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PROJECT

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"Fire Safety"

Submitted to

Rashtrasant Tukadoji Maharaj Nagpur University,

NAGPUR

In the Partial Fulfilments of

B.Com. (Computer Application) Final Year

Submitted by

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Under the Guidance of

Pravin J. Yadao



G. S. College of Commerce & Economics

Nagpur

2019-2020

G. S. COLLEGE OF COMMERCE & ECONOMICS

NAGPUR



This is to certify that Miss Gehna Srivastava & Miss Sakshi Puttewar has completed their project on the topic of "Fire Safety" prescribed by the Rashtrasant Tukadoji Maharaj Nagpur University for B.Com. (Computer Application) - III course in G. S. College of Commerce & Economics, Nagpur.

Date:

Place: Nagpur

Pravin J. Yadao

Project Guide

External Examiner

Internal Examiner

ACKNOWLEDGEMENT

We take this opportunity to express our deep gratitude and whole hearted thanks to project guide Prof. Pravin Yadao, Coordinator for his guidance throughout this work. We are very much thankful to him for his constant encouragement, support and kindness.

We are also grateful to our teachers Prof. Rahul Tiwari, Prof. Sushma Gawande, Prof. Preeti Rangari, Prof. Prajkta Deshpande and Prof. Haresh Naringe for their encouragement, help and support from time to time.

We also wish to express our sincere thanks to Principal Dr. N. Y. Khandait for providing us wide range of opportunities, facilities and inspiration to gather professional knowledge and material without which this project could not have been completed.

Gehna Srivastava

Sakshi Puttewar

Date:

Place: Nagpur

DECLARATION

We **Gehna Srivastava & Sakshi Puttewar** hereby honestly declare that the work entitled **"Fire Safety"** submitted by us at G.S. College of Commerce & Economics, Nagpur in partial fulfillment of requirement for the award of B.Com. (Computer Application) degree by Rashtrasant Tukadoji Maharaj, Nagpur University, Nagpur has not been submitted elsewhere for the award of any degree, during the academic session 2019-2020.

The project has been developed and completed by us independently under the supervision of the subject teacher and project guide.

Gehna Srivastava

Sakshi Puttewar

Date:

Place: Nagpur

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INTRODUCTION

INTRODUCTION

Fire safety is the set of practices intended to reduce the destruction caused by fire. Fire safety measures include those that are intended to prevent ignition of an uncontrolled fire, and those that are used to limit the development and effects of a fire after it starts.

Fire prevention wasn't a thing in the United States Until after the Great Chicago Fire In 1871. The notorious inferno killed more than 250 people, destroyed more than 17, 400 buildings, leaving 100,000 people homeless. The fire started on October 8, but did most of its damage on October 9, 1871, consuming more than 2000 acres and burning for nearly 27 hours.

According to popular legend, the fire broke out shortly after a cow that belonged to Mrs. Catherine O'Leary accidentally kicked over a lamp, setting the barn, then the entire city ablaze.

For more than 130 years, people have been blaming Mrs. O'leary for the Great Chicago Fire. But research conducted by Historian Robert Cromine has helped to clarify what really happened.

The survivors of the Chicago fire never forgot their ordeal; the blaze produced numerous tales of heroism. But the fire also changed the way fire fighters thought about safety. On the 40th anniversary of the Great Fire, the International Fire Marshals Association (previously known as The Fire Marshals Association of North America) came to a unanimous decision that the Great Chicago fire will no longer be observed with other festivals, but in a way and manner that will keep the public abreast with the importance of fire prevention. The commemoration became more and more official as the years when by.

The first National fire prevention day proclamation was issued in 1920, by President Wilson. Since then the fire prevention week has been observed on Saturday and Sunday during the month of October.

Reports from the National Archive and record Administration Library Information Center shows that fire prevention week is the longest public safety and health observance in history. The president of the US signed a resounding proclamation, proclaiming the observance during that week since 1925. Thousands of Fires are reported each year in the US alone annually. These fires are responsible for two-thirds of structural damage in some region. Below are some tips can help you prevent and control fires.

- Install fire alarms properly
- Pay special attention to heating and cooking equipment
- Plan an escape route way in advance
- Choose the right fire extinguisher
- Learn more about fire dangers

Fire safety measures include those that are planned during the construction of a building or implemented in structures that are already standing, and those that are taught to occupants of the building.

Fire comes under the most common reason for the loss in the workplaces. And it is also one of the biggest reasons for the accidental loss of human resources at the workplace. Also, the numbers of fire accidents are not only increasing every year, but they are also becoming dangerous to every year. Even a small fire can cause a lot of loss in the business, so it is really important to have proper fire prevention at the workplace.

Having proper fire prevention equipment is not only the legal compulsion for business owners but also the moral duty of the owner towards their workers. If the workers will feel safe in their workplace, it is evident that they will work with more relax mind and with more efficiency and this will only result in the growth of the business. While many business and workplace offer their workers to get the training regarding the fire prevention and how can they avoid such situations or what they should do at the very first moment, while these training can be obtained online also. And getting the online knowledge is not only convenient but also save lots of time of the person.

So, we created a website that's friendly to users. Fire safety is a site which helps users to understand the need of fire safety and take necessary measures to avoid fire accidents.

OBJECTIVES

OBJECTIVES

Following are objectives of fire safety:

- 1. The main objective of fire safety is to provide people proper knowledge of fire protection by increasing the efficiency and effectiveness.
- 2. To bring awareness in the society regarding it, so that they can know exactly what they have to do in such situations.
- 3. Provide necessary measures to be taken to prevent fire.
- 4. Safety concern.
- 5. Fire safety has a very user-friendly interface. Thus, the users will feel very easy to work on it.
- 6. Make the manual system more interactive and speedier.
- 7. The system must be stable and can be operated by people with average.

PRELIMINARY SYSTEM ANALYSIS

PRELIMINARY SYSTEM ANALYSIS

Preliminary investigation is the first phase. In this phase, the system is investigated. The objective of this phase is to conduct an initial analysis and findings of the system

It guides the management of an organisation to evaluate the merits and demerits of the project request and make an informed judgement about the feasibility of the proposed system.

These specifications provided to us by the organisation showed how the new system should look like, it helped us in understanding the basic structure of the application which we were supposed to develop.

In this project we have created an informational website that will help people to find their requirements easily, it will make people more efficient and knowledgeable about how they can avoid or prevent fire accidents situation .

PRELIMINARY INVESTIGATION

The preliminary investigation in our project revealed that through this website of fire safety user have no need to visit different websites as it provides each and every details regarding their need which saves their time and efforts.

Through this website we provided best available information as per their own needs and requirements.

• NEED OF NEW SYSTEM

In order to derive the objective of the project, the system is selected in such a way so that it would satisfy all the requirements of the project.

Todays world is digital world where people avoid hectic process thus, our website provides quick access to their desired choice just by sitting in their homes, workplace etc. Also through the help of our website they can rescue themselves by their own without waiting for the fire department agencies as it takes some time.

• FEASIBLITY STUDY

The goal of the feasibility study is to consider alternative information system solutions, evaluate their feasibility, and propose the alternative most suitable to the organization.

In "Fire safety" feasibility study considered three major keys, they are:-

1.Economic Feasibility :-

Economic feasibility determines the costs of developing and implementing a new system as well as the benefits of the new system. Our website doesn't cost much therefore benefits are definitely more.

2. Technical Feasibility :-

The possibility that the organization has or can procure the necessary resources. This is demonstrated if the needed hardware and software are available in the marketplace or can be developed by the time of implementation.

3.Operational Feasibility:-

The ability, desire and willingness of the stakeholders to use, support and operate the proposed computer information system. The stakeholders include management, employees, customers, and suppliers. The stakeholders are interested in system that are easy to operate, make few, if any, errors, produce the desired information, and fall within the objectives of the organization.

PROJECT CATEGORY

PROJECT CATEGORY

Website name is "Fire Safety" which is developed using HTML (hypertext markup language), CSS and JavaScript. This website is an informative in nature, people can receive knowledge through it.

HTML:-

HTML is an acronym which stands for which is used for creating web pages and web applications. It is used for designing different web pages and appearance, due to html tags. Different special effects of text, pictures animation effects, color-effect, and text size and font style can define to make more effective web page. HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets.

CSS:-

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.

The name cascading comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable.

JavaScript:-

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. As a multiparadigm language, JavaScript supports event-driven, functional, and imperative programming styles. It has application programming interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM). However, the language itself does not include any input/output (I/O), such as networking, storage, or graphics facilities, as the host environment (usually a web browser) provides those APIs.

Originally used only in web browsers, JavaScript engines are also now embedded in server-side website deployments and non-browser applications.

Although there are similarities between JavaScript and Java, including language name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design.

SOFTWARE AND HARDWARE REQUIREMENT SPECIFICATIONS

SOFTWARE AND HARDWARE REQUIREMENT SPECIFICATIONS

FRONT END:- HTML, CSS & JAVASCRIPT

A front end system is part of an information system that is directly accessed and interacted with by the user to receive or utilize back-end capabilities of the host system. It enables users to access and request the features and services of the underlying information system.

The front end system can be a software application or the combination or hardware, software and network resources.

HARDWARE:-

Hardware is being defined as under it contains how much processor speed and how much RAM will be used for the better performance of the website

Processor Pentium 4 or newer version

Processor speed: 2.00 gigahertz(GHz)

RAM: 2 GB

HARDWARE: 250 GB

SOFTWARE:-

Software is being defined as under it contain in which operating system and on which web browser has supported for the performance of the website.

- A. Hardware is being define as under it contain.
- B. Internet Explore 6.0 or higher.
- C. Notepad ++
- D. Goggle chrome

STRUCTURE OF WEBSITE



SOURCE CODE:-

SYSTEM DESIGN

SOURCE CODE:-

HOMEPAGE:-

<html>

<head>

<title>informative wesite</title>

k rel="stylesheet" href="homepage1.css">

k rel="stylesheet" type="text/css" href="services.css">

khref="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min .css" rel="stylesheet">

```
khref="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.min.css" rel="stylesheet">
```

k rel="stylesheet" href="footerstyle.css">

</head>

<body>

```
<section><div class="banner-area">
```

```
<IMG src="flg.jpeg" height=100/>
```

<div class="header">

<div class="header-right">

```
<a href="homepage1.html"><i class="fa fa-home fa-1x" aria-
hidden="true"></i></a>
```

INTRODUCTION

GALLERY

FAQ

SERVICES

```
<a href="feedback.html" class="btn btn-co">FEEDBACK</a>
```

</div>

<div class="banner-text">

<h2>Fire Safety</h2>

"Fire Destruction Is One Man's Job, Fire Prevention Is Everybody's Job." "Be Alert, Avert Fire." "Let's Blaze The Way, To Keep The Blaze Away.""Fire Is A Welcome Visitor, But Always See It Out."

```
</div> </div>
```

</section>

<section>

```
<center><h1>HOW TO AVOID FIRE ACCIDENTS??</h1></center>
```

```
<div class="container">
```

```
<div class="box">
```

```
<div class="imgbox">
```

```
<img src="images-21.jpg">
```

```
</div>
```

<div class="details">

<div class="content">

```
<h2>Hospitals</h2>
```

Fire safety is one of the most high pressure and significant components of healthcare facility management.

```
<a href="hospital.html" class="rd-btn">Read More</a>
```

```
</div>
```

```
</div>
```

```
</div>
```

```
<div class="box">
```

```
<div class="imgbox">
```

```
<img src="15712933331956520778.jpg">
```

```
</div>
```

<div class="details">

<div class="content">

<h2>Housing Society</h2>

Fire safety must be implemented from the initial phase (i.e., design) through to construction and maintenance, without changing....

