horizontal areas along the route.)
- **High hazard area** means an area inside a workplace in which operations include high hazard materials, processes, or contents.

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1.83 Definitions

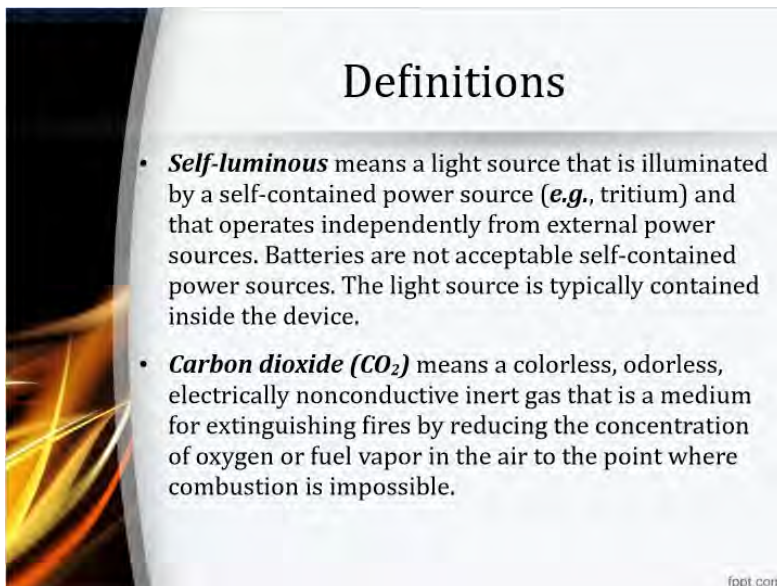


Definitions

- **Occupant load** means the total number of persons that may occupy a workplace or portion of a workplace at any one time. The occupant load of a workplace is calculated by dividing the gross floor area of the workplace or portion of the workplace by the occupant load factor for that particular type of workplace occupancy.
- **Refuge area** means either:
 - A space along an exit route that is protected from the effects of fire by separation from other spaces within the building by a barrier with at least a one-hour fire resistance-rating; or
 - A floor with at least two spaces, separated from each other by smoke-resistant partitions, in a building protected throughout by an automatic sprinkler system that complies with § 1910.159 of this part.

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1.84 Definitions

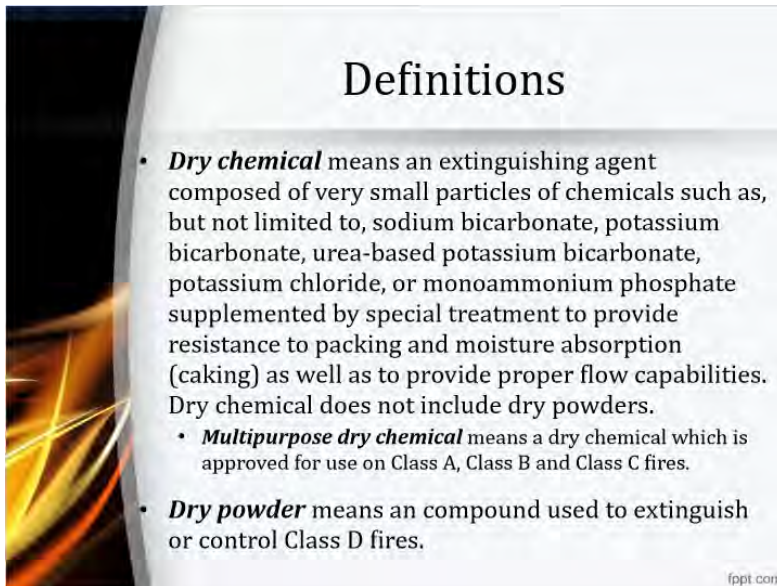


Definitions

- **Self-luminous** means a light source that is illuminated by a self-contained power source (*e.g.*, tritium) and that operates independently from external power sources. Batteries are not acceptable self-contained power sources. The light source is typically contained inside the device.
- **Carbon dioxide (CO₂)** means a colorless, odorless, electrically nonconductive inert gas that is a medium for extinguishing fires by reducing the concentration of oxygen or fuel vapor in the air to the point where combustion is impossible.

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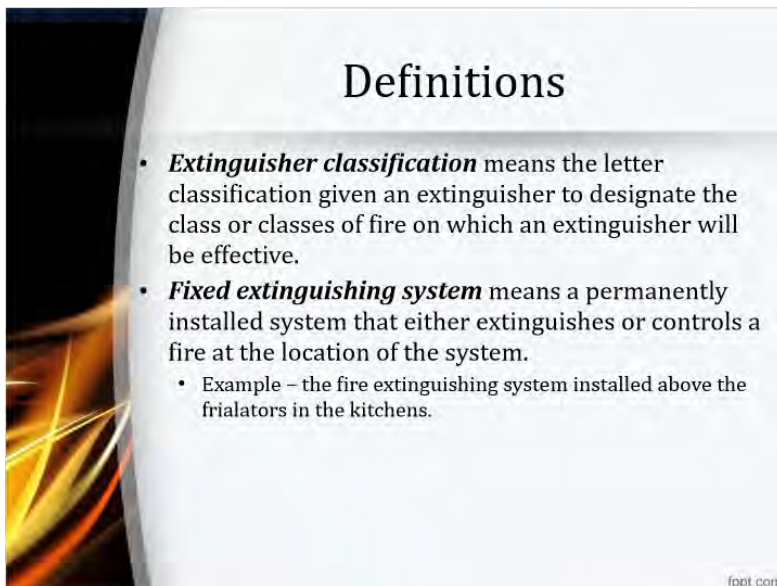
1.85 Definitions



Definitions

- **Dry chemical** means an extinguishing agent composed of very small particles of chemicals such as, but not limited to, sodium bicarbonate, potassium bicarbonate, urea-based potassium bicarbonate, potassium chloride, or monoammonium phosphate supplemented by special treatment to provide resistance to packing and moisture absorption (caking) as well as to provide proper flow capabilities. Dry chemical does not include dry powders.
 - **Multipurpose dry chemical** means a dry chemical which is approved for use on Class A, Class B and Class C fires.
- **Dry powder** means an compound used to extinguish or control Class D fires.


1.86 Definitions



Definitions

- **Extinguisher classification** means the letter classification given an extinguisher to designate the class or classes of fire on which an extinguisher will be effective.
- **Fixed extinguishing system** means a permanently installed system that either extinguishes or controls a fire at the location of the system.
 - Example – the fire extinguishing system installed above the frialators in the kitchens.

1.87 Definitions




Definitions

- **Standpipe systems**
 - **Class I standpipe system** means a 2 1/2" hose connection for use by fire departments and those trained in handling heavy fire streams.
 - **Class II standpipe system** means a 1 1/2 inch hose system which provides a means for the control or extinguishment of incipient stage fires.
 - **Class III standpipe system** means a combined system of hose which is for the use of employees trained in the use of hose operations and which is capable of furnishing effective water discharge during the more advanced stages of fire (beyond the incipient stage) in the interior of workplaces. Hose outlets are available for both 1 1/2" and 2 1/2" hose.

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1.88 Exothermic Reaction



Exothermic Reaction

- An exothermic reaction is a chemical or physical reaction that releases heat.
- It gives net energy to its surroundings.
- That is, the energy needed to initiate the reaction is less than the energy that is subsequently released.

An exothermic thermite reaction using iron oxide. The sparks flying outwards are globules of molten iron trailing smoke in their wake.



Wikipedia

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