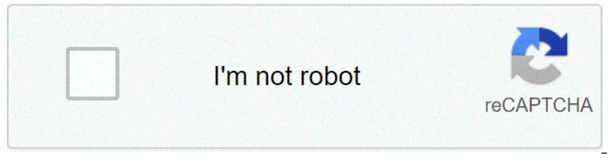

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Fire extinguisher types pdf

Emergency Preparedness, SafetyWhen it comes to fire safety, making sure your home or workplace is prepared with the right type of fire extinguisher is a big deal. It's a great precaution to take and, for smaller or containable fires, extinguishers can help to put them out or to mitigate a more serious situation until the fire department arrives. Of course, if the fire is significant, your priority should be to evacuate your home or office immediately and wait for firefighters outside. Types of Fires The Fire Tetrahedron lays out the four components required for a fire to start – heat, fuel, oxygen, and chemical reaction – and fire extinguishers are designed to put out a fire by removing one or more of these elements. Before we get to the different types of fire extinguishers, it's important to understand the different types of fires that these extinguishers are designed to fight. There are five different categories: Class A – a fire started with normal combustibles such as wood, paper, and cloth Class B – a fire started with flammable and combustible liquids and gases such as gasoline and paints Class C – a fire started by energized electrical equipment such as a short circuit in power transmission cables Class D – a fire started by flammable metals such as sodium, potassium and lithium Class K – kitchen fires Types of Fire Extinguishers Many homes and offices will either use general-purpose or kitchen extinguishers, but other environments, like laboratories or warehouses, might need more specific extinguishers. Water & Foam The water component of this extinguisher removes the heat of the fire, while the foam component removes the oxygen. Works For: Class A fires only Carbon Dioxide Carbon dioxide replaces the fire's oxygen and, as the gas is contained under pressure it creates a cold discharge upon release, which removes the heat of the fire too. Works For: Class B and C fires Dry Chemical This extinguisher removes the chemical reaction of a fire, and is the most used of all fire extinguishers because of its versatility across multiple classes. Works For: Class A, B and C fires (multi-purpose); Class B and C (ordinary) Wet Chemical This extinguisher removes heat and creates a barrier between oxygen and fuel so a fire cannot be re-ignited. The chemical is sprayed as a mist, cooling the fire's heat and creating a blanket effect over the fuel. Works For: Class K fires (particularly good for fires started by oils or fats) Clean Agent Also called Halogenated extinguishers, these include halon agents and new, less ozone depleting halocarbon agents, which extinguish a fire by interrupting its chemical reaction. Works For: Class B and C fires Dry Powder This works similarly to the dry chemical extinguisher as the powder separates the fuel from oxygen or removes the heat, but this extinguisher is only used to fight combustible metal fires. Works For: Class D fires Water Mist This extinguisher takes away the heat of the fire only. Works For: Class A and C fires Cartridge Operated Dry Chemical This extinguisher interrupts the chemical reaction of the fire, and creates a barrier between the oxygen and the fuel and, like the dry chemical extinguishers, works well on a variety of fire types. Works For: Class A, B and C fires It's important to use the right extinguisher for the type of fuel – using the incorrect one can allow a fire to re-ignite, even when it seems to have been put out successfully. We've put together a simple chart to help you choose the right extinguisher for your fire needs. And remember to make sure that everyone in your home or workplace knows how to operate whichever fire extinguisher you have – specific training will be provided as necessary in the workplace and you should always remember the P.A.S.S technique! There are three components to a fire: oxygen, heat, and fuel. This is commonly referred to as the fire triangle. The fuel can be any type of flammable material that, when introduced to enough heat to reach its ignition temperature, catches fire. Oxygen creates continued combustion to keep the fire going. All three elements of the fire triangle are required to sustain a fire. A fire extinguisher works by removing at least one of these elements, putting the fire out. Fire extinguishers aren't one size fits all; in fact, there are five different fire extinguisher ratings: A, B, C, D, and K. Each rating denotes the type of fire the extinguisher can be effectively used against. Use this guide to determine which class of fire extinguisher you should purchase to keep your home or workplace safe.Class A fire extinguishers are used for ordinary combustibles, such as paper, wood, cloth, and some types of plastic. These extinguishers typically use water or certain types of dry chemicals to either absorb heat or coat the fire.Fires that originate from flammable liquids and gas can be extinguished by a class B fire extinguisher. This is the type of extinguisher you'll want to use on a fire caused by oil or fuel.Class C fire extinguishers are effective against electrical fires from live wires, panels, and circuit breakers. The extinguisher works by releasing materials that stop the conduction of electricity.Class D fire extinguishers are used on combustible metals. These