Read More

</div>

</div>

</div>

<div class="box">

<div class="imgbox">

</div>

<div class="details">

<div class="content">

<h2>Computer Lab</h2>

Aside from loss of life from fire, there is nothing more devastating than mass property destruction and loss of information.

Read More

</div>

</div>

</div>

<div class="box"

<div class="imgbox">

</div>

<div class="details">

<div class="content">

<h2>Chemical Industries</h2>

 Dangerous Materials Hazards of Pressure Vessels Hazardous Chemical Reactions Hazardous of Unit Operations Flammable Gases, Vapours And Dust Hazards Read More </div></div></div></div></section> <section> <footer class="footer-distributed"> <div class="footer-left"> <h3>FireDept</h3> Home Gallery Faq Services FireDept.© 2020 </div><div class="footer-center"> <div> <i class="fa fa-map-marker"></i> 21 Revolution Street Nagpur, India </div> <div>

```
<i class="fa fa-phone "></i>
+1 555 123456
</div>
<div>
<i class="fa fa-envelope"></i>
<a
href="mailto:support@company.com">contact@gehnasrivastava.com</a>
</div>
</div>
<div class="footer-right">
<span>About the Website</span>
Informational website for the safety and precutions to control fire accidents
& amp; SEO Learner.
<div class="footer-icons">
<a href="https://www.facebook.com/"><i class="fa fa-facebook fa-
2x'' > </i> a>
<a href="https://www.twitter.com/"><i class="fa fa-twitter fa-2x "></i></a>
<a href="https://www.instagram.com/"><i class="fa fa-instagram fa-
2x'' > </i > </a >
</div></div></footer></section> </body></html>
```

/* width */

::-webkit-scrollbar {

width: 20px;

```
}
```

/* Track */

::-webkit-scrollbar-track {

box-shadow: inset 0 0 5px black;

border-radius: 10px;

```
}
/* Handle */
::-webkit-scrollbar-thumb {
background: #FFA500;
border-radius: 10px;
}
banner-area {
background-image:url(fire.jpg);
background-position: center center;
background-size: cover;
background-repeat: no-repeat;
height: 100vh;
font-size: 3em;
color: white;
}
/* Style the header with a grey background and some padding */
.header {
overflow:hidden;
background-color:#696969;
padding: 5px 28px;
}
/* Style the header links */
.header a {
float: left;
color: white;
text-align: justify;
padding: 10px;
text-decoration: none;
font-size: 25px;
```

```
line-height: 25px;
border-radius: 6px;
}
/* Change the background color on mouse-over */
.header a:hover {
background-color: #ddd;
color: black;
}
/* Float the link section to the right */
.header-right {
float:none;
}
.banner-text{
position: absolute;
top: 50%;
left: 50%;
transform: translate(-50%,-50%);
color: #fff;
  text-align: justify;
}
.banner-text h2{
  font-family:Palatino;
margin: 0;
font-size: 60px;
color: yellow;
}
.banner-text p{
text-decoration: none;
font-size: 23px;
```

```
padding: 5px 35px;
color: #fff;
display: inline-block;
margin-top: 2%;
font-family:Helvetica Narrow;
text-transform: uppercase;
}
h1\{
font-size: 50%;
}
.container{
width: 1280px;
margin: 70px auto 0;
display: flex;
flex-direction:row;
flex-wrap: wrap;
}
.container .box{
position: relative;
width: 400px;
height: 400px;
margin: 70px;
box-sizing: border-box;
display: inline-block;
}
.container .box .imgbox {
position: relative;
overflow: hidden;
```

```
.container .box .imgbox img{
max-width: 100%;
transition: transform 2s;
}
.container .box:hover .imgbox img{
transform: scale(1.1);
}
.container .box .details{
position: absolute;
top: 10px;
left: 10px;
bottom: 10px;
right: 10px;
background: rgba(0,0,0,.8);
transform: scaleY(0);
transition: transform .5s;
}
.container .box:hover .details{
transform: scaleY(1);
}
.container .box .details .content{
position: absolute;
top: 50%;
transform: translateY(-50%);
text-align: justify;
padding: 15px;
color: #fff;
}
.container .box .details .content h2{
```

```
margin: 0;
padding: 0;
color: yellow;
font-family:Zapf Chancery;
font-size: 1.5em;
}
.container .box .details .content p{
margin: 10px 0 0;
padding: 0;
font-family:Zapf Chancery;
font-size: 1em;
}
.content a{
color: yellow;
font-family:Zapf Chancery;
font-size: 1em;
}
INTRODUCTION PAGE:-
<html>
<head>
<title>fire security</title>
k rel="stylesheet" type="text/css" href="info.css">
</head>
<body>
<a href="meaning.html"><h1><font color="yellow">Fire
Security</font></h1></a>
Fire security is the study and practice of mitigating the unwanted effects of
potentially destructive fires. It involves the study of the behaviour,
compartmentalisation, suppression and investigation of fire and its related
```

emergencies, as well as the research and development, production, testing and application of mitigating systems.......

```
<a href="types.html"><h1><font color="yellow">Types of fire</font></h1></a>
```

Fires that involve flammable solids such as wood, cloth, rubber, paper, and some types of plastics.

Fires that involve flammable liquids or liquefiable solids such as petrol/gasoline, oil, paint, some waxes and plastics, but not cooking fats or oils.....

```
<a href="components.html"><h1><font
color="yellow">Components</font></h1></a>
```

Fire protection in land-based buildings, offshore construction or onboard ships is typically achieved via all of the following:

Passive fire protection - the installation of firewalls and fire rated floor assemblies to form fire compartments intended to limit the spread of fire, high temperatures, and smoke.

Active fire protection - manual and automatic detection and suppression of fires, such as fire sprinkler systems and (fire alarm) systems......

```
<a href="approach.html"><h1><font color="yellow">Balanced
Approach</font></h1></a>
```

Passive fire protection (PFP) in the form of compartmentalisation was developed prior to the invention of or widespread use of active fire protection (AFP), mainly in the form of automatic fire sprinkler systems. During this time, PFP was the dominant mode of protection provided in facility designs. With the widespread installation of fire sprinklers in the past 50 years, the reliance on PFP as the only approach was reduced.

```
<div class="banner-text">
```

Home

```
<a href="next.html" class="btn btn-nt">Next</a>
```

```
</div></body>
```

```
</html>
```

```
/* width */
```

```
::-webkit-scrollbar \ \{
```

```
width: 20px;
```

```
}
/* Track */
::-webkit-scrollbar-track {
box-shadow: inset 0 0 5px black;
border-radius: 10px;
}
/* Handle */
::-webkit-scrollbar-thumb {
background: #FFA500;
border-radius: 10px;
}
body{
margin: 2%;
padding: 5%;
background-image:linear-gradient(rgba(0,0,0,0.6),rgba(0,0,0,0.6)),url(fire-
safety-training.jpg);
background-repeat:no repeat;
background-size: cover;
background-position: center;
font-family: cursive;
font-size: 135%;
text-align: justify;
}
header{
padding: 15px 60px;
}
.banner-text{
position: absolute;
top: 70%;
```

```
left: 80%;
transform: translate(-70%,-50%);
text-align: justify;
}
.banner-text a{
text-decoration: none;
font-size: 20px;
padding: 10px 35;
color: black;
display: inline-block;
margin-top: 400%;
font-family: sans-serifs;
text-transform: uppercase
background: white;
}
h1{
font-family: New Century Schoolbook;
text-align: justify;
font-size: 50px;
}
p{
color: lightblue;
font-family: Coronetscript;
text-align: justify;
font-size: 25px;
}
li{
color: lightblue;
font-family: Coronetscript;
```

```
text-align: justify;
font-size: 25px;
}
.btn{
display: inline-block;
padding: 5px 30px;
font-weight: lighter;
text-decoration: none;
text-transform: uppercase;
border-radius: 200px;
transition: background-color 0.2s,border 0.2s,color 0.2;
}
.btn-hm{
background-color:white;
color: black;
margin-right: 15px;
border: 1px solid;
}
.btn-nt{
background-color: white;
color: black;
margin-right: 15px;
border: 1px solid;
}
MEANING PAGE:-
<html>
<head>
<title></title>
k rel="stylesheet" href="mean.css">
```

khref="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.min.css" rel="stylesheet">

</head>

<body>

<i class="fa fa-backward fa-2x"style="color:steelblue;" ariahidden="true"></i>

<center>

<h1>Fire Security</h1></center>

Fire security is the study and practice of mitigating the unwanted effects of potentially destructive fires.It involves the study of the behaviour, compartmentalisation, suppression and investigation of fire and its related emergencies, as well as the research and development, production, testing and application of mitigating systems. In structures, be they land-based, offshore or even ships, the owners and operators are responsible to maintain their facilities in accordance with a design-basis that is rooted in laws, including the local building code and fire code, which are enforced by the Authority Having Jurisdiction.

Suildings must be constructed in accordance with the version of the building code that is in effect when an application for a building permit is made. Building inspectors check on compliance of a building under construction with the building code. Once construction is complete, a building must be maintained in accordance with the current fire code, which is enforced by the fire prevention officers of a local fire department. In the event of fire emergencies, Firefighters, fire investigators, and other fire prevention personnel are called to mitigate, investigate and learn from the damage of a fire. Lessons learned from fires are applied to the authoring of both building codes and fire codes.

Fire safety is the set of practices intended to reduce the destruction caused by fire. Fire safety measures include those that are intended to prevent ignition f an uncontrolled fire, and those that are used to limit the development and effects of a fire after it starts.

Fire safety measures include those that are planned during the construction of a building or implemented in structures that are already standing, and those that are taught to occupants of the building.

Threats to fire safety are commonly referred to as fire hazards. A fire hazard may include a situation that increases the likelihood of a fire or may impede escape in the event a fire occurs.

Fire safety is often a component of building safety. Those who inspect buildings for violations of the Fire Code and go into schools to educate children
on Fire Safety topics are fire department members known as Fire Prevention Officers. The Chief Fire Prevention Officer or Chief of Fire Prevention will normally train newcomers to the Fire Prevention Division and may also conduct inspections or make presentations.

<center></center>

<center>

<h1>List of some typical fire and explosion issues in a fire code</h1></center>

Fireworks, explosives, mortars and cannons, model rockets (licenses for manufacture, storage, transportation, sale, use)

Certification for servicing, placement, and inspecting fire extinguishing equipment

General storage and handling of flammable liquids, solids, gases (tanks, personnel training, markings, equipment)

Limitations on locations and quantities of flammables (e.g., 10 liters of gasoline inside a residential dwelling)

Specific uses and specific flammables (e.g., dry cleaning, gasoline distribution, explosive dusts, pesticides, space heaters, plastics manufacturing)

Permits and limitations in various building occupancies (assembly hall, hospital, school, theater, elderly care, child care, prs) that require a smoke detector, sprinkler system, fire extinguisher, or other specific equipment or procedures

Removal of interior and exterior obstructions to emergency exits or firefighters and removal of hazardous materials

Permits and limitations in special outdoor applications (tents, asphalt kettles, bonfires, etc.)

Other hazards (flammable decorations, welding, smoking, bulk matches, tire yards)

Electrical safety codes such as the National Electrical Code (by the National Fire Protection Association) for the U.S. and some other places in the Americas

Fuel gas code

Car fire

</body>

</html>

TYPES PAGE:-

<html>

<head>

<title></title>

k rel="stylesheet" href="type.css">

khref="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.min.css" rel="stylesheet">

</head>

<body>

<i class="fa fa-backward fa-2x"style="color:steelblue;" aria-hidden="true"></i>

<h1>Types of fire</h1>

Fires that involve flammable solids such as wood, cloth, rubber, paper, and some types of plastics.

Fires that involve flammable liquids or liquefiable solids such as petrol/gasoline, oil, paint, some waxes and plastics, but not cooking fats or oils

Fires that involve combustible metals, such as sodium, magnesium, and potassium

Fires that involve any of the materials found in Class A and B fires, but with the introduction of an electrical appliances, wiring, or other electrically energized objects in the vicinity of the fire, with a resultant electrical shock risk if a conductive agent is used to control the fire.<math>

Fires involving cooking fats and oils. The high temperature of the oils when on fire far exceeds that of other flammable liquids, making normal extinguishing agents ineffective.

Fires are sometimes categorized as "one alarm", "two alarm", "three alarm" (or higher) fires. There is no standard definition for what this means quantifiably, though it always refers to the level response by the local authorities. In some cities, the numeric rating refers to the number of fire stations that have been summoned to the fire. In others, the number counts the number of "dispatches" for additional personnel and equipment.

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COMPONENTS PAGE:-

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<h1>Components</h1>

Fire protection in land-based buildings, offshore construction or onboard ships is typically achieved via all of the following:

Passive fire protection - the installation of firewalls and fire rated floor assemblies to form fire compartments intended to limit the spread of fire, high temperatures, and smoke.

Active fire protection - manual and automatic detection and suppression of fires, such as fire sprinkler systems and (fire alarm) systems.

Education - the provision of information regarding passive and active fire protection systems to building owners, operators, occupants, and emergency personnel so that they have a working understanding of the intent of these systems and how they perform in the fire safety plan.

Fire is often described as containing 3 components: an oxidizer, an ignition source, and a fuel. Whenever these 3 items are in close contact under appropriate conditions and proportions, a fire will occur. The key to prevention is altering one or more of these components so combustion is not possible. The Anesthesia Patient Safety Foundation (APSF) and ECRI have collaborated to release the New Clinical Guide to Surgical Fire Prevention.

<h3>This guide focuses on 3 specific fire reduction strategies:</h3>

Recommendations for open oxygen delivery during procedures on the head, face, neck, and upper chest.

Recommendations for the use of supplemental oxygen during procedures on the head, face, neck, and upper chest.

Recommendations for implementing a preoperative time-out to assess fire risk potential for every patient for every procedure.

In the OR, each healthcare worker owns a part of the fire triangle. The fuel source is typically provided by the circulating nurse.Alcohol-based skin preparations have become more common as a source of fuel since the Centers for Disease Control and Prevention identified them as the preferred method for skin disinfection in most cases.7 Previous preparation solutions were water based and posed no fire threat. OR personnel must pay particular attention to ensure that these solutions do not pool, are allowed to dry, and do not remain in contact with patients via saturated towels.

<h3>Fuel Sources</h3>

The surgeon commonly supplies the ignition source. Electrocautery is one obvious source, but others include lasers commonly used during airway surgeries.

<h3>Ignition Sources</h3>

The final component is an oxidizer. Although most people realize that oxygen greatly enhances the rate of combustion, many do not know that nitrous oxide supports combustion in the same manner. Oxidizers lower the temperature at which a fuel will ignite, thus increasing the chance of a fire.

<h1>Common Components of Commercial Fire Alarm Systems</h1>

following components:

Fire Alarm Control Panel (FACP)

Primary and Backup Power Supply

Alarm Initiating Device

Alarm Notification Device

Remote Control and Display Panels

Building Safety Interface.

<h2>Fire Alarm Control Panel (FACP)</h2>

The fire alarm control panel is essentially the control center and the brain of a fire alarm system. The FACP monitors and manages the initiating devices and relays the signal to the fire alarm devices if an issue is detected. Each control panel also provides a display that informs you of the system's current status, as well as troubleshoot codes and a touchpad to manage the system directly where you're able to disable alarms, signal alerts, reset the system following an issue, and reprogram the system if necessary.

<h2>Primary and Backup Power Supply</h2>

A fire alarm system also provides you with access to two power supplies. The primary power supply is used constantly, and the backup power supply is used in the event of a power failure. The backup power supply typically consists of 6V or 12V batteries linked to a 24VDC power-limited system and are often located in the control panel or a separate enclosure adjacent to the control panel.

<h2>Alarm Initiating Device</h2>

The alarm initiating device is what actually informs the fire alarm system that there is some sort of danger or fire emergency. These devices can be manual, where someone has to notify the system themselves via a pull or glass station, but they can also be automatic by utilizing heat detectors, smoke detectors, flame detectors, photoelectric/ionization detectors, or in-duct detectors. Most commercial fire alarm systems include a variety of initiating devices spaced throughout the building with a combination of manual and automatic devices.

<h2>Alarm Notification Device</h2>

The alarm notification device is arguably the most important part of your fire alarm system as this is what gets triggered by the initiating device and what makes the actual noises, such as bells, horns, or chimes when a fire emergency occurs. Alarm notification devices notify the people inside the building, as well as emergency personnel, when an event is underway when everything is all clear, and when a maintenance issue is detected.

<h2>Remote Control and Display Panels</h2>

Remote controls and display panels allow people to control a set of fire alarm systems even when they aren't nearby. These have proven to be extremely beneficial for large businesses with multiple levels of staff as it allows security personnel to easily check, activate, and deactivate fire alarms throughout the building from their office.

<h2>Building Safety Interface</h2>

The building safety interface allows the fire alarm system to control other elements of the building when needed. For example, in the event of a fire emergency, a building safety interface could communicate directly with the building's access control system to hold doors in the open position or keep doors closed to restrict the passage of smoke from one area to another, all of which makes escaping from burning buildings safer and easier.

<h2> TED Systems Product Lines</h2>

TED Systems is a Kansas City leader in the design, installation, and service of basic addressable to sophisticated campus networked fire alarm systems for commercial offices, high-rise buildings, healthcare facilities, pharmaceutical manufacturing facilities, educational facilities, campuses, industrial plants, and detention centers.

In Kansas City and around the Midwest, TED Systems is your licensed NOTIFIER by Honeywell dealer. TED Systems also offers a complete line of fire alarm products, systems, service and support from NOTIFIER, Fire-Lite, System Sensor, Xtralis, and Federal Signal. Click below to contact us for a quote and make your building safer with our fire alarm systems.

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BALANCE APPROACH PAGE:-

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<center><h1>Balanced Approach</h1></center>

Passive fire protection (PFP) in the form of compartmentalisation was developed prior to the invention of or widespread use of active fire protection (AFP), mainly in the form of automatic fire sprinkler systems. During this time, PFP was the dominant mode of protection provided in facility designs. With the widespread installation of fire sprinklers in the past 50 years, the reliance on PFP as the only approach was reduced.

<center><h1>India needs a new approach to fire safety</h1></center>

Whenever an incident of fire takes place, the investigation afterwards highlights issues such as non-compliant construction; lack of precautionary maintenance like the upkeep of extinguishers, fire doors, fire exits and their markings and assembly areas; gross overlook of safety procedures such as evacuation drills; and lack of recording of significant consideration for better response towards flammable materials, and their use in cladding and partitions walls.

City-wide physical changes like the densification of areas, non-compliant use of properties, and change in their use — which leads to local traffic congestion or on-street parking that constricts fire tender movement or delays their access to the affected area — are also blamed.

<center><h1>A fire in your building could mean total devastation - get the facts on passive fire protection to minimize the spread of fire in your facilities</h1></center>

<h2>Six-hundred seventy-nine (679) people were injured, and 84 died, in the MGM Grand Hotel fire in 1980.</h2>

It's something you lose sleep over and hope will never happen: a fire roaring through your building. While every facility professional will do what he or she can to ensure that a fire never begins in the first place, the next step is knowing how to minimize its spread.

Most people are familiar with the basics of fire suppression (sprinklers, fire extinguishers, etc.), but the passive fire protection that actually contains a fire at its point of origin can be invisible and nearly forgotten - until the day you come to truly appreciate and depend on it.

<h2>Passive fire protection (PFP), despite its name, is always at work.</h2>

Sased on compartmentation of fire and preventing collapse through structural fire resistance, when properly installed and maintained, your building's passive fire protection can save lives and assets, and the building itself.

<center></center>

<center><h1>Areas of Passive Fire Protection</h1></center>

According to Chris Jelenewicz, engineering program manager at the Bethesda, MD-based Society of Fire Protection Engineers (SFPE), there are four main areas of passive fire protection.

<h2>1. Structural fire protection</h2>

Structural fire protection guards essential structural components (such as structural steel and joint systems) from the effects of fire.

This is accomplished with a fireproofing material (spray-on thin-film intumescents, endothermic materials like gypsum-based plasters and cementitious products, mineral wool wraps and insulation, and fireproofing cladding) or building the structure out of concrete products.

"When structural fire protection is designed and applied properly," says Jelenewicz, "the building's structural integrity should be maintained when it's exposed to fire."

<h2>2. Compartmentation</h2>

Fire barriers, firewalls, fire partitions, and smoke barriers are all included in compartmentation.

Fire barriers include fire-rated walls, floors, and ceilings (often made of concrete, combination wood, gypsum, or masonry). These barriers are used to limit the spread of fire in a building and allow safe egress. Walls extend from a fire-rated floor to the fire-rated ceiling above, and continue into concealed spaces for full protection.

Sill McHugh, executive director at the Chicago-based Firestop Contractors Intl. Association (FCIA), also groups firewalls with structural protection. "These walls are built structurally stable, so even if there is collapse of a building on either side of the wall, the wall will remain standing," he says.

John P. Sinisi, education committee chairman at the Cleveland-based Intl. Firestop Council, notes the importance of properly maintained fire barriers. "Rated walls and floors protect evacuation routes from fire and smoke migration," he says, adding that the window of evacuation time is maximized when the barriers effectively contain the fire.

<h2>3. Opening protection</h2>

Fire doors and windows are installed in an opening of a fire barrier to maintain its fire resistance. McHugh explains, "Doors, builders' hardware, and frames work together to form an effective smoke and fire barrier."

Fire-rated glazing/glass and framing are tested as a complete assembly that maintains the protection of the fire barrier. Additionally, fire and smoke dampers (often used in duct systems) are considered "opening protection" and complete the fire barrier where air ducts penetrate fire-rated and/or smoke-resistant assemblies.

<h2>4. Firestopping materials</h2>

These materials are used to limit fire spread through penetrations in a fire barrier. "It's not uncommon to see a fire barrier penetrated during a minor building alteration, and then the penetrating item isn't protected by firestopping," says Jelenewicz. Electricians, plumbers, communications engineers, etc. can leave hidden holes in the barriers as they perform their services.