include magnesium, sodium, aluminum, and titanium.Commonly used in restaurant kitchens, class K fire extinguishers can effectively put out fires caused by cooking fats, greases, and oils. They use a process called saponification by releasing an alkaline agent to create a foam that traps vapors and puts the fire out.The National Fire Protection Association (NFPA.org) recommends an extinguisher for every floor of your home. Extinguishers stored in the bedroom or bedroom closet will be readily available. Extinguishers should be placed in areas that are prone to fires, such as the kitchen, furnace area, garage and workshop. To help you find the right extinguisher, we've compiled a list of the top 10 fire extinguishers .Familiarize yourself and your entire family, including children, with how to use a fire extinguisher before an emergency occurs. Know where the extinguishing agent is released and practice aiming it at a source. Just don't pull the pin or squeeze the lever, as this will break the seal and cause the extinguisher to no longer be usable. Once you're done practicing, note the expiration date on each fire extinguisher in your home and make a note in your calendar to replace them. There are four classes of fires: Class A: Ordinary solid combustibles such as paper, wood, cloth and some plastics. Class B: Flammable liquids such as alcohol, ether, oil, gasoline and grease, which are best extinguished by smothering. Class C: Electrical equipment, appliances and wiring in which the use or a nonconductive extinguishing agent prevents injury from electrical shock. Don't use water. Class D: Certain flammable metallic substances such as sodium and potassium. These materials are normally not found in the Medical Center. Fire Extinguishers Fire extinguishers are classified as types A, ABC, BC or K. It is important to use the right type of extinguisher on the specific class of fire to avoid personal injury or damage to property. The wrong type of extinguisher could cause electrical shock, explosion, or spread the fire. Portable extinguishers are useful for putting out small fires; however they are not effective against large, spreading fires. In these situations, doors should be closed to contain the fire. Types of Fire Extinguishers Type A: Pressurized water to be used on Class A fire only. Do not use on Class B or C fires; may cause fire spread or electrical shock. Type ABC: Dry chemical effective on all classes of fires Type BC: Carbon dioxide to be used on chemical or electrical fires Type K: Used in kitchens on grease fires Locations ABC fire extinguishers are located throughout the Medical Centers in corridors. Specialty areas, such as the Operating Rooms and Kitchens have specific extinguishers. PASS To use a fire extinguisher, follow the acronym PASS Pull - Pull the pin on the extinguisher Aim - Aim the nozzle at the base of the fire Squeeze - Squeeze the trigger to release the product Sweep - Sweep the nozzle from side to side (slowly) To request fire extinguisher training for your department, please contact Ambulatory Safety. There are five primary types of fire extinguishers, each designed to put out different kinds of fires.For use with ordinary materials like cloth, wood and paper.Often found in homes and businessesFor use with combustible and flammable liquids like grease, gasoline, oil and oil-based paints.Often found in homes and businessesFor use with electrical equipment like appliances, tools, or other equipment that is plugged in.Often found in homes and businessesFor use with flammable metalsOften found in factoriesFor use with vegetable oils, animal oils and fats in cooking appliances.Often found in commercial kitchens (restaurants, cafeterias, catering businesses)There are also multipurpose fire extinguishers that might be labeled "B-C" or "A-B-C." Most home improvement stores carry multipurpose fire extinguishers that cover Class A through Class C.Fire extinguishers can be helpful on a small fire. Consider providing a checklist to help people prepare to use a fire extinguisher on a potential fire.Use a fire extinguisher when all of these questions are answered "yes." If you're unsure about whether or not it's safe to use a fire extinguisher, and for all other situations, alert others, leave the building, and call 911 from a mobile or neighbor's phone. It is not recommended that children use fire extinguishers.When operating a fire extinguisher, tell residents to remember the word PASS: Fire extinguishers are everywhere; at home, work, malls, hotels, and even cars. Their presence is definitely ubiquitous, but do you know their types or how to use them? – With so many types and sizes, choosing the right one for your business can be overwhelming. In this guide, we will provide basic information about fire extinguishers and how to act if you're forced to use them. Check out the different types of fire extinguishers and their uses, along with the fire classes. Let's start! What are the classes of fire? To tackle any fire, you need to choose the most suitable fire extinguisher, avoiding any damage or injury. Actually, choosing the wrong fire extinguisher may backfire, causing electric shock, explosions, or even fire spread. If you want to face any fire before it grows, you must know the 6 different classes of fire. This fire involves solid materials, including wood, textiles, paper, plastics, furniture, and