Stefan Juli is director of business unit chemicals at Tulsa, OK-based Hilti Inc., a member of both the IFC and FCIA. He says that membrane penetrations are problematic because, "if you have a fire, and smoke gets in a chase wall, smoke can easily go upward and actually spread through the building."

<center></center>

<center><h1>COMMON EXAMPLES of PASSIVE FIRE PROTECTION. COURTESY OF SPECIFIED TECHNOLOGIES INC.</h1></center>

<h2>Maintaining Your PFP</h2>

Along with knowing the codes and ratings associated with each PFP system in your building, constant and thorough maintenance is also important. "Building owners and facility managers are important stakeholders in a building's fireprotection program," says Jelenewicz.

"As such, they should play an important part in every phase of building modification to ensure that life safety is not impacted," he continues. "This includes the planning, design, construction, and maintenance of the building."

If part of your building is rewired or plumbed, or if new communications systems are added, chances are good that penetrations have been made in fire barriers.

"Workmanship, odd opening sizes, missing caulk, spackled pipe penetrations, and top-of-wall conditions could all be signs that firestopping has not been addressed," says Sinisi, who adds that existing construction always provides a unique challenge.

"Structures with installations older than 10 years rarely have any firestop installed, and contain unprotected penetrations. A mixed bag of contractors, service professionals, and installers working in your building all need to be educated, monitored, and held accountable," he says.

If you're not sure how a building change will affect your PFP systems, don't hesitate to seek answers from professionals. "When performing building modifications - even the most simple of alterations - make sure the modifications don't impact the integrity of your existing fire protection," Along with knowing the codes and ratings associated with each PFP system in your building, constant and thorough maintenance is also important. "Building owners and facility managers are important stakeholders in a building's fire-protection program," says Jelenewicz.

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<h1>Fire detection</h1>

>Detection:A common, residential smoke detector sounds an alarm when smoke is detected, to initiate egress.

Fire detection works using smoke or heat sensors. These systems are very effective tool at alerting people in the immediate vicinity of where the fire is detected but building regulations require an integrated fire detection system. These system not only alerts people throughout the building by triggering the fire alarm but it can also summon emergency services. There are two types of systems available – addressable and conventional. Addressable systems monitor the specific location of each device (eg smoke detector, call point or sounder). It means in the event of a fire or other emergency you know exactly where the problem is. This saves precious time and helps the emergency services prevent the loss of life and serious damage. Conventional systems can only determine the problem is in a general area and thus are more suited for small sites.

When the fire detection system is activated it can also send an alert to the local fire department, broadcast a prerecorded warning message and unlock the buildings access control system.

<h2>Types of Fire Detection Systems</h2>

Fire detection systems are a critical element of any building design. For highrise buildings and multi-winged structures such as hospitals and hotels, these designs can become complex. Electrical contractors and end user customers frequently enlist the expert services of NICET certified designers from reputable fire alarm companies to integrate an efficient and effective fire detection and alarm system. These fire alarm designers will design a code compliant system using the latest CAD (computer-assisted design) technology.

With this design reproduction, experts are able to determine precisely the types and number of detectors and alarms, fire suppression monitoring, and evacuation routes necessary to deliver the highest level of security for the occupants. The design should meet or exceed all elements of NFPA and local code requirements to ensure maximum safety.

<h3>Fire Alarm Control Panels</h3>

Notifier by Honeywell, is a global leader in fire detection and alarm devices. Their line includes fire alarm control panels with one way or two way voice, addressable and conventional controls. The equipment is designed with ultrasensitive smoke detection and digital voice command evacuation systems. These panels can be used in a smaller building up to extensive and more complex networks for larger, high-rise buildings or multiple buildings in a campus configuration.

<h3> Initiating Devices</h3>

Fire alarm pull stations, waterflow monitors, and sensor-activated detectors initiate devices that activate an alarm conditions. Traditional fire alarms were manually activated while today's technology allows for automatic sensing elements to activate the alarm, minimizing false alarms. These more sophisticated smart devices are more common in modern buildings and have saved many lives.

<h3>Notification Devices</h3>

Notification equipment utilize sensory methods to alert occupants to a potential emergency. These devices include standardized audible alarms and visual alerts that include flashing lights plus voice messages that direct occupants to evacuate safely.

Certain audible textual tones are included in EVAC, Emergency Voice Alarm Communications. These employ highly reliable speakers, properly situated, to alert all occupants of an emergency. These are managed from a central Command and Control Center to direct occupants away from the danger and to the closest route to evacuation. These can operate on recorded or real-time voice overrides.

<h1>Additional Building Fire Detection Systems</h1>

Other accessories are available for the design of a modern building. These may include:

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Like most property owners, you may be wondering how you can protect your business from fire damage. While not all fires can be prevented, there are some things you can do to prevent and protect your business from fire. But what is the difference between fire prevention and fire protection? Let's look at these two different methods.

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<center><h1>What is Fire Prevention?</h1></center>

Fire prevention is essential for your business. This process happens before the fires even ignites. One of the most effective tools for fire prevention is an inspection. Regular property inspections can be used to identify vulnerable areas in your facility and, once identified, to fix them. These vulnerable areas can be things like overloaded electrical outlets, improperly maintained systems, and improperly stored materials. Once these problems have been identified, it is important to take the steps to remove the threat and to ensure it does not get to be that way again. When using regular inspections, you can work to prevent fires in your business. <center><h1>What is Fire Protection?</h1></center>

Fire protection is a combination of different fire safety equipment and procedures that are used to defend your property line from fire. While it is different for every company, there are some elements that should be found in every commercial facility. Fire protection often includes equipment like fire alarms, extinguishers, and sprinkler systems. Together these systems work to ensure your property is constantly protected. When combined, these systems provide vour commercial with the ultimate fire work to space protection.

Whether you are looking for a way to prevent fires or protect your property, Fireline is here to help. For more information on protecting your investment, call Fireline today!

<center><h1>The Difference Between Fire Prevention and Fire Protection with Fireline</h1></center>

At Fireline, we offer an array of portable fire extinguishers, fire alarms, and sprinkler systems to keep commercial kitchens safe. Fireline offers the highest quality alarm systems to keep your business safe from fires and carbon monoxide poisoning. We also offer fire suppression systems as well to help keep commercial fires controlled should they break out. Our trained technicians will work with you to determine which air sampling smoke detection system is best for your business. We will also help install and maintain the system for your commercial building.

```
<center><h1>fire prevention vs fire protection</h1></center>
```

As a business or property owner, one of your main goals is to protect your business from fire and fire damage. The best way to accomplish this goal is to understand fire, and the difference between fire prevention, and fire protection, and why you need both.

<center> <h1>Know the Fire Triangle</h1></center>

Ve know fire is deadly and damaging, but beyond trying to prevent it we do not think much about it. But we should. Fire is a chemical reaction, and understanding how that works can make a huge difference in how you approach fire safety.

<center><h1>For the chemical reaction to take place, three things must be present:</h1></center>

Heat or an ignition source

Fuel

Oxygen

These three elements are referred to as the "fire triangle". Fire is the reaction produced when heat, fuel, and oxygen combine under hospitable circumstances. Those circumstances must continue for the fire to keep burning. If one of the elements is removed, the fire will not start or, if already burning, will extinguish.

Ignition sources include any material, equipment, or operations that emit heat like cooking, but also less obvious ones like static electricity and grinding operations.

Fuel sources include combustible materials, flammable liquids, and flammable gasses.

Nearly every business has all three elements in abundance, and probably do, or fail to do things that can lead to a fire.

<center><h1>Yes, You Need Fire Protection</h1></center>

Fire protection is the process and tools used to ensure the building is in the best possible position to fight a blaze should a blaze breaks out. Fighting fire is a science and it is important to have the right tools in place, rightly.

The first priority of fire protection is to make sure the occupants are safe. This means implementing monitored fire alarm systems that provide early detection as well as a swift, reliable signal to the alarm monitoring center. This puts help in motion as quickly as possible.

Next, the priority becomes having things in place to stop the spread of fire such as fire suppression and sprinkler systems and extinguishers.

<center><h1>Now, A Few Points About Fire Prevention</h1></center>

Fire prevention is the process of preventing fire from occurring in the first place. You may not be able to prevent all fires but some simple steps can reduce the likelihood from one occurring significantly. Here are some important fire prevention steps you should take now:

Perform a risk assessment. Identify the weak areas that make your business more susceptible to fire.

<center> <h1>Adhere to fire regulations.</h1></center>

Teach staff about fire prevention practices.

Fire prevention and fire protection go hand in hand and together can help keep your business safe. Guardian Security is one of the largest locally-owned fire and security alarm company in the Puget Sound area and at the forefront of the industry. Guardian security also offers one of the largest AES wireless alarm communication networks in the area.

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<h1>FREQUENTLY ASKED QUESTIONS ABOUT FIRE SAFETY & PROTECTION.</h1>

<button class="accordion">What Are Common Causes of Fires?</button>

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The most common causes of commercial fires are cooking equipment, heating equipment, electrical and lighting equipment, smoking materials, and intentional fires. By knowing what may cause a commercial fire, your business can take proper precautions to prevent damage to your property.

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<button class="accordion">How Many Fire Extinguishers Are Required on a Business Premise?</button>

<div class="panel">

The ultimate answer to "how many fire extinguishers does my building need" is: It depends.

<h4>Factors that determine the fire extinguisher requirements include:</h4>

Size and layout of the room: a basic National Fire Protection Association (NFPA) rule is that there should be no more than 75 feet between fire extinguishers and that they should be accessible. Naturally, then, the square footage contained in a building and its layout will determine the number needed.

Fire hazard level of the building: public buildings are evaluated and assigned a fire hazard level based on their purpose and what they contain: light fire hazard, ordinary fire hazard, extra fire hazard, and commercial kitchens.

Presence of flammable liquids: according to Occupational Safety & Health Association (OSHA) standards, if flammable liquids or gas are stored in quantities of 5 or more gallons, there must be a fire extinguisher of at least a 10B rating kept within 50 feet of the container.

Stairwells: in multistory structures, a minimum of one fire extinguisher must be placed adjacent to the stairway.

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<button class="accordion">Why Is a Fire Alarm System Important?</button>

<div class="panel">

Firre alarms are important because they can give you an early signal to something that could be tragic – basically saving you and your family. A fire alarm is able to alert you, even when you're busy, working, or sleeping. Therefore, you can take action before major damage takes place, saving you the cost of property loss. More than half of house fires take place in homes that do not have fire alarms, and mostly at night, resulting in a high number of deaths.

An early detection from a fire alarm system can get you out of a situation that would potentially turn into a tragedy.

</div>


```
<div class="panel">
```

Emergency lighting is required for all means of egress, including both the exits and the pathways leading to them. This includes stairs designated for emergency exit as well as the aisles, corridors, ramps, escalators and other passageways that lead to an exit. This requirement also extends to exit discharge points, which include stairs, ramps, aisles, walkways, and escalators leading to an area open to the public.

The OSHA code requires that emergency lighting be provided automatically in the event of a power failure resulting from power outages, blown fuses or circuit breakers, or manual acts that result in an interruption in normal lighting.

</div>

<button class="accordion">Do I Need Both a Fire Alarm and Fire Sprinklers?</button>

<div class="panel">

It's easy to think that with so many components in a fire protection system, some redundancy might allow you to skip a feature or two. However, a fire alarm and fire sprinklers are both vital pieces of fire protection equipment.

The function of a fire alarm is to spread the word about a fire. It features smoke detectors to sense fire, pull stations for watchful people to set off the alarm, and strobe lights and horns to alert everyone in the building that they must evacuate. A monitored fire alarm also sends a message to the fire department so trucks dispatch to your location immediately.

On the other hand, fire sprinklers go straight to work putting out the fire. High heat sets off one sprinkler at a time to help minimize property damage. Sprinkler systems can also be monitored for automatic fire department dispatch, but the primary focus is to douse the blaze as quickly as possible. Together, fire alarms and fire sprinklers save lives and drastically reduce property damage.

</div>

<button class="accordion">How Do I Know If My Fire Extinguishers Are Working?</button>

<div class="panel">

A vast majority of the time, your fire extinguishers sit dormant. The best way to tell if they're working is to schedule routine fire extinguisher inspections. You can perform simple checks yourself, but more in-depth testing from a professional should take place once a year. Then, every six years, your fire extinguishers must undergo a complete breakdown and internal inspection.

</div>

<button class="accordion">Do I Need a Fire Pump?</button>

<div class="panel">

If your building features fire sprinklers, chances are good you also need a fire pump. This machine ensures every sprinkler in the building receives enough water to extinguish a fast-growing blaze. If the pressure drops, the fire pump turns on automatically to increase the water flow to an adequate level.

Water pressure is most likely to be a problem in high-rises, large buildings, and structures with ground-level water tanks. These types of properties need fire pumps the most, though we install them in other buildings as well.

</div>

<button class="accordion">Why Is Fire Protection in Restaurants and Commercial Kitchens so Important?</button>

<div class="panel">

Cooking equipment is the number one cause of structure fires, both in residential and commercial buildings. The combination of open flames, high temperatures, flammable cooking fuels, and a frenzied environment makes kitchens a prime place for flash fires. Since the kitchen is the heart of every restaurant, it's vital to have adequate fire protection here.

Commercial kitchen fire suppression is a combination of several components, including hood ventilation and automatic foam fire suppression. It's also important to have Class K fire extinguishers installed in your restaurant or commercial kitchen. This way, attentive cook staff can douse the blaze quickly before it spreads to the rest of the building. </div>

<button class="accordion">How Often Do I Need to Replace My Fire Extinguishers?</button>

<div class="panel">

Because fire extinguishers come in different sizes, are made of different materials, and contain different extinguishing agents, there isn't a standard timeframe for replacing them. The best way to make sure your extinguishers are usable is to have them inspected annually. Then, subjecting the cylinders to internal inspections, pressure tests, and recharge services roughly every six years can keep them in service for decades.

However, you should replace your fire extinguishers if you ever notice problems during an inspection, such as a rusty or corroded cylinder, missing or damaged components, inaccurate gauge readings, or missing inspection label. If a cylinder fails a pressure test, this is also an indication that you should discard it and replace it with a new one.

</div>

<button class="accordion">How Often Do I Need Fire Protection System
Inspection and Testing?</button>

<div class="panel">

The short answer to this question is to schedule inspection and testing services for your fire protection equipment once a year. Annual maintenance from the professionals at Unifour Fire & Safety helps to catch and correct problems with your fire protection system. It's important to maintain records of our visits for auditing purposes since fire code requires annual fire protection system testing in many states.

Keep in mind that you should also perform simple inspections and testing between yearly visits from a professional. Contact us for a complete list of safety checks you can perform yourself.

</div>

<div class="panel">

Cooking equipment is the number one cause of structure fires, both in residential and commercial buildings. The combination of open flames, high temperatures, flammable cooking fuels, and a frenzied environment makes

kitchens a prime place for flash fires. Since the kitchen is the heart of every restaurant, it's vital to have adequate fire protection here.

Commercial kitchen fire suppression is a combination of several components, including hood ventilation and automatic foam fire suppression. It's also important to have Class K fire extinguishers installed in your restaurant or commercial kitchen. This way, attentive cook staff can douse the blaze quickly before it spreads to the rest of the building.

</div>

<button class="accordion">How Often Does My Fire Hydrant Need to Be
Inspected?</button>

<div class="panel">

The National Fire Protection Association (NFPA) requires annual fire hydrant inspections to make sure these fixtures remain in good working order. After all, while automatic fire sprinklers and suppression systems are the first lines of defense, they aren't always enough to tackle raging flames. In this case, a hydrant is critical for firefighters to tap into when they arrive on the scene to douse the blaze.

A fire hydrant inspection checks for wear and tear, rust and corrosion, accidental damage, vandalism, mechanical malfunction, and partially closed tap valves that could impair water flow. The time and effort required to arrange annual fire hydrant inspections are well worth the peace of mind that comes from knowing these fixtures will perform as expected if you need them in a fire emergency.

</div>

<button class="accordion">Do I need to evacuate every time the fire alarm sounds?</button>

<div class="panel">

Yes! Faculty, staff and students are required to immediately evacuate the building when a fire alarm sounds. Never assume a fire alarm activation indicates a false alarm. Always assume that the situation is a real threat.

</div>

substant stresses and the stresses of the stresses

```
<div class="panel">
```

```
Most buildings at Boston University are equipped with fire alarm and
automatic sprinkler systems. These systems will activate when a fire produces
enough smoke or heat to trigger them. Fire extinguishers are available for use by
trained personnel. Several buildings are also equipped with standpipe systems for
fire department use.
</div>
<section>
<footer class="footer-distributed">
<div class="footer-left">
<h3>Fire<span>Dept</span></h3>
<a href="homepage1.html">Home</a>
<a href="album.html">Gallery</a>
<a href="faq.html">Faq</a>
<a href="services.html">Services</a>
FireDept.© 2020
</div>
<div class="footer-center">
<div>
<i class="fa fa-map-marker"></i>
<span>21 Revolution Street</span> Nagpur, India
</div>
<div>
<i class="fa fa-phone "></i>
+1 555 123456
</div>
<div>
<i class="fa fa-envelope"></i>
```

contact@gehnasrivastava.com

</div>

</div>

<div class="footer-right">

About the Website

Informational website for the safety and precutions to control fire accidents & amp; SEO Learner.

<div class="footer-icons">

```
<a href="https://www.facebook.com/"><i class="fa fa-facebook fa-2x"></i>/i></a>
```

```
<a href="https://www.twitter.com/"><i class="fa fa-twitter fa-2x "></i></a>
```

```
<a href="https://www.instagram.com/"><i class="fa fa-instagram fa-2x"></i>/i></a>
```

</div></div>

</footer></section>

</body><script>

```
var acc = document.getElementsByClassName("accordion");
```

var i;

```
for (i = 0; i < acc.length; i++) {
```

acc[i].addEventListener("click", function() {

/* Toggle between adding and removing the "active" class,

to highlight the button that controls the panel */

this.classList.toggle("active");

```
/* Toggle between hiding and showing the active panel */
```

var panel = this.nextElementSibling;

```
if (panel.style.display === "block") {
```

```
panel.style.display = "none";
```

```
} else {
panel.style.display = "block";
}
});
}
</script>
</html>
/* width */
::-webkit-scrollbar {
width: 20px;
}
/* Track */
::-webkit-scrollbar-track {
box-shadow: inset 0 0 5px black;
border-radius: 10px;
}
/* Handle */
::-webkit-scrollbar-thumb {
background: #FFA500;
border-radius: 10px;
}
/* Style the header with a grey background and some padding */
.header {
overflow:hidden;
background-color:#696969;
padding: 5px 28px;
/* Style the header links */
.header a {
```

```
float: left;
color: white;
text-align: justify;
padding: 10px;
text-decoration: none;
font-size: 25px;
line-height: 25px;
border-radius: 6px;
}
/* Change the background color on mouse-over */
.header a:hover {
background-color: #ddd;
color: black;
}
/* Float the link section to the right */
.header-right {
float:none;
}
/* Style the buttons that are used to open and close the accordion panel */
.accordion {
background-color: red;
color: white;
cursor: pointer;
padding: 18px;
width: 100%;
text-align: justify;
border: none;
outline: none;
transition: 0.4s;
```

```
font-size: 200%;
font-family: Georgia, serif;
}
h1{
text-align: justify;
font-size: 3em;
background-color: lightblue;
color: white;
font-family: cursive;
}
p{
text-align: justify;
font-size: 1.5em;
font-family: serif;
}
li{
text-align: justify;
font-size: 1.5em;
font-family: serif;
}
h4{
text-align: justify;
font-size: 2em;
font-family: serif;
}
/* Add a background color to the button if it is clicked on (add the .active class
with JS), and when you move the mouse over it (hover) */
.active, .accordion:hover {
background-color: greenyellow;
```

```
}
/* Style the accordion panel. Note: hidden by default */
.panel {
padding: 0 18px;
background-color: white;
display: none;
overflow: hidden;
}
.accordion:after {
content: '\02795'; /* Unicode character for "plus" sign (+) */
font-size: 13px;
color: #777;
float: right;
margin-left: 5px;
}
.active:after {
content: "\2796"; /* Unicode character for "minus" sign (-) */
}
SERVICES PAGE:-
<html>
<head>
<title>how to make</title>
k rel="stylesheet" type="text/css" href="services.css">
linkhref="https://stackpath.bootstrapcdn.com/bootstrap/4.4.1/css/bootstrap.min"
.css" rel="stylesheet">
```