more. Class A fire usually occurs in places where solids are the common type of fuel. If a fire starts to attack offices or the structure of buildings, a water extinguisher is an ideal solution. But, it is highly dangerous to use near electrical equipment. Also, foam, dry powder, and wet chemical fire extinguishers are convenient for this fire class. This fire involves flammable liquids, including petrol, oil, or diesel. Workplaces are subjected to this type of fire as the fluids or chemicals used are explosive such as inks, paints, and cleaning fluids. According to a recent study, flammable liquids are responsible for only 2% of all fires. So, it is rare; not likely to occur. However, it can be more drastic than any other type. If a Class B fire ignites, foam, dry powder, and carbon dioxide fire extinguishers are the best types to attack this fire type. Class C fire involves flammable gases or any gas that causes explosions, including natural gas or liquefied petroleum gas. Any building or institution that deals with gas is highly subjected to fire risks, having a dangerous environment. Gases must have special care and be dealt with cautiously; kept in sealed containers in a safe spot. If a Class C fire starts, shutting the gas source is a must before using dry powder fire extinguishers. Class D fire involves metals such as potassium and sodium as they are highly flammable materials, being good conductors. Metals melt at high temperatures so, fires that attack a building structure, with its columns and beams, can be a disaster. Never use a water fire extinguisher on this fire class as it can accelerate the fire spread. Dry powder extinguishers are the perfect fit for this fire. And, the used powder is different depending on the type of metals such as L2, ABC, and M28 powders. Class E doesn't particularly exist but Electrical fires fall under this category. Live fires beside any electrical equipment is a hazard that can't be risked. Make sure to install any electrical equipment right to avoid this fire class. If an electrical fire ignites, the first thing to do is shut down the power supply. Then, start using dry powder or carbon dioxide fire extinguishers. Class F Fire involves the presence of cooking oils and flammable fats near any heat source in kitchens. The only approved fire extinguisher for Class F fires is the wet chemical type. If the fire is small, a fire blanket will be enough to suppress the flames. Walking through any workplace or public building, you've probably seen fire extinguishers near entrance doors or fire escapes. Sometimes, you may spot two or more fire extinguishers beside each other. They are all red and it can be hard to tell the difference. But, take a closer look and cast your attention upon the small labels and different nozzles shape. Now, you can see the difference! So, why is it important to tell the difference between each type? – When a fire starts to attack the building, there won't be time to check the labels. In the upcoming guide, we will take you through the different types of fire extinguishers and their uses to identify them quickly in case of an emergency. Water-Fire Extinguishers Water Extinguishers are the most common and effective type used to suppress Class A fire. It is totally safe as it contains only water and also the least expensive among the other types. Its price may increase if chemical additives are added as they increase the effectiveness to 300% and reduce the weight. There are 4 types of water extinguishers in the market: Water jet: Operates by spraying water at the burning flames and avoiding the re-ignition. It is dangerous to use this type of electrical equipment. Water spray: Operates by spraying water droplets at the burning flames. The concept is that the water droplet is surrounded by non-conductive air. Water extinguishers with additives: Adding foaming chemicals to the water makes the fire extinguisher operate much more effectively. Another benefit; using chemicals means that a smaller fire extinguisher can carry the same water volume. Water mist or fog: This type absorbs heat energy faster, extinguishing fires in the form of mist or fog, which have smaller droplets than water. This type is safe to use in case of any fire class except Class D. Danger: Never use in case of burning oils or fats (Class F), flammable metals (Class B), or electrical equipment. And, there is Dry Water Mist ExtinguisherThis fire extinguisher type is both unique and powerful, used to suppress any fire class, including Class F. It operates by turning water into dry microscopic particles which cools the flames and avoids re-ignition. What is good is; this type doesn't leave any residue behind which is difficult to clean. Dry water mist extinguishers have proven their efficiency in electrical fires, not causing hazards as the normal water extinguishers. Foam Extinguishers are used to suppress Class A and B fires. It operates by producing a foaming agent that acts as a blanket that seals the liquid surface to prevent the flammable vapor from reaching the atmosphere. In this case, the fire is suppressed, avoiding the re-ignition. Foam extinguishers are recognized due to the word "foam" printed in a foam rectangle. Never use on burning oils (Class F) or electrical equipment. They are only used on electrical fires if tested to 34KV only.