khref="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.min.css" rel="stylesheet">

```
k rel="stylesheet" href="footerstyle.css">
```

```
</head>
<body>
<div class="header">
<div class="header-right">
      href="homepage1.html"><i class="fa
                                                fa-home
                                                            fa-1x"
<a
                                                                      aria-
hidden="true"></i></a>
<a href="info.html" class="btn btn-in">INTRODUCTION</a>
<a href="album.html" class="btn btn-im">GALLERY</a>
<a href="faq.html" class="btn btn-ab">FAQ</a>
<a href="services.html" class="btn btn-cd">SERVICES</a>
<a href="feedback.html" class="btn btn-co">FEEDBACK</a></div></div>
<div class="container">
<div class="services">
<h1>Our Services</h1>
</div>
<div class="row">
<div class="col-md-3 text-center">
<div class="icon">
<i class="fa fa-info-circle"></i>
</div>
<h3>Informational Website</h3>
Our site provides whole information regarding fire safety and precautions in
workplaces etc.
</div>
<div class="col-md-3 text-center">
<div class="icon">
<i class="fa fa-fire-extinguisher"></i>
</div>
<h3>Equipments handling</h3>
```

```
Details regarding how to use fire safety equipments, so that people can equip
in dangers
</div>
<div class="col-md-3 text-center">
<div class="icon">
<i class="fa fa-phone-square"></i>
</div>
<h3>Contact-Details</h3>
We provide contact details so that user can contact us easily
</div>
<div class="col-md-3 text-center">
<div class="icon">
<i class="fa fa-eye"></i>
</div>
<h3>site visits</h3>
0
Views since january-2020
</div>
</div>
</div>
<section>
<footer class="footer-distributed">
<div class="footer-left">
<h3>Fire<span>Dept</span></h3>
<a href="homepage1.html">Home</a>
<a href="album.html">Gallery</a>
<a href="faq.html">Faq</a>
<a href="services.html">Services</a>
```

```
FireDept.© 2019
</div>
<div class="footer-center">
<div>
<i class="fa fa-map-marker"></i>
<span>21 Revolution Street</span> Nagpur, India
</div>
<div>
<i class="fa fa-phone "></i>
+1 555 123456
</div>
<div>
<i class="fa fa-envelope"></i>
<a
href="mailto:support@company.com">contact@gehnasrivastava.com</a>
</div>
</div>
<div class="footer-right">
<span>About the Website</span>
Informational website for the safety and precutions to control fire accidents
& amp; SEO Learner.
<div class="footer-icons">
     href="https://www.facebook.com/"><i class="fa
                                                   fa-facebook
<a
                                                                fa-
2x'' > </i > </a >
<a href="https://www.twitter.com/"><i class="fa fa-twitter fa-2x "></i></a>
   href="https://www.instagram.com/"><i class="fa fa-instagram"
                                                                fa-
<a
2x'' > </i> a>
```

```
</div>
</footer></section>
</body>
</html>
body
{
margin: 0;
padding: 0;
background-size: cover;
background-position: center;
text-align: justify;
color: black! important;
}
/* width */
::-webkit-scrollbar {
width: 20px;
}
/* Track */
::-webkit-scrollbar-track {
box-shadow: inset 0 0 5px black;
border-radius: 10px;
}
/* Handle */
::-webkit-scrollbar-thumb {
background: #FFA500;
border-radius: 10px;
}
/* Style the header with a grey background and some padding */
```

```
.header {
overflow:hidden;
background-color:#696969;
padding: 5px 28px;
}
/* Style the header links */
.header a {
float: left;
color: white;
text-align: justify;
padding: 10px;
text-decoration: none;
font-size: 25px;
line-height: 25px;
border-radius: 6px;
}
/* Change the background color on mouse-over */
.header a:hover {
background-color: #ddd;
color: black;
/* Float the link section to the right */
.header-right {
float:none;
}
.services
{
```
```
margin: 90px auto;
text-align: center;
}
h1
{
font-family: Chalkduster;
color: black;
letter-spacing: 1px;
font-size: 2.5em;
}
р
font-family: Zapf Chancery;
letter-spacing: 1px;
font-size: 1em;
}
h1:after
{
content: ";
background: red;
display: block;
width: 150px;
height: 3px;
margin: 10px auto;
}
.icon
{
```

```
font-size: 40px;
margin: 20px auto;
padding: 20px;
height: 80px;
width: 80px;
border: 2px solid red;
border-radius: 50%;
}
.col-md-3:hover{
box-shadow: 5px 7px 9px -3px rgba(0,0,0,0.9);
cursor: pointer;
}
.services span
color: red;
}
FEEDBACK PAGE:-
<html>
<head>
<title></title>
k rel="stylesheet" href="feedback.css">
linkhref="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font">https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font
awesome.min.css" rel="stylesheet">
k rel="stylesheet" href="footerstyle.css">
</head>
<body>
<div class="header">
```

```
<div class="header-right">
      href="homepage1.html"><i class="fa
                                               fa-home
                                                           fa-1x"
<a
                                                                    aria-
hidden="true"></i></a>
<a href="info.html" class="btn btn-in">INTRODUCTION</a>
<a href="album.html" class="btn btn-im">GALLERY</a>
<a href="faq.html" class="btn btn-ab">FAQ</a>
<a href="services.html" class="btn btn-cd">SERVICES</a>
<a href="feedback.html" class="btn btn-co">FEEDBACK</a>
</div>
<div class="container">
<div style="text-align:center">
<h2>Feedback</h2>
</div>
<div class="row">
<div class="column">
<imgsrc="d8cd1f03b99060dbbc4d6079d23b2d78--firefighter-paramedic-
firefighting.jpg" style="width:100%">
</div>
<div class="column">
<form action="/action page.php">
<label for="fname">First Name</label>
<input type="text" id="fname" name="firstname" placeholder="Your name..">
<label for="lname">Last Name</label>
<input type="text" id="lname" name="lastname" placeholder="Your last
name.">
<label for="country">Country</label>
<select id="country" name="country">
<option value="australia">India</option>
```

```
<option value="canada">pakistan</option>
<option value="usa">russia</option>
<option value="australia">Australia</option>
<option value="canada">Canada</option>
<option value="usa">USA</option>
</select>
<label for="subject">Subject</label>
<textareaid="subject"name="subject"placeholder="Writesomething.."style="hei
ght:170px"></textarea>
<input type="submit" value="Submit">
</form>
</div>
</div>
</div>
<section>
<footer class="footer-distributed">
<div class="footer-left">
<h3>Fire<span>Dept</span></h3>
<a href="homepage1.html">Home</a>
<a href="album.html">Gallery</a>
<a href="faq.html">Faq</a>
<a href="services.html">Services</a>
FireDept.© 2020
</div>
<div class="footer-center">
<div>
```

```
<i class="fa fa-map-marker"></i>
<span>21 Revolution Street</span> Nagpur, India
</div>
<div>
<i class="fa fa-phone "></i>
+1 555 123456
</div>
<div>
<i class="fa fa-envelope"></i>
<a
href="mailto:support@company.com">contact@gehnasrivastava.com</a>
</div>
</div>
<div class="footer-right">
<span>About the Website</span>
Informational website for the safety and precutions to control fire accidents
& amp; SEO Learner.
<div class="footer-icons">
     href="https://www.facebook.com/"><i class="fa
                                                     fa-facebook
                                                                   fa-
<a
2x'' > </j > </a>
<a href="https://www.twitter.com/"><i class="fa fa-twitter fa-2x "></i></a>
   href="https://www.instagram.com/"><i class="fa fa-instagram"
                                                                   fa-
<a
2x'' > </i> > </a>
</div>
</footer></section>
</body>
</html>
```

```
/* width */
::-webkit-scrollbar {
width: 20px;
}
/* Track */
::-webkit-scrollbar-track {
box-shadow: inset 0 0 5px black;
border-radius: 10px;
}
/* Handle */
::-webkit-scrollbar-thumb {
background: #FFA500;
border-radius: 10px;
}
* {
box-sizing: border-box;
}
/* Style the header with a grey background and some padding */
.header {
overflow:hidden;
background-color:#696969;
padding: 5px 28px;
}
/* Style the header links */
.header a {
float: left;
color: white;
```

```
text-align: justify;
padding: 10px;
text-decoration: none;
font-size: 25px;
line-height: 25px;
border-radius: 6px;
}
/* Change the background color on mouse-over */
.header a:hover {
background-color: #ddd;
color: black;
}
/* Float the link section to the right */
.header-right {
float:none;
}
/* Style inputs */
input[type=text], select, textarea {
width: 100%;
padding: 12px;
border: 1px solid #ccc;
margin-top: 6px;
margin-bottom: 16px;
resize: vertical;
}
input[type=submit] {
background-color: #4CAF50;
```

```
color: white;
padding: 12px 20px;
border: none;
cursor: pointer;
}
input[type=submit]:hover {
background-color: #45a049;
}
/* Style the container/contact section */
.container {
border-radius: 5px;
background-color: #f2f2f2;
padding: 10px;
}
/* Create two columns that float next to eachother */
.column {
float: left;
width: 50%;
margin-top: 6px;
padding: 20px;
}
/* Clear floats after the columns */
.row:after {
content: "";
display: table;
clear: both;
}
```

```
/* Responsive layout - when the screen is less than 600px wide, make the two
columns stack on top of each other instead of next to each other */
@media screen and (max-width: 600px) {
.column, input[type=submit] {
width: 100%;
margin-top: 0;
}
h2{
font-size: 4em;
color: #45a049;
}
p{
font-size: 2em;
}
```

OUTPUT SCREENS:-

OUTPUT SCREENS:-

HOMEPAGE:

INTRODUCTION GALLERY FAQ SERVICES FEEDBACK



HOW TO AVOID FIRE ACCIDENTS??









INTRODUCTION:-

Fire Security

Fire security is the study and practice of mitigating the unwanted effects of potentially destructive fires. It involves the study of the behaviour, compartmentalisation, suppression and investigation of fire and its related emergencies, as well as the research and development, production, testing and application of mitigating systems......

Types of fire

- · Fires that involve flammable solids such as wood, cloth, rubber, paper, and some types of plastics.
- Fires that involve flammable liquids or liquefiable solids such as petrol/gasoline, oil, paint, some waxes and plastics, but not cooking fats or oils.....

Components

Fire protection in land-based buildings, offshore construction or onboard ships is typically achieved via all of the following:

• Passive fire protection - the installation of firewalls and fire rated floor assemblies to form fire compartments intended to limit the spread of fire, high temperatures, and smoke.

• Active fire protection - manual and automatic detection and suppression of fires, such as fire sprinkler systems and (fire alarm) systems.....

Balanced Approach

Passive fire protection (PFP) in the form of compartmentalisation was developed prior to the invention of or widespread use of active fire protection (AFP), mainly in the form of automatic fire sprinkler systems. During this time, PFP was the dominant mode of protection provided in facility designs. With the widespread installation of fire sprinklers in the past 50 years, the reliance on PFP as the only approach was reduced.

HOME

NEXT PAGE:

Building Operations in forms and designs

Fire protection within a structure is a system that relies on all of its components. The building is designed in compliance with the local building code and fire code by the architect and other consultants. A building permit is issued after review by the Authority Having Jurisdiction (AHJ).

Fire detection



Detection: A common, residential smoke detector sounds an alarm when smoke is detected, to initiate egress. Fire detection works using smoke or heat sensors. These systems are very effective tool at alerting people in the immediate vicinity of where the fire is detected but building regulations require an integrated fire detection system. These system not only alerts people throughout the building by triggering the fire alarm but it can also summon emergency services.....

Difference between fire prevention and fire protection

Like most property owners, you may be wondering how you can protect your business from fire damage. While not all fires can be prevented, there are some things you can do to prevent and protect your business from fire. But what is the difference between fire prevention and fire protection? Let's look at these two different methods.....

Precautions to be taken

Good fire safety practice that you should follow includes

• keeping your workplace tidy and having a good standard of housekeeping regularly removing combustible waste, including accumulations of dust.

• keeping ignition sources away from combustible material or flammable liquids and gases keeping use of flammable liquids to

a minimum and closing containers when not in use



MEANING:-

Fire Security

Fire security is the study and practice of mitigating the unwanted effects of potentially destructive fires. It involves the study of the behaviour, compartmentalisation, suppression and investigation of fire and its related emergencies, as well as the research and development, production, testing and application of mitigating systems. In structures, be they land-based, offshore or even ships, the owners and operators are responsible to maintain their facilities in accordance with a design-basis that is rooted in laws, including the local building code and fire code, which are enforced by the Authority Having Jurisdiction.

Buildings must be constructed in accordance with the version of the building code that is in effect when an application for a building permit is made. Building inspectors check on compliance of a building under construction with the building code. Once construction is complete, a building must be maintained in accordance with the current fire code, which is enforced by the fire prevention officers of a local fire department. In the event of fire emergencies, Firefighters, fire investigators, and other fire prevention personnel are called to mitigate, investigate and learn from the damage of a fire. Lessons learned from fires are applied to the authoring of both building codes and fire codes.

Fire safety is the set of practices intended to reduce the destruction caused by fire. Fire safety measures include those that are intended to prevent ignition of an uncontrolled fire, and those that are used to limit the development and effects of a fire after it starts.

Fire safety measures include those that are planned during the construction of a building or implemented in structures that are already standing, and those that are taught to occupants of the building.

Threats to fire safety are commonly referred to as fire hazards. A fire hazard may include a situation that increases the likelihood of a fire or may impede escape in the event a fire occurs.

Fire safety is often a component of building safety. Those who inspect buildings for violations of the Fire Code and go into schools to educate children on Fire Safety topics are fire department members known as Fire Prevention Officers. The Chief Fire Prevention Officer or Chief of Fire Prevention will normally train newcomers to the Fire Prevention Division and may also conduct inspections or make presentations.



List of some typical fire and explosion issues in a fire code

• Fireworks, explosives, mortars and cannons, model rockets (licenses for manufacture, storage, transportation, sale, use)

• Certification for servicing, placement, and inspecting fire extinguishing equipment

• General storage and handling of flammable liquids, solids, gases (tanks, personnel training, markings, equipment)

• Limitations on locations and quantities of flammables (e.g., 10 liters of gasoline inside a residential dwelling)

• Specific uses and specific flammables (e.g., dry cleaning, gasoline distribution, explosive dusts, pesticides, space heaters, plastics manufacturing)

• Permits and limitations in various building occupancies (assembly hall, hospital, school, theater, elderly care, child care, prs) that require a smoke detector, sprinkler system, fire extinguisher, or other specific equipment or procedures

Removal of interior and exterior obstructions to emergency exits or firefighters and
removal of hazardous materials

• Permits and limitations in special outdoor applications (tents, asphalt kettles, bonfires, etc.)

Other hazards (flammable decorations, welding, smoking, bulk matches, tire yards)

• Electrical safety codes such as the National Electrical Code (by the National Fire Protection Association) for the U.S. and some other places in the Americas

Fuel gas code

• Car fire

TYPES:-

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Types of fire

- Fires that involve flammable solids such as wood, cloth, rubber, paper, and some types of plastics.
- Fires that involve flammable liquids or liquefiable solids such as petrol/gasoline, oil, paint, some waxes and plastics, but not cooking fats or oils
- Fires that involve flammable gases, such as natural gas, hydrogen, propane, butane
- · Fires that involve combustible metals, such as sodium, magnesium, and potassium
- Fires that involve any of the materials found in Class A and B fires, but with the introduction of an electrical appliances, wiring, or other electrically energized objects in the vicinity of the fire, with a resultant electrical shock risk if a conductive agent is used to control the fire.
- Fires involving cooking fats and oils. The high temperature of the oils when on fire far exceeds that of other flammable liquids, making normal extinguishing agents ineffective.

Fires are sometimes categorized as "one alarm", "two alarm", "three alarm" (or higher) fires. There is no standard definition for what this means quantifiably, though it always refers to the level response by the local authorities. In some cities, the numeric rating refers to the number of fire stations that have been summoned to the fire. In others, the number counts the number of "dispatches" for additional personnel and equipment.

COMPONENTS:-

Components

Fire protection in land-based buildings, offshore construction or onboard ships is typically achieved via all of the following:

- Passive fire protection the installation of firewalls and fire rated floor assemblies to form fire compartments intended to limit the spread of fire, high temperatures, and smoke.
- Active fire protection manual and automatic detection and suppression of fires, such as fire sprinkler systems and (fire alarm) systems.
- Education the provision of information regarding passive and active fire protection systems to building owners, operators, occupants, and emergency personnel so that they have a working understanding of the intent of these systems and how they perform in the fire safety plan.

Fire is often described as containing 3 components: an oxidizer, an ignition source, and a fuel. Whenever these 3 items are in close contact under appropriate conditions and proportions, a fire will occur. The key to prevention is altering one or more of these components so combustion is not possible. The Anesthesia Patient Safety Foundation (APSF) and ECRI have collaborated to release the New Clinical Guide to Surgical Fire Prevention.

This guide focuses on 3 specific fire reduction strategies:

• Recommendations for open oxygen delivery during procedures on the head, face, neck, and upper chest.

• Recommendations for the use of supplemental oxygen during procedures on the head, face, neck, and upper chest.

• Recommendations for implementing a preoperative time-out to assess fire risk potential for every patient for every procedure.

BALANCE APPROACH:-

Balanced Approach

Passive fire protection (PFP) in the form of compartmentalisation was developed prior to the invention of or widespread use of active fire protection (AFP), mainly in the form of automatic fire sprinkler systems. During this time, PFP was the dominant mode of protection provided in facility designs. With the widespread installation of fire sprinklers in the past 50 years, the reliance on PFP as the only approach was reduced.

India needs a new approach to fire safety

Whenever an incident of fire takes place, the investigation afterwards highlights issues such as non-compliant construction; lack of precautionary maintenance like the upkeep of extinguishers, fire doors, fire exits and their markings and assembly areas; gross overlook of safety procedures such as evacuation drills; and lack of recording of significant consideration for better response towards flammable materials, and their use in cladding and partitions walls.

City-wide physical changes like the densification of areas, non-compliant use of properties, and change in their use — which leads to local traffic congestion or on-street parking that constricts fire tender movement or delays their access to the affected area — are also blamed.

A fire in your building could mean total devastation - get the facts on passive fire protection to minimize the spread of fire in your facilities

Six-hundred seventy-nine (679) people were injured, and 55, feel, in the MGM Grand Hotel fire in 1980.

It's something you lose sleep over and hope will never happen: a fire roaring through your building. While every facility professional will do what he or she can to ensure that a fire never begins in the first place, the next step is knowing how to minimize its spread.

Most people are familiar with the basics of fire suppression (sprinklers, fire extinguishers, etc.), but the passive fire protection that actually contains a fire at its point of origin can be invisible and nearly forgotten - until the day you come to truly appreciate and depend on it.

Passive fire protection (PFP), despite its name, is always at such

Based on compartmentation of fire and preventing collapse through structural fire resistance, when properly installed and maintained, your building's passive fire protection can save lives and assets, and the building itself.



BUILDING OPERATIONS:-

Building Operation in conformance with Design

Fire protection within a structure is a system that relies on all of its components. The building is designed in compliance with the local building code and fire code by the architect and other consultants. A building permit is issued after review by the Authority Having Jurisdiction (AHJ).

Deviations from that original plan should be made known to the AHJ to make sure that the change is still in compliance with the law to prevent any unsafe conditions that may violate the law and put people at risk. For example, if the firestop systems in a structure were inoperable, a significant part of the fire safety plan might be compromised in the event of a fire because the walls and floors that contain the firestops are intended to have a fire-resistance rating. Likewise, if the sprinkler system or fire alarm system is inoperable for lack of proper maintenance, the likelihood of damage or personal injury is increased.

Controlled or hazardous products: TTSPPs and other products with high illicit value: poisons, narcotics, psychotropic products, inflammable or explosive substances and radioactive materials.



Key fob:

A small security device with built-in authentication used to control entry to a building and/or entry through internal doors within a building.

Pharmaceutical product:

Any product intended for human use or veterinary product intended for administration to food producing animals, presented in its finished dosage form, that is subject to control by pharmaceutical legislation in either the exporting or the importing state and includes products for which a prescription is required, products which may be sold to patients without a prescription, biologicals and vaccines. Medical devices are not included.

Service level agreement (SLA):

A service level agreement or contract is a negotiated agreement between the customer and service provider that defines the common understanding about materials or service quality specifications, responsibilities, guarantees and communication mechanisms. It can either be legally binding, or an information agreement. The SLA may also specify the target and minimum-level performance, operation or other service attributes.

Standard operating procedure (SOP):

A set of instructions having the force of a directive, covering those features of operations that lend themselves to a definite or standardized procedure without loss of effectiveness. Standard operating policies and procedures can be effective catalysts to drive performance improvement and improve organizational results.

FIRE DETECTION:-

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Fire detection

Detection: A common, residential smoke detector sounds an alarm when smoke is detected, to initiate egress. Fire detection works using smoke or heat sensors. These systems are very effective tool at alerting people in the immediate vicinity of where the fire is detected but building regulations require an integrated fire detection system. These system not only alerts people throughout the building by triggering the fire alarm but it can also summon emergency services. There are two types of systems available – addressable and conventional. Addressable systems monitor the specific location of each device (eg smoke detector, call point or sounder). It means in the event of a fire or other emergency you know exactly where the problem is. This saves precious time and helps the emergency services prevent the loss of life and serious damage. Conventional systems can only determine the problem is in a general area and thus are more suited for small sites.

When the fire detection system is activated it can also send an alert to the local fire department, broadcast a prerecorded warning message and unlock the buildings access control system.

Types of Fire Detection Systems

Fire detection systems are a critical element of any building design. For high-rise buildings and multi-winged structures such as hospitals and hotels, these designs can become complex. Electrical contractors and end user customers frequently enlist the expert services of NICET certified designers from reputable fire alarm companies to integrate an efficient and effective fire detection and alarm system. These fire alarm designers will design a code compliant system using the latest CAD (computer-assisted design) technology.

With this design reproduction, experts are able to determine precisely the types and number of detectors and alarms, fire suppression monitoring, and evacuation routes necessary to deliver the highest level of security for the occupants. The design should meet or exceed all elements of NFPA and local code requirements to ensure maximum safety.

Fire Alarm Control Panels

Notifier by Honeywell, is a global leader in fire detection and alarm devices. Their line includes fire alarm control panels with one way or two way voice, addressable and conventional controls. The equipment is designed with ultra-sensitive smoke detection and digital voice command evacuation systems. These panels can be used in a smaller building up to extensive and more complex networks for larger, high-rise buildings or multiple buildings in a campus configuration.

Initiating Devices

Fire alarm pull stations, waterflow monitors, and sensor-activated detectors initiate devices that activate an alarm conditions. Traditional fire alarms were manually activated while today's technology allows for automatic sensing elements to activate the alarm, minimizing false alarms. These more sophisticated smart devices are more common in modern buildings and have saved many lives.

Notification Devices

Notification equipment utilize sensory methods to alert occupants to a potential emergency. These devices include standardized audible alarms and visual alerts that include flashing lights plus voice messages that direct occupants to evacuate safely.

Certain audible textual tones are included in EVAC, Emergency Voice Alarm Communications. These employ highly reliable speakers, properly situated, to alert all occupants of an emergency. These are managed from a central Command and Control Center to direct occupants away from the danger and to the closest route to evacuation. These can operate on recorded or real-time voice overrides.

DIFFERENCE BETWEEN FIRE PREVENTION AND PROTECTION:-

Like most property owners, you may be wondering how you can protect your business from fire damage. While not all fires can be prevented, there are some things you can do to prevent and protect your business from fire. But what is the difference between fire prevention and fire protection? Let's look at these two different methods.



What is Fire Prevention?

Fire prevention is essential for your business. This process happens before the fires even ignites. One of the most effective tools for fire prevention is an inspection. Regular property inspections can be used to identify vulnerable areas in your facility and, once identified, to fix them. These vulnerable areas can be things like overloaded electrical outlets, improperly maintained systems, and improperly stored materials. Once these problems have been identified, it is important to take the steps to remove the threat and to ensure it does not get to be that way again. When using regular inspections, you can work to prevent fires in your business.

What is Fire Protection?

- Fire protection is a combination of different fire safety equipment and procedures that are used to defend your property line from fire. While it is different for every company, there are some elements that should be found in every commercial facility. Fire protection often includes equipment like fire alarms, extinguishers, and sprinkler systems. Together these systems work to ensure your property is constantly protected. When combined, these systems work to provide your commercial space with the ultimate fire protection.
- Whether you are looking for a way to prevent fires or protect your property, Fireline is here to help. For more information on protecting your investment, call Fireline today!

The Difference Between Fire Prevention and Fire Protection with Fireline

At Fireline, we offer an array of portable fire extinguishers, fire alarms, and sprinkler systems to keep commercial kitchens safe. Fireline offers the highest quality alarm systems to keep your business safe from fires and carbon monoxide poisoning. We also offer fire suppression systems as well to help keep commercial fires controlled should they break out. Our trained technicians will work with you to determine which air sampling smoke detection system is best for your business. We will also help install and maintain the system for your commercial building.

fire prevention vs fire protection

As a business or property owner, one of your main goals is to protect your business from fire and fire damage. The best way to accomplish this goal is to understand fire, and the difference between fire prevention, and fire protection, and why you need both.

Know the Fire Triangle

We know fire is deadly and damaging, but beyond trying to prevent it we do not think much about it. But we should. Fire is a chemical reaction, and understanding how that works can make a huge difference in how you approach fire safety.

For the chemical reaction to take place, three things must be present:

- Heat or an ignition source Fuel Oxygen These three elements are referred to as the "fire triangle". Fire is the reaction produced when heat, fuel, and oxygen combine under hospitable circumstances. Those circumstances must continue for the fire to keep burning. If one of the elements is removed, the fire will not start or, if already burning, will extinguish.
- Ignition sources include any material, equipment, or operations that emit heat like cooking, but also less obvious ones like static electricity and grinding operations.
- Fuel sources include combustible materials, flammable liquids, and flammable gasses.
- Nearly every business has all three elements in abundance, and probably do, or fail to do things that can lead to a fire.

Yes, You Need Fire Protection

Fire protection is the process and tools used to ensure the building is in the best possible position to fight a blaze should a blaze breaks out. Fighting fire is a science and it is important to have the right tools in place, rightly.

The first priority of fire protection is to make sure the occupants are safe. This means implementing monitored fire alarm systems that provide early detection as well as a swift, reliable signal to the alarm monitoring center. This puts help in motion as quickly as possible.

Next, the priority becomes having things in place to stop the spread of fire such as fire suppression and sprinkler systems and extinguishers.

Now, A Few Points About Fire Prevention

Fire prevention is the process of preventing fire from occurring in the first place. You may not be able to prevent all fires but some simple steps can reduce the likelihood from one occurring significantly. Here are some important fire prevention steps you should take now:

 Perform a risk assessment. Identify the weak areas that make your business more susceptible to fire.

PRECAUTIONS TO BE TAKEN:-



keeping your workplace tidy and having a good standard of housekeeping regularly removing combustible waste, including accumulations of dust.

keeping ignition sources away from combustible material or flammable liquids and gases keeping use of flammable liquids to a minimum and closing containers when not in use.

Emergency planning

• You need to be prepared for an emergency, such as a fire. An emergency plan should clearly explain what to do in the event of an emergency. It should also describe responsibilities of key employees and what they need to do.

You should create a written evacuation procedure. This procedure should explain what needs to happen in the event of a fire alarm being raised. For example, the location of fire alarm call points, extinguishers, exits and details of nominated persons along with their areas of responsibility.

• It's very important that you train your employees. Ensure that they are familiar with the emergency plan. You should then test the arrangements in the plan regularly.

• You should also carry out a fire drill at least twice a year. The drill will help to ensure that the plan works, and that people can follow it. You should correct any problems found during the drill.

Fire alarms and detectors

• You need to provide a method for detecting a fire quickly and raising the alarm. The warning system, when it has been set off from any point, should be clearly heard throughout the premises. It should provide enough warning for people to evacuate the building safely.

Additionally you should provide clear instructions or notices showing people how to operate the warning system, and how to respond to it.

It's important all fire safety measures are maintained and regularly tested. You should test your fire alarms weekly.



Escape routes

• All escape routes must be easily identifiable, with instructions about the means of escape displayed. You also need to provide instructions and training for your employees on how to escape in the event of an emergency.

You need to ensure that there are enough exits through the building, and that they are in the right places. This will allow you to guarantee that, in the event of a fire anywhere in the building, there is at least one free route available.

The type and size of exits will depend on the number of people likely to use them in the event of an evacuation. Escape routes must be dequately illuminated and free of any obstacles. You should do daily hecks to ensure this.

Evacuation of disabled people

You need to make arrangements to ensure the safe evacuation of everybody in your premises.

Your fire risk assessment should identify groups of people at risk, taking particular care of vulnerable groups or individuals. For example children, the elderty and people with disabilities.

To help identify their needs you should create personal emergency evacuation plans (PEEP) when required. The PEEPs should be tailored to the individual and should give clear explanations of the evacuation procedure.

For premises where it is not known who could visit, such as hotels, standard PEEPs can be created. These are procedures to assist people with disabilities. Employees should be trained on how to put PEEPs into practice in the event of an emergency.

- fire extinguishers
- Any fire needs
- oxygen
 fuel
 heat









IMPLEMENTATION, EVALUATION & MAINTENANCE

IMPLEMENTATION, EVALUATION & MAINTENANCE

Implementation:-

Implementation simply means carrying out the activities described in your work plan. Executing a project in the water and sanitation sector is a very complex mission, as it requires the coordination of a wide range of activities, the overseeing of a team, the management of budget, the communication to the public, among other issues. Independent of whether it is a social project to raise the awareness and promote hygiene or it is a construction project for service delivery, there is a certain process that has to be followed. The following lines will give you an introduction into the implementation of projects in sustainable sanitation and water management, and highlights key aspects that have to be taken into account for a successful implementation.

Implementation is the process that actually yields the lowest level systems elements in the system hierarchy. System elements are made, brought, or reused. Production involves the hardware fabrication processes of forming, removing, joining, and finishing the software realization processes of coding and testing, or the operational procedures development processes for operators roles. If implementation involves a production processes, a manufacturing system which uses the established technical and management processes may be required.

Project implementation (or project execution) is the phase where visions and plans become reality. This is the logical conclusion, after evaluating, deciding, visioning, planning, applying for funds and finding the financial resources of a project. Technical implementation is one part of executing a project.

Implementation process activities begin with detailed design and include developing an implementation strategy that defines fabrication and coding procedures, tools and equipment to be used, implementation tolerances, and the means and criteria for auditing configuration of resulting elements to the detailed design documentation.

EVALUATION:-

System evaluation is the process of assessing the performance of a complete system to discover how it is likely to perform in the live market conditions.

-Defining personal trading goals

-Risk resonance

-Parameter selection

-Step testing

-Calibration and final testing

All of these form part of the trader's method and are carried out routinely for any system rules he wishes to review. Systems traders spend a proportion of their trading time trying to improve their existing systems and looking for new and different ideas. This is interesting work when you have the essential tools to carry it out.

It is essential that any proposed system or change is fully evaluated before being used in live rating. This is one reason why the successful traders do not purchase system rules- how could they evaluate them beforehand to make sure they were capable of meeting their requirements?

This is not the problem it might appear to be because it Is not difficult to create your own system rules. Furthermore, there are plenty of ideas around that can be adapted.

MAINTENANCE:-

Maintaining a system is equally important as Web Application Development. It keeps solutions healthy to deal with changing technical and business environment. Generally, IT service providers suggest their clients to go for software maintenance services for the consistent and enhanced performance of the system.

System maintenance is an ongoing activity, which covers a wide variety of activities, including removing program and design errors, updating documentation and test data and updating user support. For the purpose of convenience, maintenance may be categorized into three classes, namely:

i) **Corrective Maintenance**: This type of maintenance implies removing errors in a program, which might have crept in the system due to faulty design or wrong assumptions. Thus, in corrective maintenance, processing or performance failures are repaired.

ii) Adaptive Maintenance: In adaptive maintenance, program functions are changed to enable the information system to satisfy the information needs of the user. This type of maintenance may become necessary because of organizational changewhich may include:

a) Change in the organizational procedures,

b) Change in organizational objectives, goals, policies, etc.

c) Change in forms,

d) Change in information needs of managers.

e) Change in system controls and security needs, etc.

iii)**Perfective Maintenance**: Perfective maintenance means adding new programs or modifying the existing programs to enhance the performance of the information system. This type of maintenance undertaken to respond to user's additional needs which may be due to the changes within or outside of the organization. Outside changes are primarily environmental changes, which may in the absence of system maintenance, render the information system ineffective and inefficient.

FUTURE SCOPE

FUTURE SCOPE

The project "Fire Safety" has been done keeping in mind the convenience of the user. Although significance information have been covered in our website. There are certain features like video tutorials regarding the topic can be implement in future through which users can learn more ways to escape from fire cases.

In future this website can be developed in application, by featuring various features so that readers have more interest in reading it. Also in future the feedback of the users can directly sends to the mail of the developer so that users can get solutions regarding it.

Also nowadays online expert mode are getting popular so we can also provide this feature so they can directly communicate to them on video chats.

CONCLUSION

CONCLUSION

Having worked on this project, we have known that how to apply programming knowledge that we learned through various languages in our project.

All the information provided in the project is true and fair. Idea behind creating this project is to bring awareness about fire security, that people should know about it in detail and take safety measures to avoid fire accidents and also to prevent, such situation through fire safety equipment.

In this website we have provided each and every information through creative visuals, so that people have interest reading it.

The project involves & procedures to perform difficult problem of each program and design that it runs correctly. System produces accurate result without any error in calculation.

Finally, thanks to our lecturers for giving a chance to let us improve our programming skill practically that may help us a lot in our final exam as in future.

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PROJECT SYNOPSIS

On

"Fire Safety"

Submitted to

Rashtrasant Tukadoji Maharaj Nagpur University, NAGPUR

In the Partial Fulfillment of

B.Com. (Computer Application) Final Year

Synopsis Submitted by

Gehna Srivastava

Sakshi Puttewar

Under the Guidance of

Pravin J. Yadao



G. S. College of Commerce & Economics

Nagpur

2019-2020

1. Introduction:

This is an informational website which provide information about the security. How to tackle the situation and to make protective to other peoples, when the fire getting take place. How do you fight with fire and safety guides are to be provided by these website.

It is scary things for children about the fire happening in the house.

How to solve these problem related with fire this all information is provided by these website. It act as a safety guide.

2. Objectives of the project:

- Provide Security.
- Refer service to the those who wants.
- Safety guide to protect ourselves from fire.
- It is helpful to find out the different solution in different condition according to the needs.

3. Project Category: Web Application

4. Tools/ Platform/ Languages to be used: Front end- PHP

Back end- MySql

Submitted by

Gehna Srivastava

Approved by Prof. Pravin Yadao Project Guide

Sakshi Puttewar